

TECHNICAL APPENDICES - VOLUME I OF II
DRAFT
ENVIRONMENTAL IMPACT REPORT

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

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

Prepared by:
 CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

**BIG WAVE WELLNESS CENTER
AND OFFICE PARK**

**TECHNICAL APPENDICES
VOLUME I OF II**

**DRAFT
ENVIRONMENTAL IMPACT REPORT**

Lead Agency:

San Mateo County
Planning and Building Department
455 County Center, 2nd Floor
Redwood City, CA 94063
Contact: Camille Leung, Planner
(650) 363-1826
cleung@co.sanmateo.ca.us

Environmental Consultant:

Christopher A. Joseph & Associates
179 H Street
Petaluma, CA 94952

October 2009

**TECHNICAL APPENDICES
VOLUME I OF II**

**Big Wave Wellness Center and Office Park Project
Draft
Environmental Impact Report**

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 - Wetland Delineation Study
 - An Analysis of the Geographic Extent of Waters of the United States, Including Wetlands, on the Big Wave Property, San Mateo County, California
 - Biological Resources of the Proposed Big Wave Wellness Center and Office Park Project Site, San Mateo County, California

(Appendixes F through K are included in Technical Appendices, Volume II)

APPENDIX A

NOTICE OF PREPARATION (NOP)



Notice of Preparation (NOP) of an Environmental Impact Report (EIR) and Notice of Public Scoping Meeting

DATE: November 5, 2008

TO: Responsible Agencies, Agencies with Jurisdiction by Law, Trustee Agencies, Involved Federal Agencies, and Agencies/People Requesting Notice

FROM: County of San Mateo, Planning and Building Department
Attn: Camille Leung, Planner
455 County Center, 2nd Floor
Redwood City, CA 94063
Phone (650) 363-1826
Fax (650) 363-4849

RE: **Notice of Preparation (NOP) of an Environmental Impact Report (EIR) and Notice of Public Scoping Meeting for the Big Wave Wellness Center and Office Park**

The County of San Mateo, Planning and Building Department will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for the Big Wave Wellness Center and Office Park project ("proposed project"). It has been assumed that an EIR will be necessary to fully define certain impacts and their potential level of significance. The following issues will be analyzed in detail in the EIR:

- Aesthetics
- Agriculture Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology/Soils
- Hydrology/Water Quality
- Land Use/Planning
- Noise
- Population and Housing
- Public Services
- Transportation/Traffic
- Growth Inducing Impacts
- Cumulative Impacts

The Lead Agency solicits comments regarding the scope and content of the EIR from all interested parties, responsible agencies, agencies with jurisdiction by law, trustee agencies, and involved agencies. If you are a responsible agency, we need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Please send your written/typed comments (including a contact name) to the County of San Mateo, Planning and Building Department using the address provided above.

Due to the time limits mandated by State Law, a 30-day public review period for the Notice of Preparation (NOP) begins **November 5, 2008 and ends December 5, 2008**. All substantive comments on environmental issues will be considered in the scope of the EIR. Written comments should be submitted prior to the December 5th deadline to the Lead Agency contact/address above.

Project Location: Airport Street, northwest of Princeton/Pillar Point Harbor (see Figures 1 and 2)
Princeton By the Sea, Unincorporated County of San Mateo, CA
Assessor's Parcel Numbers (APN): 047-311-060 and 047-312-040

Project Description: The project site is located in unincorporated San Mateo County along Airport Street, on the north side of the City of Half Moon Bay, situated on the San Mateo County coastline, with the Half Moon Bay Airport immediately adjacent to the east. The project area is accessible via State Route 1 (SR 1), located less than 0.5 miles to the east, and Airport Street. The project site can be directly accessed from the surrounding Capistrano Road, Prospect Way, and California and Cornell Avenues, located to the east and south of the site, respectively. The approximate 19.5-acre, two parcel project site consists of APN 047-311-060 ("northern parcel") at 14.253 acres in size and APN 047-312-040 ("southern parcel"), which consists of 5.275 acres.

The proposed project is designed as an economically and environmentally sustainable community development that provides housing and employment opportunities for low-income developmentally disabled (DD) children and adults. The two primary components of the proposed project include the Wellness Center (southern parcel) and Office Park (northern parcel) development. These components would be designed in tandem, so that the DD adults could be employed by both the Wellness Center and Office Park, with the Wellness Center funded through association fees and shared development costs. The Wellness Center would include a floor area footprint of 17,000 square feet (sf) with the following development characteristics: 45 apartment- and single-story style residential units for approximately 50 DD children and adults, as well as 20 live-in staff members; a commercial kitchen, dining area, laundry, office space, living/recreation room, multipurpose auditorium/theater; and recreational uses (i.e., pool, basketball courts, fitness center). Additional associated amenities include: a 20,000 sf storage building, 73-space parking lot, an on-site store and fencing. The Office Park development footprint would encompass 348,480 sf of development, including: four, three-story buildings (i.e., 234,000 sf total; Buildings A-D) with a total of 78,000 sf of first floor parking (40 spaces each; total 160 spaces) and 156,000 sf of second and third floor commercial office space; and a 640-space paved parking lot. The applicant is also proposing to evaluate the possibility of increasing the office space to 225,000 sf in the EIR analysis, which would involve the conversion of interior parking spaces to office space and an exception to the County's Parking Regulations.

In addition to these primary components, the proposed project includes: development of an on-site 1.6-acre trail system; restoration of wetland habitat (9.2 acres, or 47 percent of site); use of sustainable, on-site/off-site farming for supplemental food sources; a native plant nursery for revegetation/landscaping efforts; recycling and composting; dog walking and grooming services; and development of bus stops and shuttle services. Proposed utilities and energy systems for use at the site include: solar cells for heating/energy; carbonate fuel cells; natural gas/bio-diesel generators; wind turbines and generators; geothermal cooling systems; bio-diesel filling stations; rain garden infiltration/treatment ponds; the following options for water systems such as: (1) municipal hook-ups, (2) use of well water/treatment systems and/or a (3) desalination plant located at Princeton pier; and the following options for wastewater systems such as: (1) municipal hook-ups and/or (2) use of an on-site Membrane Bioreactor (MBR) wastewater treatment plant with disposal through irrigation; and a communications building with two microwave dishes.

All buildings and development would be designed to meet Platinum-level LEED certified construction.

Further, various project-related business operations are included, which will be utilized to manage the above, as well as to generate income for the project services, such as: Big Wave (BW) Catering and Food

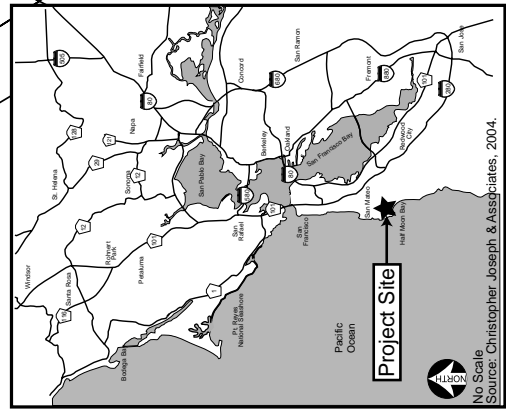
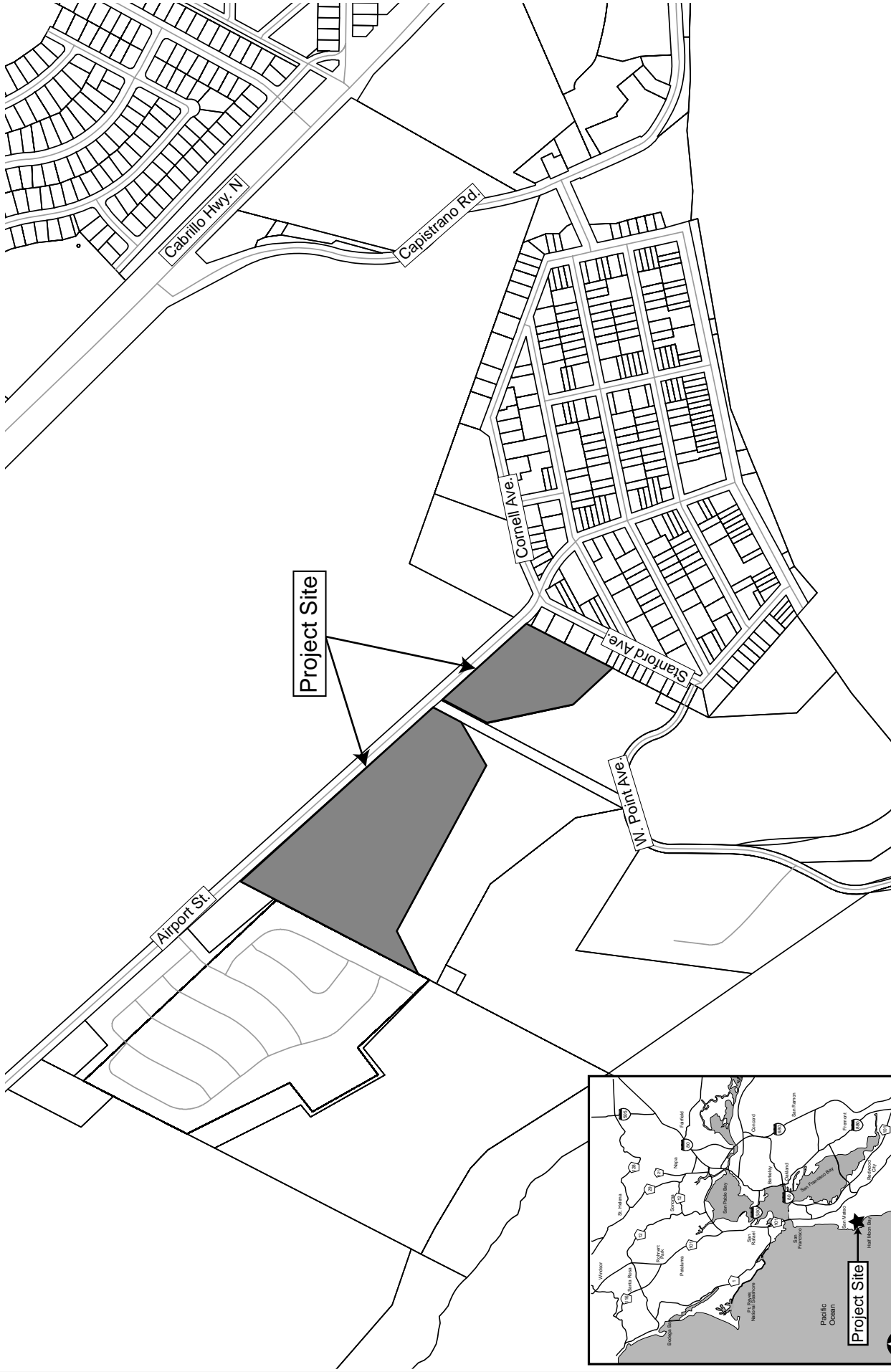
Services; BW Energy; BW Entertainment; BW Farming; BW Water; BW Transportation; BW Recycling; BW Communications (Fiberlink); and BW Maintenance.

Notice of Public Scoping Meeting: Pursuant to California Public Resources Code §21081.7, 21083.9, and 21092.2, the Lead Agency will conduct a public scoping meeting for the same purpose of soliciting oral and written comments from interested parties, responsible agencies, agencies with jurisdiction by law, trustee agencies, and involved federal agencies, as to the appropriate scope and content of the EIR. The scoping meeting will be held on **November 18, 2008 from 7:00 PM to 9:00 PM** at the following location:

El Granada Elementary School
Multi-Purpose Room
400 Santiago Street
El Granada, CA 94018

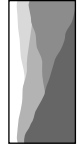
Camille Leung
Planner

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375



No Scale
 Source: Christopher Joseph & Associates, 2004.

Source: San Mateo County GIS, CAJA 2007



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 Environmental Planning and Research

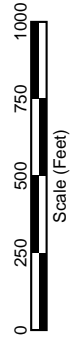
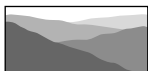


Figure 1
 Regional Vicinity Map



CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

Figure 2
Aerial Photograph of Site

APPENDIX B

RESPONSES TO NOP, COMMENTS FROM EIR SCOPING SESSION & PROJECT
FACILITIES PLAN

**BIG WAVE WELLNESS CENTER AND OFFICE PARK PROJECT EIR
 COMMENTS RECEIVED IN RESPONSE TO 2008 NOTICE OF PREPARATION
 AND AT EIR SCOPING MEETING HELD ON NOVEMBER 18, 2008.**

SUMMARY OF COMMENTS	Project Description	Aesthetics	Air Quality	Biological Resources	Cultural Resources	Geology / Soils	Hazards / Hazardous Materials	Hydrology / Water Quality	Land Use / Planning	Noise	Population / Housing	Public Services	Recreation	Transportation / Traffic	Utilities / Service Systems	Construction Impacts	Alternatives	Other	NOTES
LETTERS RECEIVED IN RESPONSE TO THE NOTICE OF PREPARATION DATED NOVEMBER 5, 2008 (30-DAY PUBLIC REVIEW PERIOD: 11/5/08 TO 12/5/08)																			
Regional and Local Agencies																			
Montara Water & Sanitary District Clemens Heldmaier, General Manager PO Box 370131 8888 Cabrillo Highway Montara, CA 94037-0131 (650) 728-3545																			Provided attached letter from the Montara Water and Sanitary District (MWSO) Counsel. Letter advises that parcels were within MWSO service area as of August 2003 and is <i>not</i> within MWSO Sphere of Influence as stated in NOP. However, MWSO proposes to annex subject properties to newly acquired water service area (current boundaries only reflect sanitary service area). MWSO states its opposition to any intent to place subject property within service area of any other jurisdiction other than MWSO.
Department of Toxic Substances Control Allan Fone, Hazardous Substances Scientist 700 Heinz Ave. Berkeley, CA 94710-2721 (510) 540-3836																			Letter states role in evaluation of remediation of hazardous substances and notes past uses of parcels in agriculture. DTSC recommends sampling be conducted to determine if there has been a release of hazardous substances at the site. Potential remediation requirements should involve assessment of excavation activities and applicable local standards, transportation impacts from removal or remediation and risk of public upset. Requesting oversight requires application submittal to DTSC or Regional Water Quality Control Board.
Granada Sanitary District Jonathan Wittwer, District Counsel 147 South River St., Ste 221 Santa Cruz, CA 95060 (831) 429-4055																			Applicant would need to apply for and obtain permit to connect to the public sewer system. EIR must consider that GSD has primary jurisdiction and permit authority regarding private wastewater disposal systems. Compliance must be demonstrated in order to get Septic or MBR Permit. EIR will also need to address list of questions for consideration regarding scope of work (see letter).

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Coastside County Water District Everett Ascher, President 766 Main St. Half Moon Bay, CA 94019 (650) 726-4405															•				CCWD has not taken a position in favor or against the proposed project; however, has expressed willingness to serve project. CCWD transmission main is located adjacent to property, which is within SOI as established by LAFCO.
California Department of Transportation Lisa Carboni, District Chief California DOT, District 4 PO Box 23660 Oakland, CA 94623-0660 (510) 622-1644														•					Development need to identify traffic impact fees, as well as scheduling and costs. A Traffic Impact Study shall assess the proposed project according to DOT guidelines. DOT also advises that work may need an encroachment permit, which would be obtained by submitting an application.
San Mateo County Parks Dept David G Holland, Director 455 County Center, 4 th Floor Redwood City, CA 94063-1646 (650) 363-1823			•					•				•					•		Parks Department would like to see the encroachment of Ag operations and conversion of wetland on the County Park property (Fitzgerald Marine Reserve) addressed and mitigated, as well as the Pillar Point Marsh wetlands (which has not yet been acquired).
City/County Association of Governments David F Carbone, ALUC Staff 555 County Center, 5 th Floor Redwood City, CA 94063 (650) 363-4417	•						•	•		•				•					Major issues to be addressed are as follows: 1) Aircraft Noise Impact Analysis due to close proximity, 2) Federal Aviation Administration Regulations FAR Part 77 Airspace Impact Analysis, 3) disclosure of issues for proposed land uses adjacent to airport, 4) C/CAG/Airport Land Use Committee (ALUC) Land Use Compatibility Review. Letter strongly suggests coordination with the above regulations and agencies.

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San Mateo County Dept of Public Works Mark Larson, Airports Manager 555 County Center, 5 th Floor Redwood City, CA 94063-1665 (650) 363-4100							•	•	•									Proposed project is located approx. 300 feet from Half Moon Bay Airport and is subject to single-event aircraft noise events (Runway 30). Due to proximity, noise issues are potentially significant. Requirements of California Airport Land Use Planning Handbook and of DOT should be considered as they related to land uses. Safety of people and property on the ground must also be considered.
Private Individuals and Organizations																		
Sam Weinberg 115 Culebra St. Moss Beach, CA 94038 (650) 728-7408	•	•	•											•				Expresses concern over water supply issues (100% well). What are alternative sources of water if desalination plant proves too expensive? Limited water resources. Groundwater pollution? Concerned about rural issues, such as traffic congestion, air pollution, water, noise, and light pollution. What about status of wetlands, any further degradation?
Coastal Issues Committee, Loma Prieta Chapter of Sierra Club Merrill Bobele, Chair 3921 East Bayshore Rd., Ste 204 Palo Alto, CA 94303 (650) 390-8411	•			•	•	•	•	•		•							•	Sierra Club has the following concerns: Historic Wetlands/Biological Resources, Ag Resources, Geology/Soils and removal of productive Ag land, Hydrology/Water Quality, Land Use/Planning, and Population/Housing. EIR must address unidentified potential problems of these issue areas.
Committee for Green Foothills Lennie Roberts, Legislative Advocate 339 La Cuesta Portola Valley, CA 94028 (650) 854-0449	•	•		•													•	NOP does not include a proper summary of the submitted materials from the applicant, concerned that some of the information is not accurate based on review. Project Description needs to be revised and state preferred option for domestic water, wastewater and source of energy to be specified.

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SUMMARY OF COMMENTS	NOTES
Project Description	•
Aesthetics	
Air Quality	
Biological Resources	
Cultural Resources	
Geology / Soils	
Hazards / Hazardous Materials	•
Hydrology / Water Quality	
Land Use / Planning	•
Noise	
Population / Housing	
Public Services	
Recreation	
Transportation / Traffic	•
Utilities / Service Systems	
Construction Impacts	
Alternatives	
Other	

Wetlands History: CGF requests that additional field investigations be done during the winter season to determine the extent of wetland vegetation, using Coastal Commission protocols.

Compliance with Local Coastal Program: EIR must analyze project's compliance with the LCP.

Visual Resources/Aesthetics: design more appropriate for urban bayside location, and buildings are not consistent with coastal setting and LCP.

Bio Resources: see above comment about wetlands; also note sensitive habitats for special status species – survey must be done.

Geology/Soils: presence of shallow groundwater will require significant engineering. Soil compaction? Seismic hazards? Need independent peer review of geotechnical investigations.

Hazards: tsunami, sea-level rise, airport operations hazards.

Land Use Compatibility: EIR should discuss conditionally permitted use and necessary criteria, potential conflict with Waterfront/Design Review/Coastal Zone. CGF questions whether this project would constitute a “sanitarium”.

Economic Analysis: needs best available current information from independent consultant.

AOPA is opposed to development because it would represent an incompatible land use adjacent to the airport. Safety issues are present. Disagrees with the allowance of residential land uses as being compatible and would like to see a different project.

Aircraft Owners and Pilots Association
 John L Collins, Manager
 421 Aviation Way

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SUMMARY OF COMMENTS	NOTES
Frederick, Maryland 21701 (301) 695-2000	
California Pilots Association Ed Rosiak, President PO Box 6868 San Carlos, CA 94070-6868 (800) 319-5286 erosiak@comcast.net	Opposed to project due to its location (noise, dust, electromagnetic disturbance). Site is inconsistent with 2002 California Airport Land Use Handbook and is not advisable to allow this land use. Appropriate action must be taken for hazard removal and mitigation, and land use compatibility.
Matthew Clark PO Box 652 El Granada, CA 94018 mrcrm@comcast.net	Has concerns with the following: aesthetics (scale), Ag resources (loss of productivity), AQ (mitigate impacts), Bio resources (survey for special-status species, Cultural (consult with Native Americans), Geo/Soils (Class II soils, seismicity), Hazards (tsunamis), Hydro/WQ (Princeton Marsh, local water table, wetlands requirements and permitting), Land Use/Planning (does not conform with zoning, Airport Overlay), Population/housing, public services (water and sanitary), traffic, growth-inducing impacts, cumulative impacts, employment (evidence?), environmental sustainability should be more explicit, community integration of DD adults? Overall, feels project could be positive, but faces problems due to location and configuration.
Pillar Ridge Homeowners Association Lisa Ketcham, President 175 Culebra Lane Moss Beach, CA 94038	Traffic flow at Cypress Street. Tsunami escape route could be impacted by traffic on Airport St. Effect on well water source? Scale is too large, will block views. Condition of drainage culverts and potential flooding issues.

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Carolyn M Ybarra 111 Neuva Ave. Redwood City, CA 94061																		•	Strongly supports project.
Vicki and Michael Laffin 1350 Portola Ave. PO Box 371112 Montara, CA 94037-1112 (650) 728-3298																		•	Strongly supports project.
Mike Sims 176 Culebra Lane Moss Beach, CA 94038														•					Two primary concerns: pedestrian safety and the need for improvements to Cypress St. and Highway 1 if project is implemented.
Ric Lohman 420 1 st Ave. Half Moon Bay, CA 94019 (415) 734-2029			•	•				•				•		•	•	•	•		Specific concerns: threat of water rationing and water supply issues, local sewer system impacts, effects on neighboring residents, potential zoning problems? Property rights of existing residents? Any alternative locations?
Half Moon Bay Coastside Chamber of Commerce/Visitor Bureau Charise Hale McHugh, President/CEO 520 Kelly Ave. Half Moon Bay, CA 94019 (650) 726-8380																	•		Urges approval of the project.
Bonnie McClung																	•		Strongly supports the project

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12 Bay Hill Place Half Moon Bay, CA 94019 (650) 712-0315				•				•						•					Primary concern is the effects of project on wetland and special-status species. Impacts related to water source, salinity, desalination plant impacts? Pedestrian impacts. Oversight agency to service handicapped individuals. Impact of project local home values.
Dorothy Norris 112 Code Ave. Moss Beach, CA 94038				•				•											Strongly supports project.
Robin and Gian Polastri 441 Coronado Ave. Half Moon Bay, CA 94019																			Supports project.
Jan Gray 1415 Main St. Montara, CA 94037 (650) 728-5544																			Aesthetics: size and scale are incompatible and would create a new light source. Ag Resources: significant impact resulting from conversion of ag land AQ: impacts from addition of 800 cars and cumulative impact; AQ impacts of desalination plant? Bio Resources: consistency with bio resource protection policy, special-status species (CRLF); consistency with Local Coastal Protection policies; wastewater effluent, sensitive habitat, impacts from

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																			desalination plant. Geo/Soils: fault rupture, seismicity, liquefaction, landslides. Hazards: hazards related to airport land use zone and traffic congestion and fire. Hydro/WQ: impacts on water quality from wastewater and desalination plant. Effect on water supply wells? Ground water supplies and impacts to surrounding wetlands, streams, etc. Land Use/Planning: proposed extension of the service boundary of the CCWD to provide water supply, conflicts with existing zoning of General Industrial; Growth-inducing impacts. Additional traffic on LCP and Coastal Act; conflicts with ALUP and other airport issues and AB 332.

NOVEMBER 18, 2008 - EIR SCOPING MEETING

Speaker, Meeting Attendee and/or Submitted	Written Comments during Meeting
Patrick Winnen 78 Patrick Way Half Moon Bay, CA 94019	Resident of area; supports project.
Mary Lou Williams 470 Furtado Lane Half Moon Bay, CA 94019	Resident of area; supports project.
Amanda Gainza 460 Coronada Ave.	Potential Big Wave resident; supports project.

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Half Moon Bay, CA 94019																			
Teri Chatfield 315 Garcia Ave. Half Moon Bay, CA 94019																			Resident of area; supports project.
Michael Trautman PO Box 370655 Montara, CA 94037																			Resident of area; supports project.
Deby Lesser 50 Marie Ct. Half Moon Bay, CA 94019																			Discuss the housing situation for people with DD living in San Mateo County in terms of salaries, availability of affordable housing, transportation and other variables.
Robin Polastri 441 Coronado Ave. Half Moon Bay, CA 94019																			A project like this is addressing the needs of the business community and is addressing the environmental concerns of both construction and sustainability.
Nick Panofsky 123 Chester St. Menlo Park, CA 94025																			Project would reduce traffic on Highway 1 during commute hours, and also for Highway 92 to 280. I've looked over the facilities planning report and I agree with their findings. Has potential to improve to the traffic congestion on the coast side.
William Botieff 922 Date St. Montara, CA 94037																			Resident of area; supports project.
Ben Pacifico PO Box 254																			Resident of area; supports project.

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El Granada, CA 94018																			
Devon Yoshimine 480 Oak Ave., #1 Half Moon Bay, CA 94019																			Resident of area; supports project.
Barry Benda, Chief Golden Gate Regional Center 875 Stevenson St. San Francisco, CA 94103											•								Chief of Community Services at Golden Gate Regional Center. Supports project for additional housing it will provide for DD individuals.
Joe Farrell 2805 Alameda Ave. Half Moon Bay, CA 94019																			Resident of area; supports project.
Ruth Sowle 112 Amesport Landing Half Moon Bay, CA 94019			•																Supports project, feels project will not impact biological resources – specifically species (birds) in a negative manner.
Lee Cooke 111 Derecho Ln. Moss Beach, CA 94038				•															Concerned with endangered species and wetlands (CRLF, Western pond turtle, SF Garter snake).
Lisa Ketcham, member Pillar Ridge Homeowners Assoc. 175 Culebra Ln. Moss Beach, CA 94038		•												•					Concerned with the Office Park building height going from two-stories to three-stories, visual impacts? It would visually overwhelm community. Size needs to be scaled back a bit. Traffic concerns need to be addressed in the EIR, such as: traffic coming through on Capistrano, pedestrian and bicycle traffic hazards on “rural” roadways, school drop-off and pick-up associated traffic, traffic and parking

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Half Moon Bay Chamber of Commerce Wayne Meyer, Chair 235 Main Street Half Moon Bay, CA 94019 (650) 726-8380																			hazards. Additional concerns regarding the use of on-site water wells and impacts on their neighboring wells, Montara airport, as it is all the same aquifer.
Tyler Foley 408 Granelli St. Half Moon Bay, CA 94019																			Supports the project; eco-friendly office development and office space. In 2001, the Chamber of Commerce in conjunction with community leaders and coast side residents formed a comprehensive economic sustainability study. The location that was most desirable for economic development was the east side of Airport Blvd.
Joey Sayles 351 Grove St. Half Moon Bay, CA 94019																			Supports project.
Grace Maguire PO Box 1318 Sacramento, CA 94025																			Supports project.
Vanessa Castameda 125 Culebra St. Moss Beach, CA 94019																			This is a system and a model that can serve the DD community and bring new jobs to the coast side. To provide some environmental enhancement to existing farmland.
Mary Em Wallace PO Box 546																			Resident of area; supports project.
																			Supports project; however, is concerned about tsunamis. EIR should include a siren and easy evacuation routes.

**BIG WAVE WELLNESS CENTER AND OFFICE PARK PROJECT EIR
 COMMENTS RECEIVED IN RESPONSE TO 2008 NOTICE OF PREPARATION
 AND AT EIR SCOPING MEETING HELD ON NOVEMBER 18, 2008.**

SUMMARY OF COMMENTS	Project Description	Aesthetics	Air Quality	Biological Resources	Cultural Resources	Geology / Soils	Hazards / Hazardous Materials	Hydrology / Water Quality	Land Use / Planning	Noise	Population / Housing	Public Services	Recreation	Transportation / Traffic	Utilities / Service Systems	Construction Impacts	Alternatives	Other	NOTES
El Granada, CA 94018																			
Steve Knight PO Box 1510 El Granada, CA 94108																			Resident of area; supports project.
Bill Griffiths PO Box 1792 El Granada, CA 94018			•											•					Supports project, self-sustainable project. Water issues would be adequately covered by the proposed desalination plant. Feels project would not have negative impact on biological resources. With regard to traffic in and out of Princeton, with 210 units in the mobile home park, several of those residents would be able to work at the project site and be able to walk to work.
Claudia M Frank 618 Alsace Lorraine Ave. Half Moon Bay, CA 94019	•													•					Supports project and green technology; concerns about traffic impacts.
Kerrie DeMartini PO Box 1134 El Granada, CA 94018																			Supports project; HMBHS Special Education Teacher.
Frank Guarino Hope Services PO Box 614 Half Moon Bay, CA 94019																			Supports project; environmentally conscious.
Patricia Stevenson Pillar Ridge Park		•	•	•			•												Has safety concerns regarding the surrounding roadways and traffic (i.e., Airport Road), pedestrian hazards. Concerns for increased traffic due to proposed uses and 800+ parking lot. Impacts to Mobile home

**BIG WAVE WELLNESS CENTER AND OFFICE PARK PROJECT EIR
 COMMENTS RECEIVED IN RESPONSE TO 2008 NOTICE OF PREPARATION
 AND AT EIR SCOPING MEETING HELD ON NOVEMBER 18, 2008.**

SUMMARY OF COMMENTS	Project Description	Aesthetics	Air Quality	Biological Resources	Cultural Resources	Geology / Soils	Hazards / Hazardous Materials	Hydrology / Water Quality	Land Use / Planning	Noise	Population / Housing	Public Services	Recreation	Transportation / Traffic	Utilities / Service Systems	Construction Impacts	Alternatives	Other	NOTES
PO Box 370514 Montara, CA 94037																			park? Concerned that the office park is going to and pollution, loss of privacy. Also, concerned about habitat in area and trash pollution and loitering in sensitive areas.
Merrill Bobele PO Box 2486 El Granada, CA 94018																			Retired teacher, former board member for the Golden Gate Regional Center. Concerned why project has gotten bigger; wants copies of submitted form and plans.
Betsy del Fierro 101 Eagle Trace Drive Half Moon Bay, CA 94019																			Resident of area; supports project.
James Wadleith 406 Kehoe Ave Half Moon Bay, CA 94019	•						•	•	•	•									Employee of San Mateo County Airport; however, is not speaking as a representative. Concerns regarding proximity of proposed development and airport runway, single noise events, sensitive receptors, type of development (i.e., residential) near airport. Believes there are going to be a lot of obstacles for this development, zoning, land uses, etc.
Marty Phelps 307 County Road Woodside, CA 94062																			Resident of area; supports project.
Paul Perkovic PO Box 371149 Montara, CA 94037-1149							•												Concerned about airport issues, zoning. Wants the EIR to consider alternative sites that do not present challenges.
Tom Borden 461 Furtado Lane Half Moon Bay, CA 94019																			Resident of area; supports project.

**BIG WAVE WELLNESS CENTER AND OFFICE PARK PROJECT EIR
 COMMENTS RECEIVED IN RESPONSE TO 2008 NOTICE OF PREPARATION
 AND AT EIR SCOPING MEETING HELD ON NOVEMBER 18, 2008.**

SUMMARY OF COMMENTS	Project Description	Aesthetics	Air Quality	Biological Resources	Cultural Resources	Geology / Soils	Hazards / Hazardous Materials	Hydrology / Water Quality	Land Use / Planning	Noise	Population / Housing	Public Services	Recreation	Transportation / Traffic	Utilities / Service Systems	Construction Impacts	Alternatives	Other	NOTES
Jim Asche on behalf of Bill O'Callahan, Supervisor Jim: (650) 363-4965 and Bill: (650) 363- 1294 Tom Hieronymus compusair@aol.com										•	•	•							Represents a disabled client and objects to project due to safety and noise considerations from adjacent Airport. Proximity of project would create stress from noise and pose hazard from airplane crashes.

420 1st Avenue
Half Moon Bay (Miramar)
CA 94019

November 18, 2008

Camille Leung, Planner
CSM, Planning and Building Department
455 County Center, 2nd Floor
Redwood City, CA 94063

RE: Comments on NOP of an EIR for Big Wave Wellness Center and Office Park

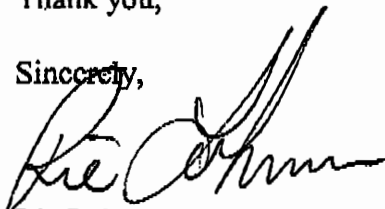
All fourteen general topics mentioned in your letter of November 5, 2008, should of course, be investigatcd. The following detailed items should be specifically studied:

1. Impact of the project in a community now threatened with water rationing. I understand a desalination plant might be investigated. The EIR needs to cover the impacts of pumping warm, concentrated brine into the harbor. It also needs to study the effects of construction beyond the water resources of the community. What if the de-sal plant fails?
2. Effects of the unplanned development on the local sewer systems. We are under threat by the EPA on overflows. How will this project contribute to the problem?
3. Effects on the neighboring manufactured home community. They invested in their properties based on the existing zoning, not the proposed up-zoning.
4. I don't believe the current zoning allows residential. We are oprcating about 30% above the development proposed by the LCP. How can we simply continue to add residences with their impacts beyond the current plans? Are the developers proposing retiring other lots to compensate for the proposed residential housing?
5. What about property rights of existing residents?
6. What alternative locations are being investigated? EIR's require alternatives. At an earlier hearing on this project, a local water official from HMB stated this was the ONLY parcel on the coast where this could happen. Again, EIR's must investigate alternatives.

If you have any questions, please feel free to contact me at my work phone:
415-734-2029.

Thank you,

Sincerely,



Ric Lohman

November 17, 2008



County of San Mateo
Planning and Building Department
455 County Center, 2nd Floor
Redwood City, CA 94063

Attention: Ms. Camille Leung, Planner

Reference: Big Wave Wellness Center and Office Park

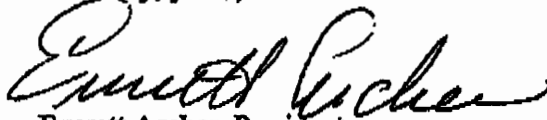
Dear Ms. Leung:

The purpose of this letter is to advise you that the Coastsides County Water District (CCWD) Board of Directors has not either taken a position in favor, or opposed in respect to the development of this project. At the November 15, 2005 meeting of the CCWD Board of Directors, the Board expressed willingness to provide water service to this property, if the property complies with all necessary approvals and permits from interested agencies.

CCWD has sufficient water supply available to satisfy the needs of this project, in the event that these approvals should be obtained. In fact, a CCWD transmission main is located adjacent to the property, which is within CCWD's Sphere of Influence and contiguous to CCWD's boundaries, as established by Local Agency Formation Commission (LAFCo).

In summary, in general, and in this case especially, Coastsides County Water District remains committed to its fundamental purpose of providing safe and reliable water service to our current customers, as well as to new projects that are deemed worthwhile by planning agencies responsible for such decision-making, and areas in which it is determined that our service is needed and in the community's interest.

Sincerely, yours,


Everett Ascher, President
Coastsides County Water District
Board of Directors

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NOV 18 2008

San Mateo County
Planning Division

766 MAIN STREET, HALF MOON BAY, CALIFORNIA 94019 650-726-4405



HALF MOON BAY COASTSIDE
CHAMBER OF COMMERCE & VISITORS' BUREAU

It's your connection

November 13, 2008

Camille Leung, Planner
County of San Mateo
Planning and Building Dept.
455 County Center, 2nd Floor
Redwood City, CA 9406

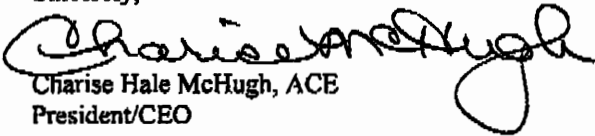
RE: Big Wave Project

Dear Ms Leung,

The Half Moon Bay CoastsidE Chamber of Commerce & Visitors' Bureau urges San Mateo County to review and APPROVE the Big Wave Project. This planned business/social development will be a great asset to the CoastsidE. Imagine an eco-friendly office development and a space that will enhance the lives of people with developmental disabilities all at once. In 2001 the Chamber in conjunction with community leaders and CoastsidE residents performed a comprehensive Economic Sustainability Study. The location that was most desirable for economic development was the east side of Airport Blvd. This is documented in the power point presentation presented to the San Mateo County Board of Supervisors, the City of Half Moon Bay Council, and the Mid-Coast Community Council.

A state of the art self sustaining facility is exactly in keeping with the kind of development that was identified by all parties working on the Economic Sustainability Committee. You also get the added benefit of restoring the environment and helping the developmentally disabled. Another component of the study brought forth the desirability of a "Wellness Center" on the Coast and the perfect fit that would make to our environment. Here you have a project that is combining a wellness center, with the enhancement of the lives of disabled persons, with environmental restoration and renewable energy. You have a project that will also encourage jobs on the coast. How could you ask for a more perfect project for the Coast? This would be an exemplary project to promote the forward thinking we have here on the San Mateo County Coast. The Half Moon Bay CoastsidE Chamber of Commerce is in full support of a project that will combine so many desired results.

Sincerely,


Charise Hale McHugh, ACE
President/CEO

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NOV 18 2008
San Mateo County
Planning Division

520 Kelly Avenue
Half Moon Bay, CA 94019
(650) 726-8380
fax (650) 726-8389

www.hmbchamber.com
www.halfmoonbayecotourism.com

County of San Mateo, Planning and Building Department
Attn: Camille Leung, Planner
455 County Center, 2nd Floor

November 14, 2008

Dear Ms. Leung:

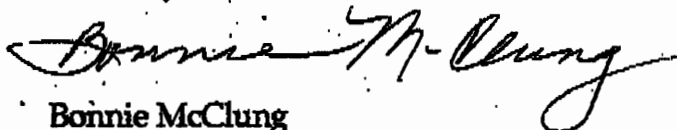
Regrettably, the scheduling of the Scoping Meeting for the Big Wave Wellness Center and Office Park conflicts with the regular meeting of the Half Moon Bay City Council meeting. As mayor of the City I am unable to attend the Big Wave meeting, as will also be the case for others.

As a resident of the Coastsides, I have a keen interest in the Big Wave project and have attended other related meetings and gatherings.

I strongly support the project. In terms of development, I think it is a balanced project and makes appropriate use of the land. The project's purpose of helping meet the special needs of adults with life challenges is laudable. The vision of this project is innovative and will undoubtedly serve as a model to help special needs adults become independent contributing members of the community.

We are fortunate to have the Big Wave Wellness Center and Office Park located in our community. What an asset it will be to the Coastsides!

Sincerely,



Bonnie McClung
12 Bay Hill Place
Half Moon Bay, CA 94019
650-712-0315

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NOV 18 2008
San Mateo County
Planning Division

DEPARTMENT OF TRANSPORTATION
 111 GRAND AVENUE
 P. O. BOX 23660
 OAKLAND, CA 94623-0660
 PHONE (510) 622-5491
 FAX (510) 286-5559
 TTY 711



*Flex your power!
 Be energy efficient!*

November 14, 2008

SM001376
 SM-001-34.885

Ms. Camille Leung
 County of San Mateo
 Planning and Building Division
 455 County Center
 Redwood City, CA 94063

Dear Ms. Leung:

BIG WAVE WELLNESS CENTER AND OFFICE PARK – NOTICE OF PREPARATION

Thank you for including the California Department of Transportation (Department) in the early stages of the environmental review process for the Big Wave Wellness Center and Office Park project. The following comments are based on the Notice of Preparation. As the lead agency, the County of San Mateo is responsible for all project mitigation, including any needed improvements to state highways. The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measures. This information should also be presented in the Mitigation Monitoring and Reporting Plan of the environmental document. Required roadway improvements should be completed prior to issuance of the Certificate of Occupancy. Since an encroachment permit is required for work in the state right of way (ROW), and the Department will not issue a permit until our concerns are adequately addressed, we strongly recommend that the County work with both the applicant and the Department to ensure that our concerns are resolved during the CEQA process, and in any case prior to submittal of a permit application. Further comments will be provided during the encroachment permit process; see the end of this letter for more information regarding encroachment permits.

Traffic Impact Fees

Please identify traffic impact fees. Development plans should require traffic impact fees based on projected traffic and/or based on associated cost estimates for public transportation facilities necessitated by development. Please refer to the California Office of Planning and Research (OPR) 2003 *General Plan Guidelines*, page 163, which can be accessed on-line at the following website: <http://www.opr.ca.gov/index.php?a=planning/gpg.html>

Scheduling and costs associated with planned improvements on Departmental ROW should be listed, in addition to identifying viable funding sources correlated to the pace of improvements for roadway improvements, if any. Please refer to the state OPR's 2003 *General Plan Guidelines*, page 106.

"Caltrans improves mobility across California"

Traffic Impact Study

Please include the information detailed below in the Traffic Impact Study (TIS) to ensure that project-related impacts to state roadway facilities are thoroughly assessed. We encourage the County to coordinate preparation of the TIS with our office, and we would appreciate the opportunity to review the scope of work. The Department's "Guide for the Preparation of Traffic Impact Studies" should be reviewed prior to initiating any traffic analysis for the project; it is available at the following website:

<http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf>

The TIS should include:

1. Site plan clearly showing project access in relation to nearby state roadways. Ingress and egress for all project components should be clearly identified. State ROW should be clearly identified.
2. Project-related trip generation, distribution, and assignment. The assumptions and methodologies used to develop this information should be detailed in the study, and should be supported with appropriate documentation.
3. Average Daily Traffic, AM and PM peak hour volumes and levels of service (LOS) on all significantly affected roadways, including crossroads and controlled intersections for existing, existing plus project, cumulative and cumulative plus project scenarios. Calculation of cumulative traffic volumes should consider all traffic-generating developments, both existing and future, that would affect study area roadways and intersections. *The analysis should clearly identify the project's contribution to area traffic and degradation to existing and cumulative levels of service. Lastly, the Department's LOS threshold, which is the transition between LOS C and D, and is explained in detail in the Guide for Traffic Studies, should be applied to all state facilities.*
4. Schematic illustration of traffic conditions including the project site and study area roadways, trip distribution percentages and volumes as well as intersection geometrics, i.e., lane configurations, for the scenarios described above.
5. The project site building potential as identified in the General Plan. The project's consistency with both the Circulation Element of the General Plan and the San Mateo County City/County Association of Governments Congestion Management Plan should be evaluated.
6. *Mitigation should be identified for any roadway mainline section or intersection with insufficient capacity to maintain an acceptable LOS with the addition of project-related and/or cumulative traffic.* The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should also be fully discussed for all proposed mitigation measures.
7. Special attention should be given to the following trip-reducing measures:
 - Maximizing density through offering bonuses and/or credits,
 - Providing transit information to all future project residents, patrons and employees, and
 - Encouraging bicycle- and pedestrian-friendly design.

"Caltrans improves mobility across California"

Encroachment Permit

Please be advised that all work that encroaches onto the state ROW requires an encroachment permit that is issued by the Department. To apply, a completed encroachment permit application, environmental documentation, and five (5) sets of plans, clearly indicating state ROW, must be submitted to the address below. Traffic-related mitigation measures will be incorporated into the construction plans during the encroachment permit process. See the following website link for more information: <http://www.dot.ca.gov/hq/traffops/developserw/permits/>

Michael Condie, Chief
Office of Permits
California DOT, District 4
P.O. Box 23660
Oakland, CA 94623-0660

Please forward one hard copy and one CD of the environmental document, along with the Traffic Study, including Technical Appendices, and staff report to the address below as soon as they are available.

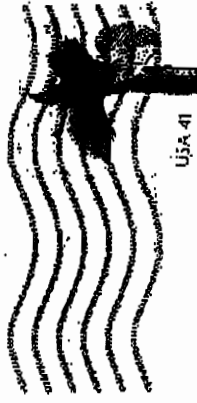
Sandra Finegan, Transportation Planner
Community Planning Office, Mail Station 10D
California DOT, District 4
P.O. Box 23660
Oakland, CA 94623-0660

Please feel free to call or email Sandra Finegan or my staff at (510) 622-1644 or sandra.finegan@dot.ca.gov with any questions regarding this letter.

Sincerely,

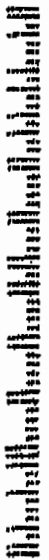


LISA CARBONI
District Branch Chief
Local Development - Intergovernmental Review



Deborah Norris
113 Code Ave
Miss Beach, CA 94938
SAN FRANCISCO CA 941
NOV 2008 PM 4 T

Camille Leung, Planner
455 County Center, 2nd Floor
Redwood City, CA 94063



3405371663

November 15, 2008

To: Camille Leung, Planner with the County of San Mateo, Planning and Building Department

From: Dot Norris, Marine Biologist and resident of the Pillar Ridge MHC

Re: Preparation of the EIR of the Big Wave Wellness Center and Office Park

As a local resident and expert in the environmental sciences, I would like to submit the following comments on the proposed Big Wave project.

My prime concern is the effects of the project on the local wetlands and surrounding community. The plan's scope of development will directly impact 19.5 acres near a water access source to the adjacent wetlands area. This type of development increases the amount of hydrocarbons in the storm water run-off of non-permeable paved surfaces. If the development is truly green in nature, this issue will be addressed in the plan and I would like to see it in the hydrological section of the EIR. The local wetland is a documented habitat of the endangered Red-legged Frog, San Francisco Garter Snake and Western Pond Turtle.

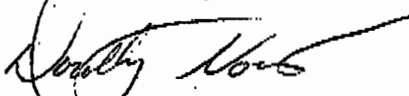
Second, I would like to see that the source of water provided to the development stated in specific terms. If the project plan specifies groundwater access, how will this affect the local water table? The project is located very near the ocean and infusion of saline water into our wells is a very definite probability. Our manufactured home community depends almost exclusively on groundwater. If the project plan is to install a desalinization plant on Princeton Pier, how will the current level of pollution in the harbor effect the water quality provided to the users in the community? Are there studies on the residual levels of these types of pollutants after the desalinization process?

Third, access to our area is difficult for a fully functional adult and I am concerned about the pedestrian traffic that this project will cause along Airport Road, especially if the project is exempted from the County's Parking Regulations. The region is rural in nature and transportation of impaired individuals may be problematic.

Fourth, is there an oversight agency that has bought into the project to ensure that the Wellness Center continues to service handicapped individuals?

Finally, I would like the EIR to include the impact of this development on the local home values. Most residents of the Pillar Ridge MHC are low to very low income households and most have their entire savings in their homes. Any development that depletes the quality of life here will reduce the value of their homes and could bankrupt entire families.

Thank you for your time,



Dorothy Norris

Fwd RE your request to the San Mateo County
From: Camille Leung [CLEung@co.sanmateo.ca.us]
Sent: Thursday, December 18, 2008 10:06 AM
Subject: Fwd: RE: your request to the San Mateo County

Hieronymus, Tom
compusailr@aol.com

As the representative of a disabled client, I object to the proposed plan to build the Big Wave wellness Center and Offices, dwellings of which would put disabled people at risk due to the proximity to the Half Moon Bay Airport. The potential for injury not only precipitates from the rare possibility of aircraft crash, where disabled residents would be least able to flee, but moreso due to the insidious stress caused by low aircraft noise on departure.

Camille M. Leung
Planning and Building Department
455 County Center, Second Floor
Redwood City, CA 94063
(650) 363-1826

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Save Paper.
Think before you print.

>>> "Matthew Clark" <mrccrm@comcast.net> 12/1/2008 9:24 PM >>>

Ms. Leung--

I offer the following comments on the proposed Scope for environmental impact analysis under CEQA for the proposed "Big Wave Project" (Project) in Princeton on the San Mateo County MidCoast.

Aesthetics: the EIR should analyze how the Project, on the scale proposed, will fit in with the local community. Project proponents are basically proposing a considerable self-contained community within the larger community, at a scale that is unlike anything in the vicinity.

Agricultural Resources: these two parcels with Class II agricultural soils are currently farmed profitably by a neighbor of ours; the EIR should analyze what this loss in productivity will mean for the local community, the County, the individuals now involved, and how the Project will mitigate these impacts.

Air Quality: the EIR should analyze how the (claimed) 800 jobs for offsite workers, who will drive to work, will impact local air quality and what the Project will do to mitigate impacts.

Biological Resources: the immediate Project vicinity should be surveyed at different seasons to determine the location and potential for impacts to endangered and threatened species, and the potential Project impact on species diversity in the sensitive Princeton Marsh.

Cultural Resources: from personal knowledge, I know that impacts to cultural resources could be a significant impact of the Project. The EIR should carefully address these impacts and specify mitigation measures. Under State law, if the Project requires a new Specific Plan or amendments to the General Plan, recognized local Native American representatives must be consulted about impacts to their cultural resources.

Geology/Soils: the County Soils Survey shows the parcels containing Class II agricultural soils, so the EIR should address loss of that productivity and propose mitigation measures. The Seal Cove Fault also passes through or immediately adjacent to the Project; given the population to be served, seismic vulnerability should be thoroughly analyzed.

Further, the Project parcels should be analyzed for potential tsunami incidents, given the location and low elevation, and proposals presented for adequate protection and/or evacuation of the perhaps particularly vulnerable proposed population from the Project in the event of a tsunami.

Hydrology/Water Quality: careful attention and analysis must be given in the EIR to impacts on the hydrology and water quality of the adjacent Princeton Marsh, and the impacts on the local water table, which is already tapped for domestic water supplies.

Further, the Project apparently proposes considerable wetlands restoration, connecting the restored areas to the existing Princeton Marsh. It would behoove the applicants and EIR preparers to conduct studies at this point addressing the requirements for State (Water Resources, Fish & Game) and Federal (Corps of Engineers, Fish and Wildlife Service) agencies, as it is very likely permits would be needed from various agencies other than the County. The possible desalinization plant mentioned in the NOP would also require extensive permitting.

Land Use/Planning: the proposed project does not conform to uses listed in the current zoning for either parcel, so the EIR should demonstrate how and why the Local Coastal Program and County General Plan should be altered to allow such uses. Neither of the parcels are zoned for residential use, yet that is a primary proposed use. The Airport Overlay zoning for both parcels limits uses, and State law discourages most of the uses proposed, so the EIR must analyze and present the

Fwd EIR Scoping Big Wave Wellness Center Project

overriding considerations that would allow the County and Coastal Commission to approve proposed uses.

Population and Housing: the Project would significantly boost population density for the area, especially during regular work hours; the EIR should analyze and quantify that boost and identify viable mitigation alternatives. Again, neither of these parcels are zoned for residential use. Should the hypothesized 800 new jobs materialize, where will those employees live?

Public Services: the NOP summary is both glib and unrealistically idealistic in terms of obtaining or substituting for public services. The EIR should identify the quantity of wastewater to be generated at full Project completion and through its service life, as well as the likelihood of obtaining that capacity from the relevant local agency. The NOP mentions as an alternative a Membrane Bioreactor; the EIR should analyze what it will take for such a facility to be permitted, built, and operated for the life of the Project (given the proximity of the marshland and Princeton Harbor, both of which feed into the Monterey Bay National Marine Sanctuary, it appears likely that numerous permits from Federal agencies could be required for such a facility).

As neither the Montara Water & Sanitary District nor the Coastside County Water District may have jurisdiction nor capacity to fully serve the Project, the EIR must carefully and thoroughly analyze the options for domestic water service. Connecting to the already overstretched MWSD supply, further depleting the groundwater and impacting Princeton Marsh, and the noted desalinization plant all are fraught with difficulties that must be addressed in the EIR.

Transportation/Traffic: at the Scoping meeting, where the Project was presented as potentially providing jobs for up to 800 employees residing offsite and another 80 for onsite residents, the claim was made that introducing the second largest employer at a single site in the Half Moon Bay/Midcoast area would actually lessen local traffic problems. The EIR must clearly present how this could be so, and also analyze how traffic to and from the Project at completion will impact Princeton, Highway 1, and the residential areas immediately adjacent to the north, as well as farther away in Moss Beach. The Project does not appear to contain enough parking for proposed uses, so mitigation for this impact must be presented as well.

Growth Inducing Impacts: the EIR should address how rezoning the Project parcels to allow residential use at high density and to allow other uses not now allowed would not induce others with properties in the vicinity to want to gain similar special treatment and wholesale revamping of landuse planning for specific projects. Should this Project gain permits, why would others with viable agricultural acreage or open space lands not expect the same permits to draw and legalize major subdivisions so they can go ahead with projects not currently within zoned uses?

Cumulative Impacts: given the acreage involved, the loss of productive agricultural land, potential impacts to the biologically sensitive nearby marsh and bluffslands, potential impacts to local water supplies, potential impacts to cultural resources, potential traffic and air quality impacts, the potential burden to wastewater collection, transmission, and treatment systems, the presence of one of only two small County Airports across the street and potential impacts to general and emergency aviation, and the proposed increase in population and residential density, the EIR must contain a thorough and nuanced analysis of the Project's cumulative impacts.

In addition to the specific issues to be addressed in the EIR, for the local community to consider and evaluate the proposed Project, several other issues should be addressed. These would include:

It was claimed that the Project will potentially provide employment for up to 880 persons, yet it appears that numerous regional commercial/retail spaces are not utilized now; evidence that such levels of employment could be attracted to this location, without negatively impacting existing spaces, should be presented. Given

Fwd EIR Scoping Big Wave Wellness Center Project

the current downturn in the local, State, and national economy, types of businesses and employment that will attract such employment numbers should be identified. Opportunities for employment for local residents should also be identified and if possible quantified.

Much was made of the currently proposed Project becoming "self-sufficient," and that the target population would thereby "not be asking for government support." The current Project as proposed is significantly larger than that proposed a couple of years ago, which also was presented as "self-sufficient." Economic analyses should be presented to justify the enlargement of the current Project, and to explain why this larger project is needed for self-sufficiency. Markets and viability for the numerous possible businesses to be at the Project should be identified ("Big wave Catering and Food Services; BW Energy; BW Entertainment; BW Farming; BW Water; BW Transportation; BW Recycling; BW Communications [Fiberlink]; and BW Maintenance"), where most such enterprises here are struggling to survive.

Part of the "environmentally sustainable" Project includes wetlands restoration; how such restoration makes the overall more Project self-sufficient should be made clear. Onsite recycling and composting are proposed; how this would interact with existing local recycling systems should be explained. The proposed onsite energy production systems are laudable, but how a "wind turbine" can be proposed next to an airport should be explicated. How the onsite energy systems would make the Project energy "self-sufficient" should be made explicit.

Much was also made of providing the target population, developmentally disabled individuals, with a sense of community, and of being a valued part of the Midcoast community, yet the proposed Project might be seen as an enclave enclosing these members and separating them from the wider community. Sociological analysis should be presented to explain this apparent contradiction, and evidence presented as to why this out-of-the-way and rather isolated location (rural on one side, airport on another, industrial/warehouses toward the harbor, and the tightly knit community to the north) would be optimal to achieve integration of this population with the wider community rather than another location already surrounded or at least zoned for residential use.

The proposed Big Wave Project could be a very positive and indeed estimable contribution to the local community but appears to face considerable odds for success, at this location and in the proposed configuration. The EIR should carefully and thoroughly explain just how it can all be put together and work as proposed while not causing adverse environmental impacts or placing undue burden on already stressed local infrastructure.

Please add me to the County mailing list for this Project.

Matthew Clark
PO Box 652
El Granada, CA 94018

Comments on Big Wave NOP

From: Camille Leung [CLEung@co.sanmateo.ca.us]
Sent: Thursday, November 13, 2008 10:57 AM
Subject: Comments on Big Wave NOP

Comments we received on the NOP:

- 1) Merrill Bobele
 - why has project gotten bigger?
 - wants copies of submitted forms and plans
- 2) Greg Thomas of Half Moon Bay Review
 - General Questions on project info/status of EIR. A link to the story:
<http://www.hmbreview.com/articles/2008/11/12/news/doc491b513f6309d391100820.txt>

Camille M. Leung
Planning and Building Department
455 County Center, Second Floor
Redwood City, CA 94063
(650) 363-1826

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Save Paper.
Think before you print.

Comment

From: Camille Leung [CLEung@co.sanmateo.ca.us]
Sent: Wednesday, November 19, 2008 2:28 PM
Subject: Comment

President of San Carlos Airport Pilots Association/Vice-President of Region 3 of the CA Pilots Association/Acting Airport Support Network Representative for HMB Airport for the Aircraft Owner's and Pilot's Association (AOPA)

Carol Ford (see titles above)
360 Bowsprit Drive
Redwood Shores, CA 94065
650/591-8308

All groups she represents oppose siting of project at proposed site due to the following reasons:

- inappropriate location due to noise issues
- no way to limit air traffic into airport
- noise contours: greatest amount of noise will be over both parcels
- grant assurances between the County and FAA state that County will not put incompatible land uses near the airport

Camille M. Leung
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455 County Center, Second Floor
Redwood City, CA 94063
(650) 363-1826

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Tsunami Inundation Zone- Big Wave

From: Camille Leung [CLEung@co.sanmateo.ca.us]
Sent: Thursday, November 13, 2008 9:01 AM
Subject: Tsunami Inundation Zone- Big Wave

Received comment today on the NOP by phone from Jim Asche (on behalf of Bill O'Callahan, Supervisor) from the County Office of Emergency Services at the Sherriff's Office, stating that the site is completely witin a potential Tsunami Inundation Zone (but on the outside edge of this zone). This is per the map prepared by the CA Office of Emergency Services in 1998, which is available at the abag.gov website. In case we need more info, we can contact Jim at 363-4965 and Bill at 363-1294.

Camille M. Leung
Planning and Building Department
455 County Center, Second Floor
Redwood City, CA 94063
(650) 363-1826

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MONTARA WATER & SANITARY DISTRICT

Serving the Communities of Montara and Moss Beach

P.O. Box 370131

Tel: (650) 728-3545

8888 Cabrillo Highway

Fax: (650) 728-8556

Montara, CA 94037-0131

E-mail: msd@coastside.net

Visit Our Web Site: <http://www.msd.montara.com>

December 5, 2008

County of San Mateo, Planning and Building Department
 Attn: Camille Leung, Planner
 455 County Center, 2nd Floor
 Redwood City, CA 94063
 Fax (650) 363-4849

RE: Notice of Preparation (NOP) of an Environmental Impact Report (EIR) and
 Notice of Public Scoping Meeting for the Big Wave Wellness Center and
 Office Park

Dear Ms. Leung,

Please be advised that the attached letter from the Montara Water and Sanitary
 District Counsel to the LAFCo Executive Officer, commenting on the Lands of Big
 Wave, LLC was filed with Big Wave LLC.

Sincerely,

Clemens Heldmaier
 General Manager

Attachment

DEC 03 06 00:00 George T. Irving 000 120 0000
LAW OFFICES OF
DAVID E. SCHRICKER
A PROFESSIONAL CORPORATION
Suite 109
20370 Town Center Lane
CUPERTINO, CALIFORNIA 95014

TELEPHONE (408) 517-9933
FAX (408) 252-5906
E-MAIL: Schrickerlaw@hotmail.com
Schrickerlaw@aol.com

August 18, 2003

Martha Poyatos, Executive Officer
San Mateo County Local Agency Formation Commission
455 County Center, 2nd Floor
Redwood City, CA 94063-1663

Re: Notice of Intent to Circulate Petition for Annexation – Lands of Big Wave,
LLC (APNs 047-311-060, 061, 062, 063 and APN 047-312-040)

Dear Ms. Poyatos:

This letter acknowledges receipt by the Montara Water and Sanitary District ("MWSD") of the notice of intent to circulate a petition for annexation of the above-listed parcels of property to the Coastside County Water District ("CCWD"). Please be advised that, as of August 1, 2003, said parcels were included within the water service area of MWSD by reason of MWSD's acquisition of the Montara water system of the California-American Water Company ("CalAm"). In acquiring the CalAm system, MWSD acquired the right to serve all lands within the prior service area of CalAm and relies upon that right, among other matters, for its revenue base to service the bonded indebtedness incurred by MWSD to fund the acquisition. Moreover, as acknowledged by the transmittal letter from your office, the property described in the petition is within MWSD's Sphere of Influence, if not within MSWD's boundaries. (Your transmittal letter refers to MWSD as an affected agency by reason of the inclusion of the subject property within MWSD's boundaries or its Sphere of Influence.)

In view of the foregoing, the notice of intent misstates a material fact regarding the basis for annexation to CCWD, viz., the property involved is not within CCWD's sphere of influence. Furthermore, MWSD proposes to initiate proceedings to annex to MWSD any and all lands, including the subject property that may lie outside its current boundaries but that are within its newly acquired water service area. As you presumably are aware, MWSD's current boundaries correspond to its present sanitary sewerage service area. Thus boundary adjustments are appropriate to encompass the newly acquired water service area.

SM\MWSD\A.FCC\031803

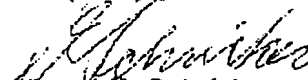
CY to Bd
FL-LA

Martha Poyatos, Executive Director
August 18, 2003
Page 2

By this letter, MWSD gives notice of its opposition to the proposed annexation described in the notice of intent, and to any proposal that would seek to place the subject property within the service area or boundaries of any water purveyor other than those of MWSD. Kindly provide the undersigned with a copy of the proposal submitted by the applicant pursuant to Government Code Section 56700 and any other documentation pertaining to the proposed annexation. (Kindly contact me regarding reimbursement of any copying charges that may be involved.)

Meanwhile, if you have any questions regarding the foregoing, please do not hesitate to contact me.

Very truly yours,



David E. Schricker,

DES:ns

cc: Board of Directors, MWSD (via fax: [650] 728-8556)
Manager, MWSD (via fax: [650] 728-8556)
Coastside County Water District
Herman Fitzgerald, Esq. (via fax: [650] 348-3518)
Big Wave, LLC, c/o Jeff Peck



Department of Toxic Substances Control

Maureen F. Gorsen, Director
700 Heinz Avenue
Berkeley, California 94710-2721



Linda S. Adams
Secretary for
Environmental Protection



Arnold Schwarzenegger
Governor

FAX TRANSMITTAL SHEET

DATE: 12/4/08

NO. OF PAGES WITH COVER SHEET: 3

ATTENTION: Camille Leung
PHONE: 650-363-1826
FAX# 650-363-4849

FROM: Allan Fone
PHONE: 510-540-3836

COMMENTS:

Big Wave Wellness Center + Office Park

The fax transmittal was sent from the Cleanup Program-Berkeley Office, fax number (510) 540-3819. If you had any problems with this transmission, or if you have not received all of the pages, please call the sender or you may call our assistant at (510) 540-3726.

Thank you



Linda S. Adams
Secretary for
Environmental Protection



Department of Toxic Substances Control

Maureen F. Gorsen, Director
700 Heinz Avenue
Berkeley, California 94710-2721



Arnold Schwarzenegger
Governor

December 4, 2008

Ms. Camille Leung
San Mateo County
455 County Center, 2nd Floor
Redwood City, California 94063

Dear Ms. Leung:

Thank you for the opportunity to comment on the Notice of Preparation (NOP) for the Big Wave Wellness Center and Office Park draft Environmental Impact Report (EIR) (SCH #2008102109). As you may be aware, the California Department of Toxic Substances Control (DTSC) oversees the cleanup of sites where hazardous substances have been released pursuant to the California Health and Safety Code, Division 20, Chapter 6.8. As a Responsible Agency, DTSC is submitting comments to ensure that the environmental documentation prepared for this project under the California Environmental Quality Act (CEQA) adequately addresses any remediation activities pertaining to releases of hazardous substances.

The Big Wave Wellness Center and Office Park project site ("Site") is located along Airport Street, near the Half Moon Bay Airport in unincorporated San Mateo County. The Site consists of two parcels totaling 19.5 acres. In our phone conversation on December 3, 2008, you stated that these parcels are currently vacant but were formerly used for agriculture.

Because the project is located in an area with a history of agricultural use, DTSC strongly recommends the evaluation of past agricultural practices to determine if agricultural chemicals (e.g., herbicides, pesticides, and metals) may have been used at the Site. If agricultural chemicals potentially were used, DTSC strongly recommends sampling be conducted to determine if there has been a release of hazardous substances to soils at the Site.

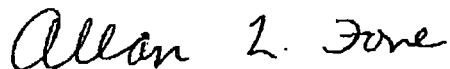
If hazardous substances have been released, they will need to be addressed as part of this project. For example, if remediation activities at the Site include the need for soil excavation, the CEQA compliance document should include: (1) an assessment of air impacts and health impacts associated with the excavation activities; (2) identification of any applicable local standards which may be exceeded by the excavation activities, including dust levels and noise; (3) transportation impacts from the removal or remedial activities; and (4) risk of public upset should be there an accident at the Site.

Ms. Camille Leung
December 4, 2008
Page 2

DTSC and the Regional Water Quality Control Boards (Regional Boards) signed a Memorandum of Agreement, March 1, 2005 (MOA) aimed to avoid duplication of efforts among the agencies in the regulatory oversight of investigation and cleanup activities at brownfield sites. Under the MOA, anyone requesting oversight from DTSC or a Regional Board must submit an application to initiate the process to assign the appropriate oversight agency. The completed application and site information may be submitted to either DTSC or Regional Board office in your geographical area. The application is available at <http://www.calepa.ca.gov/brownfields/MOA/application.pdf>.

If you have any questions or would like to schedule a meeting, please contact me at 510-540-3836.

Sincerely,



Allan Fone, Ph.D., Hazardous Substances Scientist
Brownfields and Environmental Restoration Program
Berkeley Office

cc: Governor's Office of Planning and Research
State Clearinghouse
P. O. Box 3044
Sacramento, CA 95812-3044

Guenther Moskat
CEQA Tracking Center
Department of Toxic Substances Control
P.O. Box 806
Sacramento, California 95812-0806

Jonathan Wittwer
William P. Parkin
Jennifer M. Bragar

WITTWER & PARKIN, LLP

147 SOUTH RIVER STREET, SUITE 221
SANTA CRUZ, CALIFORNIA 95060
TELEPHONE: (831) 429-4055
FACSIMILE: (831) 429-4057
E-MAIL: office@wittwerparkin.com

December 8, 2008

Camille Leung, Planner III
Planning and Building Department
County of San Mateo
455 County Center, Second Floor
Redwood City, CA 94063

Re: Granada Sanitary District Permit Authority - Big Wave Wellness Center and Office Park

Dear Ms. Leung,

As General Counsel for the Granada Sanitary District (the "District"), I am writing this letter to inform the County of San Mateo that the District has jurisdiction and permit authority over any private wastewater disposal system and/or sewer connection proposed in the application to construct the Big Wave Wellness Center and Office Park Project.

Thank you for your attention to this matter.

Sincerely,



Jonathan Wittwer
General Counsel for Granada
Sanitary District

cc: County Counsel
Granada Sanitary District

Jonathan Wittwer
William P. Parkin
Jennifer M. Bragar

WITTWER & PARKIN, LLP
147 SOUTH RIVER STREET, SUITE 221
SANTA CRUZ, CALIFORNIA 95060
TELEPHONE: (831) 429-4066
FACSIMILE: (831) 429-4067
E-MAIL: office@wittwersparkin.com

December 5, 2008

Camille Leung, Planner III
Planning and Building Department
County of San Mateo
455 County Center, Second Floor
Redwood City, CA 94063

**Re: Granada Sanitary District Scoping Comments for Preparation of EIR
for Big Wave Wellness Center and Office Park**

Dear Ms. Leung,

The Granada Sanitary District ("the District" or "GSD") submits the following questions and comments in response to the County's Notice of Preparation of EIR for the Big Wave Wellness Center and Office Park Project (the "proposed Project").

Regarding the collection and treatment of wastewater from the proposed project, the Applicant/proponent would need to apply for and obtain permit(s) from GSD to connect to the public sewer system. However, since the project description also mentions the possibility of use of a private wastewater disposal system, the EIR must also consider that GSD has primary jurisdiction and permit authority as to the installation and use of a private wastewater disposal system on the Project site. GSD has detailed regulations (Dist. Ord. C. §504) as to which compliance must be demonstrated in order to get a Septic Permit to install a private wastewater disposal system.

GSD has Responsible Agency status for the above-described Project for either connection to the public sewer or installation and use of a private wastewater disposal system if part of the Project.

The California Environmental Quality Act ("CEQA") provides (in part) as follows as to a Responsible Agency:

- (1) A responsible agency may require changes in a project to lessen or avoid only the environmental effects, either direct or indirect, of that part of the project which the agency will be called on to carry out or approve. See CEQA Guideline 15041
- (2) As set forth in CEQA Guideline 15096(b), a responsible agency is required to respond to consultation by the lead agency in order to assist the lead agency in

preparing adequate environmental documents for the project and to enable the responsible agency to ensure that the documents it will use will comply with CEQA.

- (3) A responsible agency may refuse to approve a project in order to avoid direct or indirect environmental effects of that part of the project which the responsible agency would be called on to carry out or approve. See CEQA Guideline 15042.
- (4) The lead agency shall consult with and request comments on the draft EIR from responsible agencies. Prior to the close of the public review period, a responsible agency which has identified what that agency considers to be significant environmental effects shall advise the lead agency of those effects. As to those effects relevant to its decision, if any, on the project, the responsible shall either submit to the lead agency complete and detailed performance objectives for mitigation measures addressing those effects or refer the lead agency to appropriate, readily available guidelines or reference documents concerning mitigation measures. If the responsible agency is not aware of mitigation measures that address identified effects, the responsible agency shall so state. See CEQA Guideline 15086.
- (5) The lead agency shall require the applicant to provide a copy of the certified, final EIR to each responsible agency. See CEQA Guideline 15095.

SCOPING QUESTIONS AND COMMENTS FROM RESPONSIBLE AGENCY **GRANADA SANITARY DISTRICT**

The Notice of Preparation states that the proposed Project will consider wastewater systems such as: (1) municipal hook-ups and/or (2) use of an on-site Membrane Bioractor (MBR) wastewater treatment plant with disposal through irrigation. GSD submits that the following questions, among others, need to be analyzed and addressed in the EIR. GSD acknowledges that some of the answers to these questions are best known to GSD or the Sewer Authority Mid-Coastside ("SAM"). However, the EIR should provide information from the Applicant and obtain information from GSD or SAM and address these questions in the EIR for the benefit of the public and the decisionmakers.

Please consider the following in the EIR's analysis of the possibility for sewer connection(s) s and/or a proposed private wastewater disposal system(s):

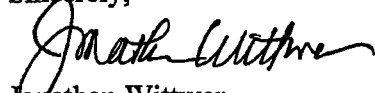
1. What volume of wastewater would the proposed Project generate, including under both dry weather and wet weather conditions? Please identify the sewage generation rates for all aspects of the proposed Project.
2. What size and capacity sewer line would the Applicant propose to connect to the District sewer main to serve the entire proposed Project? What size and

- capacity sewer line would the Applicant propose to connect to the District sewer main to serve the alternative project with office space increased to 225,000 square feet ("alternative project")?
3. Do the existing public sewer transmission lines, pumps and other equipment and/or facilities have capacity to serve the proposed project? Do the existing public sewer transmission lines, pumps and other equipment and/or facilities have capacity to serve the alternative project?
 4. If the existing public sewer transmission lines, pumps and other equipment and/or facilities have capacity to serve the proposed Project, will the proposed Project be required to hook-up to the sewer system? If the existing public sewer transmission lines, pumps and other equipment and/or facilities have capacity to serve the alternative project, will the alternative project be required to hook-up to the sewer system?
 5. Are there any existing sewer service problems/deficiencies in the proposed Project area?
 6. Specifically, what impacts will the proposed Project have on wet weather overflows? What impacts will the alternative project have on wet weather overflows?
 7. Please identify and analyze the impacts of new infrastructure or upgrades to infrastructure that would be needed to meet the proposed Project's demand for sewer distribution service. Please identify and analyze the impacts of new infrastructure or upgrades to infrastructure that would be needed to meet the alternative project's demand for sewer distribution service.
 8. Would GSD be able to accommodate the project's demand for sewer treatment service with the existing capacity of the SAM treatment facility?
 9. Given the existing Mid-Coast wastewater treatment demand and existing treatment capacity and approved dry weather flow treatment capacity will the SAM treatment facility be capable of serving Mid-Coast dry weather and wet weather flow sewage treatment needs for residential development at buildout considering the calculated buildout plus development of nonconforming lots?
 10. What size Membrane Bioreactor (MBR) wastewater treatment plant would be required under the proposed Project? What size would be required for the alternative project with office space increased to 225,000 square feet?
 11. What are the water quality impacts associated with a private wastewater disposal system for the proposed Project? What are the water quality impacts associated with a private wastewater disposal system for the alternative project?
 12. What are the impacts associated with the proposed private wastewater disposal system on any wetland or riparian vegetation/area under definitions applicable in the Coastal Zone?
 13. Where will the wastewater system and associated irrigation disposal system be located on the site? Please also describe the size of the wastewater system and

- associated irrigation disposal system and any impacts associated with the systems.
14. What is the landscape plan for the proposed Project? Can and will treated wastewater be used for irrigation?
 15. Will the scope of alternatives for wastewater disposal be reduced prior to preparation of the EIR and if so how will GSD be notified?
 16. Please thoroughly describe and analyze the garbage disposal system for the proposed Project and alternative project. Include locations, service provider, and impacts to the landfill.

Thank you for your consideration of these questions and comments.

Sincerely,



Jonathan Wittwer,
District Counsel, Granada Sanitary District


cc: Applicant
GSD Board of Directors
GSD General Manager

MEMORANDUM

SAN MATEO COUNTY PARKS DEPARTMENT

DATE: December 4, 2008

TO: Camille Leung, Project Planner

FROM: David G. Holland, Director 

SUBJECT: Big Wave Wellness Center and Office Park

We are writing to respond to your request for comments on the scope and content of the EIR that is being prepared for the Big Wave Wellness Center and Office Park. The following is a list of issues County Parks would like to see addressed in the Environmental Impact Report that is being prepared by County Planning for the project:

1) For over three years now there has been agricultural operations encroachment from the property in question over the property lines encroaching on to County Park lands. This encroachment has involved filling and farming wetland historically mapped by the biologists with the US Army Corps of Engineers prior to the County acquiring the Pillar Point Marsh to add it to the Fitzgerald Marine Reserve. We've walked the site with Senior Planner Dave Holbrook who documented the grading. Copies of the wetland delineation have been provided to County Planning. We would like to see this encroachment and conversion of wetland on the County Park property addressed and mitigated.

2) The agricultural land adjacent to the County property has also encroached on to Pillar Point Marsh wetlands previously mapped by the US Army Corps of Engineers and not acquired by County Parks. We would like to have this

conversion of wetlands addressed and mitigated.

Enclosed is a copy of the County's recent Master Plan for the Fitzgerald Marine Reserve including the Pillar Point Marsh, it will serve as background on the resources at the site. If you have any further comments please contact Senior Planner Sam Herzberg at (650) 363-1823.

cc: Sam Herzberg, Senior Planner
Dave Moore, Superintendent

C/CAG

City/County Association of Governments of San Mateo County

Atherton • Belmont • Brisbane • Burlingame • Colma • Daly City • East Palo Alto • Foster City • Half Moon Bay
• Hillsborough • Menlo Park • Millbrae • Pacifica • Portola Valley • Redwood City • San Bruno • San Carlos • San Mateo
• San Mateo County • South San Francisco • Woodside

December 5, 2008

Camille Leung, Planner
County of San Mateo Planning and Building Department
455 County Center, Second Floor
Redwood City, CA 94063

Dear Camille:

RE: C/CAG Airport Land Use Committee (ALUC) Staff Comments on a Notice
Of Preparation (NOP) of an Environmental Impact Report (EIR) for the
Proposed Big Wave Wellness Center and Office Park in the Vicinity of Half
Moon Bay Airport

Thank you for the opportunity to comment on the above-referenced document. The following comments address specific issues to be analyzed in the Draft EIR for the above-referenced project, related to airport/land use compatibility issues and criteria. I have also included information about the CCAG/ALUC airport/land use compatibility review process.

Brief Project Description

The Big Wave project is a proposed mixed-use development on two adjacent properties on the west side of Airport Street across the street from Half Moon Bay Airport, near the threshold of Runway 30. The proposed land uses include: (1) a Wellness Center that will include residential units for developmentally disabled children and adults (50 ultra-low income units and 20 low income units for on-site staff) and support activities; all units will be resident-owned and (2) 156,000 square feet of high-tech office space, related parking, and a storage building. The Wellness Center will be located on a 5.2-acre site. The adjacent office park will be located on a 14.6-acre site. The project will also include a restored wetlands area.

The 5.2-acre Wellness Center site is zoned W/AO/DR (Waterfront, Airport Overlay and Design Review). None of the housing units in the Wellness Center are located within the AO zone portion of the site. The 14.6-acre office park site is zoned M-1/DR (Light Industrial/Design Review). All proposed land uses are allowed in the existing zoning districts with a use permit. The project does not require a general plan amendment or a rezoning.

ALUC Chairperson:
Richard Newman
Aviation Representative

ALUC Vice Chairperson:
Mark Church, Supervisor
County of San Mateo

Airport Land Use Committee (ALUC) Staff: David F. Carbone,
Transportation Systems Coordinator/Airport Environs Planning
County of San Mateo Planning and Building Department

**C/CAG Airport Land Use Committee (ALUC) Staff Comments on a Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the Proposed Big Wave Wellness Center and Office Park in the Vicinity of Half Moon Bay Airport
December 5, 2008**

Page 2 of 4

Big Wave Group, Inc. is a non-profit 501(c) 3 organization. Its goal is "to provide affordable housing, food services, employment, recreation, and educational services for developmentally disabled children and adults." The project will be operated as a Cooperative, with the residents owning shares of the residential development and the office park.

Notice of Preparation (NOP) content

A. Aircraft Noise Impact Analysis

Due to the close proximity of the project site to Half Moon Bay Airport, especially to the location of the residential portion near the threshold (physical runway end) of Runway 30, aircraft noise impacts are a major issue that must be addressed in the DEIR. The Noise Section of the DEIR should include a detailed acoustic analysis by a registered acoustic engineer that includes identification and documentation of single-event levels and cumulative noise event levels at the project site from aircraft operations at Half Moon Bay Airport. The noise analysis should include a graphic that illustrates the single-event aircraft noise contours (in dBA) and the cumulative aircraft noise contours (in CNEL) at the project site. The text in the DEIR should indicate that the residential portion of the project will be designed to achieve an interior noise level in all habitable rooms of 45 dB CNEL or less, based on exterior noise sources, as required by the California Building Code for multi-family construction. This interior noise level criterion (45 dB CNEL or less) should be included as a condition in the use permit as a mitigation measure for aircraft noise impacts.

The aircraft noise assessment methodology should be based on a combination of field measurements and the use of the most recent version of the FAA Integrated Noise Model (INM). Aircraft type (fleet mix) and airport operations data can be obtained from the County Airport Manager's Office. Flight track data should be available from the Northern California TRACON (Terminal Radar Approach Control) facility near Sacramento, California.

B. Federal Aviation Administration Regulations FAR Part 77 Airspace Impact Analysis

The project site is located within the FAR Part 77 airspace protection surfaces for Half Moon Bay Airport. Therefore, per the relevant requirements of the Comprehensive Airport Land Use Plan (CLUP) for Half Moon Bay Airport, the project sponsor must file FAA Form 7460-1 "Notice of Proposed Construction or Alteration" with the FAA. The FAR Part 77 diagram for Half Moon Bay Airport can be obtained from the County Airport Manager's Office. FAA staff will review the proposed project to determine if it has any impact on the navigable airspace in the vicinity of Half Moon Bay Airport. The response from the FAA, including any suggested mitigation actions, should be addressed in the staff report for the use permit. Those suggested mitigation actions should be required as a condition of the use permit.

**C/CAG Airport Land Use Committee (ALUC) Staff Comments on a Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the Proposed Big Wave Wellness Center and Office Park in the Vicinity of Half Moon Bay Airport
December 5, 2008**

Page 3 of 4

Due to the high volume of airspace impact evaluations conducted by FAA staff, I strongly encourage the project sponsor to file the FAA Form 7460-1 with the FAA as soon as possible. Once that form and the project plans are received by FAA staff, it will probably take several months for the staff to complete their review of the project. FAA Form 7460-1 is available on the World Wide Web at www.forms.faa.gov/

C. Disclosure

Chapter 496 of 2002 Statutes amended the State of California Business and Professions Code and the State of California Civil Code to require a notice of disclosure of the proximity of real property to an airport, as part of the sale or lease of property that is located within two miles of an airport. This requirement applies to the sale or lease of all of the proposed land uses in the Big Wave project. It is the responsibility of the seller to disclose the proximity of the airport to the buyer.

In addition to the state-mandated disclosure, I understand the project sponsor is "willing to provide an airport disclosure and require a release form against airport operation complaints from all future residents" (source: email to Camille Leung from Scot Holmes, dated November 24, 2008). The project sponsor should contact Mark Larson, County Airport Manager, at 650/573-3700, to obtain a copy of the County Avigation Easement document to address this issue.

C/CAG/ALUC Land Use Compatibility Review

The City/County Association of Governments of San Mateo County (CCAG) Board of Directors serves as the state-mandated Airport Land Use Commission for San Mateo County. The Commission reviews proposed local agency land use policy actions (i.e. general plan amendments, rezonings, etc) for a determination of the consistency of those actions with the relevant airport/land use compatibility criteria for the subject airport, within a defined airport influence area (AIA) boundary. The Board has delegated that activity to its Airport Land Use Committee (ALUC). The ALUC reviews those actions and then makes a recommendation to the C/CAG Board, regarding its consistency evaluation.

The proposed Big Wave project is located within the airport influence area (AIA) boundary for Half Moon Bay Airport. Since the project does not require a general plan amendment or a rezoning, it does not require formal review by C/CAG/ALUC. However, I strongly recommend that the project sponsor attend an ALUC meeting in the near future to give the Committee an informational presentation about the project. This will also allow the ALUC members to learn about the project and to express their airport-related concerns. There would be no formal action by the ALUC at that meeting. The first two Regular Meetings of the ALUC in 2009 are tentatively scheduled for Thursday, February 26, 2009 and Thursday May 29, 2009. You can contact me for further meeting details.

**C/CAG Airport Land Use Committee (ALUC) Staff Comments on a Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the Proposed Big Wave Wellness Center and Office Park in the Vicinity of Half Moon Bay Airport
December 5, 2008**

Page 4 of 4

If you have any questions about these comments, please contact me at 650/363-4417.

Sincerely,

A handwritten signature in black ink, appearing to read "David F. Carbone". The signature is fluid and cursive, with a long horizontal stroke at the end.

David F. Carbone, ALUC Staff

Cc: Richard Napier, C/CAG Executive Director
C/CAG Airport Land Use Committee (ALUC) Members
Mark Larson, San Mateo County Airport Manager
Sandy Hesnard, Caltrans Division of Aeronautics

Department of Public Works



COUNTY OF SAN MATEO

555 COUNTY CENTER, 5TH FLOOR • REDWOOD CITY • CALIFORNIA 94063-1665 • PHONE (650) 363-4100 • FAX (650) 361-8220

BOARD OF SUPERVISORS

MARK CHURCH
RICHARD S. GORDON
JERRY HILL
ROSE JACOBS GIBSON
ADRIENNE TISSIER

JAMES C. PORTER
DIRECTOR

December 5, 2008

Ms. Camille Leung
Planning and Building Department
455 County Center, 2nd Floor
Redwood City, CA 94063

Dear Camille:

RE: Notice of Preparation of an Environmental Impact Report for the Big Wave Wellness Center and Office Park.

Thank you for the opportunity to comment on the Notice of Preparation of an Environmental Impact Report for the proposed Big Wave Wellness Center and Office Park (Project) located on Airport Street adjacent the Half Moon Bay Airport.

The proposed Project is located approximately 300-feet from the Half Moon Bay Airport (Airport) runway. The Airport is open year-round 24-hours a day and has approximately 40,000 to 60,000 aircraft take-offs and landings per year. The proposed Project area is subject to single-event aircraft noise impacts from aircraft take-offs, departures, overflights, arrivals and pre-flight run-ups at the Airport.

The Project is located directly across from the beginning of Runway 30. Prevailing wind conditions at the Airport dictate that Runway 30 be used for take-offs and landings approximately 80 percent of the time. Due to its proximity to the beginning of the runway, the project area is also subject to extended single-event propeller, jet and engine noise impacts as aircraft apply full take-off power and begin to accelerate for take-off.

The requirements, guidelines and recommendations in the California Airport Land Use Planning Handbook from the State Department of Transportation should also be considered as they relate to specific land uses in the vicinity of airports as well as aircraft noise impacts and the safety of aircraft occupants and people and property on the ground.

Please give me a call at (650) 573-3700 if you have any questions or I can provide any additional information.

Very truly yours,

Mark Lafson
Airports Manager

Cc: Jim Porter, Director of Public Works
Dave Carbone, County Airport Environs Planner

December 4, 2008

County of San Mateo, Planning and Building Department
455 County Center, 2nd Floor
Redwood City, CA 94063
Fax: 650-363-4849

Attn: Camille Leung, Planner

Dear Ms. Leung,

As a long time resident of the Pillar Ridge Mobile Home Community which is directly north of the proposed Big Wave development I would like to take this opportunity to briefly express some of my concerns:

How will it impact our water supply, which is 100% well water. During dry years there has barely been enough water to supply just our community here in Pillar Ridge and for that matter, the larger community served by Mid-Coast Water District. What will the alternative sources of water be if the project is built and it turns out the proposed desalinization plant is too expensive or otherwise impractical and unrealistic to build? Will we be left holding the bag and be forced to draw from our already limited water resources to supply the new development? Will there be water pollution issues, with chemical and or biological pollutants ruining our groundwater supply?

Our community has enjoyed the semi-rural location and is concerned about the impact that such a large development would have on the area. It appears that there are proposed multiple three story office buildings in the development. This seems like a huge project so close to our homes. What about traffic congestion and air, water, noise and light pollution issues. These concerns will also be shared by the residents of Moss Beach, Princeton and El Granada.

I am unsure what the status of the wetlands currently is. Will it still be protected? Some of the area has been converted into farmland. Will it be further degraded by the construction of such a large development in this fragile area?

Thank you,

Sam Weinberg
115 Culebra Street
Moss Beach, CA 94038
(650)728-7408



FAX: 650-363-4849
DATE: December 5, 2008
Camille Leung, Planner
FROM: 650-726-6429
Merrill Bobele
Page 1 of 2 pages

RE: APN 047-311-060 and 047-312-040
NOP for EIR Big Wave Wellness Center and Office Park

The Sierra Club Loma Prieta Coastal Issues Committee has the following concerns regarding the proposed EIR:

Historic Wetlands/Biological Resources

The County possesses a map verifying extensive wetlands on the southwester portion of the parcels adjacent to an existing marsh comprising an Environmentally Sensitive Habitat Area known to contain species of concern including the endangered San Francisco Garter Snake, California Red Legged Frog and Salt Marsh Yellowthroat. The EIR must analyze the proposed project for compliance with the certified Local Coastal Plan for the Midcoast, USFWS and CDFG regulations for biological resource protection – i.e. wetlands, endangered and protected species.

Agricultural Resources/ Geology/Soils

The present parcels are zoned “General Industrial,” but the land is presently being used for agricultural purposes. The appropriate County agencies need to evaluate the impact of removing productive agricultural land from production. In 2006 the owners brought in large amounts of soil for grading (without permits, relying on the County’s agricultural exemption), which probably covered portions of existing wetlands. The project proposes to add further large amounts of soil for grading which may adversely impact wetlands on the parcels. The EIR must address these issues and proposed mitigation.

Hydrology/Water Quality

The proposed project is unclear about on-site Membrane Bioreactor (MBR) wastewater treatment plant. In any case, there is not only the danger of effluent used for irrigation affecting groundwater, but also the long-term maintenance and operation of an independent plant. The location of well water system or desalination plant, especially if located in another jurisdiction (Pillar Point Harbor) has additional permitting problems besides the obvious impact on the marine life and water quality of the harbor.

Land Use/Planning

The Big Wave project presents problems that need to be addressed. The Montara Sewer and Water District has long had a water moratorium that precludes servicing this project. Extension of the service boundary of the Coastside County Water District (CCWD) conflicts with the existing permits granted to CCWD by the California Coastal

Commission. There also may be a problem to use "priority water" for the "Office Park" site based on an exemption for serving a developmentally disabled population on the Wellness Center/residential housing parcel.

Population and Housing

The EIR should address alternative locations for The Wellness Center serving a developmentally disabled population, and the Office Park based on a variety of concerns that also involve **Public Services, Transportation/Traffic, and Cumulative Impacts**. Generally there is a lack of public services (see Water Quality and Land Use/Planning above) including public transportation to serve a population dependent upon transportation. The Office Park with 800 parking spaces would generate considerable additional traffic, which requires an adequate traffic study as part of the EIR. The parcels are in an identified tsunami zone, so emergency evacuation measures must be considered as part of the traffic study.

Together the potential level of significance of all the above points contributes to the Cumulative Impacts of the Big Wave Project.

Sincerely,



Merrill Bobele, Chair
Coastal Issues Committee
Loma Prieta Chapter, Sierra Club

DATE: 12/5/08

FAX TO: Camille Leung, S.M.C. Planning

AT FAX NUMBER: 363-4849

FROM: LENNIE ROBERTS

FAX NUMBER: 650-854-5016

PHONE: 650-854-0449

NUMBER OF PAGES
(INCLUDING COVER)

7

MESSAGE: Camille, here are my
Comments on the NOP
for Big Wave.

**NOTE: IF THERE ARE PROBLEMS WITH THIS
TRANSMISSION, PLEASE CALL 650-854-0449**



COMMITTEE FOR
GREEN FOOTHILLS

December 5, 2008

By FAX 363-4849

Camille Leung, Project Planner
San Mateo County Planning and Building Department
455 County Center, 2nd Floor
Redwood City, CA 94063

Re: Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the proposed Big Wave Wellness Center and Office Park

Dear Camille,

Thank you for the opportunity to comment on the scope and content of the EIR to be prepared for the above-referenced project (Big Wave). On behalf of Committee for Green Foothills (CGF), I have the following comments:

Notice of Preparation (NOP): The Notice of Preparation does not include even a summary of the volumes of material that have been submitted to the County by the Applicant. CGF has had a chance to do a cursory review of these materials. We are concerned that some of the information is not accurate, and/or appears to reach conclusions that are not based on fact. What process does the County have to ensure that the EIR will indeed be an independent document?

Project Description: The Project Description includes two separate parcels, separated by wetlands and riparian vegetation that comprise part of the Pillar Point Marsh. To the extent that the Wellness Center residents may depend on the Office Park for employment, as well as for revenue to subsidize the operational costs of the Wellness Center, the Office Park should be constructed first. The Project Description includes a suite of potential utility and energy systems, including solar cells, carbonate fuel cells, natural gas/bio-diesel generators, wind turbines and generators, geothermal cooling systems, municipal domestic water hookups, use of well water/treatment systems, a desalination plant located offsite, and municipal wastewater hookups, on-site package wastewater treatment plant with disposal through irrigation, and a microwave dish system. Due to the location of this project in an environmentally sensitive area adjacent to the Pillar Point Marsh, some of these options may not be feasible. For example, there is a 240 acre foot per year limit on annual pumping from all wells - including CCWD, MWSD, the Pillar Ridge mobile home park, and agricultural wells - from the Pillar Point Marsh aquifer. If on-site groundwater wells are selected as the project's water source, the cumulative impact of pumping water from the aquifer, during drought periods, and the potential effect of depletion of groundwater levels upon the marsh, which is supported by the high groundwater table in this area, must be analyzed. The potential for salt-water intrusion into existing drinking and agricultural water wells must be analyzed as well. Other water supply options may have potentially significant environmental effects. The use of a desalination plant for water supply would require extensive studies, which may not justify investigation of this extremely costly option. Extension of CCWD's water system outside its Service District boundaries as defined on January 1, 2003 to serve the Big Wave parcels will require an Amendment to the Coastal Development Permit granted to CCWD by the Coastal Commission for its EIR.

Granada Pipeline Project. The Project Description needs to be revised, with the preferred option for domestic water, wastewater, and source of energy specified.

Wetlands History: We note that the project proposes to include a component of restoration of wetland habitat. It is important to recognize that both sites had much more extensive wetlands as recently as 2006 when large amounts of fill were trucked in to the southern parcel, purportedly to prepare the site for "agricultural" use. The importation of substantial amounts of fill has been recognized by consultants to Big Wave as necessary in order to develop the site. Indeed, the owners of Big Wave applied for coastal development permits in July, 2002, October, 2002, October, 2003, and April, 2004, for placement of 50,000 cubic yards (for the first two permit applications) and 15,000 cubic yards (for the second two permit applications) on the proposed office park site. Also in the summer of 1987, this commenter photographed extensive areas of wetlands that had been disked on the project site immediately adjacent to the willows and other riparian vegetation of the Pillar Point Marsh. Wetland plants including California tule, giant horsetail, and cattail were disked or plowed under, and only large segments of stems and leaves remained. Without sporadic disking and plowing for purported agricultural purposes, over the past twenty years, restoration of wetland habitat on the site would be unnecessary. Due to presence of wetlands, more of the site may be off-limits to development as well. It is important therefore to accurately determine the extent of the wetlands on the site, following the State Fish and Game and Coastal Commission's definition of wetlands, as well as the protocols that have been established by the California Coastal Commission. To further support this concern, we note that Lyndon Lee and Peggy Fiedler of WSP Environment and Energy, consultants engaged by the Project Applicant, have sent a letter dated April 24, 2008 to the Applicant, which reveals that observations in the field on March 27, 2008, found significant wetland vegetation on the site, in areas previously not found, but when Ms. Fiedler returned on April 9, 2008, the field had been plowed, destroying the wetland plants (see attached letter). CGF requests that additional field investigations be done during the winter (fallow) season to determine the extent of wetland vegetation, using Coastal Commission protocols.

Compliance with Local Coastal Program: The certified Local Coastal Program (LCP) is the standard of review for all projects in the County's Coastal Zone. The LCP is also a component of the County General Plan. The EIR should analyze the project's compliance with the standards of the LCP.

Biological Resources: The two project parcels contain wetlands (see comments above) and are also located within or near sensitive habitats for several protected species, including the California red-legged frog, the San Francisco garter snake, and the saltmarsh common yellowthroat. This site is likely also used by winter raptors as foraging habitat, evidenced by the Biological Impact Report prepared by Wetlands Research Associates, dated November 2001, which states that a pair of white-tailed kites, a California fully protected species, was observed on the project site on two occasions. The EIR should include a survey for special status species, conducted during the season(s) of use of the site, as well as adjacent areas.

Geology and Soils: The soil boring logs of exploratory borings conducted by Bay Area Geotechnical Group (BAGG) in April, 2002 on the Office Park site indicate that groundwater was encountered in all ten boring locations at less than eight feet of depth. The presence of groundwater

at such shallow depths will require significant engineering for the construction of three story office buildings. BAGG's initial recommendations for addressing this problem were not based on three-story buildings, with open parking areas on the ground floor, as is proposed for the Office Park. Compaction of the soils beneath buildings and parking areas may also affect the groundwater aquifer, which could have significant negative impacts upon the Pillar Point Marsh. – this should be discussed in the EIR. Seismic hazards due to the soils present on site, and proximity of the Seal Cove-San Gregorio Fault include: very strong to very violent shaking, static and seismic settlement, potentially liquefiable soil and potential near-surface moderately to highly expansive soil. The EIR should include a complete evaluation by independent peer review of the preliminary work done by BAGG, and subsequently reviewed by Treadwell and Rollo for the Office Park site, as well as site-specific geotechnical investigations of the Wellness Center site.

Hazards: The two project sites are within the FEMA designated 100 year flood zone, the 200 year frequency tsunami and the 100 year maximum projection of sea level rise. The two sites are also partially within the Airport Overlay Zone, which may be expanded as the result of current studies. To mitigate the flood, tsunami and sea level rise hazards, the applicant proposes to raise the elevation of the site to 15 feet, and provide an additional three feet above that as freeboard. This would require significant filling of the Wellness Center site, in addition to the grading and other seismic mitigations due to the underlying geology and soils conditions. Accordingly, the EIR's analysis of impacts on visual resources must consider constructing three story buildings, with ground floor elevations three feet above the filled (not natural) grade. The EIR should also analyze the potential for hazards to the residents of the Wellness Center and office occupants from airport operations, including noise and potential airplane accidents.

Land Use Compatibility: The Wellness Center is proposed to be located in the Waterfront/Design Review/Coastal Zone zoning district. As stated in the Zoning Regulations, the purposes of the Waterfront District are to provide a working waterfront for marine related trades and services, and manufacturing land uses that support commercial fishing and recreational boating activities, as well as to accommodate a compatible mix of recreational, resource management and waste management land uses. Residential uses other than a limited number of caretaker units are not an allowable use by right in the Waterfront District. The project proponents are requesting that the Wellness Center be categorized as a "Sanitarium" which is a conditionally permitted use subject to issuance of a Use Permit, upon the finding that the use must be "necessary for the public health, safety, convenience, or welfare". The EIR should discuss how this project meets the necessity criteria. CGF recognizes that a residential facility with amenities and programs for developmentally delayed adults is desirable, but questions whether it is necessary for the public health, safety, convenience, or welfare. The Waterfront District is the only zoning district on the San Mateo County coastside devoted to marine related trades and services, which is a priority land use under the California Coastal Act. CGF further questions whether a residential facility with amenities and programs for developmentally delayed adults meets the definition of "Sanitarium", which typically is a convalescent facility.

Economic Analysis: The Wellness Center's development and operations depend upon underwriting or subsidies from the Office Park. The Economic Analysis prepared for the Applicant by Enright & Company in July, 2007, regarding demand for the office park is based upon data

Committee for Green Foothills

December 5, 2008

Page 4 of 4

obtained during the height of the economic bubble. Even so, the conclusions of the report were cautious, stating: "The previously identified statistics suggest that demand may be solid for the projects, although a gradual phasing of the project is suggested." The drastic change in our nation's economy since the Economic Analysis was prepared makes it imperative that the economic analysis be updated as part of the EIR process, by an independent economic consultant. This analysis should include the best available current information – with particular focus on the Half Moon Bay and Mid-Coast area. If the Office Park, in whole or in part, is not a viable project, the assumptions for the Wellness Center must be modified.

Aesthetics and Visual Impacts: The proposed design of the three-story, 50-foot high office buildings and three-story Wellness Center is more appropriate for an urban bayside location than the coast. Bright orange colors shown on elevations of the Wellness Center, and white on the Office Buildings are not consistent with the LCP's Visual Resources Component. We would encourage redesign of the buildings to be more consistent with their coastal setting.

Thank you again for the opportunity to comment. We request that we be sent copies of the Draft EIR and other supporting documents, including revisions to the Project's Description as we have requested, in order to define the project's water, sewage, and energy systems.

Sincerely,



Lennie Roberts, Legislative Advocate
Committee for Green Foothills
339 La Cuesta
Portola Valley, CA 94028

Phone: 650-854-0449



421 Aviation Way
Frederick, Maryland 21701

T. 301-695-2000
F. 301-695-2375

www.aopa.org

December 4, 2008

County of San Mateo, Planning and Building Department
Attn: Camille Leung, Planner
455 County Center, 2nd Floor
Redwood City, CA 94063

Re: Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the Big Wave Wellness Center and Office Park

Dear Ms. Leung:

The Aircraft Owners and Pilots Association (AOPA) represents the general aviation interests of 415,000 members, more than two-thirds of the nation's pilots – including 49,809 of our members in the state of California. On behalf of our membership, AOPA is committed to ensuring the future viability and development of general aviation airports and their facilities as part of a national transportation system. In that regard, we appreciate the opportunity to comment on the Notice of Preparation of an Environmental Impact Report for the Big Wave Wellness Center and Office Park, proposed for a site adjacent to the Half Moon Bay Airport (HAF).

AOPA is opposed to this development because such a project would be an incompatible land use adjacent to an airport. The EIR must look at the impact of this project on the airport's current and future operations and mitigation should not penalize the airport. Rather, a more compatible use should be sought for the property. As the airport sponsor, the County has the obligation to ensure compatible land uses around the airport under both the quit claim deed from the Federal government and the receipt of Federal Aviation Administration (FAA) airport improvement funds.

The proposed site location is located within several airport safety zones for runway 30 that should preclude residential development. The first safety zone that impacts the project area is comprised of the FAA mandated runway protection zone which is a trapezoid shape extending from 200 feet east of the displaced threshold on Runway 30 out 1000 feet with a base width of 500 feet widening to a width of 1000 feet. The 2002 *California Airport Land Use Planning Handbook* prohibits any dwelling units within that zone.

In addition, the Approach Protection Zone overlies a portion of the property, and the state of California recommends limiting development to one dwelling unit per 10 to 20 acres. This precludes placing any of the proposed 45 residential units in this area.

The majority of the property is within the traffic pattern zone, which allows residential uses but discourages schools, day care centers and nursing homes. Despite the allowance for residential use within this zone, AOPA contends residential uses adjacent to the airport are incompatible and should not be permitted. The County should identify a more compatible land use for this property.

Again, we appreciate the opportunity to share comments and look forward to reviewing the EIR in the future.

Sincerely,

John L. Collins
Manager
Airport Policy



PO Box 6868, San Carlos, CA 94070-6868

December 2, 2008

County of San Mateo, Planning and Building Department
Attn: Camille Leung
455 County Center, 2nd Floor
Redwood County CA 94063

Subject: Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the Big Wave Wellness Center and Office Park

Dear Ms. Leung,

The California Pilots Association's mission is to promote and preserve the State's airports. As a statewide volunteer organization, we work to maintain the State's airports in the best possible condition.

The California Pilots Association commends the County of San Mateo for this worthwhile project. However, we are opposed to the project at its current location. It does a disservice to the low income, developmentally disabled (DD) children and adults the Big Wave Wellness Center hopes to serve, to be located approximately 300' from Half Moon Bay Airport. This site will subject more than 70 people to the impacts attendant to a location so close to an airport such as noise, electromagnetic disturbance, dust, etc.

The EIR must address the impacts of placing this project so near the Half Moon Bay Airport. The site is inconsistent with the *2002 California Airport Land Use Handbook* airport planning guidelines. These guidelines are a minimum. It is inconsistent as well with the Deeds and Restrictions that came with the Federal Government's allowance of County of San Mateo to operate and protect the airport from encroachment. It is not advisable to allow housing, or a medical facility at this location.

The Half Moon Bay Airport is a vital link in the National Transportation System. It is eligible for and has accepted Grants from the Federal Aviation Administration. When the County of San Mateo last accepted a FAA Grant, the County signed Grant Assurances as part of the contract with the FAA.

The County thereby agreed to an obligation to keep Half Moon Bay Airport free of hazards, and also to maintain compatible land use zoning. These are Grant Assurances numbers 20 and 21.

http://www.faa.gov/airports/airtraffic/airports/aip/grant_assurances/media/airport_sponsor_assurances.pdf

20. Hazard Removal and Mitigation. It (*the County, acting as the sponsor*) will take appropriate action to assure that such terminal airspace as is required to protect instrument and visual operations to the airport (including established minimum flight altitudes) will be adequately cleared and protected by removing, lowering, relocating, marking, or lighting or otherwise mitigating existing airport hazards **and by preventing the establishment or creation of future airport hazards.**

21. Compatible Land Use. It (*the County, acting as the sponsor*) will take appropriate action, to the extent reasonable, including the adoption of zoning laws, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft. In addition, if the project is for noise compatibility program implementation, it will not cause or permit any change in land use, within its jurisdiction, that will reduce its compatibility with respect to the airport, of the noise compatibility program measures upon which federal funds have been expended.

Additionally, as we have seen above in the FAA Grant Assurances, it is incumbent upon the County of San Mateo to prevent the development of a project which will affect Pilots flying in the vicinity of Half Moon Bay Airport as well as the citizens on the ground.

Thank you for this opportunity to comment on this important item.

Respectfully submitted,

Ed Rosiak

President California Pilots Association
800 319 5286
erosiak@comcast.net



November 20, 2008

To: San Mateo County Planning & Building
Attn: Camille Leung, Planner
455 County Center 2nd Floor
Redwood City, CA 94063
Fax 650-363-4849

From: Lisa Ketcham, President, Pillar Ridge Homeowners Association
175 Culebra Ln, Moss Beach, Ca 94038

Re: EIR Scoping for Big Wave Wellness Center and Office Park

Pillar Ridge has 800 to 900 residents and is located on Airport St. just north of the proposed office park. We are a community of 227 single-story owner-occupied manufactured homes.

In assessing effects on traffic flow on Capistrano and through Princeton, please note, we have not yet seen the traffic impact of the new (but unopened) harbor development on Capistrano Rd. as we try to access our community by car. Any attempt to use Cypress St. as an alternative route will also impact residents of the Seal Cove neighborhood who are limited to the same access, with Cypress problematic due to no traffic light at Hwy 1.

Increased traffic through Princeton and on Airport St. will affect pedestrians and bicyclists from our low income community as people without cars try to negotiate the narrow streets without sidewalks in Princeton, and particularly Airport St. which has fast cars. On-street parking further complicates the already dangerous situation. We have residents, often with baby strollers, going to El Granada to pick up children at school or buy groceries, and others going to work by bicycle.

The tsunami escape route for Pillar Ridge residents will be impacted by hundreds of additional cars from the office park making it impossible to exit left on Airport St. from our community.

Please consider the effect of a well water source for the Big Wave project on the 3 wells at Pillar Ridge, in addition to MWSD's airport wells.

The huge scale, by coastside standards, of the proposed office park with four 3-story "blocky warehouse type" office buildings would dramatically change our quiet rural residential neighborhood which was named for our most prominent feature, the ridge behind. The 3-story buildings will block view of the ridge behind them and visually overwhelm our community.

Please assess the condition of the drainage culvert that leads from the SW corner of Pillar Ridge under an old access road and into the marsh. It isn't clear if the culvert is on Big Wave or county property, but road clearing work on Big Wave property in 12/05 resulted in a large amount of vegetation and dirt being pushed into the marsh directly over the outfall of this culvert causing extensive flooding at Pillar Ridge. The culvert itself is old and corroded and we are concerned about its ability to withstand heavy vehicles if this access road should come back into use. All drainage from Pillar Ridge, the open space fields to the north and the hillside above must pass through this culvert or Pillar Ridge will flood.

Thank you for the opportunity to comment.

Carolyn Ybarra
111 Nueva Ave.
Redwood City, CA 94061

Camille M. Leung
Planning and Building Department
455 County Center, Second Floor
Redwood City, CA 94063

November 19, 2008

Dear Ms. Leung,

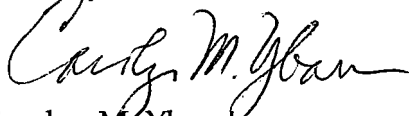
I was unable to attend the meeting on Tuesday, but wanted to give my comments on the application of the Big Wave Project to develop housing for adults with developmental disabilities. As a San Mateo County resident and a parent of a young adult with a developmental disability, I strongly support their project.

I know how few housing options there are for adults with disabilities in the county, and how great the need is. Current housing options have waiting lists and it is difficult for residents to find appropriate, affordable housing near their family, friends, and within their community. The Big Wave Project plans to make appropriate housing available, as well as providing vocational and social programs.

I am in support of their plan to have an accompanying office building on site, because it will provide badly needed vocational opportunities for the disabled residents. Of equal importance, the rents from the office complex will help sustain the living community and ensure that it is able to continue.

As a parent, I worry every day about where my adult child will live after I am gone, and how he will be able to remain in his home community near friends and the support systems he needs. I hope you will approve the Big Wave Project and help provide housing for my child's peers who are among those members of society who cannot speak for themselves.

Sincerely,



Carolyn M. Ybarra

November 20, 2008

County of San Mateo Planning and Building Department
Attn: Camille Leung, Planner
455 County Center, 2nd Floor
Redwood City, California 94063

Regarding: Big Wave Wellness Center and Office Park

Ms. Leung,

Our support of the Big Wave development is very strong. Our reasons for the support are simple.

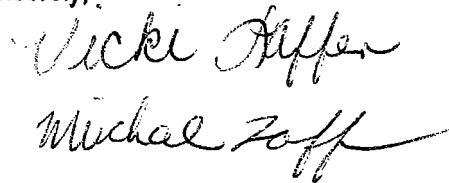
One, as parents, our children, who do not have special needs, have gone all through school with many of the young people who would benefit from this project. We believe all children should have a safe place to call their own and to grow to the fullest extent of their abilities.

Secondly, as a teacher, I, Vicki, have worked with many of these children and know how much this project would benefit the young people, their families and ultimately, the entire community.

Lastly, a green building, offering commercial space that can help ease the existing commute traffic while providing employment for this special group of young people, and most likely others in the area, would certainly enrich life on the coast.

Thank you very much for your attention to this project, and we wholeheartedly hope that this dream can become a reality.

Sincerely,

Handwritten signatures of Vicki Laffen and Michael Laffen in cursive script.

Vicki and Michael Laffen
1350 Portola Avenue
P.O. Box 371112
Montara, CA 94037-1112
(650) 728-3298

November 21, 2008

San Mateo County Planning & Building
Attn: Camille Leung, Planner
455 County Center 2nd Floor
Redwood City, CA 94063

RE: Big Wave Development's EIR

Dear Camille Leung,

I have two concerns regarding this proposed development.

Pedestrian Safety

Many of the residents from the mobile home park walk along the unimproved Airport Street's right of way fronting the Big Wave property. Presently the roughness of the unimproved right of way forces the pedestrians to walk in the traffic lane.

I suggest that the developer be required to construct the sidewalks fronting the property as Phase One of the project.

Cypress St and State Highway 1

Presently it is difficult to safely turn left onto Hwy 1. Unless improvements are required the proposed Big Wave development will greatly impact this intersection.

I suggest one of the following be considered.

1. Traffic signal
2. Add a left turn staging lane similarly to the one at the N/E end of Cabrillo Rd. and Hwy 1.
3. All traffic must turn right when existing the Big Wave Development.

The opportunity to comment on the proposed development was greatly appreciated.

Sincerely



Mike Sims
176 Culebra Ln
Moss beach, Ca.

441 Coronado Avenue
Half Moon Bay, CA 94019

December 1, 2008

County of San Mateo , Planning and Building Department
Attn: Camille Leung, Planner
455 County Center, 2nd Floor
Redwood City, Ca 94063

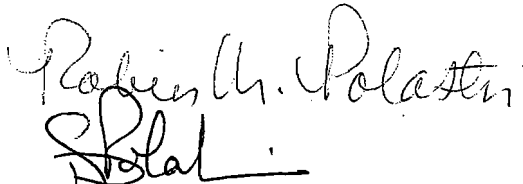
Re: Big Wave Wellness Center and Office Park

Dear Ms. Leung:

As 23-year residents of the Coastsides, we would like to throw our unreserved and enthusiastic support behind the Big Wave Wellness Center and Office Park. With its environmental consciousness regarding construction and sustainability, its benefit to the local business community and the creation of work/live opportunities for individuals with developmental disabilities, we ask simply, "if not this project, then what . . . ?"

We are blessed by friendship with a family, which includes a special needs young adult. Through them, we have learned that it is not possible to paint all developmentally challenged individuals with a broad brush stroke. Therefore, it is of paramount importance to envision and provide a variety of residential and occupational options, reflecting the myriad differences among those with special needs. Big Wave, in its thoroughly thoughtful concept, represents one such model.

Concern for the environment. Meeting local business needs. Providing independence, dignity and respect for our Coastsiders with special needs. Big Wave is nothing less than a triple-win.



Robin and Gian Polastri



RESIDENTIAL BROKERAGE

Wednesday, December 03, 2008

1415 Main Street / Box 1297
Montara, CA 94037

650.728.5544 BUS
650.728.3898 FAX

TO: Camille Leung, Planner FAX 363-4849
FROM: Jan Gray FAX 728-3898
RE: Big Wave Wellness Center and Office Park

I attended the Public Scoping Meeting held at the El Granada Elementary School on November 18th. From the testimony given by the proponents and opponents at this meeting, one would find it hard to turn down this worthy project.

Personally, I have no negative comments to make regarding the Big Wave project and hope that San Mateo County Planning and Building does everything in their power to get this project up and running. The persons this project would serve are not able to speak or work on their own behalf and it is left up to us, the citizens of the Coastside, to say **YES** to **BIG WAVE**.

Beyond giving the Big Wave project my personal stamp of approval, is there anything we can do to make this happen?

Cc: Rich Gordon
FAX 599-1027

San Mateo County

League for

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Coastside Protection

2008 DEC -5 P 4: 54

SAN MATEO COUNTY
December 4, 2008
PLANNING DIVISION

County of San Mateo, Planning and Building Department
455 County Center, 2nd Floor
Redwood City, CA 94063
Attn: Camille Leung, Planner

via Fax: 650-363-4849

Subject: Comments on scope and content of Environmental Impact Report (EIR) for Big Wave Wellness Center and Office Park

Dear Ms. Leung:

We appreciate the opportunity to comment on the scope and content of the EIR to be prepared for the Big Wave project. A group of us attended the November 5 meeting in El Granada but it clearly was not a forum for our comments. We request that the EIR address the following issues and concerns:

Aesthetics

The project description calls for three-story office buildings, the size and scale of which do not appear to be compatible with the surrounding neighborhood. Moreover, the height of the buildings may violate the visual resource protection policies in the Midcoast certified Local Coastal Program.

The project and its associated parking facilities may create a new source of light that would adversely affect nearby residents and nighttime views in the area.

Agricultural Resources

Agricultural activity has taken place on the project site in the recent past. The project would therefore result in conversion of active farmland to non-agricultural uses. This conversion must be analyzed for consistency with the agricultural resource protection policies in the Midcoast certified Local Coastal Program.

Air Quality

The project calls for parking of 800 cars. The air quality impact of the exhaust from these cars, together with supply trucks to the firms in the office complex must be analyzed. The cumulative impact on air quality must consider not only the traffic to and from the Big Wave site itself, but also the existing and probable future traffic from the nearby mobile home park, the Harbor Village Mall, and other Princeton businesses.

Given that the project may include a desalination plant on the Princeton pier, the air quality impacts of the plant and the associated traffic must be analyzed.

Biological Resources

The project must be analyzed for consistency with the biological resource protection policies in the Midcoast certified Local Coastal Program. In particular, the project site appears to contain wetlands and sensitive habitat for protected species (including the California red-legged frog and San Francisco garter snake). LCP Policy 7.14 defines a wetland by the presence of any one of the following three criteria: hydrology, hydrophytic vegetation, or hydric soils. LCP Policy 7.18 requires a 100 foot buffer zone from the edge of any wetland. LCP policy 7.3 prohibits any land use or development which would have significant adverse impact on sensitive habitat areas. LCP policies 7.4 and 7.33 permit only resource dependent uses in sensitive habitat areas and also require that permitted uses comply with U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) regulations. LCP policy 7.36 prohibits development where there is known to be a riparian or wetland location for the San Francisco garter snake (with certain exceptions). LCP policy 7.36 also requires analysis and protection of potential or existing migration routes of the San Francisco garter snake. A recent published research study states that "non-breeding habitats are critically important" for the survival of California Red-legged Frogs, and that even disturbed agricultural land can provide critical non-breeding habitat. The same study found that California red-legged frogs moved a median distance of 150 meters, and as far as 1.4 kilometers, between breeding and non-breeding areas.¹ Compliance with the LCP biological resource protection policies requires a professional biological report to investigate the presence of potential habitat for rare or endangered species and, if present, to recommend adequate mitigation measures. Any such mitigation measures should be identified in the EIR.

The project appears to propose relocation of sensitive habitat areas which would be prohibited under the California Coastal Act as set forth in *Bolsa Chica Land Trust v. Superior Court* (1999) 83 Cal.Rptr. 85.

The project may include an on-site wastewater treatment facility which could release effluent to the surrounding natural environment. The impacts of this effluent on biological resources should be analyzed.

The project may include a desalination plant on the Princeton pier which could release effluent to the surrounding natural environment. The impacts of this effluent on biological resources should be analyzed.

A letter from California Coastal Commission staff dated August 13, 2002 (attached) identifies further concerns regarding impacts to biological resources from the Big Wave project. Those comments are incorporated here by reference.

Geology and Soils

The San Gregorio earthquake fault runs not far from the project site. The project proposes large amounts of grading and fill on top of existing wet areas. The project should therefore be analyzed for the risk of liquefaction and ground failure in the event of a rupture along the earthquake fault.

1. See G.M. Fellers and P.M. Kleeman, "California Red-Legged Frog Movement and Habitat Use: Implications for Conservation," *Journal of Herpetology*, 2007, vol. 41, no. 2, pp. 271-281.

Hazards

The project site is located within an airport land use zone, and within 300 feet of an active airport runway. The height of the office buildings, as well as light and glare from the project may pose a risk to flying aircraft. An accidental aircraft crash may pose a risk to people on the ground.

Traffic congestion generated by the project may prevent timely evacuation of the Princeton area in the event of a natural disaster, such as a tsunami, earthquake, mudslide, or fire. A mudslide recently occurred at the nearby mobile home park.

Hydrology and Water Quality

The project may include an on-site wastewater treatment facility and a desalination plant on the Princeton pier. Effluent from the wastewater facility could degrade the quality of the existing groundwater. Effluent from the desalination plant could affect the water quality in Princeton Harbor.

The project may include water supply wells for residential and commercial use. Any new wells could impact the amount and quality of exiting ground water supplies to surrounding wetlands, streams, and other aquatic habitats. The nearby mobile home has three existing wells. The cumulative impact of the new wells must therefore be considered in conjunction with the existing wells.

Land Use and Planning

The project may involve a proposed extension of the service boundary of the Coastside County Water District (CCWD) to provide water supply to the project site. A letter from California Coastal Commission staff dated April 10, 2006 (attached) identifies numerous conflicts that such a boundary extension would pose with existing permits granted to CCWD by the California Coastal Commission for the El Granada pipeline. Those comments are incorporated here by reference.

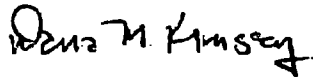
The project's proposed land use (commercial and residential) conflicts with the existing zoning of the parcel and with the General Plan designation of "General Industrial."

The potential growth-inducing impacts of new production water wells, a new desalination plant, and/or new wastewater treatment facilities must be analyzed for consistency with Midcoast certified Local Coastal Program.

The additional traffic generated by the project in and around Highway 1 and in the Princeton area may prevent access to the coast via adjacent roads and must be analyzed for consistency with the coastal access protection policies of the Midcoast certified Local Coastal Program and the California Coastal Act.

The project appears to conflict with the intent AB 332 (Mullin), chapter 351, Statutes of 2003, which requires local agencies to notify an airport land use commission (ALUC) and the Department of Transportation (Caltrans) before overruling an airport's comprehensive land use plan (CLUP). Specifically, the bill: "...states legislative intent to discourage incompatible land uses near airports and to have local agencies utilize the land use criteria established in the Airport Land Use Planning Handbook and applicable federal regulations... Requires a local agency, including a school district, to provide notice to the local ALUC and Caltrans if the local agency proposes to overrule a CLUP on the basis that the plan is inconsistent with the specific or general plan of the local agency... Provides ALUC and Caltrans with the opportunity to comment on the proposed overruling of a CLUP, and requires that those comments be included as part of the public record."

Sincerely,



Dana M. Kimsey, LCP Co-Chair

Attachments:

1. California Coastal Commission letter dated August 13, 2002
2. California Coastal Commission letter dated April 10, 2006

STATE OF CALIFORNIA—THE RESOURCES AGENCY

ARNOLD SCHWARZENEGGER GOVERNOR

CALIFORNIA COASTAL COMMISSION

NORTH CENTRAL COAST DISTRICT
45 FERRIS, SUITE 200
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-3268
FAX (415) 904-5163

COPY



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APR 11 2008

COASTSIDE COUNTY
WATER DISTRICT

April 10, 2006

David Byers
McCracken, Byers & Haesloop LLP
1528 South El Camino Real, Suite 306
San Mateo, CA 94402

RE: Big Wave LLC

Dear Mr. Byers:

This letter is in response to your February 8, 2006 letter concerning the Big Wave development site. It seems that you have misunderstood Commission staff's January 5, 2006 letter regarding the proposed annexation of the Big Wave site into the Coastside County Water District's (CCWD) service area. We would therefore like to offer the following clarifications and responses.

First, we wish to emphasize that the January 5 letter was a comment letter by Commission staff, not by the Commission. The Commission has made no determination on either the merits of development at the Big Wave site or the proposed annexation of the Big Wave site into the CCWD service area.

Next, we would like respond to your contentions that:

[Y]ou state that CCWD would be unable to serve this proposed project because, among other things, it would increase its water supply or distribution capacity and the project would increase traffic on Highways 1 and 92.

And:

[Y]ou have, without studies, logic or common sense, determined that building an office building with a wellness center on the Coastside for people who live on the Coastside will increase traffic capacity [sic] on Highways 1 and 92 and therefore, not permit the CCWD to serve the project...

You are correct that our letter concludes that it seems unlikely that the proposed annexation could be authorized consistent with the terms of the El Granada Pipeline permits. Our conclusion is based on the Special Condition 4 of the El Granada Pipeline permits (the text of this condition is provided in the January 5, 2006 letter). Specifically, Special Condition 4.A. requires that all Phase I water service connections shall be distributed only within the CCWD

Letter to David Byers re Big Wave LLC
April 10, 2006
Page 2 of 5

Service District boundaries as those boundaries were defined on January 1, 2003, unless modification to the CCWD Service District boundaries is approved through an amendment or amendments to the related El Granada Pipeline permit(s).¹ The proposed annexation would expand the CCWD Service District boundaries beyond those defined on January 1, 2003, and would provide for the distribution of Phase I water service connections to an area not presently served by CCWD. Thus, the proposed annexation would increase CCWD's water distribution capacity in excess of the Phase I limitations specified in Special Condition 4.A.

Special Condition 4.D expressly prohibits any increase to CCWD's distribution capacity in excess of the Phase I limitations specified in Special Condition 4.A unless the existing or probable future capacity of other related infrastructure, including Highways 1 and 92, is sufficient to adequately serve the level of development that would be supported by the increased distribution capacity. Given the fact that the existing and probable future capacities of Highways 1 and 92 are insufficient to adequately serve even the existing development in the MidCoast region, it is reasonable to infer that the terms of Special Condition 4.D. for approval of the proposed annexation are unlikely to be met.

However, nowhere in our letter do we state that "the project" would increase traffic on Highways 1 and 92. Whether and to what extent any particular development at the Big Wave site would generate demand for service on Highways 1 and 92 would need to be addressed through a project specific traffic study. Until a specific project is proposed and a project specific traffic study is completed, Commission staff cannot assess the traffic demands and impacts that may result from development of the Big Wave site.

Next, we would like to respond to your contentions that:

[Y]ou, without reviewing any aspect of the project, have determined that the project will not be approved.

You are correct that Commission staff has not reviewed any proposal to develop an office building and wellness center at the Big Wave site. We have not been afforded the opportunity to review such a development proposal since no plans, studies, reports or any other materials related to such a development at the site have been presented to the Commission staff, and we have received no notice of a permit application or environmental review of such a proposal from the County. We do however have on file four notices from the County of coastal development permit applications submitted by Big Wave LLC to the County for other development proposals at the site.

The first two notices, dated July 23, 2002, and October 17, 2002, concern a coastal development permit application for "infill grading of 50,000 cy on a 10-acre legal parcel in anticipation of future development" In response to the July 23, 2002 notice, Commission staff provided

¹ Our January 5, 2006 letter incorrectly states that a change in distribution capacity would also require an amendment or amendments to the affected LCPs. This is not the case. Note, however, that an LCP amendment would be required for any development at the site that is not allowed by the underlying zoning.

Letter to David Byers re Big Wave LLC

April 10, 2006

Page 3 of 5

comments and recommendations to the County concerning a number of issues including the need to identify sensitive habitats and wetlands on the site as required by the County's LCP. A copy of this letter is enclosed. The third and fourth notices, dated October 20, 2003, and April 13, 2004, modify the previous project description to "Grading & CDP to allow placement of 15,000 cy of fill on a 14.15-acre legal parcel in anticipation of future development."

At no time as of the date of this letter have we received a notice from the County, a project description, plans, studies, reports, environmental review documents, or any other materials describing the development of an office building and wellness center at the Big Wave site. In fact, in our August 13, 2002 letter in response to the first notice that we received, we observed that "assessing the impacts and consistency of the proposed grading with the LCP is difficult given the fact that the structural component of the development (i.e., the future commercial development) is not proposed at this time." Although we did express concerns in our August 13, 2002 letter about potential impacts of the proposed grading to wetlands and other sensitive habitat, at no time have we provided an analysis or recommendation concerning the approvability of an office building and wellness center at the Big Wave site. Without a complete description of the proposed development, along with detailed project plans and all supporting studies and documentation as required for a coastal development permit application, neither the Commission nor its staff can fully assess consistency of a proposed development with the LCP.

Next, we would like to address your statement that:

Any condition appended to the CCWD Pipeline regarding annexation are completely illegal. . . . LAFCO has the exclusive authority under the Government Code to determine boundaries of government agencies. . . . The Coastal Commission cannot determine the boundaries of CCWD.

The Coastal Commission is responsible for implementing the California Coastal Act. Contrary to your assertions, the authority to regulate the formation or expansion of special districts to ensure consistency with the requirements of the Coastal Act is expressly granted to the Commission and the County under the Coastal Act and the County's certified Local Coastal Program.

Coastal Act Section 30254 states:

New or expanded public works facilities shall be designed and limited to accommodate needs generated by development or uses permitted consistent with the provisions of this division; provided, however, that it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road. Special districts shall not be formed or expanded except where assessment for, and provision of, the service would not induce new development inconsistent with this division. Where existing or planned public works facilities can accommodate only a limited amount of new development, services to coastal dependent land use, essential public services and basic industries vital to the economic health of the region, state, or

Letter to David Byers re Big Wave LLC
April 10, 2006
Page 4 of 5

nation, public recreation, commercial recreation, and visitor-serving land uses shall not be precluded by other development. [Emphasis added.]

In carrying out this provision of the Coastal Act, San Mateo County LCP Policy 2.15 states:

Allow the formation or expansion of special districts only when the new or expanded district would not cause or allow development or uses inconsistent with the Local Coastal Program.

Thus, the Commission is required to prohibit the expansion of CCWD's service district if the expansion would cause or allow development or uses inconsistent with the LCP. Consistent with that mandate, the purpose of Special Condition 4 is not to regulate annexation per se but rather to ensure that water supply and distribution capacity is developed in phase with and does not exceed the existing and probable future capacity of other related infrastructure as required by the County's LCP. Although the Local Government Reorganization Act of 2000 (Government Code Section 56100) provides the sole authority for the initiation, conduct, and completion of changes of organization, it does not supercede the authority of the Coastal Commission or the County from enforcing the requirements of the Coastal Act. Rather, both the Local Government Reorganization Act and the Coastal Act must be effectuated, and a CDP consistent with the LCP is necessary in addition to any approval required under the Local Government Reorganization Act.

You state in your letter:

Moreover, since MWSD has no water to serve this project, the claim that it would be served by MWSD is merely a ruse to prevent development and not be subject to inverse condemnation.

Nowhere in our January 5, 2006, do we state that the Big Wave site would be served by or is within the sphere of influence of the Montara Water and Sanitary District. Please explain the basis for your statement that we claim the project would be served by MWSD.

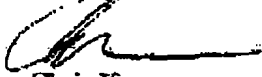
Per your request, enclosed is the information the Commission requires to undertake a takings analysis. Note that our transmittal of this information in no way represents our agreement with any of your assertions regarding takings or inverse condemnation.

As noted above, neither the Commission nor its staff have made any recommendations or taken actions regarding proposed development at the Big Wave site, including the development you reference in your February 8 letter. As you are aware, all development in the Coastal Zone must comply with the policies of the Coastal Act and applicable local government LCPs. Whenever possible, Commission staff attempts to offer comments on significant development proposals early in the planning and permitting process in an effort to assist local governments and permit applicants in identifying the applicable standards and potential issues that would need to be addressed in the coastal development permit review process. Commission staff would be happy

Letter to David Byers re Big Wave LLC
April 10, 2006
Page 5 of 5

to meet with Big Wave LLC to discuss the details of the proposed development, the coastal development permitting process, and applicable policies of the LCP and the Coastal Act.

Sincerely,



Chris Kerr
Coastal Program Manager
North Central Coast District

cc: Lisa Groe, San Mateo County Community Development Director
San Mateo County LAFCO
Ed Schmidt, CCWD
Katherino-Slator Carter, MWSD

enclosures

STATE OF CALIFORNIA—THE RESOURCES AGENCY

GRAY DAVIS, GOVERNOR

CALIFORNIA COASTAL COMMISSION

NORTH CENTRAL COAST DISTRICT
46 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2210
VOICE AND TDD (415) 894-5262
FAX (415) 894-5400



BY FAX AND U.S. POST MAIL

August 13, 2002

Michael J. Schaller, Project Planner
County of San Mateo, Building & Planning
590 Hamilton St.
Mail Drop 5500
Redwood City, CA 94063

RE: Big Wave Development Site (PLN 2002-00288), Pillar Point Marsh

Dear Mr. Schaller,

Thank you for the opportunity to comment on the Big Wave Permit Application Submittal (PLN 2002-00288) for the importation of 50,000 cubic yards of fill on a 1.0-acre parcel in anticipation of future development. Since the proposed project is between the first public road and the sea and is within 100 feet of a wetland, it is within the Coastal Commission's appeal jurisdiction pursuant to Section 30603(a) of the Coastal Act. At this time, I have the following comments to assist with the County's review of the project. The Coastal Commission staff and the Coastal Commission may have additional concerns related to any appeal of a County action approving the project. Please consider the following:

1. Project Description

The project description for PLN 2002-00288 consists of 50,000 cubic yards of fill on a ten-acre parcel for a development that has not yet been proposed. The project description states that the site preparation work is for a future unspecified commercial development. Assessing the impacts and consistency of the proposed grading with the LCP is difficult given the fact that the structural component of the development (i.e. the future commercial development) is not proposed at this time. For example, if the future commercial development is proposed in a way that is inconsistent with the visual, infrastructure or sensitive habitat policies of the LCP, a smaller project may result which may not use the entire proposed grading area. As a result, the currently proposed grading, if approved, would be too extensive and thus, may result in unnecessary grading and adverse impacts. As discussed in the Biological Impact Report, this area may support California red-legged frogs, as well as other listed species. Thus, it is essential that all significant adverse impacts be avoided. Without understanding the extent of the future commercial development (e.g. height and bulk) and its consistency with the San Mateo County LCP, the County cannot adequately assess the conformity of the proposed grading with the policies of the LCP. The County should not consider a permit application until the applicant proposes a complete project description.

Big Wave Proposed Development
August 13, 2002
Page 2 of 3

2. Biological Resources and ESHA

The Biological Impact Report for the Big Wave Development Site prepared by Wetlands Research Associates, Inc. and dated November 2001, identifies potential California red-legged frog (CRLF) breeding, aestivation, dispersal, and foraging habitat on and adjacent to the proposed project site. The report further states, "... it is likely that USFWS would consider the Big Wave Study Area and surrounding aquatic habitat adjacent to the site as critical habitat of the CRLF." According to the San Mateo County LUP definition of sensitive habitat, the project site would be considered sensitive habitat if it contains habitat suitable for California red-legged frogs. LUP Policy 7.3 prohibits any land use or development that would have significant adverse impacts on sensitive habitat areas and requires that development in areas adjacent to sensitive habitats be sited and designed to prevent impacts that could significantly degrade sensitive habitat. LUP Policy 7.4 limits the uses allowed in sensitive habitat to only those that are resource dependent. In addition to the sensitive habitat policies, the LUP contains policies specific to rare and endangered species which limit allowable uses where those species are found.

The Biological report states that potential impacts could occur to the red-legged frog and its habitat due to development of the Study Area. To avoid impacts to this sensitive species, the report suggests mitigation measures such as establishing a buffer zone around suitable aquatic habitat on site and adjacent to the site and establishing a dispersal corridor between the pools located on the adjacent property and the nearest known breeding population located in Denniston Creek. However, the report does not include a map that delineates the extent of the red-legged frog habitat and potential buffers on or adjacent to the project site in relation to the proposed development. The Biological Impact Report should include a map, which identifies suitable red-legged frog breeding, aestivation, dispersal, foraging and upland habitat, the proposed development and potential buffers. The report should also include the data upon which the map is based.

In addition to red-legged frogs, the Biological Impact Report lists the western pond turtle and the San Francisco garter snake as two species with potential to occur within the study area. However, due to the lack of suitable perennial aquatic habitat, the report states that the potential for occurrence is low. In his letter dated August 9, 2002, to San Mateo County, Robert W. Floerke, the Department of Fish and Game's Central Coast Regional Manager, disagrees with this conclusion. He states that the Biological Impact Report does not address the use of upland habitat for the garter snake or the western pond turtle (as well as red-legged frogs), nor does it adequately address the presence of known populations and/or individuals of those two species. After listing various documented sightings of these species in the vicinity of the project site, he concludes, "there appears to be a significant probability that SFGS and CRLF could occur on-site and, possibly the WPT as well."

The information contained within the Biological Impact Report on these species is inadequate and insufficient to evaluate consistency with the sensitive habitat and rare and endangered species policies of the LUP. In order to evaluate the proposed project's consistency with the LUP and in accordance with DFG's recommendations, qualified biologists possessing the requisite approvals from DFG and U.S. Fish and Wildlife Service should complete protocol-level

Big Wave Proposed Development

August 13, 2002

Page 3 of 3

surveys. These surveys should establish: (1) the probability of the presence of each of the species in the project area; (2) their use patterns on the property; and (3) any potential impacts from the proposed development. In addition to mapping the extent of the red-legged frog habitat, the map should depict the location of any sensitive habitat related to the garter snake and the western pond turtle. Any data that were used in creating the map should be provided.

The letter from the Department of Fish and Game also included a discussion on the inadequacy of the raptor and perching bird species analysis contained in the Biological Impact Report. For example, the Biological Impact Report notes that a pair of white-tailed kites, a California fully protected species, was observed on the project site on two occasions, perched in willows and coyote brush, however, no potential impacts to these birds from the proposed development are identified. As stated above, LUP Policy 7.3 prohibits any land use or development that would have significant adverse impacts on sensitive habitat areas and requires that development in areas adjacent to sensitive habitats be sited and designed to prevent impacts that could significantly degrade sensitive habitat. Without completing an adequate raptor analysis, it is not possible to evaluate the proposed development for conformity with Policies 7.3 and 7.4. Thus, Commission staff agrees with DFG that a full evaluation of avian use of the site, including identification of impacts and actions that can be taken to avoid such impacts should be carried out. If the site is sensitive habitat, the proposed development should be evaluated for consistency with LUP Policies 7.3 and 7.4.

3. Wetlands

The Biological Impact Report identifies potential wetlands in the southeastern and northwestern portion of the Study Area. The information provided within the Biological Impact Report is inadequate to allow Commission staff to evaluate the accuracy of the wetland delineation. Please provide a copy of the wetland delineation field data sheets and a map showing the location of the data sampling points on which the wetland delineation is based.

When more information becomes available, Coastal Commission staff may offer additional comments. If you have any questions, please call me at (415) 904-5267.

Sincerely,



Sarah Borchelt

Coastal Planner

North Central Coast District

Cc: Dave Johnston, California Department of Fish and Game
Dan Buford, U.S. Fish and Wildlife Services

**SCOPING MEETING
DRAFT ENVIRONMENTAL IMPACT REPORT
BIG WAVE OFFICE PARK AND WELLNESS CENTER**

SIGN IN SHEET

Meeting: 7:00 P.M. 11/18/2008

#	NAME (PLEASE PRINT)	ORGANIZATION/AFFILIATION (IF ANY)	ADDRESS
1	LISA KETCHAM	Pillar Ridge Homeowners Assoc	175 Culebra Moss Beach 94038
2	BRYAN SEWLES		12 HAINESPORT, AMBAY
3	ELAINE SWANSON	PILLAR RIDGE	115 LA GRANADA MASS BEACH 94038
4	KERRIE DEMARTINI	HMBHS Teacher	PO Box 1134 ElGranada CA 94018
5	LEE COOK	PILLAR RIDGE	111 DETECCHO MB 94038
6	ROBERT WINNEN	CSM	78 PATRICK WAY HMB 94019
7	PATRICK WINNEN		78 PATRICK WAY HMB 94019
8	BOLLY WINNEN		320 County Rd Woodside CA
9	HEATHER WINNEN		78 PATRICK WAY HMB 94019
10	DAVID WINNEN		PUB 272 MOSSBEACH, 94038
11	MARY BERZAN		160 SISKIYOU Ct San Bruno 94066
12	ANDREW CAROL		20 Sunrise Ct, Half Moon Bay, 94019
13	MICHELLE MARCONI		
14	MARYKOV WILLIAMS	C-Pals	470 Fortado Lane, HMB 94019
15	THIBB ROGERS		R.O. Bay 1587 ElGranada 94018
16	PAMELA STYLES	C-Pals - Big Wave	357 Grove St, HMB 94019

**SCOPING MEETING
DRAFT ENVIRONMENTAL IMPACT REPORT
BIG WAVE OFFICE PARK AND WELLNESS CENTER**

SIGN IN SHEET

Meeting: 7:00 P.M. 11/18/2008

#	NAME (PLEASE PRINT)	ORGANIZATION/AFFILIATION (IF ANY)	ADDRESS
17	Claudia N Frank	Parent & Teacher	68 Alsace Corraire HMB, CA 94019
18	Rosa Isabel Martinez	CPALS	2 Sumac Way HMB CA 94018
19	Alvaro Martin Mtez	CPALS	#2 Sumac Way H.M.B 94019
20	Judy Graham	CPALS	P.O.B 371065 Montana 94037
21	Laura Chavarin	CPALS	7 Salal R.D H.M.B 94019
22	Lizbeth Chavarin	CPALS	7 Salal Rd. HMB 94019
23	JAMES WAOLEIGH		406 Kenoz Ave HMB
24	Kendra Alger	(not entered on mailing list - no address)	
25	MIKE + JULIE TRAUTMAN		1080 DRAKE ST. (P.O. BOX 370655) Montana, CA 94037
26	Kevin J. Lansing		359 F. Liberty St HMB 94019
27	Michael Settles	Parent	413 St. Joseph Ave. HMB. CA 94019
28	GEORGE DEL ANNO		101 EABLE TRACE HMB 94019
29	Bill Griffin	News FARGO	P.O. BOX 1792 EB CA 94018
30	BRADY A GONOMOY	CPALS	463 COPRESS AVENUE H.B.M. 94019
31	Matthew Clark		P.O. Box 652 El Granada 94018
32	MAC PASSES		P.O. 2473 El Granada

*

2008

SCOPING MEETING
DRAFT ENVIRONMENTAL IMPACT REPORT
BIG WAVE OFFICE PARK AND WELLNESS CENTER

SIGN IN SHEET

Meeting: 7:00 P.M. 11/18/2008

#	NAME (PLEASE PRINT)	ORGANIZATION/AFFILIATION (IF ANY)	ADDRESS
33	Randy Gimsy		173 Corcoran HMB
34	NICHOLAS PANOFSKY		123 CHESTER STREET
35	Debra Lesser	C-PALS, GORC, WBHC	50 Marie Ct., HMB
36	Paula Bowers		931 Malaga "
37	David Bowers		" "
38	Jon Yoshimine	C-PALS BURNING	480 OAK AVE #1 HMB
39	Francisco C.	e Pals. Big Wave	125 Culbraz St HMB
40	Francisco de Jesus Castillo	465 Willow Av	C Pals 66AC WBHC
41	Gene Wong	CPALS	604 FIBER ST HMB
42	Cari Haganey		700 Palma St EZ
43	Irma Acosta	C-Pals	P.O. BOX 556 H.M.B. 94019
44	Gael Erickson	Paul Erickson Self	PO Box 2905 El Granada 94018
45	Tom Borden	Friends of Mark Williams, LLC	461 Fairbairn Ln HMB CA 94019
46	Amy Hoffmann	" " "	" " "
47	FRANK GUARINO	HOPE SERVICES	PO BOX 614 HMB 94019
48	Bill Botieff	NOAAR	922 DATE ST MONTARA

Maryellen Walker C-PALS - Park - Neighbor PO Box 516 El Granada CA 94019

**SCOPING MEETING
DRAFT ENVIRONMENTAL IMPACT REPORT
BIG WAVE OFFICE PARK AND WELLNESS CENTER**

SIGN IN SHEET

Meeting: 7:00 P.M. 11/18/2008

#	NAME (PLEASE PRINT)	ORGANIZATION/AFFILIATION (IF ANY)	ADDRESS
49	Alisa Boehme	C-Pals / Big Wave	170 Cypress Point Road Half Moon Bay, CA 94019
50	Teri + Brian Chatfield	C-Pals / Big Wave	315 Garcia Ave Half Moon Bay 94019
51	SPES OFF	BIG WAVE/SPECIAL OLYMPICS	1333 JONES ST. #307 S.F. CA 94109
52	Brigid O'Farrell	Unshka	1001 Ocean Blvd, MB
53	CARD ENOS		470 CORONADO AVE HMB
54	Andre Franco + Rocky Law		465 3rd Ave, HMB
55	Jan Clark		P.O. 2633 F/Granada #94018
56	Jenny Koon -sr?		P.O. Box 2473 El Granada 94018
57	Karen Holmes	C-PALS	635 Railroad Ave HMB
58	Don Clark		P.O. Box 2633 El Granada 94018
59	Ben + Bambi -r?	Big wave	Box 254 El Granada
60	Carol + De Farel		2805 Alameda Ave HMB
61	Steve Gray		224 Amesport Landing HMB 94019
62	Barbara LaVay		P.O. Box 783, Monterey 94038
63	Laura McGee	C-Pals	2005 Burdett Ln. HMB 94015
64	Grace Maguire	None	#3029 P.O. Box 318 Sacramento CA 94005 (P.O. Box - but live in Monterey, CA)

*

A

**SCOPING MEETING
DRAFT ENVIRONMENTAL IMPACT REPORT
BIG WAVE OFFICE PARK AND WELLNESS CENTER**

SIGN IN SHEET

Meeting: 7:00 P.M. 11/18/2008

#	NAME (PLEASE PRINT)	ORGANIZATION/AFFILIATION (IF ANY)	ADDRESS
65	SARA WILKINSON		115 COLLETTA ST. 94038 7055 BKAED
66	PATRICIA STEVENSON		123 RETIRO LN MOSS BEACH
67	ANITA BOTTIEFF	NONE	922 WADE ST., MONTEREY
68	Wayne Meyer	Chamber of Commerce	- HMBS
69		Half Moon Bay	
70	Barry Benda	Golden Gate Regional Center	875 Stevenson St SF 94109
71	Ken Johnson	Parca	276 Lauren Ave Pacific CA 94044
72	Kathy Affeltranger		474 Laurel Ave Half Moon Bay (A 94019
73	Krista M. Thatt	N/A	220 Shelter Cove Drive HMBS, CA 94019
74	Judith Taylor	Resident & real estate agent	190 Main HMBS
75	Zack Pect		Po box 2346 El Granada CA 94018
76	John Lynch	LCP	2098 Towerline Lane HMBS 94019
77	Kathryn Slater-Carter	PO 370321 Monterey	94037
78	Cynthia Giovannoni		1780 Higgins Cyn Rd. - HMBS. 94019
79	Maribel Guevara		
80	Steve Kucik	PO Box 1810	El Granada CA 94018
81	MARCO PIZZOS	307 COUNTY ROAD	WOODSIDE (KINGS MOUNTAIN) 94012
82	CINDY PHELPS	307 COUNTY RD WOODSIDE	CA 94012 (KINGS MOUNTAIN)

Address

ORGANIZATION
AFFILIATION
(if any)

935 Corona St
Marina
CA 94037

PO Box 370718
Menlo Park CA 94037

85 Valerie Griffin

240 MIKAPPA RD 94019
P.O. Box 2486

84 Jim Howie
Merrill Pobble

273 Eagle Trail Drive
Half Moon Bay, CA

85 June Shentman

443 El Granada Blvd.
Half Moon Bay, CA 94019

86 JACK MYERS

305 7th St P.O. Box 370-127
MONTARA CA 94037

81 HENRY + MARIÉ GALINDO

**DRAFT ENVIRONMENTAL IMPACT REPORT
SCOPING MEETING
COMMENT CARD**

(Please note that this document will be part of the public record.)

Date: Tuesday, November 18, 2008 at 7:00 PM
Location: El Granada Elementary School
Multi-Purpose Room
400 Santiago Street
El Granada, CA 94018
Project: Big Wave Office Park and Wellness Center Project

Comments may be submitted at the Scoping Meeting or may be sent to:

Attn: Camille Leung, Planner
San Mateo County
Planning and Building Department
455 County Center, 2nd Floor
Redwood City, CA 94063
Phone: (650)363-4161 or FAX: (650) 363-4849
cleung@co.sanmateo.ca.us

Comments must be received no later than 5:00 p.m. on Friday, December 5, 2008.

Name (Please Print): PATRICK WINNEN

Mailing Address: 78 PATRICK WAY, HMB 94049

Resident, Business, Organization, etc.: Student

Comment (s): _____

speaking & handing in Notes ✓

good place to leave in

Completing and signing this document is voluntary. San Mateo County may use this information for statistical purposes, to notify you of any future meetings, or to assist in providing you with further information. This document is a public record and may be subject to inspection and copying by other members of the public.

My Name Is Patrick Winnen

I WANT Big Wave to ^{be} built so I
CAN HAVE A place to live in
a community with people like
me.

Big Wave is good for the
community & helps people like
me to have a place to live.

Please support Big Wave

Thank you,

DRAFT ENVIRONMENTAL IMPACT REPORT SCOPING MEETING COMMENT CARD

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Name (Please Print): Mary Lou Williams

Mailing Address: 470 FURTADO LANE, HMB

Resident, Business, Organization, etc.: C-PALS

Comment (s): _____

WISH TO TALK ABOUT INCLUSION
AT BIG WAVE - POSITIVE -

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3

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cleung@co.sanmateo.ca.us

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Name (Please Print): Amanda Gainza

Mailing Address: 460 Coronado Ave. HMB 94019

Resident, Business, Organization, etc.: Potential Big Wave Resident

Comment (s): _____

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cleung@co.sanmateo.ca.us

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Name (Please Print): Teri Chatfield
Mailing Address: 315 Garcia Ave Half Moon Bay CA 94019
Resident, Business, Organization, etc.: Resident

Comment (s): _____

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6

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Name (Please Print): Dorby Lesser

Mailing Address: 50 Marie Ct. Marie

Resident, Business, Organization, etc.: C-PALS, GGRC, West Bay Housing

Comment (s):
Discuss the housing situation for people with developmental disabilities living in San Mateo county - in terms of salaries, availability of affordable housing, transportation and other variables

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7

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cleung@co.sanmateo.ca.us

Comments must be received no later than 5:00 p.m. on Friday, December 5, 2008.

Name (Please Print): Robin Polastri

Mailing Address: 441 Coronado Ave AMB

Resident, Business, Organization, etc.: _____

Comment (s): _____

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Robin Polastri
441 Coronado Avenue
Half Moon Bay, CA 94019
650.712.9194
gnrpolastri@comcast.net

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cleung@co.sanmateo.ca.us

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Name (Please Print): WILLIAM BOTIEFF

Mailing Address: 922 DATE ST MONTARA

Resident, Business, Organization, etc.: _____

Comment (s): THIS IS A WONDERFUL
PROJECT FOR THIS COMMUNITY
ETC. ETC

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Name (Please Print): Ben Pacifico

Mailing Address: Box 254 El Granada CA 94018

Resident, Business, Organization, etc.: Resident

Comment (s): _____

send
street
address
use in
to recording

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11

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Name (Please Print): Devyn Yoshimine

Mailing Address: 480 oak ave #1

Resident, Business, Organization, etc.: Big wave

Comment (s): _____

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12

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Name (Please Print): Barry Benda

Mailing Address: 875 Stevenson St SF CA

Resident, Business, Organization, etc.: Golden Gate Regional Center ✓

Comment (s): There is a need for
people with developmental disabilities
in this area.

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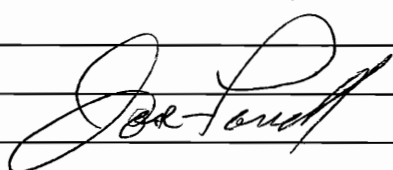
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Name (Please Print): JOE FARRELL + wife
Mailing Address: 2805 ALAMEDA AVE, HMB *Alameda*
Resident, Business, Organization, etc.: _____

Comment (s): I'D like to make a few COMMENTS
IN Support of the project
thank you



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15

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cleung@co.sanmateo.ca.us

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Name (Please Print): ^{lee} KL COOKE

Mailing Address: 111 DERECHO MB 94038

Resident, Business, Organization, etc.: PILLAR RIDGE

Comment (s): MY CONCERN IS WITH REGARD TO
3 ENDANGERED SPECIES ASSOCIATED WITH
THE WETLANDS

RED LEGGED FROG

WESTERN POND TURTLE

SAN FRANCISCO GARTER SNAKE

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17

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Comments must be received no later than 5:00 p.m. on Friday, December 5, 2008.

Name (Please Print): Wayne Meyer

Mailing Address: _____

Resident, Business, Organization, etc.: Half Moon Bay Chamber of Commerce

Comment (s): we support the Project

letter
to
P.C.

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18

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cleung@co.sanmateo.ca.us

Speak tonight

Comments must be received no later than 5:00 p.m. on Friday, December 5, 2008.

Name (Please Print): tyler Foley

Mailing Address: 408 Granelli Ave

Resident, Business, Organization, etc.: 94019

Comment (s): _____

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19

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Comments must be received no later than 5:00 p.m. on Friday, December 5, 2008.

Name (Please Print): Joey Sykes

Mailing Address: 351 Grove St. Am B

Resident, Business, Organization, etc.: _____

Comment (s): _____

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Name (Please Print): Grace Maguire
Mailing Address: c/o #3029 PO Box 1318 Sacramento CA 94025
Permanent mailing address - Live in Montara, CA
Resident, Business, Organization, etc.: _____

Comment (s): _____
This is a Win-Win, No Batteries Required
model to:

- Recharge the local economy, adding new jobs at all skill levels
- Improve the lives of developmentally disabled residents on the Coastside
- Reclaim ^{a major portion of the} ~~not~~ current farmland at the site and convert it to coastal wetlands

The unique alliance between non-profit and profit centers with award winning energy and environmental design makes Big wave environmentally + economically sustainable.

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21
SPEAKEN

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Name (Please Print): VANESSA CASTANEDA

Mailing Address: 125 Culebra St

Resident, Business, Organization, etc.: Big Wave

Comment (s): _____

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27

S Beaker

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Name (Please Print): Mary Em Wallace

Mailing Address: P.O. Box 596 El Granada CA

Resident, Business, Organization, etc.: Resident - C-Pals

Comment (s): - This is a wonderful opportunity for the disabled young adults in our community now and in the future.

The concern I have is that the project is located in the potential tsunami area. Therefore appropriate evacuation warnings + escape routes are important.

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Name (Please Print): Steve KNIGHT
Mailing Address: P.O. Box 1510 El Granada CA 94018
Resident, Business, Organization, etc.: Resident

Comment (s):
- Brief comment stating my support
for the project, As a resident,

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San Mateo County
Planning and Building Department
455 County Center, 2nd Floor
Redwood City, CA 94063
Phone: (650)363-4161 or FAX: (650) 363-4849
cleung@co.sanmateo.ca.us

Comments must be received no later than 5:00 p.m. on Friday, December 5, 2008.

Name (Please Print): BILL GRIFFIS

Mailing Address: 455 #8 AVE ALHAMBRA

Resident, Business, Organization, etc.: WELLS FARGO

Comment (s): BIG WAVE SETS THE PRECEDENT OF OFFERING A FANTASY SOCIAL SERVICE WITHOUT COST TO TAXPAYERS. THE BIG WAVE COULD BE A PROTOTYPE LEADING TO AN END OF THE EVER GROWING AND SWIFT OF GOVERNMENT AND BUREAU-CRATIC SPRAWL.

Completing and signing this document is voluntary. San Mateo County may use this information for statistical purposes, to notify you of any future meetings, or to assist in providing you with further information. This document is a public record and may be subject to inspection and copying by other members of the public.

Speaker Card

Claudia M Frank

618 Alsace Lorraine

HIMB, CA 94019

Parent & Teacher

26

DRAFT ENVIRONMENTAL IMPACT REPORT SCOPING MEETING COMMENT CARD

(Please note that this document will be part of the public record.)

Date: Tuesday, November 18, 2008 at 7:00 PM
Location: El Granada Elementary School
Multi-Purpose Room
400 Santiago Street
El Granada, CA 94018
Project: Big Wave Office Park and Wellness Center Project

Comments may be submitted at the Scoping Meeting or may be sent to:

Attn: Camille Leung, Planner
San Mateo County
Planning and Building Department
455 County Center, 2nd Floor
Redwood City, CA 94063
Phone: (650)363-4161 or FAX: (650) 363-4849
cleung@co.sanmateo.ca.us

Comments must be received no later than 5:00 p.m. on Friday, December 5, 2008.

Name (Please Print): Kerrie DeMartini

Mailing Address: P O Box 1134 , El Granada, CA 94018

Resident, Business, Organization, etc.: HMBHS Special Ed teacher

Comment (s): it is the best possibility for independent living for people with developmental disabilities.

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27

Comment letter

Name: FRANK GUARINO

Address:

320 2ND ST
MANTARCA CA

Organization (optional):

HOPE SERVICES

Comment:

29

Comment Letter

Name: Merrill Bobele

Address: P.O. Box 2486
El Granada, CA

Organization (Optional)
Parent

Comment:

30

Comment letter

name: Betsy del Fierro

address:

101 Eagle Trace Drive
Half Moon Bay

organization (optional)

Comment:

3

**DRAFT ENVIRONMENTAL IMPACT REPORT
SCOPING MEETING
COMMENT CARD**

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cleung@co.sanmateo.ca.us

Comments must be received no later than 5:00 p.m. on Friday, December 5, 2008.

Name (Please Print): JAMES WADSWORTH

Mailing Address: 406 KEHOE AVE HMB

Resident, Business, Organization, etc.: _____

Comment (s): _____

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2

Comment Letter

name: MARTY PHELPS

address: 307 COUNTY ROAD
KINGS MOUNTAIN

visits...

organization (optional)

Comment:

53

**DRAFT ENVIRONMENTAL IMPACT REPORT
SCOPING MEETING
COMMENT CARD**

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cleung@co.sanmateo.ca.us

Comments must be received no later than 5:00 p.m. on Friday, December 5, 2008.

Name (Please Print): FAUL TERKOVIC
Mailing Address: P.O. Box 371149 MONTARA, CA 94037-1149

Resident, Business, Organization, etc.: _____

Comment (s): ① CURRENT CALIFORNIA AERONAUTICAL LAND USE PLANNING
GUIDELINES SHOULD BE INVESTIGATED FOR COMPATIBILITY WITH THE
PROPOSED USES;
② WATER SUPPLY ISSUES MUST BE RESOLVED;
③ ALTERNATIVE SITES THAT DO NOT PRESENT DEVELOPMENT
CHALLENGES SHOULD BE EVALUATED SO THE PROJECT CAN BE
APPROVED FOR A SITE OR SITES ZONED FOR RESIDENTIAL,
INSTITUTIONAL, OR OFFICE PARK USES THAT DO NOT PRESENT
SO MANY OBSTACLES TO BE OVERCOME

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34

Comment letter

Name: Tom Borden

Address: 461 Furber Ln.

organization (optional)

—

Comment:

In support.

***SAN MATEO COUNTY
BIG WAVE WELLNESS CENTER AND OFFICE
PARK PROJECT
EIR SCOPING MEETING COMMENTS***

**Meeting of November 18, 2008
7:00 – 9:00 PM**

The meeting was called to order at 7:00 p.m. at El Granada Elementary School Multi-Purpose Room, 400 Santiago Street, El Granada, California.

PRESENT:

San Mateo County, Building and Planning Department (“County”; Lead Agency)

Lisa Grote, Director of Community Development
Camille Leung, Planner

Christopher A. Joseph & Associates (CAJA; EIR Consultant)

Jennie Anderson, Co-Project Manager
Patricia Preston, Environmental Planner

Big Wave Group, LLC (Applicant)

Scott Holmes, Developer
Nicole DeMartini, Public Relations Specialist
Madeline McGuire, Communications Director

AGENDA:

- I. Introductions (County)**
 - II. County Land Use/Zoning Overview (County)**
 - III. Purpose of Scoping Meeting/Overview of CEQA Process (CAJA)**
 - IV. Overview of Proposed Project (Big Wave Group, LLC)**
 - V. Public Comment Period (CAJA open)**
-

Jennie Anderson (Christopher A. Joseph & Associates)

At this time we are going to go into the public comment period, so I'd like to open up that period now. And as I stated earlier, please make sure that you fill out a comment card and hand it in to Patricia or myself who will be at this table. And when you do speak, we'll call you as soon as you turn in your speaker card in the order received, please do speak clearly as we are recording this to make sure that we hear all of the comments and consider them in the EIR. Please state your name

and your address prior to you speaking. It will help us out in the recording. I know we have a lot of people here that want to talk, so as we only have until 9 we want to make sure that everyone gets a chance to talk. If possible, please try to limit your comments to four minutes or less. As we are just beginning our EIR process, we are not prepared at this time to answer questions about the potential environmental effects of the project. This information will come out during the draft and we will respond to any comments that you may have on that during the final EIR. Instead, tonight we are interested in hearing any comments you may have regarding the content of the environmental issues to be included in the EIR, issues of concern, possible alternatives and mitigation measures to reduce such impacts. As a courtesy during your comments, if any prior commenter adequately addresses your comment please try not to repeat those as we do want to make sure that we get each point. We will be taking detailed notes too. So thank you very much and I will open the public comment. Thank you.

PUBLIC COMMENTS

1. Patrick Winnen

Hi my name is Patrick Winnen. I want Big Wave to be built, so I can have a place to live in a community with people like me. Big Wave is good for the community and helps people like me to have a place to live. Please support Big Wave.

2. Mary Lou Williams

My name is Mary Lou Williams. I live at 470 Furtado Lane in Half Moon Bay and I'm responding not directly to the EIR, but to another issue that has also been important in terms of housing. And I just want to say that I am really excited about this because for my son who is wheelchair bound, in our neighborhood, he has access to only two homes in the entire neighborhood. Everyone else has stairs that go up and down. We have been invited to all kinds of places, for parties, and we can't go because he can't get in. The beauty of having a development like this is he is going to get to go all over the place and go in and play all those video games that he has never gotten to play with all those guys who are going to live there and he is going to have a blast.

3. Amanda Gainza

Hi, my name is Amanda Gainza and the reason why I wish for this to happen is so I can live in a community and I know all these people and I will have a great time, so make it happen.

4. Teri Chatfield

Hi, Teri Chatfield, 315 Garcia Avenue, Half Moon Bay. My son is Brian, he is in the back, being very quiet, which is unusual. I have kind of a unique perspective because Brian has an identical twin and he has lots of possibilities in his life. I would really like to see that these kids have some place that they can call their own. There are not a lot of opportunities for Brian. He has Down Syndrome and he has kind of floated from place to place. And I kind of think it's time that as a community we really solve it and we find a place for these kids to feel productive. Brian will never get to have a regular job, but here he would feel comfortable and right now he is fooling around back there. Hathaway is a great place because he is and all of the kids are accepted. It's not like other places. We have been in schools that were really quite rude and mean. And here everybody knows that it really doesn't matter what he does because he is always loved. He knows more people than I ever will possibly know. Everywhere we go, people know who he is. And for the rest of the kids that he goes to school with right now, I think it will be just a really great opportunity for them to have a place like this.

5. Michael Trautman

Hi, Michael Trautman (resident of Montara), and I would just like to ask the community and the County to support this project. I have nothing to gain from this project other than to be proud of something like this that could possibly happen or that is going to happen. It's environmentally correct. I have reviewed the project and I can't see anything wrong with this project. Please support it.

6. Debby Lesser

Hi, I'm Debby Lesser and I live at 50 Marie Court in Half Moon Bay and we have lived in this community for more than 14 years. My son is nineteen years old. His name is Benjamin and he is developmentally disabled. I've worked in the service industry, mostly through volunteering for many, many years. I was on the Golden Gate Regional Center Board for six years and I don't know if you are familiar with the Golden Gate Regional Center, but it's an agency of twenty-one regional centers in California that serve people with developmental disabilities. There are approximately a little over 200,000 people with developmental disabilities who are served by the Regional Center and according to the California Department of Developmental Services website, there is about twice that many people in California who have developmental disabilities, but for one reason or another may not be a Regional Center client. But nonetheless, they are still out there.

In San Mateo County, we have, I have prepared numbers but we have, it varies, there are about 2,800 adult Regional Center clients that are people 18 and over. And all of those people need housing. And I believe Madeline said that people with developmental disabilities make approximately fifteen percent of the median income wage which you know, living in this area, a high-cost area, pretty impossible. The HUD, one thing I was reading on the Developmental Disabilities, DDS website is that HUD's definition of affordable housing is that you are to live within 30% of your income. Many people with developmental disabilities, once they reach 18 years old, are eligible for SSI. SSI generally pays somewhere between \$650 to maybe \$850, maybe \$900 per month. So 30% of \$900 is \$270. Now I don't know about you but I certainly haven't found a place to live for \$270. And this is a real problem in our county. This county is one of the most high-cost counties in the country. Regional Centers in California pay the same wages across the state, whether you live in Bakersfield or whether you live in, you know, San Francisco. The cost of living here is very difficult for all of us but imagine if you were making \$900 a month in SSI and many of our people with developmental disabilities, many of our population you know, can't work or if they do work they are making, you know very low wages. And we have to help these people find housing that they can afford. And this project you know really speaks to that.

Now backing up a little, it is also mandated by the Lanterman Act which was from 1967 that California move people in the community and find community living for them. Community services, community housing and so forth. And over the years, one by one, the developmental centers in California have been closing down, but nonetheless it has been a really slow process. Thirty plus years later and still people are living in developmental centers. And this particular project offers a way for people in our community to live in their community with their support systems, with their parents close by, and their friends and their whole support system; and yet to have an independent life with a built-in community of people who are there to help them, to be there after they come home from work or after their day program. Someone to know, have dinner with, someone to know you, who will help them with their needs. This is a very supportive project. Some of the people who live there may be Regional Center clients and they will have support from the Regional Center and others may not, but still it's a really supportive project. Much more than you will find in some other projects.

It's got built-in vocational opportunities and employment opportunities and it's a model. It's a real model project that I bet people will be looking at all over the country and seeing how this project does and using it as a model for other projects. So I hope you will support this project. The kids who live in this community are a really tight-knit group and for those of you who are familiar, there is a parent group called C-PALS which stands for Coastside Parents Action League for special-needs

children and adults, which has been in existence for about ten years and we are a family support group made up of approximately 130 families, as well as some professionals and we support these children. We try to get them community services such as Half Moon Bay Recreation, which has been great and so supportive of our kids and other groups as well. There is a lot of integration with this project. Having people come in and go out. And so I think that it is a very integrated sort of project that will allow our kids to be much more part of the community than perhaps living completely on their own, which can be very isolating so anyway I hope you will support this project and we are really excited about it.

7. Robin Polastri

Good evening, my name is Robin Polastri, I'm here with my husband John. We live at 441 Coronado Avenue in Half Moon Bay. We've been residents on the coast side since 1985 and we are the proud neighbors of a very special family. We are here this evening to speak to a cause that they firmly believe in. If not this project, what project? A project like this is addressing the needs of the business community and is addressing the environmental concerns of both construction and sustainability and a project like this is providing one arm of support for people with special needs. Not to say that the situation that is being proposed here is the only way for special needs people to live, but it is one option. And I think that it is very, very important to have multiple options because we cannot paint special needs individuals with a broad brush stroke and assume that everyone needs the same kind of living environment and work environment. So I just would like to say that we are so strongly in favor of this. We have asked our neighbors when can we contribute to it? It doesn't seem to be at that point yet. But please, on the environmental level, on the business level, and on providing a particular arm of support for special needs people, please support this project.

8. Nick Panofsky

Hi, I would like to make a quick statement in favor of the project. I was born and raised on the coast side and I'm sure many of you also made the commute over the hillside to fight the congestion. I'm really excited about the prospect of this project to make the reduction of the traffic on Highway 1 during commute hours, and also for Highway 92 to 280. I've looked over the facilities planning report and I agree with their findings that this is what will take place and it has the potential to do some serious improvement to the traffic congestion on the coast side.

9. William Botieff

I live at 922 Date Street in Montara and I'm really impressed about this project; what it is going to do for the community. I think it is important that the community get behind this and fight for it; do whatever is necessary to get this thing done. I've lived here on the peninsula for over 60 years. I've

never read or heard of a project quite like this. It is unique. And a lot of things are unique about it and one of them is that it is funded by the community. It's not tax payers' dollars; it's not going to go on our property taxes. It is just going to do a lot of good for everybody and we should all get behind this.

10. Ben Pacifico

Good Evening. My name is Ben Pacifico. I live at 730 Palmer in El Granada. I've been trying to think of what to say, but looking around here there is not really much to say, it speaks for itself. It's a self-sustaining engine, once started. This needs no other explanation other than we get behind this project. Something like this only comes from one place and that's from the heart. So I would ask those of you who view this in opposition to please consider supporting it. And if you still want to oppose it, look at these gentlemen and these kids, look them in the face and tell them why.

11. Devin Yoshimine

Hi, I'm Devin Yoshimine. I am currently a senior that goes to Half Moon Bay High School. I'm a resident of Half Moon Bay. I'm supporting this housing project and this working project known as Big Wave. It's not just housing and a working place, it's also a housing and working place for the mentally and physically disabled. This community would provide homes at lower prices to make it affordable to the people who live there. We can also have jobs of many job descriptions. Please consider letting us build this community to help people who are in need. Without this community, we would be judged by the cold, harsh, grips of this world. So be one of the places that we can live in without being judged by the world. Please help us support this treatment. Help it, make it become a reality. By doing that you would be doing us a huge favor.

12. Barry Benda

That kind of says it all. I'm Barry Benda and I am chief of Community Services at Golden Gate Regional Center and our sole purpose is working with people with disabilities. And I'm here tonight not really to talk so much about the environment, but about the needs and services. In terms of the needs, until a few years ago, for those of you that live on this side of the hill, we basically had no services. And after much work and much effort and an organization called Hope Industries who finally decided that they would like to move into this area, we were able to develop some work services for our adult clients along the coast. And prior to that time anybody, once they got out of school, if they wanted to get services, they would have to buzz across the hill to the other side and it was just inconvenient for everybody. And one of our goals at the Golden Gate Regional Center is to keep people in their home communities. Not necessarily in their family homes, but in their home communities. And now it's time since we finally were able to get services together for what they do

during the daytime, we need places for them to live. And at this point, other than somebody living in their own home along the coast side here, we have no homes that are affordable homes for people with developmental disabilities. So this would be the first of a kind in many ways, but certainly a first of a kind for the coast side since we have no opportunities at this point for people to live as adults away from their family. So that's kind of what the needs are. Our role, a big part of our role at the Golden Gate Regional Center is providing services and I have been talking with a number of the parents from this coast side group to see how we are beginning to develop the kinds of services that would be needed to support adults in living in their own apartments or condos. So I just wanted to comment that it is strong in need and it would be very beneficial to all the people that live on the coast side.

13. Joe Farrell

Hi, I'm Joe Farrell and I live at 2805 Alameda Avenue in Half Moon Bay and I'm here with my wife Carol tonight and I'm here in support of the project. So far it's self-evident that the project is really well thought out and it is needed by the community and there is such support for it. The one thing I would suggest and add to everyone's encouragement here is that these projects can take a long, long time to get approval. But if they have overwhelming support by community to push and to make sure that it happens with a very positive attitude, things can change very fast. So please, everyone make your support vocal.

14. Ruth Soule

I really find I didn't have any reason to be here tonight and then I thought about the person that introduced me to all of this and that was Gail Yoshimine. And then I thought, we've taken care of the seniors, we've taken care of the low income people and the more I thought of this I thought, well it doesn't affect me. I was talking to a friend of mine, Pam, yesterday and all of the sudden I thought of my 53-year-old niece who attended school over in the San Bruno facility and now I think, well I know that she has held her job for over 20 or 21 years and she is one of these kids. And she, in order to get to her home she has to do four bus changes to get to her home in Burlingame. And I, how neat this would be if she could only find something over the hill like this. Then I thought all of these kids, at first it was only Devin that I knew and since then, I've got so many friends that are here tonight. A few of them are speaking, Patrick, Joey, a lot of them. And I am so proud of these kids and I'm going to keep this short, but one of the best things is the church that I belong to, goes up to one of the homes in Montara, one of their rest homes. Every third Sunday we give a service up there and here are these kids helping with the service and helping these elderly people when they take communion. It is really, really touching. I went to a meeting, it was way back when, when the Board of Supervisors came over here and held a meeting at the Senior Center and this came up and

there were so many people that were against this project. And if that woman is here tonight that got up and spoke and she said that she didn't want this project because at night, when she went and opened up her window and heard the "hoot, hoot, hoot" of the owls, she was afraid this project would stop that. I have news for her, that project down there didn't stop the "hoot, hoot, hoot". I am so for this and hope that I can count in some way.

15. Lee Cooke

Good Evening, I'm Lee Cooke at 111 Derecho in Moss Beach. I think the need for and the benefits of this project have been pretty well highlighted here and don't need further comment from me. But my only cautionary would have to do with the wetlands restoration portion of it and that too is a great project, but particular attention needs to be paid in the environmental study with regard to the potential impact on endangered species of which there are potentially three living in that area. And if that's addressed then I don't see that we will have a problem with the "hoot, hoot, hoot" of the owls.

16. Lisa Ketcham

Lisa Ketcham, 175 Culebra, Moss Beach actually with the Pillar Ridge Homeowners' Association and we are the neighbors just north of the proposed office park. I noticed that the project, the office buildings, since two years ago, they've gone from two-stories to three-stories which was not a great move. We are a community of 227 single family homes and some people might just write us off as a trailer park, but sure we have a beautiful community and what you talk about that goes with this Wellness Center, a sense of community. We fought, rent controls, we fought to get non-profit ownership and if this project does get delayed and as I said that even two years ago, if these seven people are looking and tired of waiting for this to happen, our doors are open to you. We have homes for sale that are low-income. We have rent control and we have a pool and a clubhouse and we would welcome you even if it is only until this other project gets filled.

But I just wanted to say from our standpoint, as the neighbors, in the EIR regarding the traffic studies, when you are looking at the traffic coming through on Capistrano, we haven't really seen the impact yet of the new facility, up there on the harbor. Because coming through there we have about 8 or 9 hundred residents and also pedestrian and bicycle traffic basically because we have low-income residents who, some don't have cars and we have people maybe with baby strollers, mothers, people with bicycles going to work. They go all the way up and around to pickup the kids from school and they have to go through Princeton with narrow streets and no sidewalks and with increased traffic it's all very hazardous. And particularly Airport Street which has very fast cars and there are no sidewalks and having cars parked on the street would only make that worse. And I

noticed there was something about parking dispensation with this and I don't know how that's going to affect parking on the street there. And the other thing, it was mentioned in the paper that water wells were preferred water source here and in the EIR if it could be looked into. Our community has three wells and so if the effect of the new wells would impact our community. This could be looked at, in addition to the Montara airport, as it is all the same aquifer. And the other thing, as I said before with the office park would be the office-warehouse-type buildings that were described last time, three-stories, I mean it's just huge and it would just visually overwhelm our community and I don't think, from the airport, that you can see the bluffs anymore. So I don't know how it got so much bigger in the last two years, I mean it was presented two years ago to us enough to finance a Wellness Center so I don't know why. It needs to be scaled back a bit, we would like it better.

17. Wayne Meyer

My name is Wayne Meyer I am the incoming chair of the Half Moon Bay Chamber of Commerce and the Chamber of Commerce has endorsed this project. So what I would like to do is go through a couple of quick comments and then paraphrase the letter that the Chamber of Commerce has sent to the Planning Commission in support of this particular project. We're in support of this project, of all the delivery systems that are really suffering here, the delivery systems I'm referring to is like the Carrillo head pollination, Hillside Family Medical Center, the various senior centers we have. This particular project is unique because it's got a self-sustaining entity within it. And, you know, as a major player in the community and looking at what ways we can support the lifestyle. It's got its own economic engine and we have to support something that is trying to grow something. It's not like it's self-sustaining, but as part of the community from the Chamber of Commerce standpoint, we want to look at several things. One is the economic sustainability, the way it sustains our quality of life here and within that component you also need to look at how it affects our local ecological systems and the things that sustain us and the things that really are unique about our community. So to us at the Chamber of Commerce, this is a no-brainer. This is something that we are completely should support and get behind. It's going to add economic impact in the community. It's identified a portion of the community that is underserved and needs some delivery systems. And it also looks at the economic, no, excuse me the ecological impact. So with those three impacts, with those three criteria behind it, it's an incredible community, it's an incredible project, just a good job.

So what I would like to do is read, or just paraphrase, our letter that we wrote to the County of San Mateo Planning and Building Department. The Half Moon Bay Chamber of Commerce urges the San Mateo County to review and approve the Big Wave project. This plan, this social development will be a great asset to the community. Imagine the eco-friendly office development and office space will enhance the lives of all the people on the coast, as well as those that are developmentally

challenged. In 2001, the Chamber of Commerce in conjunction with community leaders and coast side residents formed a comprehensive economic sustainability study. The location that was most desirable for economic development was the east side of Airport Blvd. It was documented in a PowerPoint presentation that was delivered to the San Mateo County Board of Supervisors, City Hall of Half Moon Bay and the Coast Community Council. In the long and short of this, the Half Moon Bay Chamber supports this whole-heartedly and we would like to see this particular project go forth.

18. Tyler Foley

Hello, I'm Tyler. I just want to say hello and I just want to support Big Wave, my friends and family and the community and everything and God Bless.

19. Joey Sayles

Hello, I'm Joey Sayles and I'm looking forward to having my own home, my own space. I really see this as a huge part of our community. So I'm really looking forward to getting this project done.

20. Grace Maguire

Hello, I'm fairly new to the coast side community and actually fairly new to learning about Big Wave. My daughter's been involved with it for a year and I've been getting bits and pieces. The first time I heard about it I thought it was a water park. I thought my daughter was doing an internship with a new water park. That was going to be in Half Moon Bay. And when I told somebody about it, they said "Well that's just crazy". So I'm really glad to hear that wasn't what it was about. And the more I learn about it, the more I am just enchanted with the idea that it is an amazing model that throughout the country. I mean, I can see this in Ohio, I can see this sort of thing happening in Colorado where my sister lives and in Southern California. I am sorry to say that it has, I can't see anything wrong with it right now. Now, I'm not an expert. That's why these consultants are here, right. This is their job. But I am really impressed with what's there. And I have three words that I've kind of boiled it down to in my head. And it's called "no batteries required". This is a system and a model that can serve these fabulous people that you've been hearing from tonight and bring new jobs to the coast side, which I'm all for since I am underemployed. And to provide some environmental enhancement to farmland that is sitting there. So I'm very impressed and I think that the bottom line really is that it's really a unique alliance between what I see as a non-profit arm that's going to do a lot of good, and a profit center that's going to do a lot of good. So I'm very impressed and I'm very excited about it and I hope to help as much as I can power to make this happen.

21. Vanessa Castaneda

I live in community and would like project, so I can be with friends.

22. Mary Wallace/Roberta Martinez

I have a “two fer”. I’m going to talk for myself and I’m going to translate for Roberta Martinez. My name is Mary Wallace and I live at 522 Sonora Avenue in El Granada. I think two points that have not been made and one is that to have a community, the community is what helps people with disabilities, aside from drug abuse, incarceration, and I think we’ve seen plenty of evidence that the community has already formed and I’m just so happy that there is a chance for continuing. The little tiny breeze I’d like to put out there, other than the EIR is I believe that it is located the Big Wave zone, the tsunami zone. And I think that part of the planning hopefully will include a siren and easy evacuation routes.

Spanish speaking, translated by Mary Wallace. Supports project. My name is Roberta Martinez. Make sure to say that, one, there is a need for this program. Two, I want to give my support and three, is that there is a necessity and also a desire to make it worthwhile.

Jennie Anderson (Christopher A. Joseph & Associates)

Before I pass the microphone to Steve Knight, I just want to make a quick little announcement. If you can’t stay for the rest of the meeting, please do remember that you can mail-in, email, or fax any of your comments in and the address is provided within the NOP. Comments received until December 5th at 5 PM. So please remember that.

23. Steve Knight

Thanks, I’m Steve Knight and I’ve been a coast side resident for about twenty years in El Granada here. And I don’t have a personal stake in the project. Really, my business is over the hill, and I don’t have a relative or child who is developmentally disabled. And, normally I am the person that’s at a community meeting talking about the reasons why we don’t need development, we don’t need to build something, we don’t need to do anymore work on this beautiful area that we live in. I guess I want to just make a side of a person who is not directly interested in any of this. But, nonetheless I am really excited about it because I think it is a tremendous model that really is worthy of the community that we have. It’s a special, diverse, very inclusive community that I think can, in many ways, be in the forefront of the sorts of things we need to be doing as a county and as a state and as a country in the coming century. So I’m just excited that this can be happening in our community and I hope the Planning Commission and the community can get behind it and support it. Thanks.

24. Bill Griffis

Hi, my name is Bill Griffis and I live here in El Granada. And I also work with Wells Fargo Home Mortgage and I've known Jeff now for about two years. Within our company he is the champion of this project and looking for direction for if it actually finally gets off the ground or gets to the point of breaking ground. Probably one of the biggest strengths I see; actually two fantastic strengths of the project are. Number one would be the fact that it is a self-sustainable project. It addresses just about every concern with regard to environment, etc. and this is important these days. When it comes to problems with the project with regard to say, water issues, on page two near the bottom, about three fourths of the way down, it mentions the desalinization plant, so that should cover water. When it comes to worries about things like Hoot Owls you know, everybody back in the 70's, I remember, were talking about Spotted Owls and there was a big stink and so on. And then, next thing you know, they are building nests in a Big K and the Kmart sites were developments we heard of. So the environment itself is fairly adaptive and that's probably where my biggest passion for the Big Wave comes from. I spent a few years up in Lake Tahoe teaching adaptive skiing to a lot of students that would likely live in the Big Wave Project. Humans along with the environment are very adaptable animals. And probably the next best thing about this project I think overall is that it removes government from the equation. This is totally self-funded. It will ultimately carry itself and in fact I'd be willing to Google it myself, a term that came out since I've been alive is "urban sprawl". And I think another type of sprawl has occurred over the years has been the onslaught of government and bureaucratic sprawl. The fact that the government doesn't need to have its hand in this, is probably the first that I've heard of in the Country, that could actually be a prototype to roll out completely across the countryside.

The fact that private owners, owners of private property are actually able to do with their property what they choose to, in an environmentally conscious way, is remarkable. It's unbelievable. And Steve Barber and Jeff Peck could go down in history as, you know, being the ultimate new trendsetters of the 21st century. With regard to traffic in and out of Princeton, with 210 units in the mobile home park, I can just picture at least several of those residents actually working at the Big Wave and possibly being able to walk to work. I think more than all, probably the biggest concern overall will be that ultimately 45 units of housing is going to be far to few and we probably need to find a place for the next project.

25. Claudia M Franke

Hello, my name is Claudia Franke. I'm a teacher and also the mother of a developmentally disabled son and I am talking in support of the program. I was born and raised in Germany and I have had the opportunity to visit the community and it is similar to what is proposed. And people lived on

site, they had a Wellness Center and they had transportation. And it was, you know, at first I thought I'm going to take my son in Germany. He doesn't speak German, wouldn't work and he has no citizenship there. So, given that we're going to be living here, I'm really excited about the project. I also see that we will have less traffic when we don't have to commute over the hill, when people have a chance to live here. And I know traffic is very bad. So I'm hoping that there will be no adverse impact to traffic. Having a developmentally disabled child, there are dangers. As a parent, you don't want to see your child homeless. And a lot of the homeless people happen to be developmentally disabled people. Our jails are full. They provide housing and medical care, but that is not where I want my son to end up. I'm excited to see some buildings that employ some of the green technology, why can't we do it with some of the public buildings that we will have on the coast. So there are some great opportunities.

26. Kerrie DeMartini

Hello, my name is Kerri DeMartini and I was born and raised here on the coast side and now I currently teach special education up at Half Moon Bay High School. And I teach a lot of the individuals that are planning to live at Big Wave in the near future. Prior to teaching up at the high school, I worked in other capacities with individuals with developmental disabilities. One was a developmental center in Sonoma, which used to be referred to as an institutional setting. I've also worked in group homes and one to one in people's homes. In all of these situations, individuals' choices are pretty limited; they get to do what the staff wants to do. The staff that worked there, usually constantly changing. And the individuals usually don't have very much independence. Obviously, those aren't desirable situations to live or to work. And so I've always been looking, what's out there for these individuals. Where is it they can go, because I want to go work for these places. I want to find a cool spot like Big Wave or something like it, to work and help these guys out. I have never seen anything like this and I've definitely spent at least twelve years looking all over northern California for things like this, for situations that make them very independent. So I think Big Wave is an amazing project. It will provide activities for socialization, like Mary said they can get isolated, lonely, drug abuse. This is an opportunity for them to be social and supported. It will provide independence without compromising their safety and they'll have vocational opportunities at all different levels, the level that they, need to individually need. And overall it will make good things happen, I mean, we all have the dream of someday moving out of our parents' homes and living on our own and they deserve to have that dream come true just like the rest of us did.

27. Frank Guarino

My name is Frank Guarino. First I'd like to apologize; I'm not much of a public speaker. So if I

look petrified, it's true. I work for Hope Services and we're the day program on the coast side. We pick the individuals up at about 8:30 AM. We pick them up, 8:30, 8:45 and go on certain projects. We go to CSM for schools, YMCA, we do outings, Golden Gate Park. We also go to museums. We also go to job trainings. We work with a lot of different individuals with a lot of different needs. And it seems to me that this is a win-win-win situation. This is environmentally conscious. This is an engine that drives itself. We are not creating a white elephant. Something that we will regret in years to come, some building that's out there that been abandoned. This will run itself. This creates independence. Remember how we all felt saying goodbye to our parents and getting the keys to our first apartment or some other place that was our own place. The ability to do these things financially is very, very, very difficult, it is a rare opportunity that we have to impact individuals who don't ask for much, they really don't but they are always there for you and me, their parents, their friends. I would like to urge everybody to search inside themselves and if you have any negative feelings, think about that feeling, that negative feeling. Think about approaching somebody and saying you're this close from I'm sorry.

I'm the one who founded the boys and girls club here on the coast side with a bunch of individuals in 1992. But that particular situation where we created something, that was a need, and we allowed individuals with priorities to get in the way. This is a project that runs itself, has considered all the possibilities and like I said it's a win-win situation, so I would like to say that I support this project whole-heartedly and believe that it is a, not only a need but a necessity. It's like air, it's like water. Individuals deserve independence. Individuals, we are defined ourselves by jobs. My name is Frank and I work for Hope Services. So the point, where you live, being able to tell somebody "Hey, come over to my place. This is where I live." "This isn't where my parents live." That's the important thing and I just wanted to say thank you all for coming here and I really support this project.

28. Patricia Stevenson

My name is Patricia Stevenson and I live at the Pillar Ridge Park. I have concerns that are of opposition; there is one thing to be thought about with the project. I have been there over eight years, the traffic is bad already, the road is dangerous and I was wondering what kind of things are going to be done to improve the situation. Like walking down Airport Road, they say that the traffic isn't going to be an impact, it's going to have 800 car parking plus. I can't see how that won't impact us at the mobile home park. Cars come and they go past the park 50-60 miles an hour and I don't know if they realize, we can't see them when we are exiting the park very well. One of the things I want to talk about that's already been mentioned tonight, I feel guilty almost, speaking my concerns, because I'm not against the living facility as much as I am concerned about the mere fact that the office park is going to be to us, pollution, loss of privacy, things like that. I understand that

you'll have transportation for the live-in facility but that doesn't help us with the impact of dangerous roads. What kinds of groups are interested? Do we have anybody lined up to rent the facility? These are things that I am curious about. And the habitat behind the housing center, mostly the business center, parking lot, are they going to be throwing trash and hanging out there and things like that. I feel everybody thinks that I have negative comments and I really don't. I just want you to consider the impact that it will have on us. As Lisa said, I don't really feel that the low-income housing is feasible in this situation. I don't know if you realize that we pay over \$1,000 per month just to keep our homes there, not to mention our mortgages. And mostly I just want to know what is going to be done for us to make sure that our situation isn't worsened.

29. Merrill Bobele

I'm Merrill Bobele and I'm a parent of an adult developmentally disabled daughter and I've lived in El Granada for over 32 years. So trump that, all because if anybody really knows about what parents face, when they have a developmentally disabled child, it's the parents. And I do have some experience. I'm a retired teacher, former board member for the Golden Gate Regional Center, which provides services to the developmentally disabled. And I also have experience in working with these age groups in job placement and job development and a good familiarity with a lot of the existing programs. I am a little late in coming tonight because, one thing is that we are parents for life and I had another meeting to attend and that was in Marin County where my daughter resides. My point is that this is a lifetime position. 32 years ago there were not the programs that are even here today, such as Hope Services. Now I do want to direct, and not taking the position that she is really against the Big Wave project, that I think that it's a very good project. I have seen similar ventures in other parts of the United States, as well as a couple of other countries and so it is not that I am not knowledgeable but I do have a lot of concerns. But I think I'll have to look at a couple of issues. I heard the statement that this would be self-sustaining, that there would be no government money.

All the potential residents of the Big Wave are clients of the Regional Center and of course the Golden Gate Regional Center is one of 21 regional centers in the state of California, part of the Lanterman Act and it is totally federal and state funded. Now it seems to me that has something to do with government and there is no way that some of the clients are not going to need some of these services. Of course, there are residential programs; there are day programs, there are independent living programs that include placing the developmentally disabled into apartments with support help. These are all good models as well. What I really want to say is that there are alternatives to a development which, they say totally self-contained community that's separate from the rest of the community. When, in fact, there are other programs that integrate the developmentally disabled into

the community. So there are choices.

We also know that I've heard some of the families say that they would like their child to develop as other children do. Go out and live independently, we all have those wishes. I won't say that we all because some people will keep their children at home and very close to them until they age. So I understand those kind of concerns, they are real concerns. But we are not always doing the best favor for our children to put them in a situation where they are isolated and of course, when we are gone, there won't be that same connection that was the reason for putting them so close, in their home. As far as the Big Wave operating itself, I think anyone who has any experience in this field knows that none of these organizations run themselves. I actually pretty much don't understand that. And I'll probably end just on that idea.

30. Betsy del Fierro

Good Evening. I'm Betsy del Fierro and I live in Half Moon Bay. We employ a young person who is developmentally special. Actually it's Claudia's son. I also have a nephew who is developmentally special. These people are wonderful blessings in my life. Many, many, if not most all of you up here will agree with that. That if you have been touched personally by one of these people, your life is instantly better. So what I would like to tell you all is that the benefits are obvious they are going to directly benefit the individuals. They will benefit the community. They'll benefit all of us, businesses as well. I think this is going to set our community on the map in a huge way and it's a good thing it's called "Big Wave" because we are going to make a BIG wave all over the world! And I think we should stand on top of a mountain and shout it out when it is finally completed. This is a seed of compassion that is planted in our hearts and is growing in our community. It's going to be an example that we are setting for our young people. Our children will look at this and they are going to go out and they are going to do similar things in their lives. So everybody, talk to your friends and your neighbors and your family and shout it out and talk Big Wave!

31. James Wadleigh

Hi, my name is James Wadleigh I live at 406 Kehoe Avenue in Half Moon Bay. I work for the San Mateo County Airport. I'm not here to speak for the County, I'm not here to speak for the airport, I'm here as an individual. I just want to share a few of my worries and concerns and also tell you why this project hits home for me. So first, my concerns, I don't see any pictures here of the airport, you know the development is about 300 to 400 feet away from the runway, which I don't think is, you couldn't get any closer. And I worry for the folks that are going to be impacted by the single noise events. And it is going to make it difficult to relax. We don't usually have concerns about

commercial development because it's usually the residential that threaten the airport. I get noise complaints from homes over a mile away or even more and here again we have development right next to our runway or run area. And I didn't know if anybody was aware of that, but hopefully the folks will utilize this area are aviation lovers and aviation supporters. That's why I'm here. I'm really looking for those folks because this, like I said, this project really hits home. I have an older brother who is developmentally disabled. He lives with my folks back home in Houston Texas and you know, to see a development like this, it really makes me smile. So again, I just, you know, I worry for the folks that are there. I hope they have a relaxing place to go. I'm worried about the airport. I'm not speaking for anybody, just based on my experiences. There are going to be a lot of obstacles for this development, zoning, land uses, etc. Once we get past all that, hopefully we can support each other and I'll be happy to setup airport events.

32. Marty Phelps

Hi, I'm Marty Phelps and I live at 307 County Road, Woodside, actually I call it Kings Mountain. Kings Mountain is part of this wonderful coast side community. And I say that with a lot of pride because this community is extremely compassionate. About twenty some odd years ago, we were blessed to be able to move across the street and live right across the street from Patrick Winnen. And Pat Winnen is a good friend of mine. He is part of my family. As a neighbor and as a friend and a part of our family, our schools, he came out to the elementary school and it was a blessing to have Patrick as a member of the school as well as Half Moon Bay High School in 2002. I don't think there is another community in this world that is as gracious, this community. Patrick, everywhere I go, Patrick, I feel like he is the most popular guy in town. And just the thought of having an establishment like this Big Wave, oh by the way, I am the surf coach at the high school. I love that name "Big Wave". But anyways, it just makes me extremely proud, being a coast side resident to look at how a project like this could go through. Anyways, that being said just go out and shout "Big Wave" and give it a lot of support.

33. Paul Perkovic

Hi, good evening, my name is Paul Perkovic. I live in Montara. It sounds like a great concept and obviously all of you are very enthusiastic in seeing this come to fruition. I think it is very important in the environmental document, that alternative locations are considered because if this particular location runs into difficulties. Some of the airport issues were just mentioned, some of the zoning issues were mentioned; it could be tied up for a significant amount of time. And if the environmental documents can identify another suitable location that is already zoned for residential, for affordable housing, for office uses, it may in the long run, be to your advantage to move to a different location where you can have the facility constructed in the near-term instead of having a

very lengthy process it goes through, appeals to the Coast Commission's possible adding additional cost to the project. So I just think that that is an important thing that should be considered as part of the environmental review.

34. Tom Borden

My name is Tom Borden. I want to go on record in support of this. I am an interested party. A personal interest is a guy by the name of Mark Williams, he is MaryLou's son. We are actually the other house on Furtado Lane that Mark can actually get into, in the entire neighborhood. I can tell you that just that little piece of personal freedom that he has to be able to go around the block and just pull up to our house and come up to our front door, has made an enormous impact, not just on him, but on us. So to have something like this, which would give these people a huge amount of personal freedom and personal responsibility is not something that we are giving them; that is something that they deserve, it's a right that they have as human beings. So I will just say that we are a community, and communities don't live in vacuums. So these people need and deserve, and it is our obligation, to give them something like this. They live in our community and to just ignore it because of any personal interest you may have about the environment or economics or your own personal situation, those are important; but first and foremost is an obligation we have to the people that live here. So I just want to say that I support it.

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SUMMARY OF COMMENTS	Project Description	Aesthetics	Air Quality	Biological Resources	Cultural Resources	Geology / Soils	Hazards / Hazardous Materials	Hydrology / Water Quality	Land Use / Planning	Noise	Population / Housing	Public Services	Recreation	Transportation / Traffic	Utilities / Service Systems	Construction Impacts	Alternatives	Other	NOTES
City/County Association of Governments of San Mateo County Airport Land Use Committee David F Carbone, C/CAG Staff 555 County Center 5 th floor Redwood City, CA 94063 (650) 363-4417																			Concerned with the noise levels of the Half Moon Bay Airport and its proximity to the residential area. Area needs to be better evaluated or studied.
Granda Sanitary District of San Mateo County Chuck Duffy, General Manager 504 Avenue Alhambra 3 rd floor P.O. Box 335 El Granda, CA 94018																			Granada Sanitary District (GSD) was primary jurisdiction over the proposed Project. GSD has jurisdiction over garbage collection, disposal and recycling services. Comments on Facilities Plan in regards to wastewater treatment, recycling, permits and infrastructure.
LAFCO Martha Poyatos, Executive Officer 445 County Center, 2 nd Floor Redwood City, CA 94063 (650) 363-4224																			The Project is not within the boundaries or sphere of influence of Montara Water and Sanitary District and is not eligible for annexation. Commenter says under CEQA responsible agency need to address population, land use issues, water supply, agricultural lands ect. In the Environmental document.
Department of Transportation Lisa Carboni, District Branch Chief 111 Grand Avenue																			Within Facilities Plan Appendix 7.1 was not included. The intersections at Stale Route (SR) 1 with Capistrano Road/Alhambra Avenue, and SR I/Cypress Avenue should be included in the TIS as study intersection.

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PO Box 23660 Oakland, CA 94623 (510) 622-1644																			
United States Department of the Interior Fish and Wildlife Service Christopher D. Nagano, Deputy Assistant Field Supervisor 2800 Cottage Way Room W-2605			•																Concerned about the potential effects of the Project on California Red-legged Frog and San Francisco garter snake, marbled murrelet, western snowy plover, Southern Sea Otter and Myrtle's silverspot butterfly. These animals and their habitat are protected under Section 9 Act, collecting and hunting, death or injury. The proposed Project site area is located adjacent to and within suitable habitat for the red-legged frog and garter snake near Pillar Point Marsh and the mouth of Denniston Creek. An increased in human contact could affect these animals.
Private Individuals and Organizations																			
Peninsula Open Space Trust Walter T. Moore, Executive Vice President 222 High St. Palo Alto, CA 94301 (650)854-7696													•						Big Wave map published on Coastsider.com show Big Wave trails connecting to Peninsula Open Space Trust land. The trail does not connect and most likely will never connect.
Sierra Club, Loma Prieta Chapter Merrill Bobele, Chair 3921 E. Bayshore Road											•			•					Availability of drinking water. Impacts of releasing effluent in the Pillar Point Harbor. Daily trips of 2,000 – 4,000 for driving is to many for the 50 DD

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Palo Alto, CA 94303 (650) 390-8411																			persons who do not drive. Availability of affordability housing as “low cost affordable housing” and “very low income.”
Robert F. Brown robertbrown@comcast.net		•				•	•	•							•				The Project would eliminate view of the bluffs of Pillar Ridge, wetlands and Princeton Harbor. Concerned with location and the safe since the proposed Project is located in a tsunami floodplain and on top on an active earthquake fault. Runoff from parking lots would contaminate the sensitive wetlands with oils and chemicals. Does not believe that desalination plant will work and is concerned with where the water will come from.
Carol Guion oceanatsanlucas@yahoo.com														•					Impact of traffic on the highway.
Families for Adults Living with Autism Kim Andersen-Ashburn, Founder, President 5109 Impala Run Place Antelope, CA 95843 (916) 721-3814																		•	Opposes the proposed Project. 3 emails
David Vespremi vespremi@earthlink.net																		•	Project would cause traffic on Highway 1. Believes there are better location for the proposed Project.
Pete Fingerhut				•															Coastlines, habitats, and wetlands would be destroyed.

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fingerhut@gmail.com (650) 922 -3205																			The proposed project cannot be supported by the local infrastructure ect, water supply and roads.
John and Marilyn LeGette 854 San Ramon Ave Moss Beach, Ca														•					The proposed Project would cause a large increase in traffic on Airport, affecting the community of Seal Cove.
Howard Perry Carr Jr. PO Box 306 Moss Beach, CA. 94038														•					The proposed Project would cause an increase in traffic. Suggest adding another entrance through the back of the airport to the area.
Ari Etheridge ari_urakubo@yahoo.com														•					Inadequate access to and from project site causing traffic problems. The access to highway one is limited by Cypress Avenue in the north and through Princeton in the south. Construction would cause an increase in Traffic.
Jack Sutton 123 Bonita St. Moss Beach, Ca 94038			•											•					Habitat and wildlife in the area of Pillar Point marsh and Harbor area would be affected. Inadequate access to and from project site causing traffic problems. Traffic in the Half Moon Bay area and in particular highway 1 and the Pillar Point Harbor would increase as well as Cypress. The estimated 2,000-4,000 car trips will generate traffic and more pollution. Weekend traffic is currently bad.
Laslo Vespremi (650) 302-0894														•					Mitigation measures are need for weekend traffic. Suggest making Highway 1 four lanes.
Michael Lamirande projectsixfivezero@hotmail.com														•					The proposed Project would cause an increase in traffic.

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Curtis F. & Mary L. Parker 846 San Ramon Ave. Moss Beach, CA, 94038														•					The proposed Project would cause an increase in traffic. Traffic congestion would occur on Airport Street and Highway 1.
Gordon and Ursula Staben PO Box 370976 Montara, CA 94037														•					The proposed Project would cause an increase in traffic. Concerned with sewer capacity and where the water is coming from.
Rick Harding 790 High Street Palo Alto, CA 94301																		•	Suggest that the EIR should include a Feasibility Study, which should include economic viability of the proposed Project.
Elizabeth Daly-Caffell PO Box 515 171 Madrone Ave. Moss Beach, CA 94038														•					The proposed Project would cause an increase in traffic. There is no direct access to Highway 1, therefore traffic must go through the harbor warehouse area, or through the residential area of Seal Cove. There are no sidewalks on Airport Boulevard.
Penelope Floor and Karl Young Moss Beach		•												•					Habitat and wildlife in the area will be endangered. Princeton and Moss Beach will be effected by an increase in traffic.
Cid Young 180 San Lucas Avenue 650-728-9271							•							•					Better evaluation of evacuated in the event of a natural emergency such as E/Q or Tsunami for the people at the proposed project site. The proposed Project would cause an increase on Airport Blvd. There are not bike lanes or sidewalks on Airport Blvd. Over all infrastructure is lacking for the proposed Project.
Susan Christine														•					The proposed Project would cause an increase in traffic along the

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PO Box 370146 Montara, CA 94037 (650) 728-1735																			Highway.
James Larimer, Ph.D. 569 Alto Avenue Half Moon Bay, CA 94019 (650) 678-0658																			Personal View of the Big Wave Project.
Lincoln Wallace lsw@i.frys.com														<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 				The proposed Project would cause an increase in traffic on Cyprus at Highway 1 as the commercial traffic route for all the harbor commercial properties. Concerned with where the water for the proposed Project is coming from.
Pamm Higgins 256 Delmonte Road El Granda, CA																	<ul style="list-style-type: none"> • 		Opposes the proposed Project. Location is an issue.
Laura Burtness PO Box 795 Moss Beach, CA 94038 (650) 728-3755														<ul style="list-style-type: none"> • 					Concerned with the desalination plant and the well in the area do not provided enough water.
Terry Gossett Moss Beach (650) 563-9508														<ul style="list-style-type: none"> • 					Infrastructure improvements are needed.

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Louise Lazzari														•	•				The proposed Project would cause an increase in traffic on Airport Road and the entire Princeton and Pilar Ridge communities. Lack of water for the proposed Project.
Nadia Bledsoe Popyack 919 Ocean Blvd. Moss Beach, CA														•	•				The proposed Project would cause an increase in traffic. Lack of water and infrastructure for the proposed Project.
Joel A. Colletti							•							•					The proposed Project could be dangerous because it lies under the flight path for aircrafts, The proposed Project would cause an increase in traffic on Highway 1.
Darin Boville PO Box 370120 Montara, CA 94037														•					Concerned with how close the proposed Project to a fault and its location in a Tsunami and flood zone. The proposed Project location next to the airport is a concern due to noise from aircraft. The proposed Project would cause an increase in traffic on Princeton Harbor until Airport Road. Traffic problems may also occur on Cypress Avenue. There maybe a lack of parking spaces and once built there will be no additional land to build parking on.
Cathy Mullin 66 Precita Ave. Moss Beach, CA			•				•							•					Concerned that the proposed Project will effect the surrounding environment. Concerned with the fault line near the proposed Project. The proposed Project would cause an increase in traffic. Airport Blvd.

**BIG WAVE WELLNESS CENTER AND OFFICE PARK PROJECT
 COMMENTS RECEIVED AFTER THE NOP 30-DAY PUBLIC REVIEW PERIOD, PROJECT REFERRAL, AND ON THE
 DRAFT FACILITIES PLAN**

SUMMARY OF COMMENTS	Project Description	Aesthetics	Air Quality	Biological Resources	Cultural Resources	Geology / Soils	Hazards / Hazardous Materials	Hydrology / Water Quality	Land Use / Planning	Noise	Population / Housing	Public Services	Recreation	Transportation / Traffic	Utilities / Service Systems	Construction Impacts	Alternatives	Other	NOTES
Yvonne Bedor PO Box 873 El Grande, CA 94018 Lannie																			does not have sidewalks.
Carl and Mary Peterson 116 Los Banos Avenue Moss Beach, CA																			The proposed Project would cause an increase in traffic.
Steve Skinner (650) 743-5237																			The proposed Project would cause an increase in traffic on highway 1, Airport Street, Cypress Avenue There is a lack of infrastructure for the proposed Project. Proposed Project is too close to protected wetlands. The current infrastructure (roads & water) in the area will not support such a large project.
Thomas Griglock 730 Avenue Balboa PO Box 1478 El Granada, CA 94018 (650) 712-8345																			The current infrastructure (roads, water, sewage, and police/fire) in the area will not support the project. Upgrades would need to be done.
Tom Moore																			The proposed Project would ruin the mobile home park views. Concerned that the proposed Project is paving over wetlands There is a lot of traffic on Highway 1
Midcoast Community Council																			Proposed Project would effect views of the ocean from Highway 1

**BIG WAVE WELLNESS CENTER AND OFFICE PARK PROJECT
COMMENTS RECEIVED AFTER THE NOP 30-DAY PUBLIC REVIEW PERIOD, PROJECT REFERRAL, AND ON THE
DRAFT FACILITIES PLAN**

SUMMARY OF COMMENTS	Project Description	Aesthetics	Air Quality	Biological Resources	Cultural Resources	Geology / Soils	Hazards / Hazardous Materials	Hydrology / Water Quality	Land Use / Planning	Noise	Population / Housing	Public Services	Recreation	Transportation / Traffic	Utilities / Service Systems	Construction Impacts	Alternatives	Other	NOTES
Deborah Lardie																			The proposed Project does not follow zoning regulation 65665.7 stating structures should be in harmony with shape, size and scale of adjacent builds
Pillar Ridge Homeowners Association Lisa Ketcham, President 175 Culebra Ln. Moss Beach, CA 94038 (650) 728-2756																			Sidewalks need to be put in along the road. The office park would generate traffic from outside the area. Devils Slide (Tunnel) and Highway 92 would have an increase in traffic. If there is additional parking need after the project is built there is no where to expand. Evacuation route Airport Blvd to Cypress, to Highway 1 could not handle the number of cars in an emergency. Economic data is out of date.
Samuel Herzberg sherzberg@co.sanmateo.ca.us																			Concerned about the project and waits for the release of the DEIR
Committee for Green Foothills Lennie Roberts, Legislative Advocate 339 La Cuesta Portola Valley, CA 94028 (650) 854-0449																			Concerned with the impacts on Pillar Point Marsh. Believes that the history of the project site is unclear and has not been farm land since the 1930s. He believes that over the years the site has been turned into farm land and this has a greater impact on the wetlands at the location. Recommends that the EIR include a restoration alternative that restores and preserves the wetlands.
Surfrider Foundation																			Request inclusion on the information and distribution lists for any

**BIG WAVE WELLNESS CENTER AND OFFICE PARK PROJECT
 COMMENTS RECEIVED AFTER THE NOP 30-DAY PUBLIC REVIEW PERIOD, PROJECT REFERRAL, AND ON THE
 DRAFT FACILITIES PLAN**

SUMMARY OF COMMENTS	NOTES
Sarah Corbin 809 Browns Valley Rd. Watsonville, CA 95076	communications and environmental documents pertaining to the Big Wave Wellness Center.
Linda Holmquist 110 San Lucas Ave Moss Beach, CA 94038 (650) 728-9207	The proposed Project does not fit in with the coast line and the surrounding area. Highway 1 is only 2 lanes and an increase in traffic will make it hard for people to go anywhere.
Pillar Ridge and Seal Cove Residents	The height of the proposed Project is out of scale with its surroundings organizing and does not fit in with the surrounding land uses. The view of the newly preserved bluffs would be blocked from Hwy 1. Concerns and questions water supply, saltwater intrusion, and other natural resources. Site is in the Tsunami evacuation zone. With the current residents escape routes would be inadequate with the proposed Project it would be even worse. The estimated 3,787 daily car trips would impact Hwy 1. The office building would draw traffic in from other parts of the Bay area which would impact the traffic through Devils Slide tunnel and Hwy 92. Cypress would become congested. Bicycle and pedestrian safety on Cypress and Airport through Princeton is an issue currently and would become worse. The location of the proposed Project is an issues. The site is separated from schools, grocery stores, library, community parks ect. The area

**BIG WAVE WELLNESS CENTER AND OFFICE PARK PROJECT
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Sabrina Brenna 165 La Grande Ave. Moss Beach, CA 94038														•					could be dangerous for pedestrians because there are no sidewalks or paths. Another concern with the location is how close it is to a earthquake fault and in a tsunami zone. Suggest having an economic feasibility done.
Sabrina Brenna 165 La Grande Ave. Moss Beach, CA 94038		•		•										•					Would like a traffic light to be installed at the corner of Cypress Ave and Highway 1. Suggestions for mitigation measure for office buildings deal with leases. Suggest construction limits so building cannot be delay.
Sabrina Brenna 165 La Grande Ave. Moss Beach, CA 94038		•		•										•					The height of the proposed Project is out of scale with its surroundings organizing and does not fit in with the surrounding land uses. The view of the newly preserved bluffs would be blocked from Hwy 1. The location of the proposed Project is an issues. The site is separated from schools, grocery stores, library, community parks ect. The area could be dangerous for pedestrians because there are no sidewalks or paths. Another concern with the location is how close it is to a earthquake fault and in a tsunami zone. Site is in the Tsunami evacuation zone. With the current residents escape routes would be inadequate with the proposed Project it would be even worse. The estimated 3,787 daily car trips would impact Hwy 1. The office building would draw traffic in from other parts of the Bay area which would impact the traffic through Devils Slide tunnel and Hwy 92. Cypress would become congested. Bicycle and pedestrian safety on

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Coastside Parent Action League for Special Needs Children and Adults Deby Lesser, President 50 Maria Ct Half Moon Bay CA 94019																			Cypress and Airport through Princeton is an issue currently and would become worse. Suggest having an economic feasibility done.
Lisa Ketcham																			Would like to see this EIR move along faster.
Darin Boville																			Would like to see story poles put up, so the public can see how tall the buildings will be. Has concerns about the traffic study, including when it was submitted, who requested the study, and was it approved for use in the EIR.

Fwd REGARDIN GOPPOSITION TO the Big Wave Project at Princetonharbor

>>> Andrew Berthelsen 2/6/2009 3:34 PM >>>
Camille,

You'll probably be receiving a lot of comments about Big Wave in the next week or two, MCC held a special meeting last week to discuss the proposal, and will be discussing it again at their regularly scheduled meeting this wednesday.

The attached e-mail was sent to the entire Board of Supervisors earlier today. I e-mailed Cid to let her know I'd pass it along to you.

Thanks,

Andrew Berthelsen
Legislative Aide, Sup. Rich Gordon
363-4528

Save Paper.
Think before you print.



Peninsula Open Space Trust

PROJECT FILE

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President

Audrey C. Rust

222 High Street
Palo Alto, California 94301
Tel: (650) 854-7696
Fax: (650) 854-7703
www.openspacetrust.org

February 13, 2009

Jeffrey Peck
Big Wave Group
P.O. Box 1901
El Granada, CA 94018

Dear Mr. Peck,

In my capacities as Executive Vice President at Peninsula Open Space Trust (POST), I write to comment on a Big Wave map published online at Coastsider.com on February 9, 2009.

I noticed in the Big Wave development map an inaccurate depiction of a trail connection to POST land. The trail does not currently connect to POST nor is it likely ever to connect to POST due to the steep terrain and the high unlikelihood of such a trail ever being permitted. We would appreciate having said reference to POST removed from this and future maps of your project so that this mischaracterization does not persist, or else it may be misleading to the public and to agencies that need to review and approve the plans.

POST appreciates your cooperation in this matter. Please feel free to contact me at (650) 854-7696 or wmoore@openspacetrust.org if you have any questions.

Sincerely,

Walter T. Moore
Executive Vice President

CC: Lisa Grote, Director, San Mateo County Planning and Building Department

Supervisor Richard S. Gordon, Third District San Mateo County



Big_Wave

Ms.Leung,

I live in Montara, and would like to say I am totally opposed to the Big Wave project by the Half Moon Bay Airport. The several stories high complex, with thousands of parking places paving over wetlands, ruining the views of the residents in the mobile home park, but most of all adding thousands of cars to Highway 1 which is already a parking lot during rush hours is totally inappropriate. Where are they planning on getting water from, while residents in Montara are on a moratorium on new hookups? Has the county and the coastal commission approved of paving over wetlands? Does the county care that the traffic on Highway 1 is ridiculous already, and now this project will add thousands more cars on the road, all so a developer can walk away with millions and leave the people that live here a mess?

Tom Moore

Big Wave project on San Mateo coast

Dear Ms. Leung

I am a local resident and I am absolutely opposed to the Big wave development plan. As a health care professional with years of experience with the developmentally disabled population, I'm concerned that this project will not serve their best interests. Mainstreaming and community integration have long been the goal, with ready access to needed services such as medical care and public transportation, not isolation. This is best achieved in a more urban region where these services are already in place.

Additionally, the scope and scale of the commercial project far exceeds what is appropriate and reasonable here in our community. Our current infrastructure is already strained and this additional burden cannot be incurred without significant upgrades to roads, highways, water and sewage, and police and fire. The idea of placing these multistory buildings along the scenic coast is ill conceived and unwanted. Please consider this plea to reject this entire project.

Thomas Griglock
730 Avenue Balboa
PO Box 1478
El Granada, CA 94018-1478
650-712-8345

Fwd Support for Big Wave Project

>>> "Terrence Gossett" <texterry@pacbell.net> 2/7/2009 8:17 AM >>>
Dear Ms Camille Leung,

Thank you for all that you are doing to ensure that the processes around the Big Wave Project are proceeding. In my opinion, our coastal community needs many infrastructure improvements, but the needs of our people are foremost. For some of our people it is difficult to be heard. That is why I support an effort like Big Wave. I fully expect that our community will be afforded opportunities to make inputs as you have provided in the past, and I hope that our inputs are constructive in providing a viable and uplifting facility.

Thank you,

Terry Gossett
Moss Beach
650-563-9508

Fwd Is Clogging Up the Coastside a Smart Move for San Mateo County

>>> "catmother8@sbc" <catmother8@sbcglobal.net> 2/16/2009 9:05 AM >>>
Dear Planning Manager Leung

It is in the nature of a good professional planner to also be a visionary, with the ability to look beyond the noise made by a few in the present, towards the needs of the whole in the future.

Our Coastside is a Precious Jewel, not only for those of us who have chosen to live here in relative inconvenience and isolation, but to the rest of the people of San Mateo County, California, the United States of America, and all the countries of the world.

I meet people - ON A DAILY BASIS! - from around our state, country and world, who marvel at the beauty and ACCESSIBILITY of our little San Mateo County Coast, its beaches, hiking trails and lovely little businesses and restaurants. They tell me how wonderful their experience is to find such a place. They take back with them a memory that is often the unexpected high point of their vacation. And, they spend money and tell others what a great place this part of the California coast is for a vacation.

I simply don't understand what purpose the Big wave serves in the larger scheme of things, other than to put more money into the developers' pockets. My own first cousin, Joan, has Downs Syndrome, a developmental disability. She utilizes a sheltered workshop situation and it seems to have improved the quality of her life. But, such work areas are best situated into, and spread out among, the larger community, so that the DD person can have the experience of MAINSTREAMING INTO the larger community, and NOT BE SET APART in a living/working/shopping area that will further emphasize their differences. It has long been understood in the field of human services that DD people, for their own happiness and fulfillment, should be integrated into the community as much as possible, not separated into concentrated communities consisting mainly of themselves.

Who are the developers really thinking of here? Not the DD people, who would be, essentially, institutionalized with decreased ability to share in the life of the greater Peninsula and Bay Area communities. Not the accessibility of other San Mateo county residents to the Coastside. Not the people of the Coastside who need to get to and from work each day. Not the safety of all Coastside residents, DD and "normal", who would find it that much more impossible to evacuate in the face of a disaster. Not the many tourists, who would eventually learn to avoid this stretch of Highway One and take their dollars instead to Santa Cruz and Monterey Counties. Not the residents of Greater San Mateo County, who look upon the Coastside, rightly, as their little place to "get away from it all" and have a few hours to a few days of accessible respite and renewal.

Please look into the future of San Mateo County. Please do not let a few greedy developers ruin one of the last best places on Earth. Please serve the citizens of, not only the Coastside, but all of San Mateo County. Please take the long view - the one that is ultimately wiser, healthier for all citizens of San Mateo County, and more socially acceptable as well. Please do not let short-sighted greed over-develop the San Mateo County coastal areas.

Respectfully submitted

Susan Christine, M.A., MFT
PO Box 370146
Montara, CA 94037

650-728-1735

Fwd Is Clogging Up the Coastside a Smart Move for San Mateo County

Big Wave Project Comments

Ms. Leung,

As a resident of the San Mateo County coastside, I'd like to offer my comments on the Big Wave project. I have a professional background in Architecture (UC Berkeley 1981) and am a former member of the Half Moon Bay Architectural Review Committee.

Please Note: The comments offered in this email are my individual opinion, and do not reflect the opinions of my employer, Alain Pinel Realtors.

Big Wave Project Comments:

I do not believe that this project should proceed in its current form. Here are my reasons:

1. The project scale is too large for the surrounding community
2. Infrastructure (roads & water) are not sized to support this size of a project.
3. There is no need or/ demand for additional commercial real estate on the coastside. I do not believe that a large corporate "anchor" tenant will see value in leasing this space.
4. The project is too close to protected wetland areas.
5. Large commercial and industrial development in/around the Pillar Point harbor should be curtailed. Harbor Village is largely unoccupied and represents a development "paradigm" that is out of context with the small-scale urban/residential fabric of the Pillar Point area.

It is my personal opinion that the Big wave "wellness Center" is a Trojan horse for the approval of the project. While I am not a health care professional, I believe that such a center would be better located in closer proximity to available services and transportation.

Please consider either denying this project approval or reducing the scale of the project to significantly limit the size and layout of the commercial office park at Big Wave.

Thank you,

Steve

Steve Skinner

Big Wave Project Comments

Vice President of Technology, Alain Pinel Realtors

sskinner@apr.com

CELL 650.743.5237

www.apr.com

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SAN MATEO COUNTY
PLANNING DIVISION



**Surfrider
Foundation**

March 18, 2009

Camille Leung
San Mateo County
455 County Center, 2nd Floor
Redwood City, CA 94063

**RE: Big Wave Wellness Center and Office Park
SCH# 2008102109**

Dear Ms. Leung,

I am writing to request inclusion on the information and distribution lists for any communications and environmental documents pertaining to the Big Wave Wellness Center and Office Park (SCH# 2008102109). Thanks for your assistance in this matter.

Sincerely,

Sarah Corbin
Central California Regional Manager
Surfrider Foundation
scorbin@surfrider.org
cell: 831 239 1520

809 Browns Valley Rd.
Watsonville, CA 95076



MEMORANDUM

SAN MATEO COUNTY PARKS AND RECREATION DIVISION

DATE: August 19, 2002
TO: Mike Schaller, Project Planner
FROM: Sam Herzberg, Senior Park Planner ~~SK~~
SUBJECT: PLN 2002-00288 Infill grading of 50,000 cubic yards on a 10-acre legal parcel in anticipation of future development

I am writing in response to your request for comments on the proposed project, which is located directly adjacent to the north of the Pillar Point Marsh. County Parks has owned the adjacent Pillar Point Marsh since 1996. The Board of Supervisors conceptually approved a Draft Master Plan for the Fitzgerald Marine Reserve, which includes the Pillar Point Marsh, June 19, 2001. An Environmental Impact Report for the Master Plan is in the process of being initiated. The Draft Master Plan calls for a number of recommended implementation actions pertaining to protection and enhancement of the Pillar Point Marsh, specifically:

- 1) Develop a Habitat Management Plan for the Red-Legged Frog.
- 2) Prepare a Water Quality Plan to improve water quality and reduce erosion.
- 3) Prepare a Vegetation Management Plan for the Reserve including the marsh.
- 4) Complete a Marsh Restoration Study.
- 5) Develop a Cultural Resources Management Plan.

County Park staff has the following comments about the proposed project:

- 1) Besides 50,000 cubic yards of grading, what is the project?
- 2) Is a water well or new septic system going to be part of this project?
- 3) Although the Local Coastal Program has determined that the minimum setback from the Marsh and other drainage's should be 100 feet County Park staff strongly encourages a setback of 200 feet where any grading is done for the following reasons:
 - a) There is a 10-foot drop in elevation from Airport Blvd. to the Marsh. Some of the fill from the project will flow into the marsh without an adequate buffer zone and Erosion Control and Revegetation Plan. Any revegetation done should be native to the area so that it does not pose a risk to the marsh's native vegetation.
 - b) Pillar Point Marsh is a resting and nesting site for 100 species of neotropical

migrating birds. For example, it is a nesting area for the Wilson's warbler, which is the only known location on the coast where this uncommon bird nests.

- c) There is a concern that erosion and toxins from this project will impact the marsh's fragile environment. What type of development this grading is going to facilitate requires clarification. For example, if the site was being prepared for a boat storage yard then a boat yard by definition is going to be a point source for fuel, paints, paint removers, and other toxins from the boat yard and the asphalt and or concrete where they will runoff from. All runoff should be contained and/ treated on site, and not steered to the street where it will enter the marsh.

In short County Parks is very concerned about how the proposed grading and the project will change the ground and surface drainage and adversely impact the marsh. More specific information is required to assess how to best avoid or mitigate any potential impacts.

Big Wave.

Camille,

I was going through some older memos evaluating projects adjacent to park lands and found this one. Is this tied to the Big Wave development, and if so how would this project if implemented have impacted the Pillar Point Marsh. I never did hear back from Mike Schaller about this proejct. Appreciate an update from whatever you can learn from Permit Plan, and talking to Mike in the context of the proposed Big Wave development. Thanks!

Sam

Untitled

Dear Supervisors,

The Big Wave Project located in Moss Beach would have a negative impact on the residents and neighborhoods of Pillar Ridge and Seal Cove.

Please read the attached letter signed by ninety-nine residents of Pillar Ridge and Seal Cove at our March joint neighborhood meeting.

We would appreciate your help addressing our concerns regarding the proposed 51.5' foot high, 323 thousand square foot development. Please read the attached letter and watch the two Big Wave Project videos below.

Thank you,

Sabrina Brennan
165 La Grande Ave.
Moss Beach, CA 94038
cell 415-816-6111

March 26, 2009

Camille Leung, Project Planner
San Mateo Co. Planning and Building Dept.
455 County Center, 2nd Floor
Redwood City, CA 94063

Re: Big Wave Facilities Plan Draft 2

Ms Leung,

The undersigned Pillar Ridge and Seal Cove residents support the comments made by the Midcoast Community Council in the letter sent to the Planning and Building Department on February 14, 2009 regarding the Big Wave Facilities Plan. We ask that the Planning and Building Department consider the following comments:

Traffic

The Facilities Plan estimates 3787 car trips per day, which would negatively impact Hwy 1. The addition of 225,000 sq. ft. of office space to the Coastside would draw commuters from other parts of the Bay Area which would have significant negative impacts on traffic through Devils Slide (tunnels) and the already congested Hwy 92.

The narrow access roads at Cypress and through Princeton would become congested with commuter traffic. We have not yet seen the full effect of Harbor Village on Capistrano Rd. traffic (known locally as the bottleneck) because the new shopping center and hotel are mostly vacant.

Pedestrian and bicycle safety on Cypress, Airport and through Princeton is already a major problem due to narrow streets, lack of sidewalks and speeding cars, particularly on Airport. Increased traffic and on-street parking overflow from the development would exacerbate the safety issues.

Emergency Evacuation

The proposed project site is in the Tsunami evacuation zone. The evacuation route is north on Airport Blvd, to Cypress Ave, to Hwy 1. Pillar Ridge, Princeton and Seal Cove residents would tax the capacity of this escape route and it would become completely inadequate with the additional number of cars evacuating the Big Wave site.

Aesthetics

The height of the proposed Office Park, at 51-1/2 feet on top of a raised grade, is completely out of scale with its surroundings. To the west of the site are preserved wetlands, and permanent open space coastal bluff. To the east are the open, sometimes farmed, fields of the airport. To the north is the one-story residential neighborhood of Pillar Ridge. To the south in Princeton, buildings do not exceed 36 feet high and most are smaller.

The view of the newly preserved bluffs would be blocked from Hwy 1. The pristine view from the beach on the harbor trail out to Mavericks, looking over the marsh toward Montara Mountain would be marred by the out-of-scale office park buildings. Views of the harbor and bay may be blocked from POST's new Pillar Point Bluff trails off Airport St. The plan to mitigate by screening the buildings with a narrow row of fast-growing trees not native to this area would not solve the problem.

We request story poles at an early point in the application process, in order for the community to accurately evaluate the effects of the unprecedented height and mass of these buildings.

Wellness Center Location

We recognize the need to provide more services for the developmentally disabled on the Coastsides and we have concerns about the appropriateness of the proposed location, which would leave them segregated from general interaction with the community. The site is separated from schools, grocery stores, library, community parks, shopping and other residential support services by the Princeton warehouse district, Hwy 1, and long distances with spartan bus service. Developmentally disabled pedestrians might be forced to negotiate loading trucks, forklifts and other industrial hazards in an area that does not have sidewalks or paths. There is the additional safety concern of being next to an earthquake fault and in a tsunami zone. The site is approximately 500 feet from the airport runway and noise may be a particular problem for these residents. The opinion of a health services expert regarding these concerns would be appreciated.

Financial Feasibility

This proposed project would double the office space on the Coastsides. Most of the commercial space in the nearby Harbor Village is currently vacant. We would like to request that an independent analysis of economic feasibility be required using updated economic data.

The residential units are designated for low income and ultra-low income people. What agency will oversee compliance with this requirement? We recommend that this information be included in an independent analysis.

Airport Overlay

The site of the proposed development is in close proximity to the Half Moon Bay Airport runway. We recommend the County take the latest FAA safety standards into consideration when reviewing the project.

Natural Resources

- No permitting agency wetland determination is included in this document and should be completed as soon as possible.
- What will be done to protect the groundwater, the Pillar Ridge water supply and Pillar Point Marsh from saltwater intrusion?
- Does this area contain archaeological sites?
- Should a project of this scale be built next to the Fitzgerald Marine Reserve an Area of Special Biological Significance (ASBS) and part of the federally protected Monterey Bay National Marine Sanctuary?

We hope a comprehensive EIR will address these issues in detail and that the County will require concrete answers prior to going forward.

Thank you for your consideration and the opportunity to comment,

Pillar Ridge and Seal Cove Residents

Signature	Name	Street, Moss Beach 94038
<u>Lisa Ketcham</u>	<u>Lisa Ketcham</u>	<u>175 Culebra</u>
<u>Baigid O'farrell</u>	<u>Baigid O'farrell</u>	<u>1001 Ocean Blvd</u>
<u>Sabrina Brennan</u>	<u>Sabrina Brennan</u>	<u>165 LaGrande Ave</u>
<u>Judy Macias</u>	<u>Judy Macias</u>	<u>871 San Ramon Ave.</u>
<u>Sam Weisberg</u>	<u>SAM WEISBERG</u>	<u>115 CULEBRA ST.</u>

Signature	Printed Name	Street, Moss Beach 94038
	Jennifer Celestre	151 Barranca Ave.
	TJ Gauthier	1001 Ocean Blvd
	Dorothy Norris	112 Codo Ave
	Ty Wood	114 Codo
	PATTI GALLINETTI	864 PARK AVE
	MARILYN HANDLER	SAN LUCAS AVE
	Steven M. Beardsley	140 Precita
	Alan Hogg	122 Bow RA.
	Susan Macdonick	55 Precita Ave
	Iris B. Rogers	149 Barnhara MB PO. Box 1587 EL Granada
	KENT ROBERTS	180 SAN LUCAS MOSS BEACH
	Carlyle A Young	180 San Lucas Ave MB
	Maria Salcedo	115 Retro LN
	STEVE HOLMQUIST	110 SAN LUCAS AVE
	Rick Harding	864 Park Ave. MB
	Letha Jupp	855 SAN RAMON AVE Moss Beach
	JAN DIDER	855 SAN RAMON AVE H.B.
	Sergio Mata	156 Culebra MOSS R.
	JOHN FLANNIGAN	170 LOS BANOS AV. M.B. 94038
	Gregory Collins	873 Ocean Bl.
	Cynthia Trujillo	1065 PARK WAY
	BRYAN TRUJILLO	1065 PARK WAY
	ELIZABETH HAWKINS	885 SAN RAMON AVE
	MAUREEN HAWKINS	PO BOX 853 150 MADRONA MB 94038
	KEVIN L. COOKE	111 DERCKO MOSS BEACH CA 94038
	Gene Lindsey	112 La Granada

Signature	Printed Name	Street, Moss Beach 94038
	Vladimir Castro	124 Barranbra
	Lenore Sacco	164 Culebra LN
	PATRICIA A. STEVENSON	123 RETIRO LN
	Elizabeth Daly Caffell	171 Madrone Ave
	MOIS MACIAS	871 San Ramon Ave
	GREG SARRAS	144 CULEBRA
	Tony DeMello	171 Culebra
	Deborah L. Wong	122 Barranca Ln.
	MICHAEL A. WONG	122 BARRANCA LN.
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	LAUREN SHUBA	110 RETIRO LN.
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	Patricia Lauritzen	834 Park Ave
	Clarke Zimm	131 La Grande

Signature	Printed Name	Street, Moss Beach 94038
	Robert A Stevenson	123 Retiro Lane
	Rebecca Clark	P.O. Box 236 / 685 Sierra St.
	Ken V.R. Clark	P.O. box 236 Moss Beach, CA
	LOUISE F LAZZARI	PO B 370515 MONTARA
	Carla Bauer	860 Linda Vista W.B.
	Pamela Eakins	847 San Ramon Moss Beach CA
	John IVAES	961 Ocean Bl
	ALICE LYMAN MILLER	50 Bernal Ave. MB
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	HOWARD BERRY (GRIE, JR.)	195 LOS BANOS AVE MB
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	Susan Broderick	816 Park Ave, M.B.
	CAROL GUION	88 SAN LUCAS MB
	Nadia B. Popoyak	919 Ocean Blvd. Moss Beach



March 26, 2009

PILLAR RIDGE & SEAL COVE: Neighborhood Meeting



Location of Airport St. Photo

Location of Highway 1 Photo

Airport Runways

Location of Maverick's Parking Lot Photo

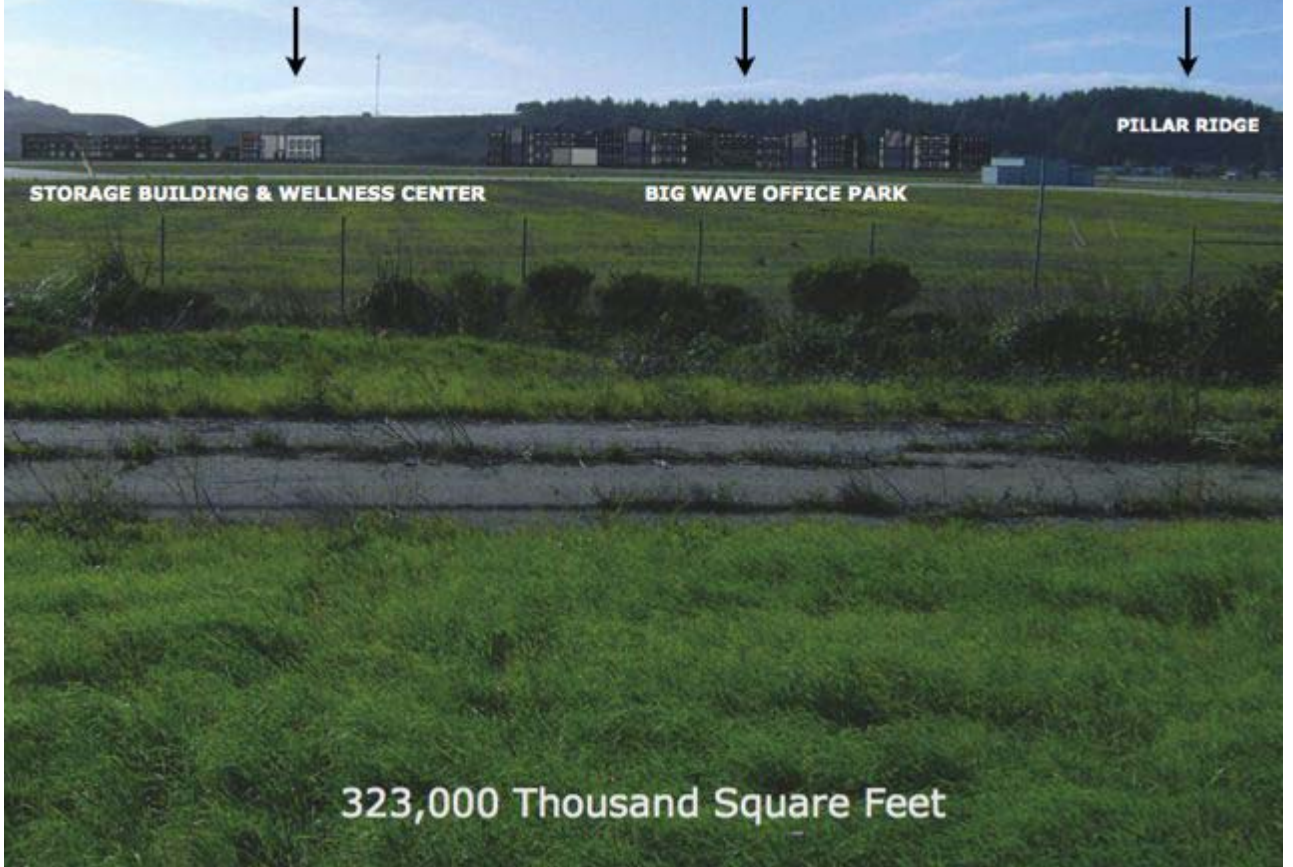
Big Wave Photo Simulation Locations

Google



Existing Airport Street

Big Wave Maximum Building Height 51-1/2 Feet



Pillar Point Bluff overlooking the proposed Big Wave Development site.

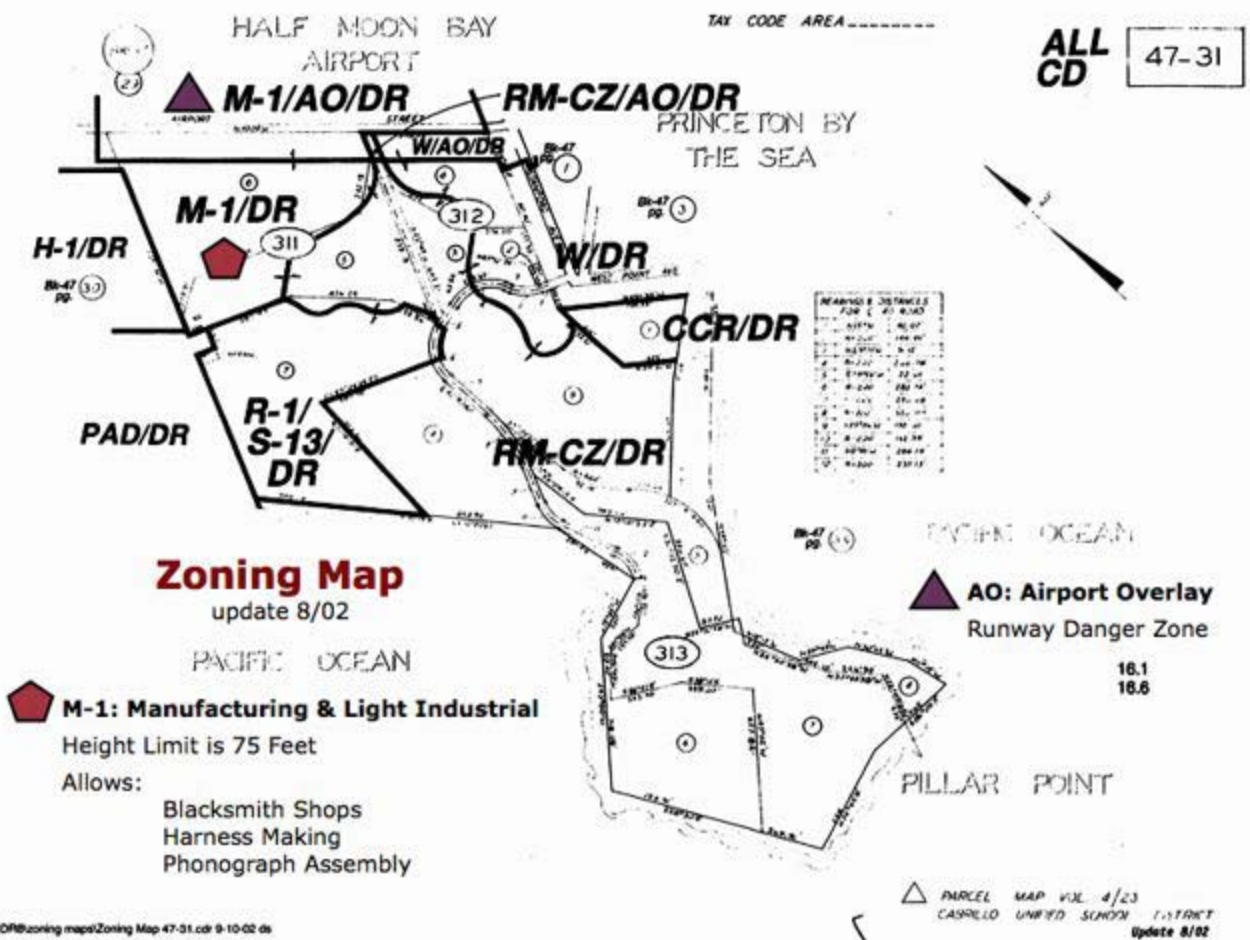
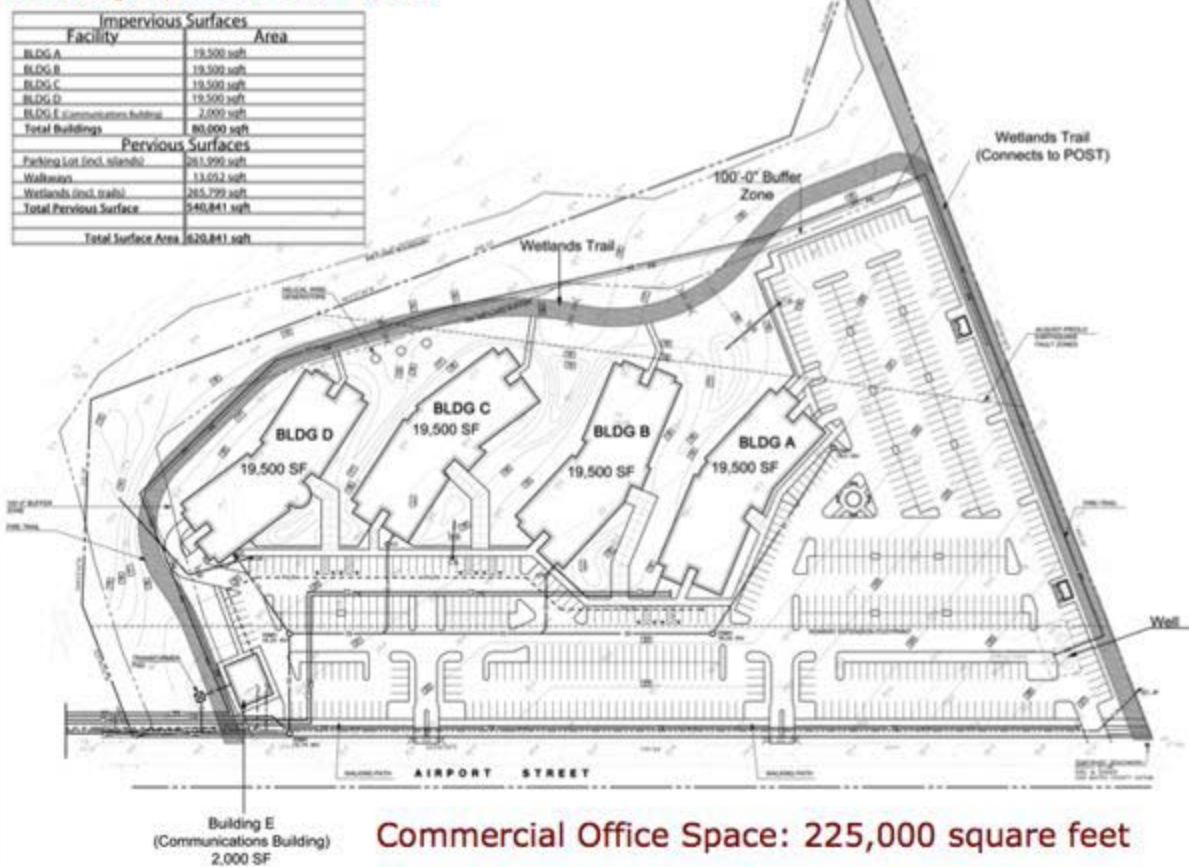
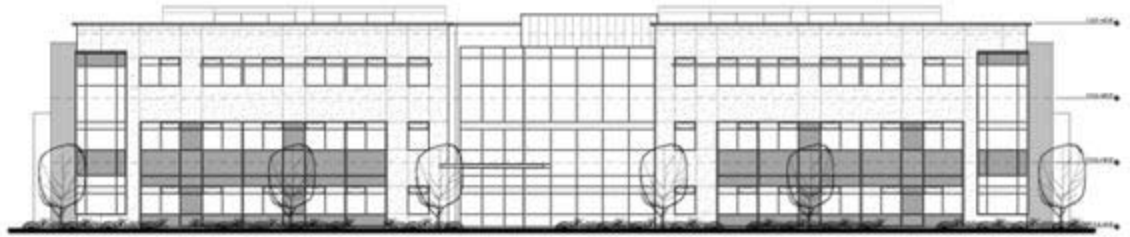


FIGURE 1.3.1: OFFICE PARK SITE PLAN
Parking Spaces: 882 - 1,552





NORTH ELEVATION

Maximum
Height

51'6"



EAST & WEST ELEVATION

51-1/2 Feet High Office Buildings



SOUTH ELEVATION

FIGURE 1.1.1: WELLNESS CENTER SITE PLAN
 facility housing 50 developmentally disabled adults and 20 staff for a total of 70 residents





Wetlands: Wellness Center Site

Ross's Cove & Pillar Point Bluff

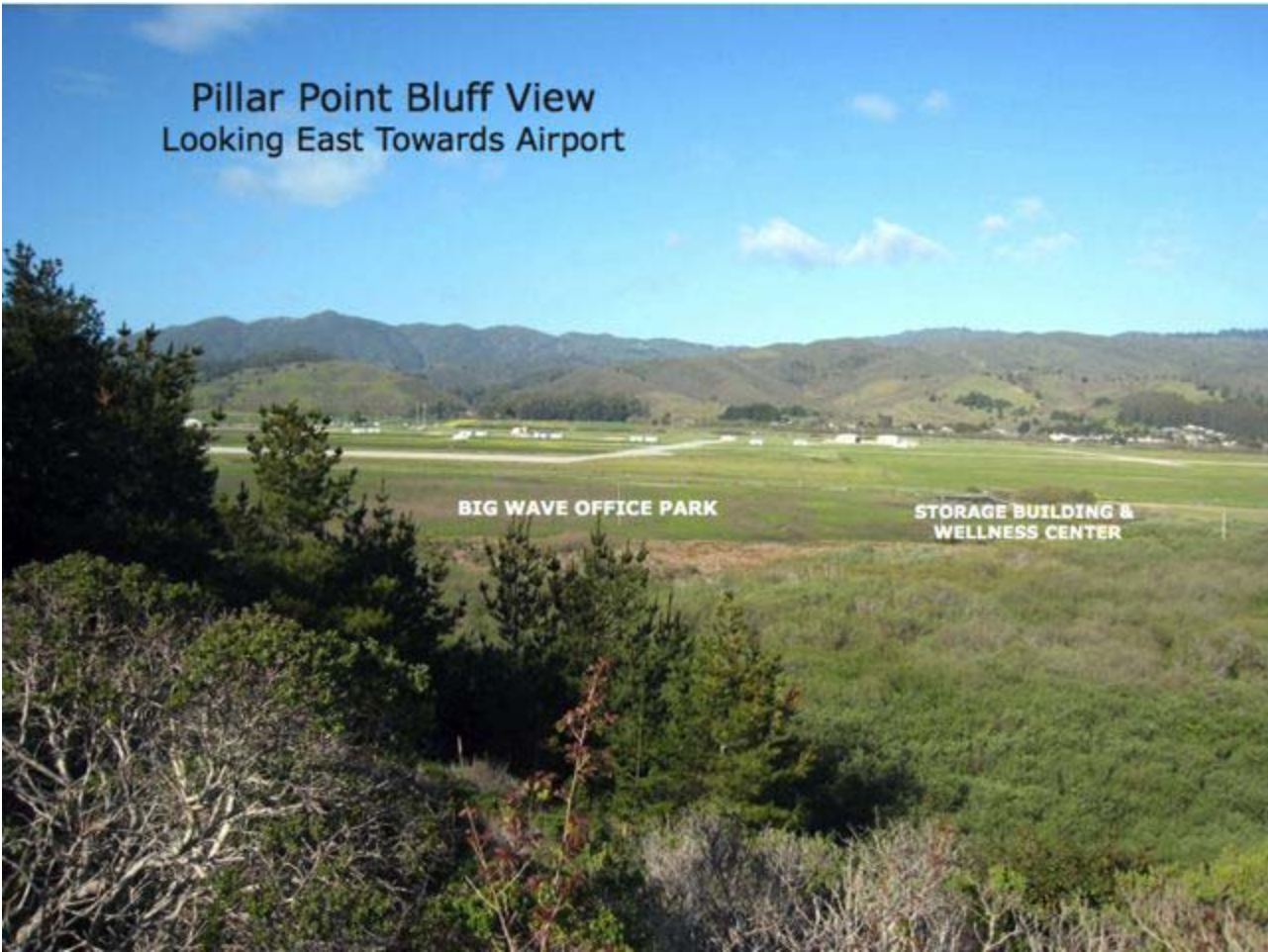


August 6, 2002



Ross's Cove overlooking Princeton

Pillar Point Bluff View
Looking East Towards Airport



BIG WAVE OFFICE PARK

**STORAGE BUILDING &
WELLNESS CENTER**



Pillar Point Bluff

Jean Lauer Trail

POST acquired this 123-acre windswept lookout in August 2004 to protect it from commercial development.



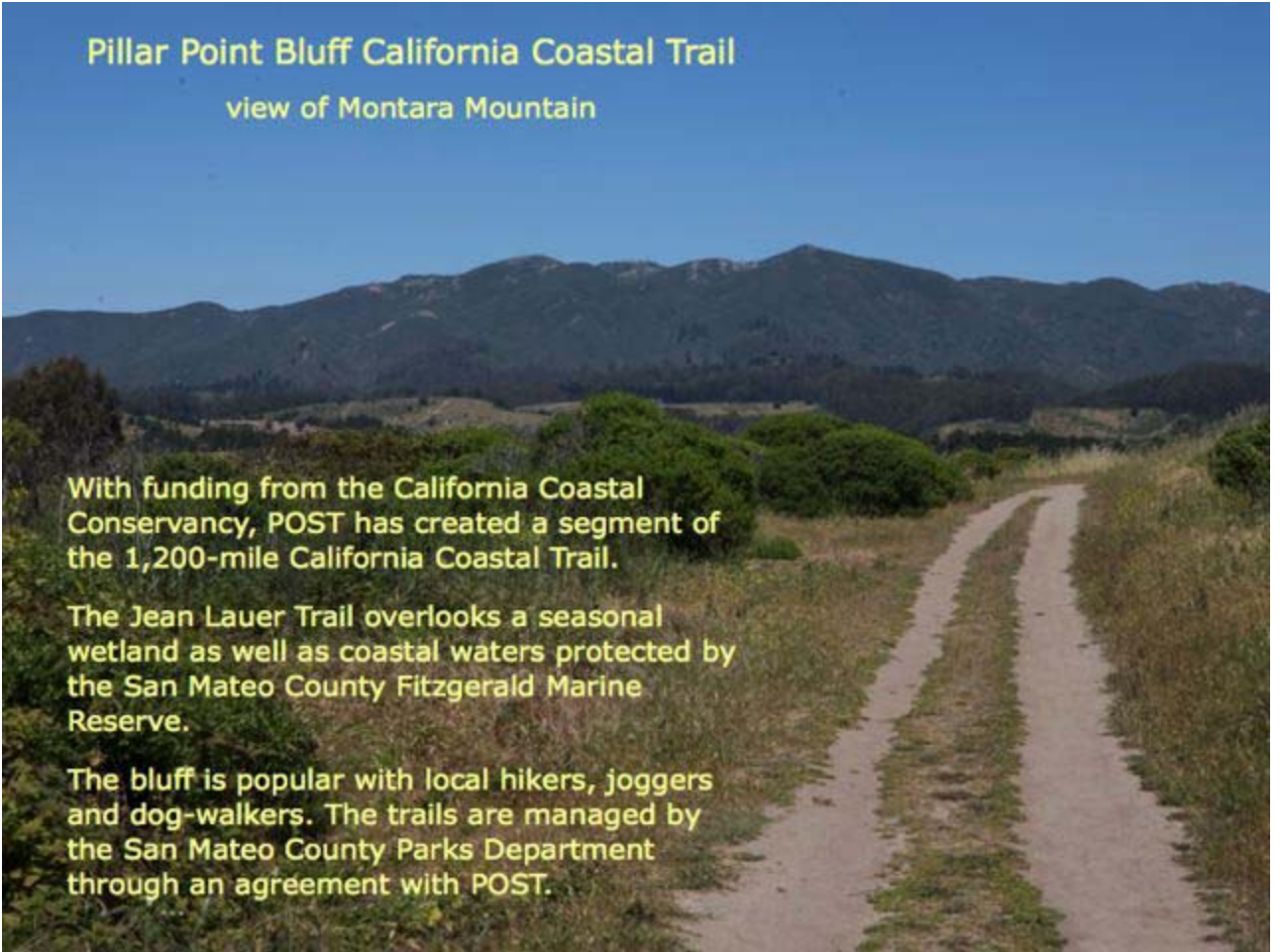
Pillar Point Bluff California Coastal Trail

view of Montara Mountain

With funding from the California Coastal Conservancy, POST has created a segment of the 1,200-mile California Coastal Trail.

The Jean Lauer Trail overlooks a seasonal wetland as well as coastal waters protected by the San Mateo County Fitzgerald Marine Reserve.

The bluff is popular with local hikers, joggers and dog-walkers. The trails are managed by the San Mateo County Parks Department through an agreement with POST.

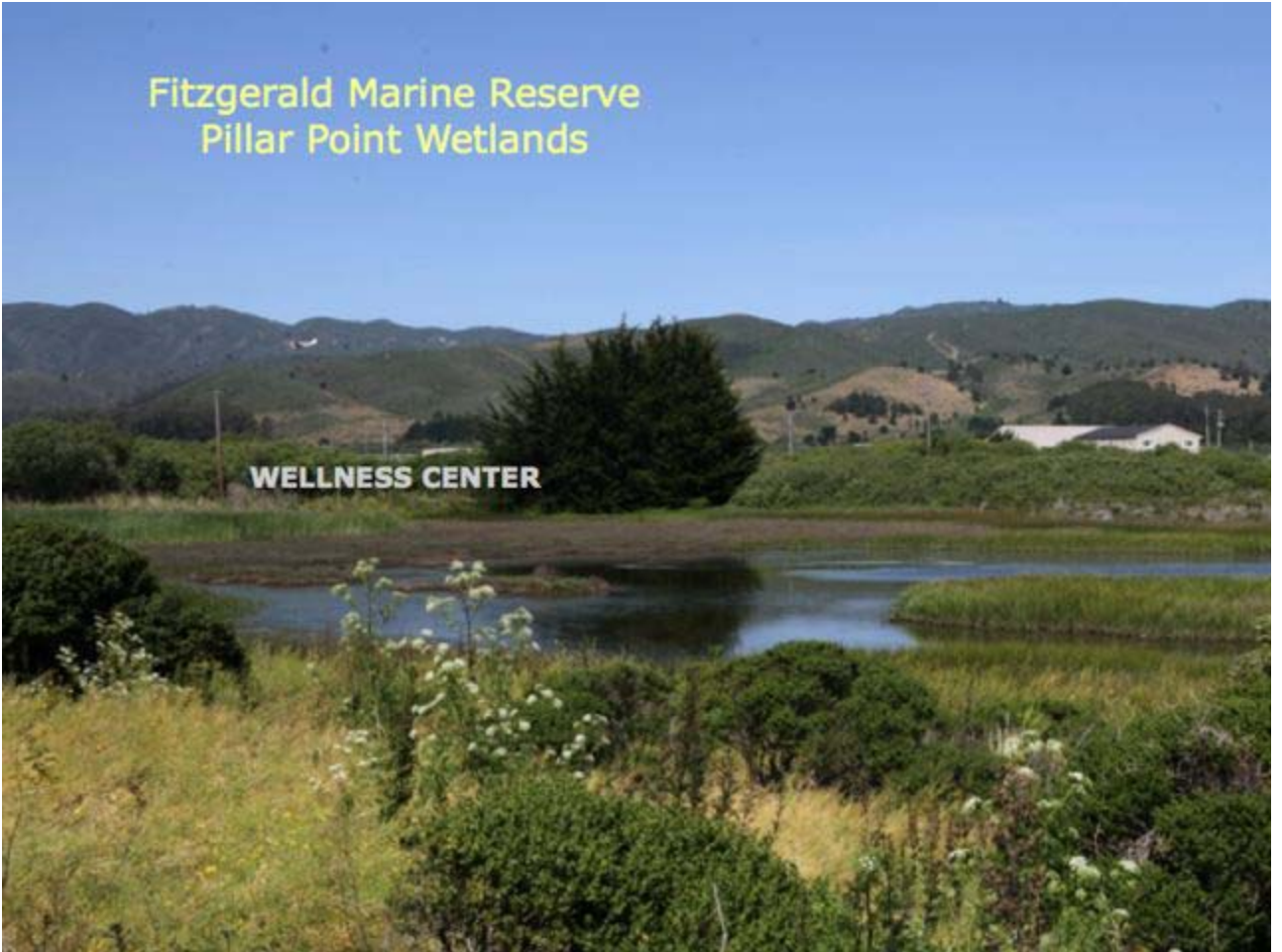


Fitzgerald Marine Reserve
Pillar Point Wetlands



Fitzgerald Marine Reserve
Pillar Point Wetlands

WELLNESS CENTER



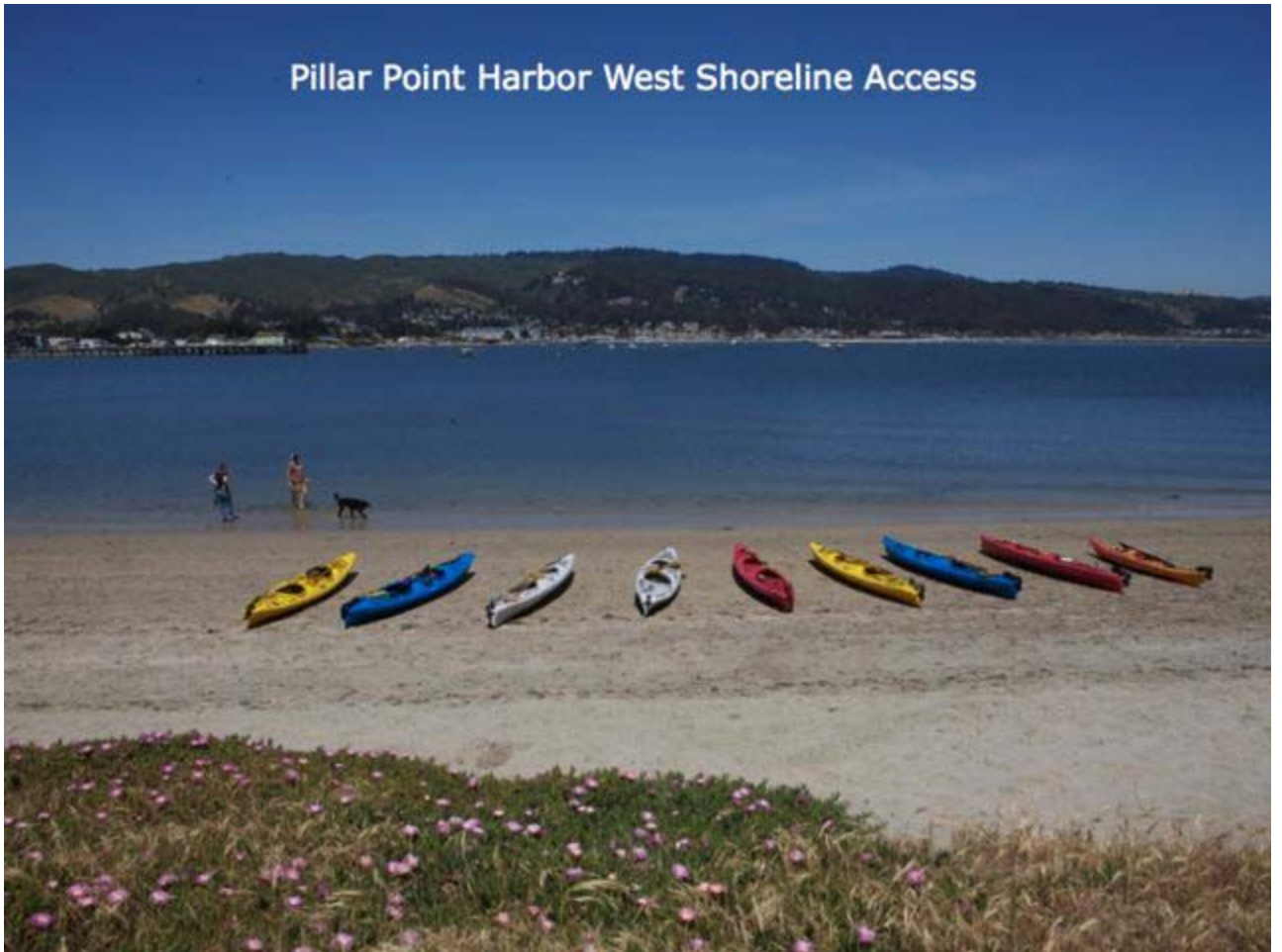
Fitzgerald Marine Reserve
Pillar Point Wetlands



OFFICE PARK

WELLNESS CENTER

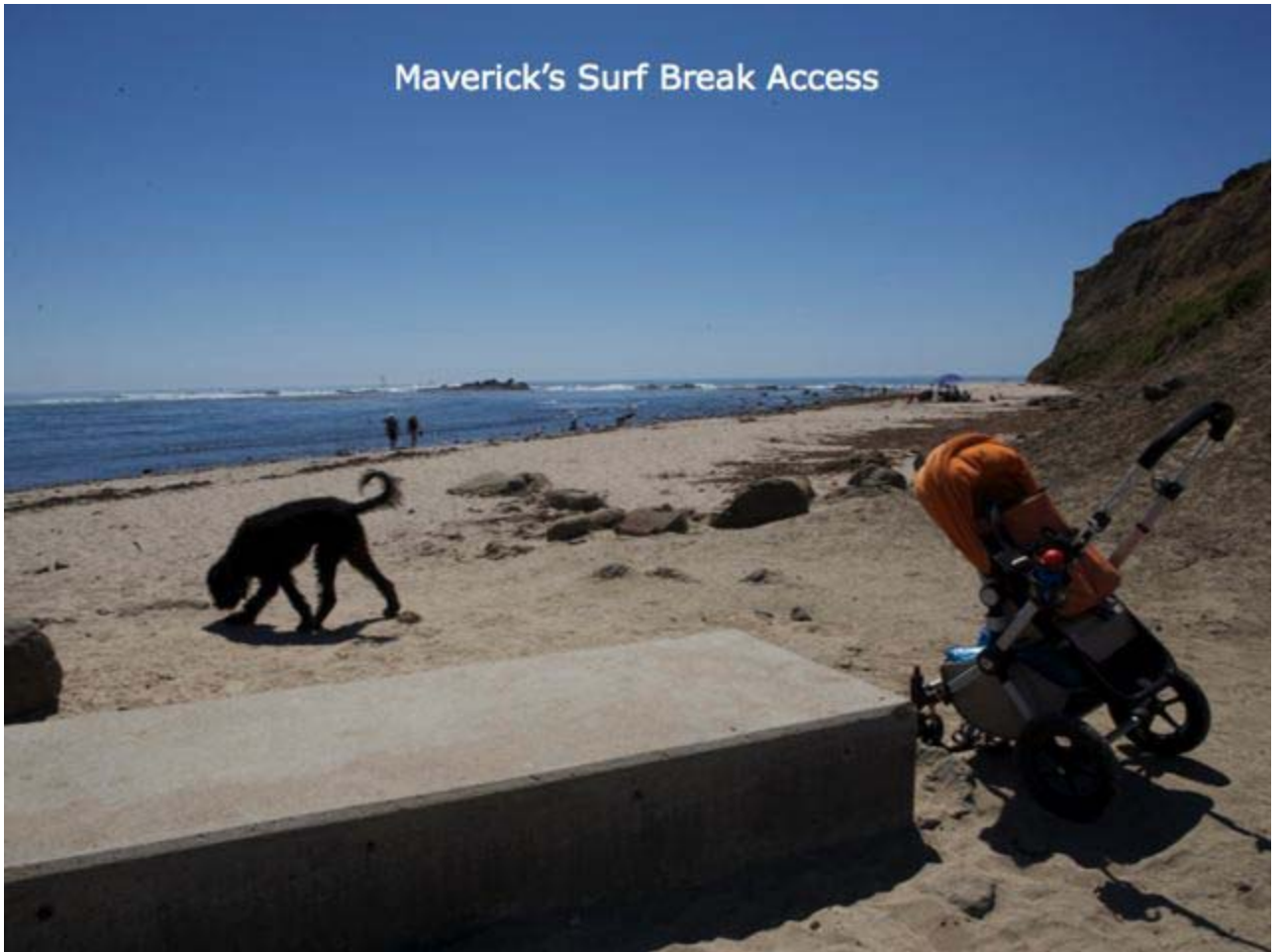
Pillar Point Harbor West Shoreline Access

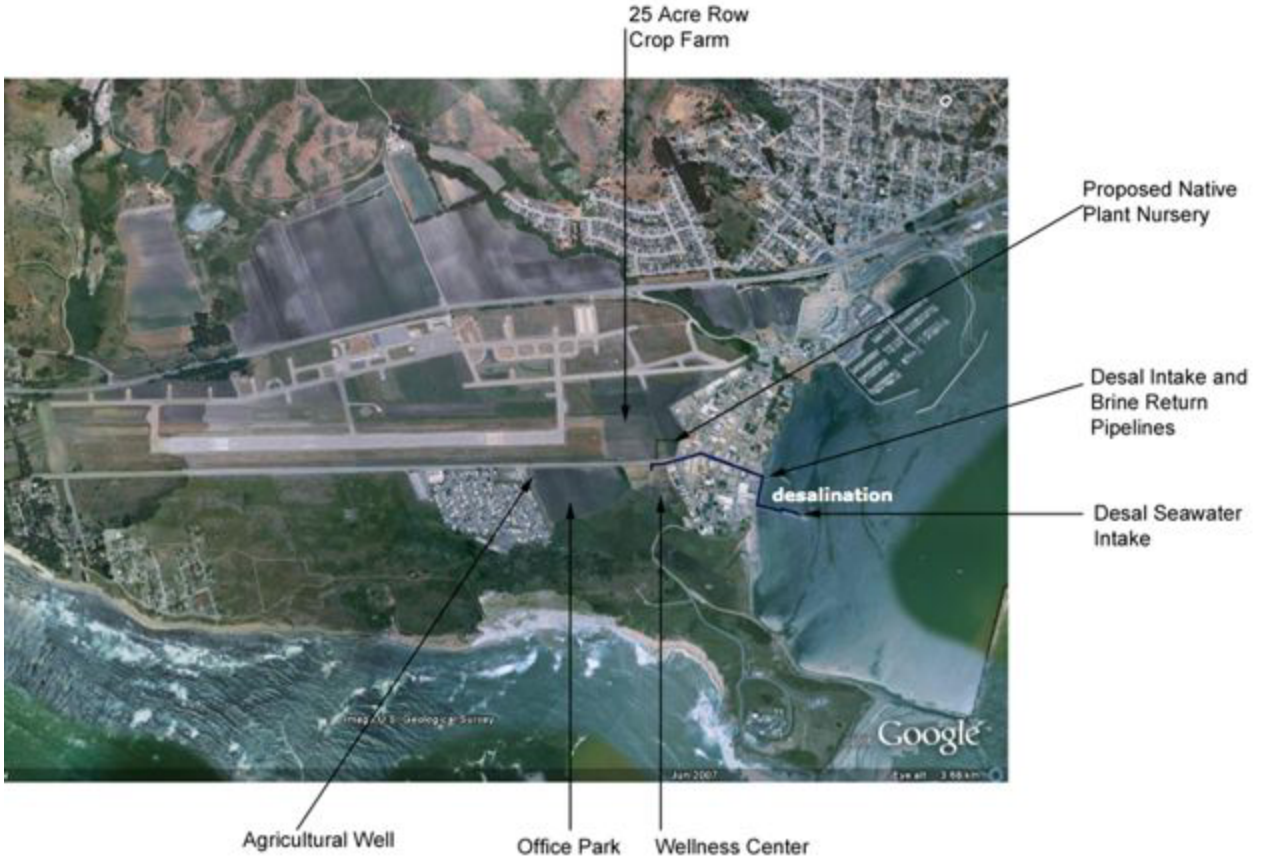


Fitzgerald Marine Reserve
Pillar Point Wetlands



Maverick's Surf Break Access

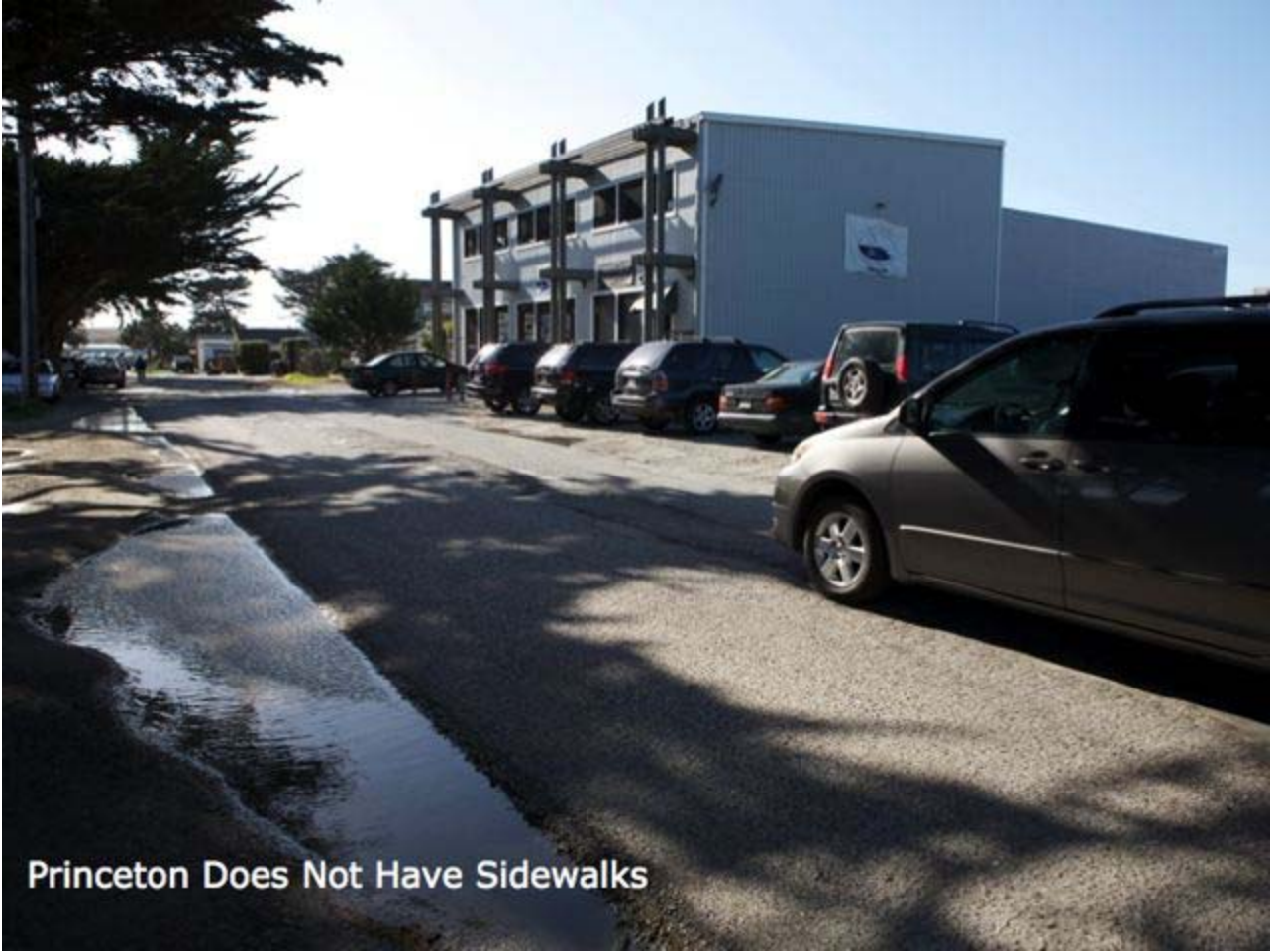




Pillar Point Bluff Overlooking
Pillar Point Wetlands



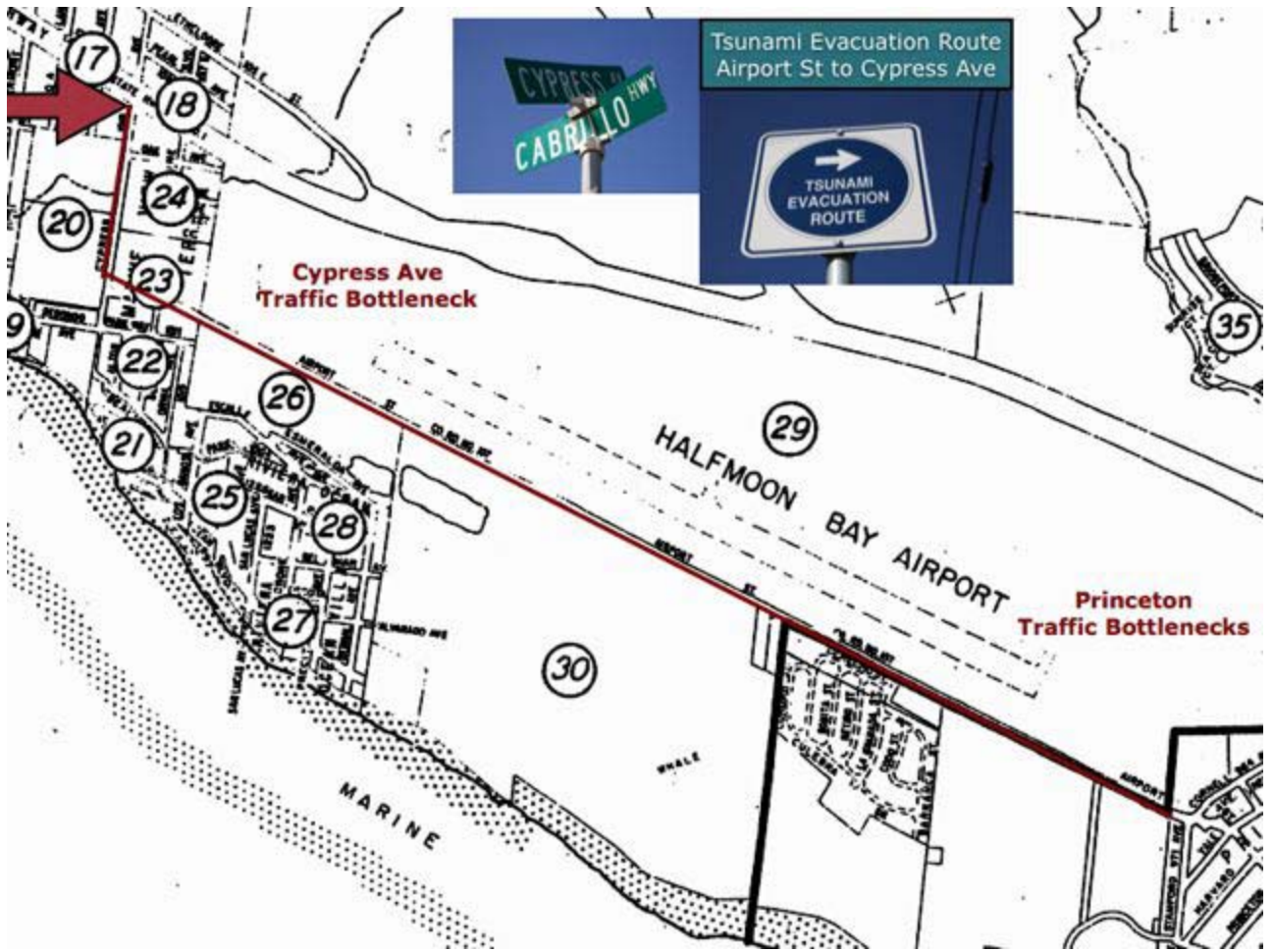
Area of Special Biological Significance (ASBS) and part of the
federally protected Monterey Bay National Marine Sanctuary



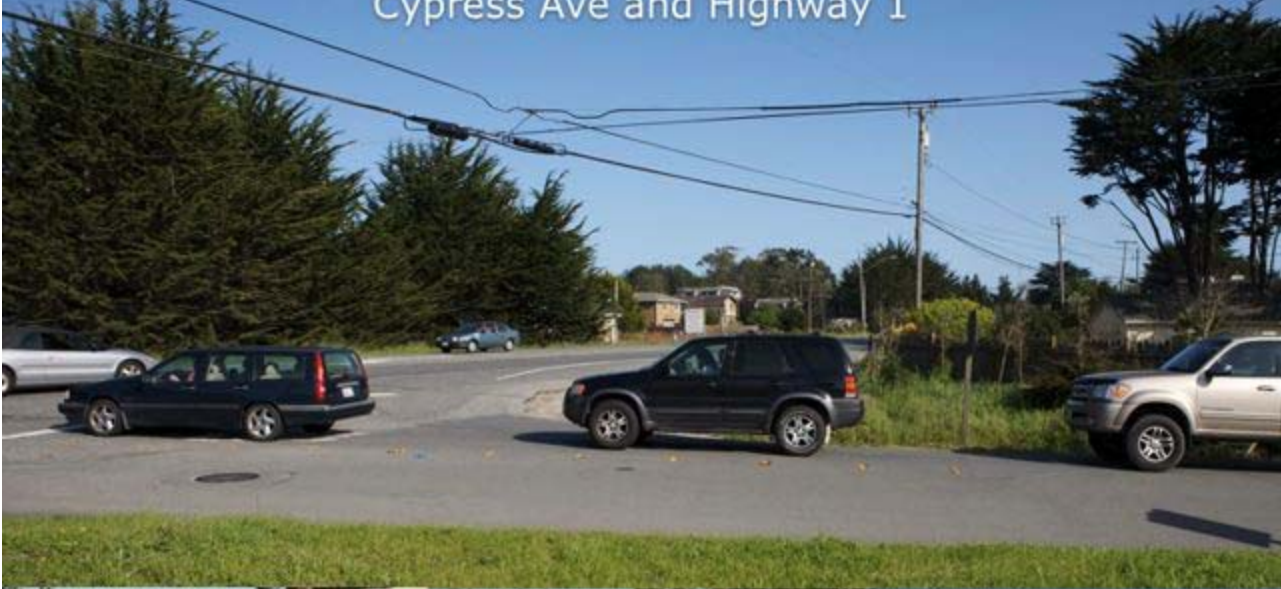
Princeton Does Not Have Sidewalks



Princeton Does Not Have Sidewalks



Tsunami Evacuation Route
Cypress Ave and Highway 1





Thank
You

Untitled

Hello Geoff and Jennie,

I am emailing the attached Pillar Ridge & Seal Cove: Big Wave Project Meeting slideshow. Our community has many concerns about the proposed projects. We hope all of those concerns are reflected in the EIR.

Aesthetics

The height of the proposed Office Park, at 51-1/2 feet on top of a raised grade, is completely out of scale with its surroundings. To the west of the site are preserved wetlands, and permanent open space coastal bluff. To the east are the open, sometimes farmed, fields of the airport. To the north is the one-story residential neighborhood of Pillar Ridge. To the south in Princeton, buildings do not exceed 36 feet high and most are smaller.

The view of the newly preserved bluffs would be blocked from Hwy 1. The pristine view from the beach on the harbor trail out to Mavericks, looking over the marsh toward Montara Mountain would be marred by the out-of-scale office park buildings. Views of the harbor and bay may be blocked from POST's new Pillar Point Bluff trails off Airport St. The plan to mitigate by screening the buildings with a narrow row of fast-growing trees not native to this area would not solve the problem.

We request story poles at an early point in the application process, in order for the community to accurately evaluate the effects of the unprecedented height and mass of these buildings.

Wellness Center Location

We recognize the need to provide more services for the developmentally disabled on the Coastside and we have concerns about the appropriateness of the proposed location, which would leave them segregated from general interaction with the community. The site is separated from schools, grocery stores, library, community parks, shopping and other residential support services by the Princeton warehouse district, Hwy 1, and long distances with spartan bus service. Developmentally disabled pedestrians might be forced to negotiate loading trucks, forklifts and other industrial hazards in an area that does not have sidewalks or paths. There is the additional safety concern of being next to an earthquake fault and in a tsunami zone. The site is approximately 500 feet from the airport runway and noise may be a particular problem for these residents. The opinion of a health services expert regarding these concerns would be appreciated.

Financial Feasibility

This proposed project would double the office space on the Coastside. Most of the commercial space in the nearby Harbor Village is currently vacant. We would like to request that an independent analysis of economic feasibility be required using updated economic data.

Untitled

The residential units are designated for low income and ultra-low income people. What agency will oversee compliance with this requirement? We recommend that this information be included in an independent analysis.

Airport Overlay

The site of the proposed development is in close proximity to the Half Moon Bay Airport runway. We recommend the County take the latest FAA safety standards into consideration when reviewing the project.

Natural Resources

- No permitting agency wetland determination is included in this document and should be completed as soon as possible.
- What will be done to protect the groundwater, the Pillar Ridge water supply and Pillar Point Marsh from saltwater intrusion?
- Does this area contain archaeological sites?
- Should a project of this scale be built next to the Fitzgerald Marine Reserve an Area of Special Biological Significance (ASBS) and part of the federally protected Monterey Bay National Marine Sanctuary?

Traffic

The Facilities Plan estimates 3787 car trips per day, which would negatively impact Hwy 1. The addition of 225,000 sq. ft. of office space to the Coastside would draw commuters from other parts of the Bay Area which would have significant negative impacts on traffic through Devils Slide (tunnels) and the already congested Hwy 92.

The narrow access roads at Cypress and through Princeton would become congested with commuter traffic. We have not yet seen the full effect of Harbor Village on Capistrano Rd. traffic (known locally as the bottleneck) because the new shopping center and hotel are mostly vacant.

Pedestrian and bicycle safety on Cypress, Airport and through Princeton is already a major problem due to narrow streets, lack of sidewalks and speeding cars, particularly on Airport. Increased traffic and on-street parking overflow from the development would exacerbate the safety issues.

Emergency Evacuation

The proposed project site is in the Tsunami evacuation zone. The evacuation route is north on Airport Blvd, to Cypress Ave, to Hwy 1. Pillar Ridge, Princeton and Seal Cove residents would tax the capacity of this escape route and it would become completely inadequate with the additional number of cars evacuating the Big Wave site.

Untitled

We hope a comprehensive EIR will address these issues in detail and that the County will require concrete answers prior to going forward.

Thank you for your consideration and the opportunity to comment,

Pillar Ridge and Seal Cove Residents

Untitled

Hello Lisa,

I would like to request that a traffic light be installed at the corner of Cypress Ave. and Highway 1. Additionally I would like to request that the funds for the traffic light come from the County general fund and not the Midcoast road mitigation fees that are currently being spent on drainage and flooding problems.

Thank you,

Sabrina Brennan

165 La Grande Ave.

Moss Beach, CA 94038

Untitled

Hello Lisa,

A large percentage of commercial real estate is vacant on the San Mateo County Coastside.

I would like to request a mitigation measure be included in the Big Wave Project EIR to protect the Midcoast if the office park does not have a customer. An unoccupied 225,000 thousand sq. ft office park would create urban blight. A condition of project approval should require the Big Wave Project developer to provide a signed lease/deed from a buyer/leaser to occupy a minimum of 70% of the office park for a minimum of 10 years.

The neighboring residents of Pillar Ridge should not be subjected to year after year of delayed construction. A condition of approval should require the Wellness Center be built first and occupied by all 50 developmentally disabled residents before the Office Park construction begins. Once this condition is met the Office Park construction timeline should be limited to one year for all 4 proposed office park buildings.

A requirement that 100% of the wellness Center be constructed prior to the start of construction on the Office Park should be added as a condition of approval in the Staff Report to insure the developer follow-through with promises made to the community and the 50 developmentally disabled adults promised a permanent residential facility.

Thank you,

sabrina brennan

165 La Grande Ave.

Moss Beach, CA 94038

Fwd Big Wave

>>> "Robert F. Brown" <robertfbrown@comcast.net> 2/9/2009 8:40 AM >>>

Let me weigh in with my opinions re the Big Wave project on the San Mateo County coast.

1. The object of groups working with the developmentally disabled is to integrate them into the general community, so they can have lives as normal as possible. Big Wave does the opposite. It segregates them by putting the disabled far from schools, shopping, and jobs. It does not integrate them, but attempts to establish some sort of pie in the sky community where the disabled can support themselves. This does not happen in the real world, and this is why there are no projects in this country of this type. It does not work and is not in the interest of the disabled. The experts have already weighed in on this subject.
2. Big Wave is, in fact, Big Ugly. It would permanently eliminate any view of the bluffs of Pillar Ridge. It would permanently eliminate any view of the wetlands that support the protected wildlife habitat of Pillar Ridge and Princeton Harbor. Run-off from parking lots would contaminate the sensitive wetlands with oils and chemicals used in their construction, killing off the species that support the wetlands.
3. Big Wave is going "green" is totally smoke and mirrors. There is no place to build a desalination plant, even if such a plant were practical to build. And the cost to construct and operate such a plant would be prohibitive. How many desalination plants do you see on the Coast and why do you think there are none? Big wave could not support such a plant and their planners know this. The same applies to wind power. There are no wind powered electric generators on this Coast because they would not work here. Again, Big Wave is trying to deceive us. As far as the existing aquifer being able to support the Big Wave project, I ask you "at whose expense"? Where will the water come from? From the aquifer at the Pillar Ridge Mobile Home Community or the people of Princeton?
4. How "green" are huge parking lots that will hold the hundreds of automobiles that will come to pollute this part of the Coast? How "green" will the waste disposal system, already over-taxed, be when the Big Wave project is in full operation? How "green" is the concept of adding these hundreds of cars to the already disastrous traffic of the Coast?
5. Where will the disabled work at Big Wave? What types of jobs will be made available to them that they can perform for wages so they can support themselves? Let's be real here and face the fact that jobs for the disabled are limited in number and that Big Wave will never be able to support itself from their wages alone. And it was stated at an early meeting that should Big Wave not be able to support itself, it would be sold to commercial enterprises and the disabled would have to move away. I believe this is the reality of the situation, that Big Wave will not succeed and it will be sold to the highest bidder.
6. Lastly, the Big Wave project is scheduled to be built in a tsunami floodplain and on top of an active earthquake fault. How safe would that be for the disabled who would live at Big Wave? Unlike myself, the disabled will not be able to dash to their cars and flee the area in case of flood, nor will they know what to do should an earthquake occur. Emergency services on the Coast are barely adequate for "normal" families. What will the disabled of Big Wave do in a catastrophe?

Please do not give a dreamy carte blanche to these purveyors of pipe dreams. Please take a hard and practical look at what is really going on here.

Thank you.

Robert Brown, Moss Beach

Fwd Big Wave Project - Financial Feasibility

>>> "Rick Harding" <harding@rwilbur.com> 2/9/2009 1:53 PM >>>

I am a resident of Moss Beach. Based in Palo Alto I have been specializing in the leasing, sale of office and retail property for thirty years in San Mateo and Santa Clara County. I expect I do not have all the facts concerning the proposed development and that I will learn more in the Wednesday night meeting. I will only comment on something I know something about, marketing of office space.

I have enclosed the County wide Office Report for the Fourth Quarter provided by BT Commercial. County wide we have an inventory of 31,133,589 square feet, 5,095,141 (16.7% vacancy) and growing. Asking rental averages \$3.39 per square foot full service and dropping. The average County wide rate in my opinion is the absolute ceiling of rates on the Coastside. Average rates in Half Moon Bay are in the 2.00 to 2.75 full service range at this time.

In many Counties they require a Feasibility Study as part of the EIR. I would encourage you to require an independent analysis by an outside company. The office development is touted to produce an income stream to fund the Non Profit portion of the project. There is a good possibility that this hypothesis is optimism not based on believable fact. You may have a project built that cannot produce an income stream, or profit to fund the non-profit. Perhaps in the end you may have a bad idea piggybacking on a good idea with an across the board financial failure of both.

There is not much more than 225,000 square feet of office space currently from Pescadero to Montara. Consider the developer is proposing to double what we have on the Coastside and in an area that does not have good highway access, and is remote to goods and services. The feasibility study I would encourage the County to require, I believe will indicate that the Coastside current market rental of \$2.60 per square foot per month full service is approximately 1/2 the \$5.00 + per square foot full service rental you will need to support the feasibility of the proposed project.

Puzzling to me is a zoning ordinance in place that can enable such an application. I have thought often unlike municipalities that script closely what can be developed the County loosely provides an envelope that allows the developer to go to places that are not really thought out, highly speculative and sometimes just inappropriate. I wonder for instance if the mall in the Oceano Hotel will ever lease and at a rate that is supportive of cost. Some may say its the economy others may say a poor commercial concept - was it asked who is the tenant that will bring people to the mall, and do people really want to shop indoors when they come to the Harbor, etc.

Again, with outside consultants paid for by the applicant I encourage the County to question the economic viability of the proposed project - is there a need for any office space in this location, who is going to lease the proposed project and at a rate that will truly be required to offset costs of construction and the operations of the non-profit.

Thank you

Rick Harding

Commercial Leasing and Sales
790 High Street
Palo Alto, CA 94301

650.847.3800 Main
650.847.4360 Direct
650.330.6029 Fax

Fwd Big Wave Project - Financial Feasibility

March 26, 2009

Camille Leung, Project Planner
San Mateo Co. Planning and Building Dept.
455 County Center, 2nd Floor
Redwood City, CA 94063

RECEIVED

APR 01 2009

San Mateo County
Planning Division

Re: Big Wave Facilities Plan Draft 2

Ms Leung,

The undersigned Pillar Ridge and Seal Cove residents support the comments made by the Midcoast Community Council in the letter sent to the Planning and Building Department on February 14, 2009 regarding the Big Wave Facilities Plan. We ask that the Planning and Building Department consider the following comments:

Traffic

The Facilities Plan estimates 3787 car trips per day, which would negatively impact Hwy 1. The addition of 225,000 sq. ft. of office space to the Coastside would draw commuters from other parts of the Bay Area which would have significant negative impacts on traffic through Devils Slide (tunnels) and the already congested Hwy 92.

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Thank you for your consideration and the opportunity to comment,

Pillar Ridge and Seal Cove Residents

Signature	Name	Street, Moss Beach 94038
<u>Lisa Ketcham</u>	<u>Lisa Ketcham</u>	<u>175 Culebra</u>
<u>Brigid O'Farrell</u>	<u>Brigid O'Farrell</u>	<u>1001 Ocean Blvd</u>
<u>Sabrina Brennan</u>	<u>Sabrina Brennan</u>	<u>1105 LaGrande Ave</u>
<u>Judy Macias</u>	<u>Judy Macias</u>	<u>871 San Ramon Ave.</u>
<u>Sally White</u>	<u>Sally White</u>	<u>115 Culebra St.</u>

<u>Signature</u>	<u>Printed Name</u>	<u>Street, Moss Beach 94038</u>
	Jennifer Elestre	151 Barranca Ave.
	TJ Gauthier	1001 Ocean Blvd
	Dorothy Norris	112 Cado Ave
	Ty Wood	114 Cado
	PATTI GALLIYETTI	864 PARK AVE
	MARILYN HANDLER	STAN LUCAS AVE
	Steven M. Beardsley	140 Precita
	Alan Hogg	122 Bow RA.
	Susan Macdonick	55 Precita Ave
	Tris B. Rogers	149 Barranca MB PO. Box 1581 EL Granada
	KENT ROBERTS	180 SAN LUCAS MOSS BEACH
	Carlyle A. Yang	180 San Lucas Ave MB
	Maria Selcodo	115 Retro LN
	STEVE HOLMQUIST	110 SAN LUCAS AVE
	Rick Harding	864 Park Ave. MB
	Letha Juppam	855 SAN RAMON AVE Moss Beach
	Jan D. Dur	855 SAN RAMON AVE M.B.
	Sergio Mata	156 Culebra MOSS B.
	JOHN FLANNIGAN	170 LOS BANOS AV. M.B. 94038
	Gregory Collins	873 Ocean Bl.
	Cynthia Trujillo	165 PARK WAY
	BRYAN TRUJILLO	1065 PARK WAY
	ELIZABETH HAWKINS	885 SAN RAMON AVE
	MAUREEN HAWKINS	PO BOX 853 150 MADRONS MB 94038
	KEVIN L. COOTE	111 DERECHO MOSS BEACH CA 94038
	Gene Lindsey	112 La Granada

<u>Signature</u>	<u>Printed Name</u>	<u>Street, Moss Beach 94038</u>
	Vanuiter Castro	124 BARRANCA LN
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	Patricia Lauritzen	834 Park Ave
	Clarke Simm	131. La Grande

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	Robert A. Stevenson	123 Retiree Lane
	Rebecca L. Clark	P.O. Box 236 / 85 Sierra St.
	Ken V.R. Clark	P.O. Box 236 Moss Beach CA
	LOUISE F LAZZARI	PO B 210515 MONTREA
	Charles Bauman	860 Leim Vista M.B.
	Pamela Eakins	847 San Ramon Moss Beach CA
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	Susan Broderick	816 Park Ave, MB
	CAROL GUIN	89 SAN LUCAS MB
	Nadia B. Popovack	919 Ocean Blvd. Moss Beach

Fwd Big Wave Fiasco

>>> "Pete Fingerhut" <fingerhut@gmail.com> 2/19/2009 2:01 PM >>>
Hi Ms Leung,

I hope that you have a chance to physically visit the proposed building site before making any kind of decision. How it has gotten to this point I am not sure but the project would effect one of the most beautiful pieces of coastline that we have left. Wetlands have been destroyed under the guise of farming. I live on the bluff above the site and those fields grew a few pumpkins in the past few years but that is it. The amount of grading done to that property does not jibe with the farming that occurred. If this gets approved on your watch, your name will go down as one who destroyed a beautiful coastside habitat for a project that is far too large for local infrastructure to support. We have water and road issues as it stands and now they want to build 6 acres of parking?

I hope that you are not blinded by the fact that the project will house 40-50 disabled adults. That size of a project I can accept but I don't think that the additional 300,000 square feet of commercial real estate is necessary to support that size community. Please don't destroy the little bit of coast that we have left for a project that will remain vacant for years to come. Look at the new Crab Landing structure that finally got built in Princeton that currently has over 60% vacant space. We don't need a project of this size or scope on the coastside and I hope that once you take a look at the site, you will arrive at the same conclusion.

Thank you,

Pete Fingerhut
650.922.3205

Fwd big wave project moss beach

>>> <pennyfloor@coastside.net> 2/17/2009 10:31 PM >>>
Dear Ms. Leung,

As 30-year residents of the Coastside, we would like to express our objection to the so-called Big Wave project. It is not reasonable to construct such a massive project in an environmentally sensitive area.

Furthermore, it does not seem reasonable to situate a residential facility so far from the rest of the community's existing services, shops, library, etc. Why choose to segregate developmentally disabled citizens from the rest of the community? It would be more sensible to consider constructing a residential facility in Half Moon Bay. I imagine a downtown site could be found.

Do not endanger the wetlands, wildlife, or the serenity of the proposed site. Do not subject the people of Princeton and Moss Beach to increased congestion, traffic, and buildings that obstruct our views. This project belongs in town, not in our dwindling open space.

Sincerely,
Penelope Floor and Karl Young
Moss Beach

Fwd NO to Big Wave

>>> "Pamm Higgins" <pamm.higgins@gmail.com> 2/6/2009 10:39 AM >>>
Ms. Leung,

I am writing to say NO to the Big Wave project.

Although many of us on the Coastside truly appreciate the need for housing and employment opportunities for developmentally disabled adults, we cannot endorse the proposed project's scope or site. It is too large. It is clearly too isolated to attract the commercial or retail interest that would support the residents. (The chronically barren Oceano parking lot and retail spaces tell us this.) It would be a shame to create more infrastructure in a relatively undisturbed location only to have the non-residential portion sit mostly empty. And using the "green" standard as a selling point is absurd.

NO to Big Wave.

Respectfully,

Pamm Higgins
256 Delmonte Road
El Granada

Midcoast Community Council

An elected Municipal Advisory Council to the San Mateo County Board of Supervisors

Serving 12,000 coastal residents

Post Office Box 248, Moss Beach, CA 94038-0064

Office Fax: (650) 728-2129 <http://mcc.sanmateo.org>

2-14-09

Camille Leung, Planner III
455 County Center, 2nd Floor
Planning & Building Department
Redwood City, CA 94063

Re: Comments on Big Wave Facilities Plan Draft 2

Ms Leung,

Thank you for forwarding a copy of the Big Wave Facilities Plan Draft # 2. The following comments are the result of community input, as well as the Big Wave presentation at our February 11th MCC meeting. While there is much support for the idea of creating a residence and support community for developmentally-disabled adults on the Midcoast, there are many issues in the project that we feel should be considered at this early point in the planning process.

Project description: Environmental issues Chapter 1.0 page 1

The Draft on Page 1 states: Over 50% of the site will be restored into high functioning coastal wetlands. Upon measuring the undeveloped space in "Figure 1.1.1: Wellness Center Site Plan" the developed space (using the fire-trail as the divider) is clearly much larger than the "wetlands space". Similarly, "Figure 1.3.1: Office Park Site Plan" clearly shows the undeveloped space to be much less than the developed space. Either the estimates of coverage (Table 1.1.2.1) are incorrect, or the site maps are drawn incorrectly. We feel that it is better for the data to be accurate, for the community to better evaluate the project.

The wetland determination and requirements, using all three of the Coastal Act standards, should be done immediately.

Wellness Center Site

The 70 person residential Wellness center is sited in a light-industrial (zoning W/DR) area. The site is separated from groceries, shopping, cafes, and other residential support services by a warehouse district. Pedestrians would have to negotiate loading trucks, forklifts, and other industrial hazards, in an area that has no paths, or sidewalks. We are told that many of the residents would not drive (from Table 7.1.2), which could leave them separated from general interaction with the community. This site could feasibly be developed as light-industrial. While this might not preclude the placement of the wellness center in the industrial area, it is a serious issue and is not adequately addressed in the Facilities Plan. This issue, if overlooked in the planning process could negatively impact the quality of life for Wellness Center residents for a very long time.

Office Park Site

The size and scale of the proposed Office Park is out of character with its surroundings. Buildings of this size and mass are unprecedented on the Midcoast. Zoning Regulations Section 6565.7 requires the design of the structure be in harmony with the shape, size and scale of adjacent building in the community. On one side it abuts the W/DR light industrial Princeton area, where buildings are all less than 36 ft tall. On the other side the proposed project abuts a one-story residential manufactured home park. The proposed 3-story 51-6" buildings would dwarf not only its neighbors, but all other buildings on the Midcoast. We feel it would seriously affect the view of the ocean from Hwy 1. There are many 3-story buildings in the Princeton light industrial area that are only 36' tall, and work quite well. We suggest story poles at an early point in the application process, in order for the community to accurately evaluate the effects of the unprecedented height.

Traffic

Under the Summary of Project features, is this claim: "Reduced traffic on Hwy 1". This statement contradicts Table 7.1.2, which estimates (car) 3787 trips per day, all of which would add to traffic on Hwy 1, as well as narrow access roads in Princeton and Moss Beach.

In the Bay area, residents from as far away as the central valley commute into office parks, and the suggestion that a large office park in a fairly remote location would alleviate traffic, is unrealistic. Some coastside residents may work at the new office park, but even coastal residents would have to use Hwy 1 to get there. The addition of 225,000 sq. ft. of office space to the coast would undoubtedly draw commuters from other parts of the Bay Area. A project of this size would have significant effects on traffic through Devils slide (tunnel) and already congested hwy 92 as well. Business parks located near transit hubs (BART) or existing commute routes can arguably reduce traffic, but large business parks located in remote locations do not. A new office park might have other things to offer our community, but we should talk realistically about the traffic issue.

Other possible uses for the property could decrease the impact of traffic, such as light industrial, warehouse, or storage. Live-work lofts could arguably reduce the need for commuting. In terms of traffic, a large satellite office park would be one the highest traffic generating, of the allowable uses for this site.

Parking

On Page 61 of the Facilities Plan, the applicant asks for a parking exception (1 space per 250 sq ft, instead of 1 space per 200 sq ft) based on being located next to public transit. It sites other cities in San Mateo County, with public transit, which allow a lower number. The other cities in San Mateo County are all more urban, with a different level of public transportation compared to the rural Midcoast. Other cities in San Mateo county have other public transportation options (BART, Caltrain, park & ride), and public parking facilities, which are not available on the Midcoast. What the Office Park Site also lacks, is overflow. If the parking on-site is full, there are no other lots nearby. By looking at the site map (Figure 1.3.1) it is clear that there is no ability to expand on-site parking in the future. Even in its semi-rural location there is already an existing parking problem on Airport Blvd due to overflow from Pillar Ridge. Barring any serious mitigation measures for parking, we suggest that the existing (1 space per 200') parking requirement is reasonable.

Table 7.2.2 (page 61) suggests a mix of uses (40% office, 25% research, 15% storage, 20% manufacturing) which require different parking components. The proposed buildings however,

are all Office buildings, and while they could be used for a lesser use, they all could also be used as the highest use, which is for General Office. If built, it would be difficult for the County to enforce this proposed mix of uses. If there is more demand for General Office space, then the required parking spaces would be seriously insufficient.

Storage buildings (of which there are many existing in Princeton) are less expensive to build, usually lack windows, are usually not heated & cooled. Manufacturing buildings usually have limited heating, large roll-up doors and usually 1-2 stories tall (there is limited demand for 2nd & 3rd story manufacturing). Since the 51' tall buildings in Figure 1.3.5 appear to be office buildings, and could all be used as Office buildings, they should be subject to the parking requirements and traffic impacts for General Office Space.

The parking area for residential units appears to occupy the airport overlay setback.

Financial feasibility

The economic data contained in the Plan is dated 2007 and the economy has changed radically in the last two years. There is a good possibility that the data is optimistic and outdated. Many counties require a feasibility study as part of the EIR. We strongly recommend that independent analysis be required. The developer is proposing to double the amount of office space on the coast and in an area that does not have good highway access and is remote to goods and services. Nearby commercial space at the Oceana mall is not leased out.

The residential units are for low income and ultra-low income – by whom and how will compliance with this requirement be determined? Support for this project could change depending on the way residence is determined. This should be outlined in any independent analysis.

Emergency evacuation

This area is subject to emergency Tsunami evacuation. The evacuation route is up Airport Blvd, to Cypress Ave, To Hwy 1. The existing roads and intersection with Hwy 1 are completely inadequate to handle the number of evacuees from the site. It is also questionable as to whether Hwy 1 could handle the additional number of cars evacuating the big wave site.

Subdivisions

The Planning applications mention a request for subdivision, but there is currently no proposed Lot line adjustments marked on the site maps in the Facilities report.

Additional Natural Resources Questions

- No permitting agency wetland determination is included in this document and should be completed as soon as possible.
- Allied Waste is not the garbage company serving this area as stated in the Plan. Where will the water recycling plant be located?
- Where will the livestock be housed? What long-term effect will increased agricultural land use have on creeks?
- What are the regulations concerning private, commercial water recycling programs? Are there any located in the Bay Area? What effect will recycled water have on runoff to wetlands?
- Is the solar generation capability dependent on grant funds? What if these funds are not obtained? Is fuel cell technology speculative?

- What will be done to protect the groundwater, the Pillar Ridge water supply and marsh from saline intrusion? Where will the monitoring wells be?
- Does this area contain archaeological sites?
- Should projects of this scope be built in dwindling ecologically sensitive areas?

The “green” and agricultural aspects of the proposed project are under-defined in the Facilities Plan. We hope a comprehensive EIR will address these issues in detail and that the County will require concrete answers prior to going forward.

General

In summary, after viewing the Facilities Plan Draft #2, holding a public meeting, and getting feedback from the public, we have the following overall comments:

- While there is a feeling that the Wellness Center could be a good addition for the Midcoast, there are concerns regarding the location in a warehouse district. Many residents feel that development consistent with the zoning in this area is critical. Variances create inconsistent land usage and are not good planning.
- The Density, Height and Scale of the proposed Office Park are out of scale with the character of the site on the Rural Midcoast. A more moderate proposal with smaller scale buildings would be more appropriate for the area, and could still generate profit for the developer.
- There is concern that the traffic generated would overwhelm the rural and residential roads that serve the site.
- While the project includes many “green” proposals, the concept of locating large scale concentration of office space at the fringe of the urban area, away from major traffic corridors, and transit hubs, would result in large scale commuting, which is not good planning.
- Pedestrian and bicyclical safety on the effected access roads would be a big concern.

Thank you

Deborah Lardie
Chairperson
Midcoast Community Council

Cc: R. Gordon

MCC Big Wave Facilities Plan Comments

Camille

Here is the letter that is the result of our community discussion regarding the Big Wave Facilities Draft Report.

Please email or call if you have any questions.

Neil Merrilees
Vice Chair, MCC
cell 650 728-3813

Big Wave 1

>>> "Nadia Bledsoe" <nadiabp@earthlink.net> 2/20/2009 12:05 PM >>>
Hello Camille-

I reside with my family in the Seal Cove neighborhood. I also have a Special Needs kid who studies with and does Special Olympics sports with the kids who would very likely benefit from this type of supportive housing. Initially, I was very enthusiastic about Big Wave since it would provide a great environment for these kids who are coming of age into adulthood. I had no idea, however, about the scale of the proposal until I saw the architectural drawings and heard information from the EIR. Our neighborhood already suffers from a lack of support from the County regarding infrastructure and emergency access. The notion that this area could support such increased level of traffic is preposterous. I am also persuaded by the argument that the isolation of the wellness Center from the rest of the coastside community is counterproductive towards the aim of mainstreaming Developmentally Disabled Adults into the doings of our community.

The concept of the wellness Center serves only as a subterfuge for what amounts to a large-scale, high-impact Business Development that doesn't belong in Princeton, regardless of how it might conform to existing zoning ordinances. I emphatically do not support this project as currently proposed.

Sincerely,

Nadia Bledsoe Popyack
919 Ocean Blvd.
Moss Beach

Fwd Big Wave Project 5

>>> recdesk <recdesk@ci.half-moon-bay.ca.us> 2/4/2009 5:42 PM >>>
Worst Idea I've EVER Heard. Too Much Traffic, Too Big Of A Building, Too Far Away
From The Community. The Coast Will Not Support Such A Monster Project In Little
Princeton. If Anything, Build Something That We Can ALL Use As A community. 300,000
Sq Feet, Your Crazy! Go Some Where Else, Go Build That In Your Own Back Yard.
Michael Lamirande-projectsixfivezero@hotmail.com



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LOMA PRIETA CHAPTER
San Mateo • Santa Clara • San Benito Counties

FAX: 650-363-4849
Camille Leung, Planner
Re: Comments on scope
EIR for Big Wave Property
Facilities, Draft #2
Page 1 of 2

February 20, 2009

From: Coastal Issues Committee, Loma Prieta Chapter, Sierra Club

Hydrology and Water Quality

The project must be consistent with the present State definition of wetlands(LCP Policy 7.14): the presence of any one of the following criteria: hydrology, hydrophytic vegetation or hydric soils; and LCP Policy 7.3 which prohibits any land use or development which would have significant adverse impact on sensitive habitat areas. Keep in mind that the facilities plan in no way restores the parcels to their "natural state" prior to its agricultural use and subsequent soil fill.

The Big Wave Property Facilities Plan, Draft #2 may have water, water, water everywhere, but not a drop of water to drink!

The proposed "Wellness Center" and "Business Park" are located in the service area of the Montara Water District and the plan proposes annexation by CCWD which is not a done deal. Another proposed source would be an on-site water desalination plant and wastewater treatment plant. Regarding the impact of the effluent to be released in the Pillar Point harbor, the draft states that "change to habitat and harbor salinity will not be measurable" (p.23) Comparison with Monterey Bay does not recognize the difference between an open bay and a man-made harbor inside a breakwater. The EIR must analyze the cumulative effects of releasing a high salinity affluent over time in an area that has been issued an Aqua-culture permit by the San Mateo Harbor District.

The facilities plan ties the success of the residential development serving the developmental disabilities population directly to the success of the business development plan. The LCP limits on build-out received an exemption by the San Mateo County Board of Supervisors based on this relationship as well as an exception to the "water priority" regulations. This presents several possibilities which must be analyzed. If the Wellness Center/Residential program for any reason should no longer serve only the DD population, would the exemptions based on such a relationship be valid for the Office Park; and would any change of the use of the Wellness Center be valid?

Transportation, Traffic and Hazards

In addition to the facilities plan study of the impact of traffic by the Big Wave, it must be analyzed for consistency with coastal access policies of the Coastal Act and the Midcoast LCP.

Besides analysis by Planning, other agencies such as the California Metropolitan Transportation Commission should be involved in the EIR. The traffic generated by the Wellness/Residential development serving less than 50 DD persons, who do not drive, is far less than the 2,000 - 4,000 daily trips estimated for the Office Park adjoining development. Again, the application for permits is based on the build-out exemption to serve a limited number of developmentally disabled persons. The "cost" of the increased traffic on Airport Boulevard and feeder streets and the impact on coastal access as well as hazards to pedestrians and bicycles must be considered.

Agricultural Resources

This project will take active agricultural farmland out of use and convert it to non-agricultural uses. The change in use must be reviewed not only for consistency with the Midcoast LCP, but also by the San Mateo County Agricultural Advisory Board, in addition to analysis and recommendations by the San Mateo County Resource Conservation District.

Land Use Planning

We have referred to the exceptions to the LCP build-out requirements and exemptions to the priority water regulations that have already been made by San Mateo County based on the proposed Big Wave development project. The facilities plan states that the Wellness Center will provide housing ownership and rental housing to extremely low income developmentally disabled persons. Based upon the supporting cost information and rather long period for completion of the development, we do not see how this could be possible given our economic situation and allowing for inflation. Furthermore, the developers state that they do not plan to apply for or use any government funding. Given the cost of development, how could Big Wave possibly provide the promised "low cost affordable housing" to a "very low income" population and be consistent with San Mateo County's Housing Element, General Plan, and the Midcoast LCP? Again, the County's exemptions and exceptions were based upon providing "affordable low cost housing" to "disabled persons".

Thank you for the opportunity to comment.

Sincerely,



Merrill Bobele, Chair
Coastal Issues Committee
Loma Prieta Chapter, Sierra Club

SAN MATEO

**LOCAL AGENCY FORMATION COMMISSION**

455 COUNTY CENTER, 2ND FLOOR • REDWOOD CITY, CA 94063-1663 • PHONE (650) 363-4224 • FAX (650) 363-4849

February 23, 2009

To: Camille Leung, Project Planner

From: Martha Poyatos, Executive Officer *M Poyatos*

Subject: Big Wave Project Referral

Thank you for the opportunity to comment on the Big Wave Project application. The project site is within the sphere of influence of the Coastside County Water District. It is also adjacent to District boundaries and therefore eligible for annexation.

While page 71 of the document correctly cites the Montara Water and Sanitary District moratorium, the project site is not within the boundaries or sphere of influence of Montara Water and Sanitary District (MWSD) and is therefore not eligible for annexation to MWSD.

If the project is to be served by CCWD, the project description should include annexation pursuant to the Cortese Knox Hertzberg Act of 2000 and any necessary actions related to annexation by other agencies such as the California Coastal Commission. As responsible agency under CEQA and in processing an application for annexation related to the project, the project description and environmental document should also address the following:

- Projected population growth resulting from the project.
- The effect of the proposal on maintaining the physical and economic integrity of agricultural lands, as defined by Section 56016.
- Consistency with city or county general and specific plans.
- The sphere of influence of any local agency, which may be applicable to the proposal being reviewed.
- The ability of the receiving entity to provide the services which are the subject of the application to the area, including the sufficiency of revenues for those services following the proposed boundary change.
- Timely availability of water supplies adequate for projected needs as specified in Section 65352.5. The extent to which the proposal will affect a city or cities and the county in achieving their respective fair shares of the regional housing needs as determined by the appropriate council of governments consistent with Article 10.6 (commencing with Section 65580) of Chapter 3 of Division 1 of Title 7.

Thank you for the opportunity to offer comments at this stage.

Fwd The Big Wave Project on the Coast

>>> "Louise Lazzari" <wildweez@ix.netcom.com> 2/5/2009 12:36 PM >>>
Dear Ms Leung:

I have e-mailed the MCC on this issue, and repeat myself here to you.

The Big Wave project as proposed is unrealistic in that 1) the scale is way too big for the area; 2) it will cause a tremendously negative traffic impact on Airport Road and the entire Princeton and Pilar Ridge communities; 3) there is a well-known scarcity of water and sewer treatment systems on the Coast; 4) judging by the retail vacancies from Half Moon Bay to Montara, the likelihood of obtaining viable commercial/retail tenants is quite small; 5) shopping and medical services are located miles away; and 6) since tourism has mostly replaced agribusiness as the economic base for the Coast, the Big Wave project just doesn't fit here...it will take away more than it gives. Thanks for listening to my opinion.

Best regards,

Louise Lazzari
Montara

Untitled

Hi Camille,

I think the advantages of getting the story poles up during the EIR process would well outweigh any disadvantage, as long as their structure is maintained so they are serving their purpose.

Many people I've talked to haven't even heard of the project and most have no concept how big the Office Park buildings would be. Story poles will make an excellent public announcement and on-going aid to understanding.

Lisa Ketcham, President

Pillar Ridge Homeowners Association

Hi Lisa,

Yes, story poles are typically required prior to the hearing for the project. But per direction from the Community Development Director, we may be able to request this sooner, such as during the EIR process. However, the drawback to constructing these earlier is that they will remain at the site until the final decision, which could be in 2010.

Camille M. Leung

Untitled

Camille,

Regarding the Mavericks parking lot photo simulation in the Big Wave Facilities Plan:

The photo is positioned at the entrance to the lot so that half the picture is pavement and gravel and the Office Park buildings are partly hidden by trees. More useful would be to see the simulation from the actual trail and beach which make up this scenic destination. Photos are attached to demonstrate my point.

Many people I've talked to have no concept how big the Office Park buildings would be. Story poles will be critical for public understanding.

Lisa Ketcham, President

Pillar Ridge Homeowners Association



Re Referral of Big Wave Facilities Plan Draft 2

Hi Camille,

Thanks for including our group in the referral list for this project. Also the on-line links are very helpful for sharing this with our community.

The draft 2 plans answered many of our questions regarding Big Wave plans, but has not alleviated any of our concerns. We now await the release of the draft EIR.

Thanks again for your helpfulness.

Lisa Ketcham, President
Pillar Ridge Homeowners Association
175 Culebra Ln.
Moss Beach, CA 94038
650-728-2756

DEPARTMENT OF TRANSPORTATION

111 GRAND AVENUE
 P. O. BOX 23660
 OAKLAND, CA 94623-0660
 PHONE (510) 622-5491
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February 23, 2009

SM001376
 SM-001-34.885

Ms. Camille Leung
 County of San Mateo
 Planning and Building Division
 455 County Center
 Redwood City, CA 94063

Dear Ms. Leung:

BIG WAVE WELLNESS CENTER AND OFFICE PARK – APPLICATION AND FACILITIES PLAN: DRAFT #2

Thank you for continuing to include the California Department of Transportation (Department) in the early stages of the environmental review process for the Big Wave Wellness Center and Office Park project. The following comments are based on the Application and Facilities Plan: Draft #2. Our previous comments still apply and are incorporated here by reference.

Highway and Traffic Operations

1. The referenced Traffic Impact Study (TIS) prepared by Hexagon Transportation Company was not included with the documents. Please submit for review.
2. Provide the Traffix operations analysis report and output sheets.
3. Appendix 7.1 was noted in the Facilities Plan: Draft #2 but not included in the document. Please provide.
4. The intersections at State Route (SR) 1 with Capistrano Road/Alhambra Avenue, and SR 1/Cypress Avenue should be included in the TIS as study intersections.
5. Please show traffic distribution to and from the proposed development based on the estimated project trip generation as shown in Table 7.1.3.

Encroachment Permit

Please be advised that all work that encroaches onto the state right of way (ROW) requires an encroachment permit that is issued by the Department. To apply, a completed encroachment permit application, environmental documentation, and five (5) sets of plans, clearly indicating state ROW, must be submitted to the following address: Michael Condie, Chief, Office of Permits, California DOT, District 4, P.O. Box 23660, Oakland, CA 94623-0660. Traffic-related mitigation measures will be incorporated into the construction plans during the encroachment permit process. See the following website link for more information:
<http://www.dot.ca.gov/hq/traffops/developserv/permits/>

Ms. Camille Leung
February 23, 2009
Page 2

Please forward one hard copy of the TIS, including Technical Appendices, and the Traffix operational analysis report to the address below as soon as they are available.

Sandra Finegan, Associate Transportation Planner
Community Planning Office, Mail Station 10D
California DOT, District 4
P.O. Box 23660
Oakland, CA 94623-0660

Please feel free to call or email Sandra Finegan or my staff at (510) 622-1644 or sandra.finegan@dot.ca.gov with any questions regarding this letter.

Sincerely,



LISA CARBONI
District Branch Chief
Local Development - Intergovernmental Review

Ma Feung,

Please as planning for our coastside place as high consideration the traffic and road conditions and the aesthetics.

As for traffic, we have two lanes on highway 1 to get in and out or go anywhere. The scope of this proposed project is going to impact everyone including those who will use these new buildings.

Please give long consideration to the impact on traffic.

As for the aesthetics, I think this speaks for itself. If you are a visitor to the San Mateo coast at this recreational and environmentally beautiful area, would this project be what you'd expect to see?

Please treat all areas as though they were your home too -

Sincerely -

Linda Holmquist

Linda Holmquist
110 San Lucas Ave
Moss Beach, CA 94038

H. 650-728-9207

E-MAIL LINDA.HOLMQUIST25@gmail

Fwd No Big Wave project

>>> "Lincoln S. Wallace" <lsw@i.frys.com> 2/10/2009 11:12 PM >>>
Dear Camille,

As a Licensed California Architect, practicing for over 30-years primarily doing commercial work, but with many residential projects, I feel I am very qualified to comment on the proposed "Big Wave" project. As a resident of Moss Beach I also feel very qualified to comment on traffic and utilities for the area.

The "Big wave" proposed project is too big, in size (height) and area (square footage). Not in touch with the surrounding community. It is also truly a commercial project with a disability component, not the other way around.

It is in the wrong location for such a project, poor access and unbelievable traffic congestion will occur. The county is already designating Cyprus at Highway 1 as the commercial traffic route for all the harbor commercial properties. It is already so difficult to get out on highway 1, to take the children to school, and pick them up.

And my biggest question is: where is a project of this scope going to get water? Moss Beach is a well only system. Water connections are looped to well systems in Moss Beach, there is no Hetch Hetchy water here. This is not Half Moon Bay. There are also many many single family residences that are in the Hetch Hetchy system areas that are denied access to Hetch Hetchy water and could not be there if they did not have their own well. Where is this 300,000 SF project going to get water when existing coastal residents can not even get water.

Sincerely,
Mr. and Mrs. Lincoln Wallace



COMMITTEE FOR
GREEN FOOTHILLS

RECEIVED

March 9, 2009

MAR 09 2009

Camille Leung, Project Planner
San Mateo County Planning and Building Department
455 County Center, 2nd Floor
Redwood City, CA 94063

San Mateo County
Planning Division

Re: Facilities Plan and Environmental Impact Report (EIR) for the proposed Big Wave Wellness Center and Office Park; Consideration of Alternative Plan

Dear Camille,

Committee for Green Foothills (CGF) commented on the Notice of Preparation for the Draft EIR for the above-referenced project, on December 5, 2008. The Facilities Plan has been revised since that time. By this letter, I would like to call your attention to some discrepancies in the January 1, 2009 Facilities Plan and its Appendices, and to request that the EIR include an alternative that concentrates all of the development on the northern parcel, with wetland restoration on the southern parcel.

I have obtained several documents from San Mateo County Public Works and Parks and Recreation that relate to the proposed Big Wave project. This new information was not included in the Big Wave Facilities Plan and Appendices, and is relevant to the concerns regarding wetlands issues on the property that I initially raised in my December 5, 2008 comment letter.

Wetlands History is Inadequately and Erroneously Described

San Mateo County Public Works has kindly provided me with four historic aerial photos that include the subject property.

The earliest photo, dated May 1956, clearly shows the airport, the Pillar Point marsh, the road leading to the tracking station, and very little development yet in Princeton. The Pillar Ridge Mobile Home Park is not yet constructed. There are many fields east of Highway One, in active agricultural use (cultivated fields) but there is no agricultural use on either of the subject parcels. The drainage ditch/intermittent stream, which crosses under Airport Boulevard and bisects the two parcels, is evident in this aerial view.

The second photo is dated June 1970, and is the base for an orthophoto map dated 1973, which also includes parcel lines. The Pillar Ridge Mobile Home Park is now constructed and more development is shown on the Air Force Tracking Station site. There are various tracks in the open fields, but there is no agricultural use evident on the two subject parcels. Along the sides of the drainage ditch conveying water from the airport across the property are solid lines that appear to indicate parcel lines.

COMMITTEE FOR
GREEN FOOTHILLS

3921 E. Bayshore Road
Palo Alto, CA 94303

650.968.7243 PHONE
650.968.8431 FAX

info@GreenFoothills.org
www.GreenFoothills.org

The third photo is dated April 1981, and is the base for an orthophoto map, which shows parcel lines as well as elevation lines. The ten-foot elevation dashed line meanders across the center of the parcel proposed for the Wellness Center, and crosses the south-west corner of the parcel proposed for the Office Office Park. There is no agricultural use evident on the subject property in this photo.

The fourth photo is dated August 8, 1995, and is the basis for an orthophoto map, showing parcel lines as well as elevation lines. The ten-foot elevation dashed line is in the same configuration as the 1981 photo described above. There is no agricultural use evident on the subject property in this photo.

The clear evidence from these four aerial photos shows that in each of these years, there were no plow lines or other patterns associated with agricultural use,

This information is relevant because there are serious discrepancies and erroneous conclusions in the Appendices of the Facilities Plan for the Big Wave Project. I refer specifically to the *Phase I Environmental Site Assessment*, dated March 26, 2007 by Treadwell and Rollo (T&R) regarding agricultural use of the subject property.

The T&R Site Assessment makes reference to five aerial photos – taken in 1943, 1965, 1982, 1993, and 1998. T&R observes that in 1943, based on the presence of plow-lines, the property to the North of the proposed Big Wave project site (Site) is being used as farmland, and that small farms are present to the southeast, but does not note any agricultural use of the project Site. T&R next notes that in the 1965 aerial photo, the present day mobile home park was constructed northwest of the Site, but that the Site and other adjoining properties remained unchanged through at least 1965. No agricultural use is noted. T&R next cites the 1982 aerial photograph and notes that three structures were constructed on the adjoining properties southeast of the Site, but that the Site and other adjoining properties remained unchanged in the 1982 aerial photograph. No agricultural use is noted. T&R next states the Site was relatively unchanged in the 1993 aerial photograph with the exception of cleared vegetation and a dirt path along the eastern edge of the northernmost parcel. No agricultural use is noted. Finally, T&R notes that the Site was unchanged in the 1998 aerial photograph. Despite the photographic evidence to the contrary, T&R inexplicably concludes on page 18: “The Site has been occupied by farmland since at least 1930,” and page 21: “This recognized environmental condition is the possible application of pesticides to soil during the previous use of the Site as farmland dating back to the 1930’s.”

The only basis CGF could find for the above conclusions is an interview with Mr. Jeff Peck, the owner of the property, on March 8, 2007 (cited on page 15 of the T&R report), in which Mr. Peck informed T&R that he has operated the Site as agricultural farmland since he purchased it in 1999, and that “the Site has been used as farmland since at least the 1930’s.”

Mr. Peck, who only became the owner in 1999, and was not involved in previous activities, also has a substantial economic interest that depends upon the extent of wetlands on the property. There is no supporting documentation of his statement; indeed it is directly contradicted by nine aerial photos from 1943 to 1998, as well as the Army Corps delineation of wetlands performed in 1994 (see below).

Mr. Peck, as one of the owners at the time, was also apparently responsible for bringing in fill in 2006, and raising the elevation of most of the southern parcel, as described in my December 5, 2008 comment letter (incorporated here by reference). Comparing the 10-foot elevation depicted on the County's 1981 and 1995 orthophoto maps with the map titled: *Geographic Extent of Waters of the U.S. on the Big Wave Property, Including Wetlands and California Coastal Wetlands (Revised)* included as Exhibit 1 of WSP Ecosystem Science and Natural Resources Management report, March 17, 2008, indicates that the elevation of approximately half of this property that was previously below the ten foot elevation has now been raised at least two to three feet, except for a narrow sliver along the western property line, where wetlands are shown on the WSP March 17, 2008 map.

CGF notes that on page 11 of the WSP report referenced above, the erroneous conclusion from the T&R report is repeated: "Virtually all of the soil on the Project Site has been plowed for decades." This statement is incorrect.

As I stated in my December 5, 2008 letter regarding the NOP, the wetlands history on this property is a crucial element in determining what portion, if any of this site, can be considered for development. The California Coastal Act and LCP require the protection of Environmentally Sensitive Habitat Areas (ESHA)s, including wetlands and their buffer areas. Filling of wetlands, and/or removing of wetland vegetation is a violation of the Coastal Act and the LCP. Previous owners (J.L. Johnston) disked under extensive areas of wetland vegetation in 1987 on the southern parcel. Placement of two to three feet of fill over wetlands in 2006 under the guise of agriculture is not permitted by either the Coastal Act or the LCP.

As clear evidence of the greater extent of wetlands on the property, I am including the **Wetlands Delineation Map** prepared by the Army Corps of Engineers dated June 20, 1994, in response to a request by San Mateo County Planning to perform a wetlands delineation at the Pillar Point Marsh. This map was kindly provided to me by Sam Herzberg, County Parks and Recreation (n.b., Sam was in County Planning at the time of the Army Corps delineation). The Army Corps criteria are more restrictive than the State standards used by Coastal Commission and California Fish and Game. Nonetheless, the federal Corps delineation, shows more extensive wetlands on the southern parcel, including a "finger" that extends across the site proposed for the Wellness Center from the larger wetlands surrounding the marsh to Airport Boulevard.

EIR should include a Restoration Alternative that Restores and Preserves the Wetlands

The Big Wave Mission statement includes benefiting the environment - restoring and permanently protecting the previous destruction of wetlands on the southern parcel should be the first priority for this project.

CGF accordingly requests that the Alternatives Section of the EIR include a Restoration Alternative. This Alternative would relocate the Wellness Center to the northern parcel, generally between the Mobile Home Park and the Office Park/Commercial development, and preserve the southern parcel as open space/restored wetlands. Agricultural uses could be allowed on the portion

of the southern parcel that is outside the historic extent of the wetlands as delineated by the Army Corps, and its 100 foot buffer. The area proposed for Office Park/Commercial development would need to be reduced in order to accommodate the approximately two acres of development for the Wellness Center. CGF notes that it is unlikely there is a market for 225,000 square feet of commercial/office space anyway. This Restoration Alternative would (1) more closely integrate the programs of the Wellness Center with the job opportunities at the Office Park, (2) avoid potential conflicts in land use between the marine related industrial uses in the Waterfront District, and the residents of the Wellness Center, (3) avoid conflicts in land use between the residents of the Mobile Home Park and the Office Park/Commercial, (4) provide for the restoration of the southern site where wetlands have been filled and otherwise altered, and (5) enable agricultural uses to continue on a portion of the southern site, consistent with the wetland restoration.

Thank you for consideration of these comments.

Sincerely,

Lennie Roberts

Lennie Roberts, Legislative Advocate
Committee for Green Foothills
339 La Cuesta
Portola Valley, CA 94028

Home office phone: 650-854-0449

Attachments: A - Aerial ^{photo/} map May 1950
B - Orthophoto Map Jun 1970
C - Orthophoto Map April 1981
D - Orthophoto Map August 1995
E - Wetlands Delineation Map Jun 1997
Army Corps of Engineers



December 5, 2008

By FAX 363-4849

Camille Leung, Project Planner
San Mateo County Planning and Building Department
455 County Center, 2nd Floor
Redwood City, CA 94063

Re: Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the proposed Big Wave Wellness Center and Office Park

Dear Camille,

Thank you for the opportunity to comment on the scope and content of the EIR to be prepared for the above-referenced project (Big Wave). On behalf of Committee for Green Foothills (CGF), I have the following comments:

Notice of Preparation (NOP): The Notice of Preparation does not include even a summary of the volumes of material that have been submitted to the County by the Applicant. CGF has had a chance to do a cursory review of these materials. We are concerned that some of the information is not accurate, and/or appears to reach conclusions that are not based on fact. What process does the County have to ensure that the EIR will indeed be an independent document?

Project Description: The Project Description includes two separate parcels, separated by wetlands and riparian vegetation that comprise part of the Pillar Point Marsh. To the extent that the Wellness Center residents may depend on the Office Park for employment, as well as for revenue to subsidize the operational costs of the Wellness Center, the Office Park should be constructed first. The Project Description includes a suite of potential utility and energy systems, including solar cells, carbonate fuel cells, natural gas/bio-diesel generators, wind turbines and generators, geothermal cooling systems, municipal domestic water hookups, use of well water/treatment systems, a desalination plant located offsite, and municipal wastewater hookups, on-site package wastewater treatment plant with disposal through irrigation, and a microwave dish system. Due to the location of this project in an environmentally sensitive area adjacent to the Pillar Point Marsh, some of these options may not be feasible. For example, there is a 240 acre foot per year limit on annual pumping from all wells - including CCWD, MWSD, the Pillar Ridge mobile home park, and agricultural wells - from the Pillar Point Marsh aquifer. If on-site groundwater wells are selected as the project's water source, the cumulative impact of pumping water from the aquifer, during drought periods, and the potential effect of depletion of groundwater levels upon the marsh, which is supported by the high groundwater table in this area, must be analyzed. The potential for salt-water intrusion into existing drinking and agricultural water wells must be analyzed as well. Other water supply options may have potentially significant environmental effects. The use of a desalination plant for water supply would require extensive studies, which may not justify investigation of this extremely costly option. Extension of CCWD's water system outside its Service District boundaries as defined on January 1, 2003 to serve the Big Wave parcels will require an Amendment to the Coastal Development Permit granted to CCWD by the Coastal Commission for its El

Granada Pipeline Project. The Project Description needs to be revised, with the preferred option for domestic water, wastewater, and source of energy specified.

Wetlands History: We note that the project proposes to include a component of restoration of wetland habitat. It is important to recognize that both sites had much more extensive wetlands as recently as 2006 when large amounts of fill were trucked in to the southern parcel, purportedly to prepare the site for “agricultural” use. The importation of substantial amounts of fill has been recognized by consultants to Big Wave as necessary in order to develop the site. Indeed, the owners of Big Wave applied for coastal development permits in July, 2002, October, 2002, October, 2003, and April, 2004, for placement of 50,000 cubic yards (for the first two permit applications) and 15,000 cubic yards (for the second two permit applications) on the proposed office park site. Also in the summer of 1987, this commenter photographed extensive areas of wetlands that had been disked on the project site immediately adjacent to the willows and other riparian vegetation of the Pillar Point Marsh. Wetland plants including California tule, giant horsetail, and cattail were disked or plowed under, and only large segments of stems and leaves remained. Without sporadic disking and plowing for purported agricultural purposes, over the past twenty years, restoration of wetland habitat on the site would be unnecessary. Due to presence of wetlands, more of the site may be off-limits to development as well. It is important therefore to accurately determine the extent of the wetlands on the site, following the State Fish and Game and Coastal Commission’s definition of wetlands, as well as the protocols that have been established by the California Coastal Commission. To further support this concern, we note that Lyndon Lee and Peggy Fiedler of WSP Environment and Energy, consultants engaged by the Project Applicant, have sent a letter dated April 24, 2008 to the Applicant, which reveals that observations in the field on March 27, 2008, found significant wetland vegetation on the site, in areas previously not found, but when Ms. Fiedler returned on April 9, 2008, the field had been plowed, destroying the wetland plants (see attached letter). CGF requests that additional field investigations be done during the winter (fallow) season to determine the extent of wetland vegetation, using Coastal Commission protocols.

Compliance with Local Coastal Program: The certified Local Coastal Program (LCP) is the standard of review for all projects in the County’s Coastal Zone. The LCP is also a component of the County General Plan. The EIR should analyze the project’s compliance with the standards of the LCP.

Biological Resources: The two project parcels contain wetlands (see comments above) and are also located within or near sensitive habitats for several protected species, including the California red-legged frog, the San Francisco garter snake, and the saltmarsh common yellowthroat. This site is likely also used by winter raptors as foraging habitat, evidenced by the Biological Impact Report prepared by Wetlands Research Associates, dated November 2001, which states that a pair of white-tailed kites, a California fully protected species, was observed on the project site on two occasions. The EIR should include a survey for special status species, conducted during the season(s) of use of the site, as well as adjacent areas.

Geology and Soils: The soil boring logs of exploratory borings conducted by Bay Area Geotechnical Group (BAGG) in April, 2002 on the Office Park site indicate that groundwater was encountered in all ten boring locations at less than eight feet of depth. The presence of groundwater

at such shallow depths will require significant engineering for the construction of three story office buildings. BAGG's initial recommendations for addressing this problem were not based on three-story buildings, with open parking areas on the ground floor, as is proposed for the Office Park. Compaction of the soils beneath buildings and parking areas may also affect the groundwater aquifer, which could have significant negative impacts upon the Pillar Point Marsh. – this should be discussed in the EIR. Seismic hazards due to the soils present on site, and proximity of the Seal Cove-San Gregorio Fault include: very strong to very violent shaking, static and seismic settlement, potentially liquefiable soil and potential near-surface moderately to highly expansive soil. The EIR should include a complete evaluation by independent peer review of the preliminary work done by BAGG, and subsequently reviewed by Treadwell and Rollo for the Office Park site, as well as site-specific geotechnical investigations of the Wellness Center site.

Hazards: The two project sites are within the FEMA designated 100 year flood zone, the 200 year frequency tsunami and the 100 year maximum projection of sea level rise. The two sites are also partially within the Airport Overlay Zone, which may be expanded as the result of current studies. To mitigate the flood, tsunami and sea level rise hazards, the applicant proposes to raise the elevation of the site to 15 feet, and provide an additional three feet above that as freeboard. This would require significant filling of the Wellness Center site, in addition to the grading and other seismic mitigations due to the underlying geology and soils conditions. Accordingly, the EIR's analysis of impacts on visual resources must consider constructing three story buildings, with ground floor elevations three feet above the filled (not natural) grade. The EIR should also analyze the potential for hazards to the residents of the Wellness Center and office occupants from airport operations, including noise and potential airplane accidents.

Land Use Compatibility: The Wellness Center is proposed to be located in the Waterfront/Design Review/Coastal Zone zoning district. As stated in the Zoning Regulations, the purposes of the Waterfront District are to provide a working waterfront for marine related trades and services, and manufacturing land uses that support commercial fishing and recreational boating activities, as well as to accommodate a compatible mix of recreational, resource management and waste management land uses. Residential uses other than a limited number of caretaker units are not an allowable use by right in the Waterfront District. The project proponents are requesting that the Wellness Center be categorized as a "Sanitarium" which is a conditionally permitted use subject to issuance of a Use Permit, upon the finding that the use must be "necessary for the public health, safety, convenience, or welfare". The EIR should discuss how this project meets the necessity criteria. CGF recognizes that a residential facility with amenities and programs for developmentally delayed adults is desirable, but questions whether it is necessary for the public health, safety, convenience, or welfare. The Waterfront District is the only zoning district on the San Mateo County coastside devoted to marine related trades and services, which is a priority land use under the California Coastal Act. CGF further questions whether a residential facility with amenities and programs for developmentally delayed adults meets the definition of "Sanitarium", which typically is a convalescent facility.

Economic Analysis: The Wellness Center's development and operations depend upon underwriting or subsidies from the Office Park. The Economic Analysis prepared for the Applicant by Enright & Company in July, 2007, regarding demand for the office park is based upon data

obtained during the height of the economic bubble. Even so, the conclusions of the report were cautious, stating: "The previously identified statistics suggest that demand may be solid for the projects, although a gradual phasing of the project is suggested." The drastic change in our nation's economy since the Economic Analysis was prepared makes it imperative that the economic analysis be updated as part of the EIR process, by an independent economic consultant. This analysis should include the best available current information – with particular focus on the Half Moon Bay and Mid-Coast area. If the Office Park, in whole or in part, is not a viable project, the assumptions for the Wellness Center must be modified.

Aesthetics and Visual Impacts: The proposed design of the three-story, 50-foot high office buildings and three-story Wellness Center is more appropriate for an urban bayside location than the coast. Bright orange colors shown on elevations of the Wellness Center, and white on the Office Buildings are not consistent with the LCP's Visual Resources Component. We would encourage redesign of the buildings to be more consistent with their coastal setting.

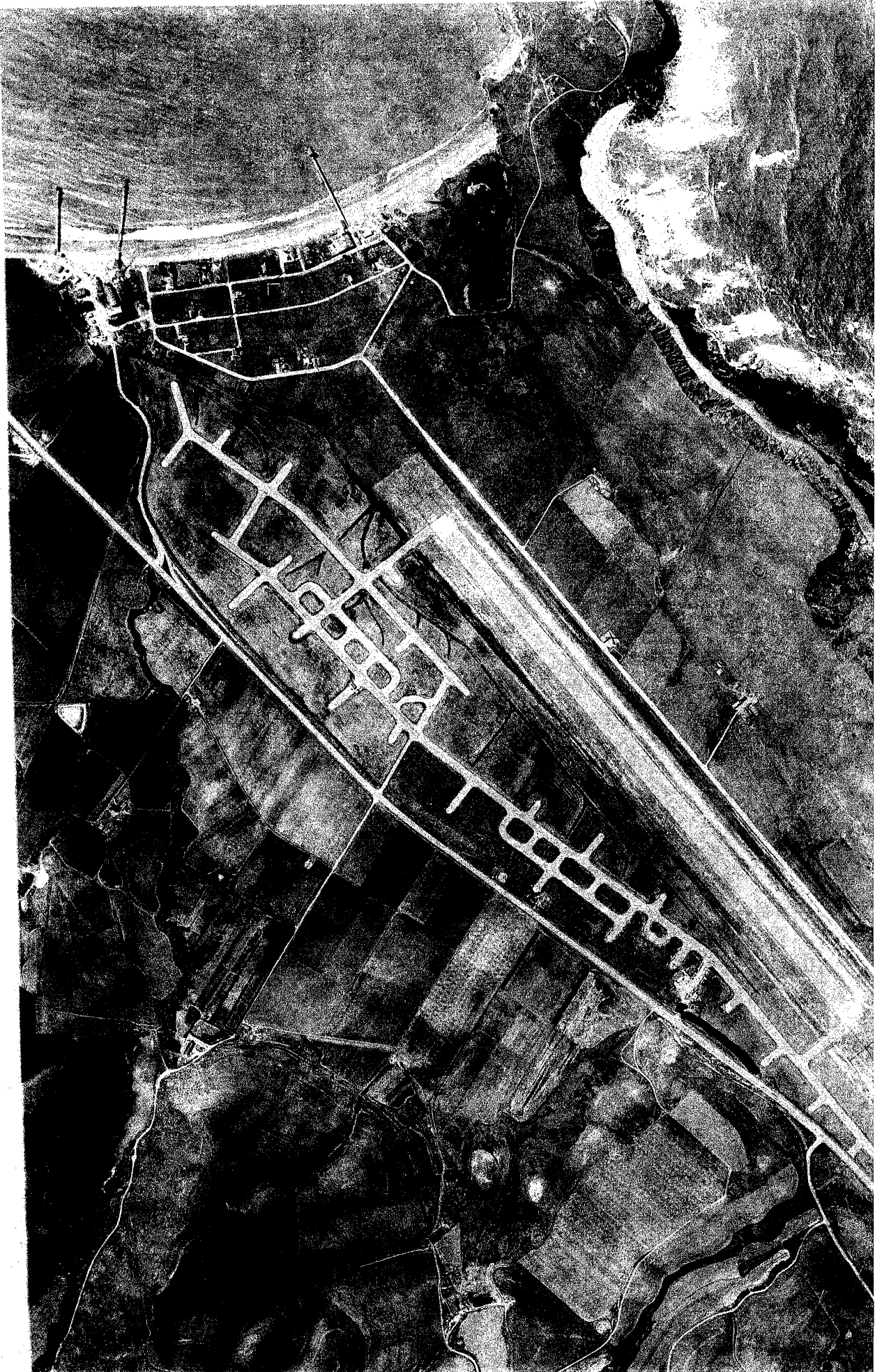
Thank you again for the opportunity to comment. We request that we be sent copies of the Draft EIR and other supporting documents, including revisions to the Project's Description as we have requested, in order to define the project's water, sewage, and energy systems.

Sincerely,

Lennie Roberts, Legislative Advocate
Committee for Green Foothills
339 La Cuesta
Portola Valley, CA 94028

Phone: 650-854-0449

May 56
Attachment A





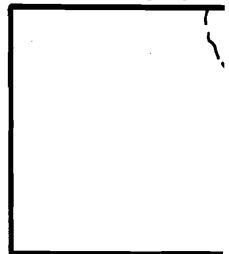
374,000 N

MATCH SHEET 10B



370,000 N

ASSESSOR'S M



MARCH 1

368,000 N

Attachment 13

Plot
April 1981
C
Assessment

MA

ASSESSO

370,000

PT. AVE

MATCH SHEET 10B

374,000



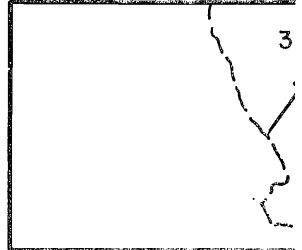


N 2014000

MATCH SHEET 10B

370,000 N

ASSESSOR'S MAP B0

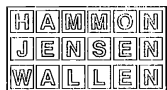


MARCH 1973

368,000 N

OF SAN MATEO COPYRIGHT

983 NORTH AMERICAN DATUM.



INFORMATION

DATE OF PHOTOGRAPHY: 08/08/95

CONTOURS


NAT. DRAINAGE NAT. DRAINAGE
STR. & SUB. NAMES

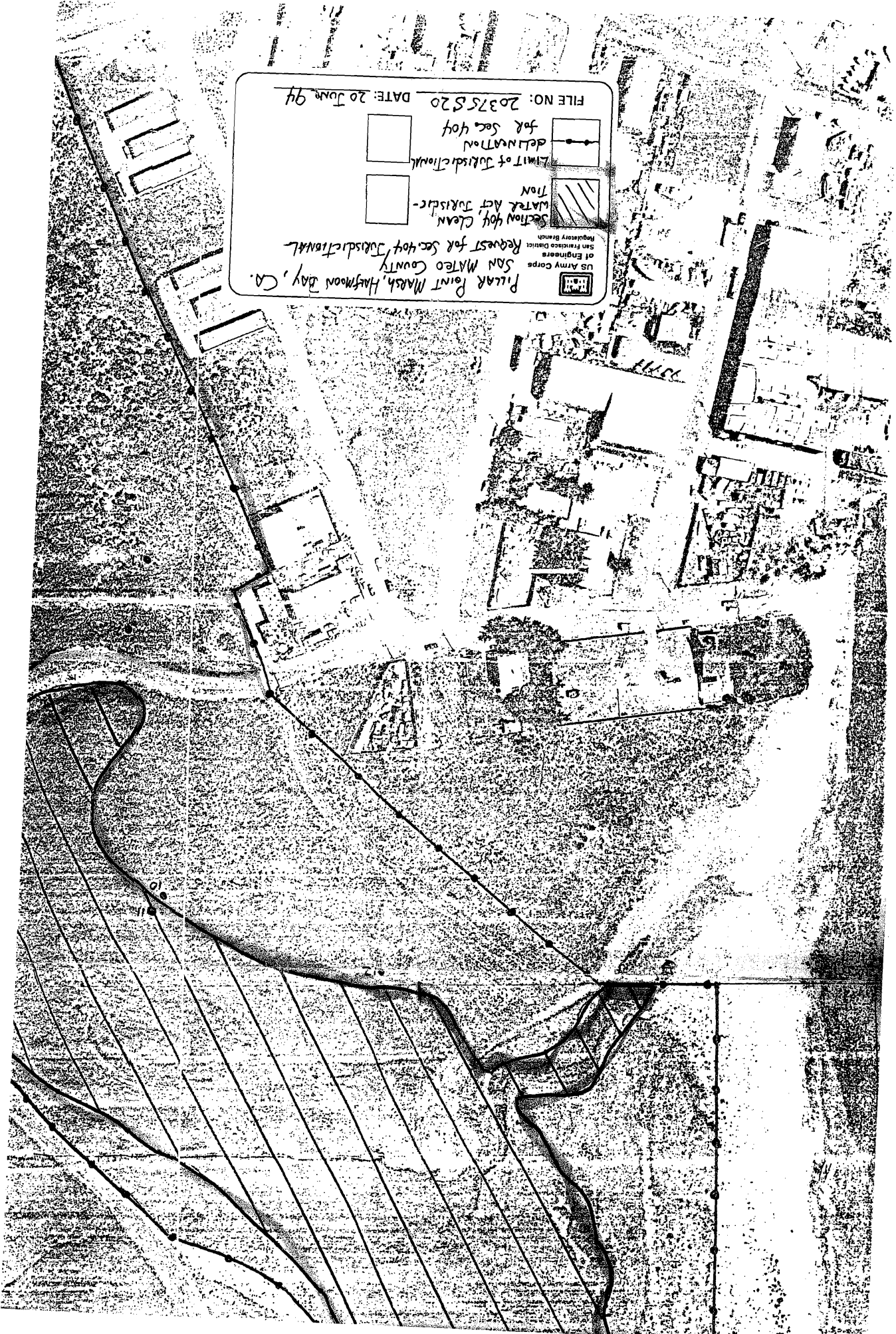
ASSESSOR'S PARCELS

REV. 1/1/96

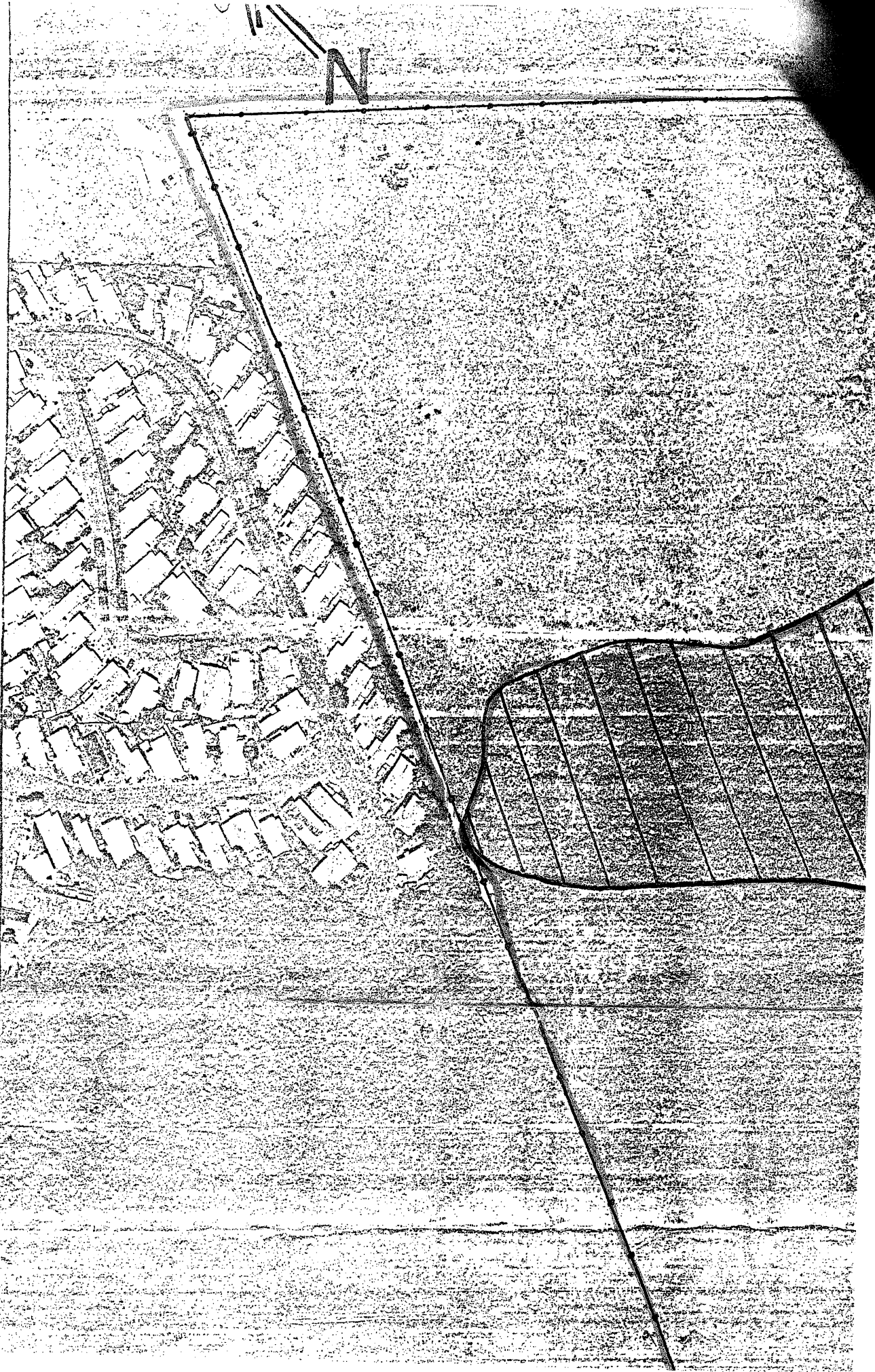
SHEET
10A

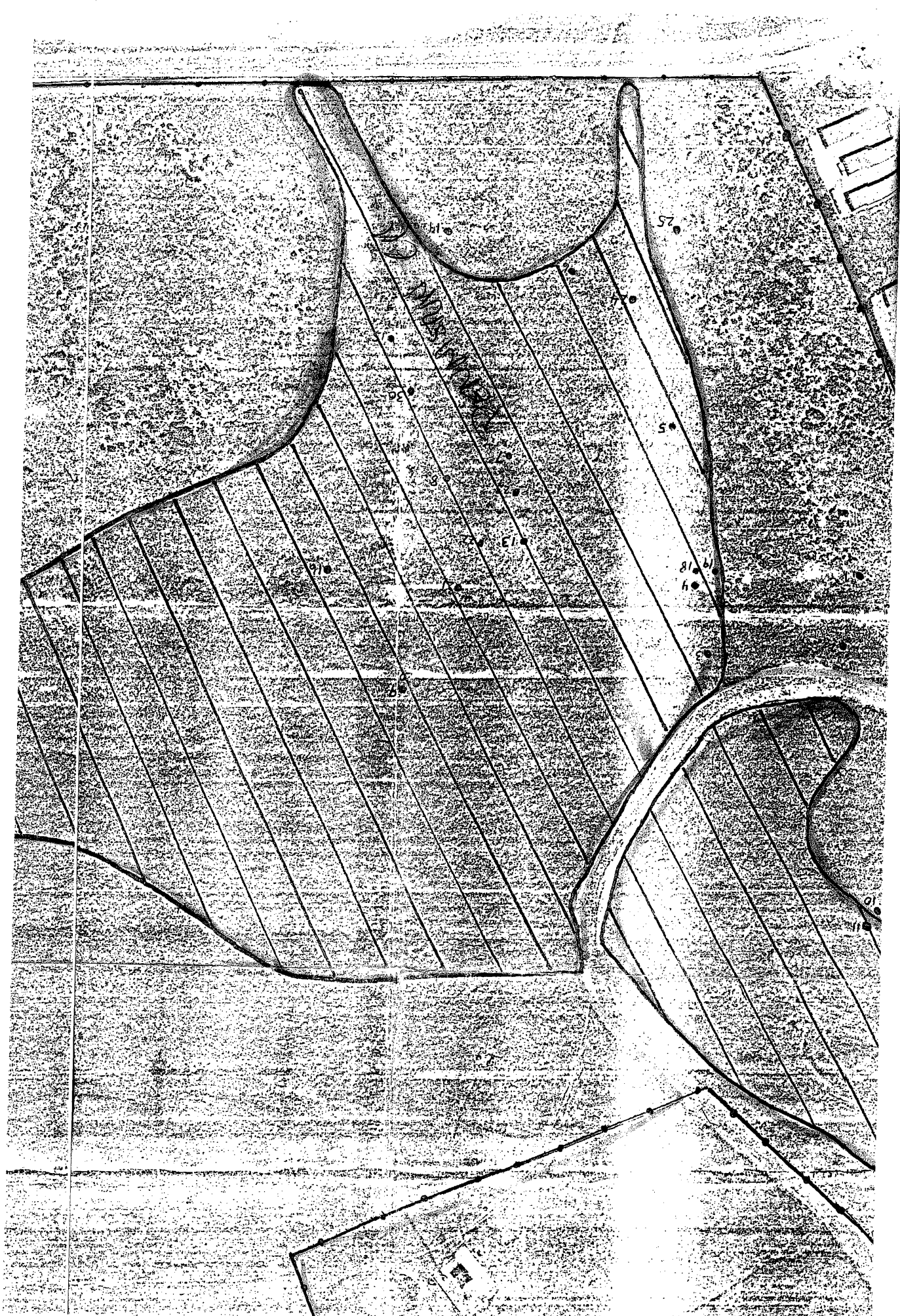
Attachment D


Pillar Point Marsh, Haymond Bay, CA.
 US Army Corps of Engineers
 San Francisco District
 Regulatory Branch
 Request for Sec 404 Jurisdictional
 SAN MATEO COUNTY
 Section 404 Clean Water Act Jurisdictional
 LIMIT of Jurisdictional
 DELINEATION
 for Sec 404
 FILE NO: 20375S20 DATE: 20 June 94



Attachment 5





Big Wave3

Camille, could I please get copies of the comments you have received so far on the Big Wave project - referral on the Facilities Plan. I am coming by the County offices later today and could pick them up, or if that's too soon, I could get them Friday. Or you could email them if they have been scanned.

I would also like to get a copy of the Contract for the EIR services, whenever convenient.

Could you give me the name and contact info for the EIR consultant team. I would like to find out what Alternatives they are including in the EIR.

Many thanks,

Lennie

Fwd Public Input for Big Wave Project Moss Beach

>>> "Laura Burtness" <burtnessl@yahoo.com> 2/19/2009 9:58 AM >>>
Dear Ms. Leung:

Below please find a letter regarding the Big Wave Project. I understand you are the person to whom this letter should be given. If this is not the case, please let me know to whom I should send it.

Sincerely,
Laura Burtness

February 19, 2009

Dear San Mateo County Planning Department:

I am a resident of Moss Beach and would like to express my opposition to the Big Wave project in Moss Beach.

The reasons I oppose this project:

1. The size and scope of any new structure must be compatible with the surrounding neighborhood. Big Wave fails. The surrounding area is made up of one short, small office park, some mobile homes, and lots of open space. Big Wave, with its 650 parking spaces and tall, vast buildings, is not compatible with what is there currently.

2. There are water concerns:

a. One proposal for addressing the water needs at the Big Wave project is to build a desalination plant. I believe the ecological consequences are too great, especially so close to the Fitzgerald Marine Preserve.

b. The agricultural wells are within the district boundaries of the Montara water and Sanitary District, yet the District has not been invited to the table?

We are a small coastal town that does not want the possibility of a desalination plant, 650 parking spaces, and/or a poorly-situated, large office park in our midst.

Again, I oppose this plan.

Sincerely,

Laura Burtness
PO Box 795
Moss Beach, CA 94038
650-728-3755

Fwd Big Wave Project 4

>>> "Laslo Vespremi" <lvespremi@daz3d.com> 2/5/2009 11:37 AM >>>

Absolutely inappropriate for this size and scale.

No traffic mitigation - we are already jammed traffic every weekend. Short of making Hwy 1 4 lane, this is not working

Laslo Vespremi

<mailto:laslo@daz3D.com>

<mailto:laslo@daz3D.com> Moss Beach

Cell: 650-302-0894

Fwd Big Wave should include all!

>>> "Kim Andersen-Asburn" <falanow@comcast.net> 2/23/2009 6:09 PM >>>

> I recall Debbie Lesser stating that they have the interests and backing
> of the Regional Centers and Non-Profit Corporations. which tells me
> that Big Wave Project has a much bigger mission here ... creating a
> Model that would be duplicated if successful?

>
>
>

> But the question on everyone's minds is Location, Location, Location?

>
>
>

> Also, to question the intent of this new Private Country Club of a Model?
> what is going to happen to those who are disabled who are not invited
> to become a member? Do they end up homeless and living on the streets
> which a parent has voiced is her greatest concern for her son while
> the Big Wave Team and their children become richer and richer?

>
>
>

> These Models HAVE to and MUST include ALL people with disabilities who
> live within a certain parameter of the area, no exceptions!

>
>
>

> And, rather than have the Big Wave Project's children become owners
> and stake holders in the businesses, all of the monies generated,
> including Mr. Peck's and Steve Barber's should also go back into
> supporting the longevity of Big Wave Project 100%!

>
>
>

> what I am hearing is also the fear of failure from all of you. And,
> who out of the Big Wave Project wouldn't want their children to live a
> protected, safe, and productive life which should mean; Friends,
> Family, Career, Health & Dental, Safety, Recreation, Travel,
> Education, Sports, etc... that is what I would want for my child regardless of
> disability!

> Isn't that peace of mind worth millions in itself?

>
>
>

> If San Mateo or any County anywhere in the United States allows this
> to become a Private Country Club for the chosen few, where the rich
> are going to become richer, and the poor will have to rely on the
> state and federal government, will they put in writing that those who
> are not included in the Private Country Club will be given equal
> opportunities? I highly doubt it!

>
>
>

> Are they going to put in writing that they will have the funding

Fwd Big Wave should include all!

>> Way to discriminate and stack your own self-serving deck!
>>
>> -Dr. Do-good, a resident of Moss Beach
>>
>> I happen to agree with this person's statement and this is where the
>> greed comes into play!
>>
>> Kim Andersen-Ashburn
>> Founder, President
>>
>> Families for Adults Living with Autism
>> 5109 Impala Run Place
>> Antelope, CA 95843
>> Tel./Fax: 916.721.3814
>> Cell: 916.705.0735
>>
>> Email: falanow@comcast.net
>> Website: www.falanow.com
>> ----- Original Message -----
>> From: "Kim Andersen-Asburn" <falanow@comcast.net>
>> To: "Camille Leung" <CLEung@co.sanmateo.ca.us>
>> Sent: Friday, February 13, 2009 1:14 PM
>> Subject: Re: Big Wave ... Big Rip-off!
>>
>>
>>> Thank you Camille!
>>>
>>> Kim Andersen-Ashburn
>>> Founder, President
>>>
>>> Families for Adults Living with Autism
>>> 5109 Impala Run Place
>>> Antelope, CA 95843
>>> Tel./Fax: 916.721.3814
>>> Cell: 916.705.0735
>>>
>>> Email: falanow@comcast.net
>>> Website: www.falanow.com
>>> ----- Original Message -----
>>> From: "Camille Leung" <CLEung@co.sanmateo.ca.us>
>>> To: "Kim Andersen-Asburn" <falanow@comcast.net>
>>> Sent: Friday, February 13, 2009 12:52 PM
>>> Subject: Re: Big Wave ... Big Rip-off!
>>>
>>>
>>> Kim,
>>>
>>> Thank you for your comment. I will add you to the mailing list for this
>>> project. Thanks
>>>
>>> Camille M. Leung
>>> Planning and Building Department
>>> 455 County Center, Second Floor
>>> Redwood City, CA 94063
>>> (650) 363-1826
>>>
>>> -----
>>> Confidentiality Notice: This e-mail message, including any attachments,
>>> is for the sole use of intended recipient(s) and may contain
>>> confidential and protected information. Any unauthorized review, use,
>>> disclosure or distribution is prohibited. If you are not the intended
>>> recipient, please contact the sender by reply e-mail and destroy all
>>> copies of the original message.

Fwd Big Wave should include all!

>>>

>>>

>>>

>>> Save Paper.

>>> Think before you print.

>>>

>>>>>> "Kim Andersen-Asburn" <falanow@comcast.net> 2/12/2009 9:10 AM >>>

>>> My Very Personal Nine-Month Collaboration with Big Wave Project in Half
>>> Moon Bay

>>>

>>>

>>> In September of 2007, I contacted Big Wave's President and Co-Founder,
>>> Jeff Peck and emailed him my Proposal that I had designed; A Organic
>>> Farmstead Self-sustainable Model that gained National Recognition from
>>> the most prominent Autism Professionals and experts across the United
>>> States.

>>>

>>> Jeff Peck promised me a position on his Advisory Board and to secure a
>>> spot for my 10-year-old autistic son in exchange for collaborating and
>>> sharing my ideas and vision with Big Wave Project.

>>>

>>>

>>> I spoke to Jeff about "Going Green 100%" (when I met Jeff, he had no
>>> intention of going green) on every aspect of planning and how it would
>>> help with the Permit Process especially because he was near the Coast. I
>>> also sent him my Live, work, Green Proposal that I had also designed
>>> from scratch in February 2008 which includes a Full-Recycle Center &
>>> Live/Work Green Lofts and Businesses.

>>>

>>> I designed my son's, Alex's Day at Big Wave and a written Architectural
>>> Layout of the Wellness & Community Development Center per Jeff Peck's
>>> request in November of 2007. I also called Jeff Peck and spoke of the
>>> Eco-Friendly Solar Modular's and how the Germans just took first place
>>> again at Washington DC.

>>>

>>>

>>> I also phoned Jeff Peck about Live/Work Lofts and Studios that my
>>> husband had built and how in downtown Sacramento they rented for
>>> \$2500.00 a month for a 900 sq. ft. Studio and that by renting more units
>>> at Big Wave Project could raise much more needed income to help its
>>> sustainability.

>>>

>>> My designs included an Eco-Friendly Pet Grooming & Dry Cleaners (All
>>> Natural and Chemical Free), Organic Farming, Mentorship Program for The
>>> Arts & Entertainment, Arcade/Game Room, Salt Water Pool, Epsom Salt
>>> Jacuzzi, Infra-red Sauna, Gym, etc...

>>>

>>> How breaking our children's day into two-hour work (2 hrs. morning and
>>> 2hrs. afternoon) cycles could help our children maintain a 28-hr.work
>>> week which could qualify them for Health & Dental Insurance. And, allow
>>> them to have sports/exercise and ongoing education in between their
>>> daily schedules. A Organic GF/CF Bakery & Cafe with Commercial Kitchen
>>> Learning Stations.

>>>

>>> I highly question the statement that Jeff Peck made at the 6-8-08 Unveil
>>> of Big Wave where he states, "After having a beer after work six to
>>> eight months ago with Steve Barber drove them to scrap their existing
>>> plans and start new and that their existing plans weren't good enough!"

>>>

>>> Eight months prior, Jeff Peck was having lunch in my home in Sacramento
>>> while I shared my Proposal, my Model, and gave Jeff constant feedback
>>> over a nine-month period which I was more than willing to do in exchange
>>> of serving on the Advisory Board and being part of the Big Wave Team.

Fwd Big Wave should include all!

>>> And, to help secure a spot for my son's future.

>>>

>>> It was brought to my attention at the 6-8-08 meeting, that Big Wave will
>>> be partnering with C-PALS to design and create an Organic Farmstead and
>>> Permanent Living with For Profit Businesses in the Gilroy area. Their
>>> Concepts according to the person who I spoke with, are exactly like my
>>> Model that I shared with them and that I have personally designed and
>>> emailed to Jeff Peck and Kimberly Brennan in September 2007.

>>>

>>> I asked Jeff Peck months ago that if I helped Big wave and they liked my
>>> ideas and concepts, would Big Wave in return help me someday build my
>>> Model for my son and those like him?

>>>

>>> When I questioned Jeff Peck as to why he did not invite me to one
>>> Advisory Board Meeting over a nine-month period (9/07 to 6/07/08) along
>>> with not listing my name on the 6-8-08 Slide Presentation along with all
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>>> Jeff Peck's so-called "WORD" means nothing!

>>> Kim Andersen-Ashburn

>>> Founder, President

>>>

>>> Families for Adults Living with Autism

>>> 5109 Impala Run Place

>>> Antelope, CA 95843

>>> Tel./Fax: 916.721.3814

>>> Cell: 916.705.0735

>>>

>>> Email: falanow@comcast.net

>>> Website: www.falanow.com

>>>

>>>

>>>

>>>

Fwd Re Big Wave ... Big Rip-off!

>>> "Kim Andersen-Asburn" <falanow@comcast.net> 2/19/2009 12:06 PM >>>
Hi Camille,

Below is a quote from Big Wave TalkAbout ...

I don't know if any of you read through the 101 page detailed plans but I did. Big Wave Project is a Private Co-op Club. Even though they operate as a 501(c)3, they will determine who can join their Co-op and who can't?

Therefore, Big Waste's interests are not in favor of helping ALL people with disabilities ONLY their OWN hand-selected Members.

Way to discriminate and stack your own self-serving deck!

-Dr. Do-good, a resident of Moss Beach

I happen to agree with this person's statement and this is where the greed comes into play!

Kim Andersen-Ashburn
Founder, President

Families for Adults Living with Autism
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Antelope, CA 95843
Tel./Fax: 916.721.3814
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----- Original Message -----

From: "Kim Andersen-Asburn" <falanow@comcast.net>
To: "Camille Leung" <CLEung@co.sanmateo.ca.us>
Sent: Friday, February 13, 2009 1:14 PM
Subject: Re: Big Wave ... Big Rip-off!

> Thank you Camille!

>

> Kim Andersen-Ashburn
> Founder, President

>

> Families for Adults Living with Autism
> 5109 Impala Run Place
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>

> Email: falanow@comcast.net
> Website: www.falanow.com

> ----- Original Message -----

> From: "Camille Leung" <CLEung@co.sanmateo.ca.us>
> To: "Kim Andersen-Asburn" <falanow@comcast.net>
> Sent: Friday, February 13, 2009 12:52 PM

Fwd Re Big Wave ... Big Rip-off!

> Subject: Re: Big Wave ... Big Rip-off!

>

> Kim,

>

> Thank you for your comment. I will add you to the mailing list for this
> project. Thanks

>

> Camille M. Leung
> Planning and Building Department
> 455 County Center, Second Floor
> Redwood City, CA 94063
> (650) 363-1826

>

> -----
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>

>

>

> Save Paper.
> Think before you print.

>

>>>> "Kim Andersen-Asburn" <falanow@comcast.net> 2/12/2009 9:10 AM >>>
> My Very Personal Nine-Month Collaboration with Big Wave Project in Half
> Moon Bay

>

>

> In September of 2007, I contacted Big Wave's President and Co-Founder,
> Jeff Peck and emailed him my Proposal that I had designed; A Organic
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> most prominent Autism Professionals and experts across the United States.

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> sharing my ideas and vision with Big Wave Project.

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> help with the Permit Process especially because he was near the Coast. I
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> My designs included an Eco-Friendly Pet Grooming & Dry Cleaners (All
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Fwd Re Big Wave ... Big Rip-off!

> Arts & Entertainment, Arcade/Game Room, Salt Water Pool, Epsom Salt
> Jacuzzi, Infra-red Sauna, Gym, etc...
>
> How breaking our children's day into two-hour work (2 hrs. morning and
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> which could qualify them for Health & Dental Insurance. And, allow them to
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Kim Andersen-Ashburn

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Kim Andersen-Ashburn

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Email: falanow@comcast.net
Website: www.falanow.com

Fwd Big Wave Project

>>> "Marilyn Handler" <myhand4728@yahoo.com> 2/19/2009 4:07 PM >>>

Dear Ms. Leung,

We are very upset about the attempt by developers to build a big impactful commercial residential center, the Big Wave project, right near our Seal Cove neighborhood and its ONE exit on to Airport Blvd.

We attended the MCC Feb 11 mtg. where developers and their supporters, in large numbers from other neighborhoods, arrogantly assumed the support of our local community

without ever having consulted us as a group.

This Big Wave project, with it's projected large increase of traffic on Airport, puts the entire Seal Cove neighborhood at potential risk in case of tsunami, earthquake or any number of emergencies.

We are already compromised because of the closure of Ocean and the lack of alternative routes within our neighborhood.

And now, you are considering gridlocking our one exit out of the neighborhood.

We request you not take one step further in this process without a full Seal Cove neighborhood meeting.

Thank you for your attention and your response,

John and Marilyn LeGette

854 San Ramon Ave

Moss Beach, Ca

Fwd Big Wave Project- Big Mistake

>>> "Colletti Joel" <joelandsusan@sbcglobal.net> 2/22/2009 12:35 PM >>>
Dear Ms. Leung and the Planning Department,

I, like many others who have recently become aware of what is being proposed, am opposed to the Big Wave Project.

When I was initially presented with this proposal to vote on, or consider, I believed we were voting for a relatively small size facility for the handicapped. But now as I am learning more about this project, after the fact, it appears to be much more than that. The Big Wave project is not a good fit for these small communities as, the infrastructure and demographics can not adequately make it feasible long or short term.

As we saw when Devil's Slide was closed, Highway One could not support the flow of traffic given the existing number of local residences vehicles needing to use this thoroughway. I believe estimates have stated it would take and add 4000 more new vehicles, daily, to make the Big Wave Project economically viable which would further stress the fragile transportation routes including the Tunnel and Bridge, thus negating the benefit of having the Tunnel we so longly waited for and need.

While there are many things I could add to support my opposition, such as the unsightliness of the huge footprints these structures impose on the landscape, and the fact that it lies literally in the flight-path of aircraft that could pose a danger to those occupying the proposed facilities as there is a real and greater risk to them. Lastly, consider the loss of existing tax revenue the County receives from the merchants' tourists and locals patronage. These merchants would be further stressed when their customers stop doing business with them because of the additional traffic congestion and blight these structures impose in contrast to what is already there and why people enjoy visiting and doing business there.

In closing, this is the wrong project for the wrong area and surrounding communities. Please, use whatever influence you and the Department have to bulldoze this project over and not steamroll it ahead.

Thank you for taking the time to read this. I believe if the local residents and surrounding communities knew what was happening and going to happen if this project moved ahead, your office would be flooded with these similar comments, concerns and criticisms.

Sincerely,

Joel A. Colletti
Concerned 11 year Montara Resident & Taxpayer

CC; Barry Parr Coastsider.com
Darrin Boville, MontaraFog.com
Neal Merrilees and MCC Council Members

My Personal View of the Big Wave Project:

The Big Wave project is to build a wellness Center which will provide a residential living community for cognitively disabled young adults. The project is led by Jeff Peck and Steve Barber and a large group of parents and individuals within our community who either have a cognitively disabled family member who would live in the wellness Center or who simply support this development seeing the community need for it.

The project is a privately funded effort to support this special segment of our community. It will be constructed and financed entirely with private funds. Conceptually the project is already integrated into the existing government provided social services available to this special group of individuals. A great deal of planning by families and individuals associated with this special needs community has already taken place.

Additional to housing, Big Wave will provide employment opportunities either on site or supported offsite work opportunities for approximately 50 cognitively disabled young adults. It will be a focal point for this sub-community and their families within our larger community here on the coast side.

There will be onsite ombudsmen/mentors living at the wellness Center as part of this supportive community primarily designed for the cognitively disabled adult. The wellness Center will consist of condominium units owned by the residents and restricted to people from this special segment of our population. The project is located on airport road west of the airport and slightly north of Princeton Harbor. It will be a short walk from the commercial development at Princeton Harbor with its hotels, restaurants, and shops in addition to the light industrial development at the harbor site. All of these commercial institutions represent potential nearby employment opportunities for people living at or near the wellness Center.

Adjacent to the wellness Center and on the same property will be four three story office buildings with parking. Rental or condominium sales agreements with renters or owners of the commercial space will be used to financially subsidize and sustain the wellness Center on a permanent and continuing basis.

The commercial center will be the first commercial space on the coast side capable of housing a successful moderately sized business on the coast. When the tunnel is complete this location will be a guaranteed 30 minutes by car from SFO. The communications systems available at the site will make it an ideal site for a enterprise requiring access to broadband communications and business travel typical of many service, software and technology design enterprises in the Bay Area.

Several successful startups in technology and services have started here on the coast but all have been forced to move away as they grew and succeeded. This development will be capable of housing a success business on a permanent basis, and will bring additional high end employment opportunities to the coast side augmenting the coast's current major businesses and enterprises in restaurants, hotels and floriculture/agriculture.

The entire project is designed around the goal of creating a wellness Center that will be financially viable on a long term basis. It is also an outstanding example of green development including recycling technology that will make it an example of the best development on the west coast from an environmentally sustainable perspective.

Fwd MCC has put the Big Wave Project on their agenda for Wednesday Feb. 11 2009 with estimated 745

It is critical that as many of us on the coast side who are committed to achieving a smart well planned environmental friendly and sustainable community attend this meeting to express our support for the Big Wave project. I hope you can attend. Please inform other individuals who support this important project of this event at the MCC on Wednesday Feb. 11, 2009 at approximately 7:30 pm.

Thank you,

James Larimer, Ph.D.
ImageMetrics, LLC
569 Alto Avenue
Half Moon Bay, CA 94019
650-678-0658 direct
650-560-0153 fax
jim@imagemetrics.com
www.imagemetrics.com

Fwd Big wave project3

>>> "Jack Sutton" <jsutton@hrmusic.com> 2/5/2009 4:34 PM >>>
Dear Camille Leung,

I'm a resident of Moss Beach living in the Pillar Ridge mobile home park just north of the proposed Big Wave project.

This project will have a detrimental impact on the residents that live in the immediate area, Princeton, Pillar Ridge mobile home park and Seal Cove. The EIR report estimates that 2000-4000 car trips per day will be generated by this development. Not only will that make access in and out of this area much more difficult but it will generate more pollution and carbon within the area.

Traffic in the Half Moon Bay area and in particular highway 1 and the Pillar Point Harbor is virtually gridlocked on most weekends.

Many residents including myself, do not even drive on such weekends, and therefore the major grocery stores Safeway and New Leaf are not accessible without major stress. Recently another large development has opened in the harbor, the Oceana hotel, restaurants and shopping mall.

Because of the current economic situation we have not felt the full impact of this development but as the economy recovers the impact of this and the Big Wave project on the area will be monumental. There are only two ways into this area, Cypress Avenue which is a two lane residential street and thru Princeton again small residential streets.

The actual construction process that will probably go on for several years will also have a detrimental effect on the locals by having heavy equipment and trucks clogging up the roads, polluting the area with noise and dirt. Once completed 4 massive 50 feet high buildings will block the beautiful views of the bluffs we enjoy today.

It should also be noted that the Pillar Point marsh area and harbor area near Mavericks is a prime shore bird habitat well known to naturalists, birders and photographers. This habitat will surely be adversely affected by the Big Wave project. Currently the Big Wave property is feeding and stopping off place for many bird species such as the Great Blue Heron, Killdeer, Egrets, American goldfinch, many sparrow species, Northern Harriers and other birds.

In Summary, this project will have a detrimental impact on the local residents. The only beneficiary here is the developer.

Everyone wants to see the quality of their life improve including their environment. Often times the quality of life in a small community is degraded by developers whose main interest is in making a profit. They have little interest in the affected community.

This seems like the case here.

Jack Sutton
123 Bonita St.
Moss Beach, Ca 94038

Fwd Big Wave project1

>>> "Perry Carr" <PCarr@krohngodby.com> 2/10/2009 1:04 PM >>>
I just watched a video regarding the Big Wave and I really can't believe such a big project would try to be build in the Princeton harbor area. The traffic alone is reason to plan it somewhere else. We have traffic problems now if the weather is nice and special Events. It really needs to be tone down or plan another entrance through the back of the airport to area.

Howard Perry Carr Jr.

PO Box 306

Moss Beach, CA. 94038

Fwd Big Wave project7

>>> "gordon staben" <gordonstaben@sbcglobal.net> 2/19/2009 1:40 PM >>>

Dear Camille Leung,

In regard to an article in the Half Moon Bay Review (02-18-09) about the Big Wave Project.

To begin with, the prospective developers remarks that the meeting had no effect whatsoever because "the slow train just keeps moving on" are very arrogant! Why have an open discussion if everything has been already decided?

There are serious concerns which have to be considered: The increase in traffic, the demand on our water resources, sewer capacity and the negative impact on the environment in general.

Another question: How are developmentally disabled persons able to have the necessary contact with the community while being put in such an isolated location? And - do these people really need all that office and parking space?

Thank you for your attention

Gordon and Ursula Staben
PO Box 370976
Montara, CA 94037

Fwd Big Wave Project in Princeton by the Sea

>>> "Betsy Daly-Caffell" <bdalycaffell@yahoo.com> 2/20/2009 12:01 AM >>>

Dear Ms Leung,

I am a resident in the Seal Cove bluff area, and would be directly impacted by the proposed Big Wave development. I am in favor of having DD living and business in the proposed area, but this project is scaled inappropriately for this location. This project must be substantially reduced in size in order to be built on this site. The location is located in a rural, and quiet area of Moss Beach and Princeton by the Sea.

Right next to the proposed site is a 227 space mobile home park where there is already a significant amount of traffic. There are no sidewalks on Airport Boulevard, so people are pushing baby strollers, riding bikes, or just walking in the street. There is another problem with cars driving at high speeds on this road at night. A woman was killed on this road while walking home from Princeton a few years ago. There are no street lights at the proposed site. There is no direct access to Highway 1, therefore traffic must go through the harbor warehouse area, or through the residential area of Seal Cove.

The roads in the area are narrow, and some are not even paved. I can't imagine what the road will be like a lunch time or during commute times.

There are no services conveniently located in this area. Residents and workers are approximately 5 miles from the city center of Half Moon Bay. Half Moon Bay has a medical clinic, shops, grocery stores, drug stores, gasoline, senior center, and all the amenities that this development and its tenants would need.

I am asking you do consider the impact that this huge development would have on the surrounding area. As I had stated before I am not opposed to the idea of a working and living community, but this is a grossly excessive development for this area. This must be drastically reduced in scale to better suit the tenants and the local residents of the area. Building this project of this size would have a huge negative impact on this quiet and beautiful location. I think it would be better located in Half Moon Bay where services a close by.

Sincerely,

Elizabeth Daly-Caffell
PO Box 515
171 Madrone Ave.
Moss Beach, CA 94038

Untitled

Dear County Planning & Building Department,

I am writing regarding the Big Wave development on the coastside in Princeton Harbor area. I am the President of Coastsides Parents Action League for Special Needs Children and Adults (C~PALS). We are a group made up of approximately 130 coastside families of children with developmental disabilities as well as professionals working in the service system and human services fields.

We have been working closely with the Big Wave Group in developing the wellness Center, which will be a residential community for approximately 40 adults with developmental disabilities. We are very concerned with the repeated delays that have occurred in the EIR process, which is now on it's fourth year and is possibly going to continue on for yet another year.

We wish to strongly urge you to consider fast-tracking the EIR process for Big Wave so that the coastside adults with developmental disabilities will have an affordable place to live near their families and support systems. The delays in the EIR process will have serious ramifications for many of the adults and their families.

Let me give you just one (of many) example(s) of how the delays in the EIR process are affecting our families. One of our C~PALS families has two adult sons with developmental disabilities. The family searched and searched for appropriate and affordable housing for their eldest son who, at the age of over 30 was still living at home. Finally, they placed him in a group home "over the hill," since there is virtually no affordable housing for people with developmental disabilities on the coastside. Their younger son, who is now himself over 30, also has a developmental disability. Several years ago, the father passed away, and two years ago the mother was diagnosed with cancer and is going through treatment. The mother is no longer able to work and is in need of care herself. The son wishes to find a home close to his mother, friends and support system. He wishes that he could move into Big Wave. But he can't because the EIR process drags on and on and on.

It took over one year for the County to retain an EIR consultant. The EIR consultants finally received a contract from the County in December, 2006. Now, 3-1/2 years after the contract started and 2-1/2 years after it should have been completed, the EIR consultants are requesting a 70% increase in the contract and stating that it will take another year to complete.

A reasonable schedule was provided in which the EIR consultants and County should have been able to bring the project to Planning in September, 2009. Planning, however, informed the Big Wave Group that it will not speed up the process, but that it will take until April, 2010 for the EIR process to be completed.

We strongly disagree with this decision and respectfully request that the Board of Supervisors direct Planning to do what is proper, right and legal. Our coastside families are in dire need of affordable, safe housing for their adult children with developmental disabilities. Please direct Planning to fast-track the EIR process for Big Wave.

Thank you for your consideration and please feel free to contact me if you have any questions.

Respectfully,
Debby Lesser
President, C~PALS
Half Moon Bay, CA 94019

Fwd Big Wave Big Mistake

>>> "David Vespremi" <vespremi@earthlink.net> 2/5/2009 3:27 PM >>>
Count me as firmly opposed to Big Wave. This blatant "greenwashing" of a 300,000 square foot commercial project = lipstick on a pig.

McCracken has been pulling this stunt for decades now. McCracken is an "expediter" that claims close relationship with the County supervisors and gets developers to employ his services in pushing projects like this through based on his old crony network.

I can list all the obvious reasons a project like this is completely inappropriate including traffic congestion on Highway 1, its obvious impact on sensitive wetlands habitat in and around the site, the fact that there is a water moratorium in place that McCracken sought (and was denied) a variance of the LCP to circumvent, let alone the fact that there is no precedent for allowing buildings of this height - completely out of character - for the coastside nor does it intuitively make sense to treat learning disabled folks as shut-ins in an isolated, self-contained enclave to justify building offices and retail spaces around them. The list of reasons not to do this is long, but at the end of the day, McCracken is a greedy developer hell bent on paving over the coastside and this latest proposal is entirely in line with what we have come to expect from him.

Sadly, he gets a cut of the development deal if Big wave goes through, and if it is successfully opposed and blocked, he inflates the price of the property and makes a cut on the sale to Peninsula Open Space. Either way, he lines his pockets so it is a no lose proposition to him.

Thanks,
David

C/CAG

City/County Association of Governments of San Mateo County

Atherton • Belmont • Brisbane • Burlingame • Colma • Daly City • East Palo Alto • Foster City • Half Moon Bay
• Hillsborough • Menlo Park • Millbrae • Pacifica • Portola Valley • Redwood City • San Bruno • San Carlos • San Mateo
• San Mateo County • South San Francisco • Woodside

February 20, 2009

Camille Leung, Planner III
County of San Mateo Planning and Building Department
455 County Center, Second Floor
Redwood City, CA 94063

Dear Camille:

RE: C/CAG Airport Land Use Committee (ALUC) Staff Comments on the Project Referral for the Proposed Big Wave Wellness Center and Office Park in the Vicinity of Half Moon Bay Airport

Thank you for the opportunity to comment on the above-referenced document. Please see my letter to you, dated December 5, 2008, that included my detailed comments on the Notice of Preparation (NOP) for an environmental impact report (EIR) for the proposed project.

My comments in the December 5, 2008 letter, addressed three specific issues that I would like to highlight again, as follows:

1. Aircraft Noise Impact Analysis

Due to the close proximity of the project site to Half Moon Bay Airport, especially to the location of the residential portion near the threshold (physical end) of Runway 30, aircraft noise is a major issue that must be addressed. A detailed acoustic analysis should be prepared by a registered acoustic engineer that includes documentation of single-event noise levels and cumulative noise event levels at the project site from aircraft operations at Half Moon Bay Airport. Based on the results of that study and compliance with the relevant provisions in the California Building Code for multi-family construction, the residential portion of the project should be designed to achieve an interior noise level in all habitable rooms of 45 dB CNEL or less, based on exterior noise sources. This interior noise level criterion should be included as a condition in the use permit as a mitigation measure for aircraft noise impacts.

2. Federal Aviation Regulations FAR Part 77 Notification and Airspace Impact Analysis

The project site is located within the FAR Part 77 airspace protection surfaces for Half Moon Bay Airport. Therefore, per the relevant requirements of the current Comprehensive Airport Land Use Plan (CLUP) for the environs of Half Moon Bay Airport, the project sponsor must file FAA Form 7460-1, "Notice of Proposed Construction or Alteration" with the FAA. The required form can be obtained online at the following website: <https://oeaaa.faa.gov/oeaaa/external/portal.jsp>

ALUC Chairperson:
Richard Newman
Aviation Representative

ALUC Vice Chairperson:
Mark Church, Supervisor
County of San Mateo

Airport Land Use Committee (ALUC) Staff: David F. Carbone,
Transportation Systems Coordinator/Airport Environs Planning
County of San Mateo Planning and Building Department

555 COUNTY CENTER, 5TH FLOOR, REDWOOD CITY, CA 94063 • 650/599-1406 • 650/594-9980

C/CAG Airport Land Use Committee (ALUC) Staff Comment Letter, Re: Comments on the Project Referral for the Proposed Big Wave Wellness Center and Office Park in the Vicinity of Half Moon Bay Airport
February 20, 2009
Page 2 of 2

The FAR Part 77 regulations establish airspace height limits, based on the height of structures or objects above mean sea level (AMSL), not above ground level (AGL). AGL is also known as the site elevation. For FAA purposes, the height of a structure or object related to mean sea level is the height of the site elevation above mean sea level (AMSL) plus the height of the highest element of the structure or object above the site elevation. For proposed structures, this would mean the maximum height of the structure includes the highest point of any element that might be located on the roof, such as mechanical equipment, antennas, flagpoles, etc. FAA staff will review the proposed project to determine if it has any airspace impacts. Any FAA suggested mitigation actions should be mentioned in the staff report and be included as a condition of the use permit.

3. Disclosure

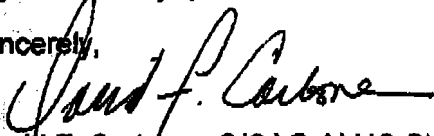
State Law requires disclosure of the proximity of real property to an airport, as part of the sale or lease of real property that is located within two miles of an airport. This requirement applies to the sale or lease of all of the proposed land uses in the Big Wave project. It is the responsibility of the seller to disclose the proximity of the airport to all buyers, as part of those transactions. In addition to the state-mandated disclosure, I understand the project sponsor is "willing to provide an airport disclosure and require a release form against airport operation complaints from all future residents". The project sponsor should contact Mark Larson, County Airports Manager, at 650/573-3700, to obtain a copy of the County aviation easement document to address this issue.

C/CAG/Airport Land Use Committee (ALUC) Compatibility Review

As noted in my December 5, 2008 letter, the project does not require formal review by the C/CAG Board, nor by the ALUC. However, I strongly recommend that the project sponsor attend an ALUC meeting in the near future to give the ALUC Representatives an informational presentation about the project. This will also allow the ALUC Representatives to learn about the project and to express their airport-related concerns. There would be no formal action by the ALUC at that meeting. I have discussed the possibility of holding an ALUC Special Meeting on Thursday, April 30, 2009, with Nicole DeMartini, Big Wave Project Director of Public Affairs. I explained to her that holding the meeting depends on getting at least seven ALUC Representatives/Alternates (a quorum) to commit to attend. I will notify Ms. DeMartini of the status of holding that Special Meeting after I determine if a quorum can be achieved.

If you have any questions about these comments, please contact me at 650/363-4417.

Sincerely,



David F. Carbone, C/CAG ALUC Staff

cc: Richard Napier, C/CAG Executive Director
C/CAG Airport Land Use Committee (ALUC) Members
Mark Larson, San Mateo County Airports Manager
Sandy Hesnard, Caltrans Division of Aeronautics

ALUCstaffcomilettonPROJECTREFERRALforBIGWAVE0209.doc

Big Wabe traffic study question

Hi Camille,

I have a question about the traffic study for Big Wave--not so much on the content of the study but about the study's "status."

Basically I'm trying to determine if this is now, or will be, the "official" study used to fulfill the requirements of the EIR. In other words, is this the study we should be concentrating on or is there another, substitute one, coming soon?

If this is the study that counts as far as the EIR goes then I have a few questions regrading the process of how this study came to be the "official" study.

- 1) I know the study was done in 2008 but I'm not clear on when it was submitted to your department. Is it date stamped as to when you received it?
- 2) Also, did the Big wave folks request that this study be used as the "official" one at that time or did they make that request at some later point (and if so, when)?
- 3) Finally, when did your department approve that this study would suffice for the purposes of the EIR.

Thanks for your help!

--Darin

Darin Boville
Montara Fog

Fwd Comments on Big Wave project facilities plan

>>> "Darin Boville" <darin@darinboville.com> 2/20/2009 11:55 AM >>>
Darin Boville
PO 370120
Montara, California, 94037

February 20, 2009

Camille Leung
Planning Manager
Sam Mateo County Planning Department
Redwood City, California

Dear Ms. Leung,

I am writing to offer feedback on the Big Wave project facilities plan. I recognize that the project is early in the approval process but feel that feedback by the community now, if communicated and responded to by the developer, would increase the project's chances for eventual success.

The Big wave proposal is one to build a 75,000 sq. foot "wellness center" which encompasses forty small residences for developmentally disabled individuals and an additional twenty such residences for staff. The buildings will also include recreational and other facilities.

The project is unique in that it proposes to financially support the wellness center with rents from a large office complex abutting the wellness center. This office complex will encompass 225,000 sq. feet of space in four buildings.

The Big Wave project presents an interesting yet highly frustrating combination of good intentions and as yet unresolved problems. The unresolved problems are at a high level and speak to the core structure of the project. It is difficult to see how these issues can

be resolved without a significant rethinking of the project on the part of the applicant.

Issue #1: The size of the project.

I have had the opportunity to attend all but one of the Big Wave informational meetings over the past few years and have carefully read

the information on their web page (www.bigwaveproject.org). Unfortunately the meetings failed to communicate the immensity of the

proposed structures. Indeed, the web page says nothing about the size

of the buildings. (Update: In the past few days the Big Wave website has been updated with an architectural drawing of the office building.)

You can imagine my surprise then when I read through the recently published facilities plan and discovered:

? The office park contained 225,000 sq. feet of office space.
To help put this number into context consider the total square footage of all existing office space on the coast (including Half Moon Bay), also about 225,000 sq. feet (a number confirmed by applicant Jeff Peck at the February

Fwd Comments on Big Wave project facilities plan
11th Midcoast Community Council Meeting). Big Wave--a single project--would effectively double the total amount of office space on the coastside.

? The office park buildings are over fifty feet high, two hundred feet long, and eighty feet deep--and there are four such buildings. They do not have slanted roofs but instead are box-like structures and this have immense b=visual "weight." I believe these structures would be the second tallest structures on the entire San Mateo Coast.

? The overall project comes in at 300,000 square feet. This would make it the largest project by square footage ever built on the Sam Mateo County coast. Its volume is greater than that of one hundred and twenty regular-sized, two-story houses.

? The project is sited with industrial buildings on one side--the largest of which is about thirty-four feet tall, although most are smaller. On the other side of the site is a mobile home park (permanent residences) made up of small, one-story structures. The Big

wave project, due to its tremendous size and the heavy "visual weight" of its large, box-like, flat-roof design, will tower over the nearby structures. The size of the Big Wave project is grossly out of character for the neighborhood of the site.

This site is simply the wrong site for a project of this magnitude. The buildings are far too large for the site, for the surrounding neighborhood, and for the coastside.

Issue #2: Parking and Traffic

The Big Wave site is built to maximum density. There is no leftover room for a picnic area let alone additional parking. As it is the plan

calls for approximately seven hundred parking spaces. It suggest approximately 4000 additional trips per day would be generated by this

facility. Unfortunately, very large structure cannot but be accompanied by very large traffic issues.

? The facilities plan calls for approximately seven hundred parking spaces, which just meets the needs of the structures as computed by the applicant. However, the applicant has used highly optimistic assumptions in those computations, assuming a favorable mix of uses for the structures which result in the end in a greatly reduced need for parking spaces from the maximum. Re-computing the parking requirements with more likely assumptions (i.e a higher percentage of

office space, less storage, etc.) leads to a much higher number of required parking spaces--approximately double the number of parking spaces--1400--would be required if most of the business park was leased or sold as offices.

Note that due to the site's location there is no additional parking available and no additional land upon which to build additional parking. Room for the required parking spaces must be found on the Big

wave property itself. This is a major issue.

? There is no direct access to the Big Wave property. Only two routes present themselves. One is to wind your way through the narrow

Fwd Comments on Big Wave project facilities plan
streets of Princeton Harbor until you reach Airport Road. Another is to come down through Cypress Avenue in Moss Beach--another narrow road with a bridge that can barely hold two cars side-by-side.

Cypress Avenue, according to residents at the recent MCC meeting, is a road that carries approximately 200 cars a day (that sounds about right given the small number of residences accessed by that road). Even if you assume that only half of the newly generated Big Wave traffic would go down Cypress that would still result in a tenfold increase in traffic. The harbor roads see roughly similar levels of traffic as Cypress. They would also see a ten-fold increase in cars each day.

Morning rush hour, lunch hour, and evening rush hour would see traffic levels unheard of outside of the Third world.

The developer dismissed concerns about traffic at the recent MCC meeting saying that they'd have a traffic engineer look at it. I think the problem is much more serious, and much more obvious than that and should be addressed as early in the process as possible.

? The property is located in a Tsunami and flood zone, and actually abuts a major earthquake fault. You can't get any closer than that! Evacuation plans call for evacuees to travel north to Cypress Avenue and then to access Highway One. I simply cannot imagine how this would be possible in any reasonable amount of time with so many cars.

Issue #3: The location is a poor one for the project's primary purpose.

The heart of the project is to support up to forty developmentally disabled individuals. This is an honorable goal and one the community

desires as well. However, the location of the project, in terms of serving the needs of these residents, is a poor one. In fact, it is difficult to think of worse choices on the Midcoast or in Half Moon Bay.

? The facilities plan says that the residents will, in general, not drive. However, the site is located well away from shopping, restaurants, recreational activities, and away from the population of

the coastside in general. (Limited retail areas do exist in the harbor

but those are located near Highway One at the front of the harbor area--Big wave is located way at the back of the harbor area, past all

of the industrial buildings).

? Big wave is located immediately adjacent to what is generally considered to be the highest crime area on the coastside. There are no

plans for security at the Big wave wellness Center.

? Big wave is located immediately next to and along the incoming flight path for airplanes landing at the Half Moon Bay airport (both propeller and small jet aircraft). This will present a constant and uncontrollable source of loud, disruptive noise that may be highly inappropriate for some members of the developmentally disabled community.

Fwd Comments on Big Wave project facilities plan
Suggestions for improvements

The above commentary may sound terribly negative--and I guess it is. The project has significant flaws in conception and in planning. But the core idea is a good one--helping the developmentally disabled to live independently.

with that in mind I would like to make the following suggestions aimed at addressing these problems head on with an eye to ward better serving the residents of this community.

1) The office park is far too large and will likely struggle to find tenants. Existing office space is no where near capacity. There is little demand for office space, even before the recent economic downturn, let alone a doubling of capacity. I suggest that the developer re-site the office portion of the complex in a location where economic demand exists for such a building and where building such a structure would not be out of character with its local environment.

There is no physical or conceptual reason why the office space has to be located geographically next to the wellness Center. Locate the office site over-the-hill where it can be built and can make good money--keep the wellness center on the coastside to serve the residents.

2) Resite the wellness Center near downtown Half Moon Bay. While there are no candidate sites where a large office complex might be built there are several candidate sites available for the smaller wellness Center--and given the recent economic downturn the land may be becoming more affordable. Siting the wellness Center near an existing town will offer the residents not only interaction with mainstream residents but it will also offer them the potential for jobs and recreational activities, integrated into the community rather

than isolated out by the airport and separated from the community.

3) Although I recognize that the developer already owns the land at the Big Wave site and thus desires to maximize that land's value, I would like to point out that given the overall budget for this project

(\$72 million and up) the price of the land is nearly inconsequential.

Obtaining a better site would do wonders toward solving the problems presented by the project. Indeed, all of the problems I cite above can

be fully addressed by properly and intelligently siting the project.

The choice of site (or sites) should depend on the needs of the project--we cannot simply shoehorn this large-scale project into the Airport Road site simply because the developer already happens to own

it.

Thank you for your attention and I look forward to the next opportunity comment upon this project.

Sincerely,

/s/ Darin Boville

Darin Boville
Montara, California

Fwd Big wave project 9

>>> "Curt Parker" <curtisarker@sbcglobal.net> 2/19/2009 12:13 PM >>>

Dear Camille Leung,

Surprise is not the best way to endear residents to a new development in their neighborhood. Subject project was not effectively publicized to the Seal Cove community of Moss Beach prior to a week ago and many aspects are still unknown. We have not been advised of the impact this large and ambitious undertaking may have on the overall Moss Beach-Princeton area and its residents. For this reason we protest approval of the project until such time as it has been presented to the public in a complete and comprehensive fashion. Two articles in the local newspaper and the project web site fall short of fulfilling that need.

One concern is the effect Big Wave will have on local traffic. Right now, Airport Street is free of congestion. That will surely change, but to what degree? Further, how will it affect conditions on Route 1, especially when four lane tunnel traffic becomes a factor in a few short years?

We do not oppose development. This part of the coastside has continuously changed over the twenty years we have lived here, often for the better. However, the pace is accelerating and we are depending on San Mateo County to maintain our infrastructure consistent with growth or control growth within the limits of existing infrastructure. Again, we urge you to withhold further approval until the community can be properly informed and assured that such will be the case.

Sincerely,

Curtis F. & Mary L. Parker

846 San Ramon Ave.
Moss Beach, CA, 94038

Pamela Eakins; Kate Haisch; Jason Brenneman

847 San Ramon Ave.

Fwd FW REGARDING OPPOSITION TO the Big Wave Project at Princeton Harbor

TO: The Honorable Bd. Of Supervisors, San Mateo County

I am writing to address my concerns over the proposed Big Wave Project at Princeton Harbor adjacent to the Pillar Ridge Mobile Home Park,

the Mavericks infamous surfing spot and the NASA tracking station. This project has merits for the people that it is designed for (DD ADULTS) however, for the existing community it needs to be really scaled back. By the description of the proposed scale, it sounds like it will be as big as the Ritz Carlton and yet the infrastructure to support it is surely not there.

- 1.) There are no services such as grocery stores or direct routes from Highway One.
- 2.) Roads through Princeton are congested, rough, unpaved or dog-legged at best.
- 3.) There has been a well-documented night-time fatality of a female pedestrian who could not be seen walking along the road one evening after dark. (Airport Blvd. has NO street lights and cars speed there.) The residents of the mobile home park often walk or ride bikes on this treacherous road and vehicles drive quickly making it difficult to avoid hitting a pedestrian in the dark.
- 4.) During the day, Airport Blvd. is already highly trafficked by Trucks carrying their loads through the harbor's industrial area.
- 5.) Airport Blvd. has no sidewalks or bicycle lanes, but it perhaps has been suggested that there is going to be an extension of the proposed Coastal Bike Trail north of the harbor someday, and Airport is the likely route. (Yet more possible accidents).
- 6.) Princeton Harbor is a working harbor and besides that, it is also Visitor Serving for tourists and water enthusiasts alike. why not use the same land to build a nature interpretive center that would be more in keeping with the fragile environment?
- 7.) The San Gregorio Fault runs up through the bluff at that location. Shouldn't the extra needs of developmentally disabled adults be considered when construction is proposed in a Natural Hazard Zone?
- 8.) Additionally, the Harbor area is subject to Tsunami warnings. How would a large center like the one proposed (700+ Parking spaces) be evacuated in the event of a natural emergency such as E/Q or Tsunami, with possibly helpless DD folks needing extra care as well- all with the inadequate road access?
- 9.) A group of CERT-trained Moss Beach neighbors formed a group in Seal Cove with an action plan in the event that first responders - (paid Emergency Response Officers -Fire, Sheriff's & Hospitals) were over-whelmed after a disaster. We can't imagine how frightened DD adults might be in similar situations.
- 10.) I do not think the size of this project warrants approval based on the poor site location and the proposed enormity of scale compared to the surrounding areas.

And this does not even address the lack of infrastructure and resources such as water or the wetlands that will be impacted at this location. I think a wellness center is an excellent idea; however, I am highly skeptical of the Office Park that will lend financial support to the Wellness Project. A Ponzi scheme takes from one... to benefit others. This seems like this will be a RE scheme of similar proportions.

Fwd FW REGARDING OPPOSITION TO the Big Wave Project at PrincetonHarbor

-Cid Young

Moss Beach Resident
180 San Lucas Avenue
650-728-9271

Cid Young
cid4houses@earthlink.net

FAX TRANSMISSION

WITTWER & PARKIN, LLP

147 South River Street, Suite 221

Santa Cruz, California 95060

Telephone: (831) 429-4055

Facsimile: (831) 429-4057

office@wittwerparkin.com

To: Camille Leung,
Planner III

Date: February 20, 2009

Fax #: (650) 363-4849

Pages: 4, including this cover sheet.

From: Granada Sanitary District

Subject: Big Wave Project Comment Letter

COMMENTS:

Please see attached comment letter.

CONFIDENTIALITY NOTICE

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GRANADA SANITARY DISTRICT
OF SAN MATEO COUNTY

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February 20, 2009

Ms. Camille Leung, Planner III
Planning and Building Department
County of San Mateo
455 County Center, Second Floor
Redwood City, CA 94063

Re: Granada Sanitary District Comments on Facilities Plan: Draft #2 for Big Wave Property, dated January 1, 2009

Dear Ms. Leung:

Thank you for forwarding the Big Wave project ("Project") referral package, which included the Facilities Plan: Draft #2 dated Jan. 1, 2009; Planning Permit Application Forms for Permits PLN2005-00481 and PLN 2005-00482 (for the office park and the wellness center, respectively); as well as the tentative maps and other planning documents for these proposed facilities.

As previously noted in GSD's December 5, 2008 comments and responses to the Notice of Preparation of an EIR for the Project, GSD has primary jurisdiction and permit authority over the proposed Project's connection to the public sewer and/or installation and use of a private wastewater treatment and disposal system.¹ Therefore, the Project will require a Sewer Connection Permit and/or a Private Wastewater Disposal System Permit to be issued by GSD. In addition, the proposed Project is located within GSD's Assessment District 96-1, which requires that parcels within the assessment district be required to connect to the district sewer system. It will therefore be subject to all fees and regulations associated with that assessment district.

In addition to the wastewater treatment issues outlined above, GSD has jurisdiction over garbage collection, disposal, and recycling services. Mandatory garbage collection service by the District's Franchisee (Seacoast Disposal) is required under our franchise agreement and the District Ordinance Code.

Finally, as a consequence of its role as a decision maker for the Sewer Connection Permit and/or a Private Wastewater Disposal System Permit, GSD is a "Responsible Agency" for the purposes of California Environmental Quality Act ("CEQA") review. CEQA and the CEQA Guidelines set forth a comprehensive statutory scheme encouraging, and in many cases mandating, that lead agencies coordinate with

¹ See also Letters dated December 8, 2008 to this effect sent to the Applicant and to you.

other agencies with permitting authority over aspects of the project outside the lead agency's jurisdiction (i.e. responsible agencies). In order to facilitate and comply with the CEQA requirements for early coordination between lead and responsible agencies, the District hereby submits the following comments:

GSD'S COMMENTS ON FACILITIES PLAN: DRAFT #2

The District would like to submit the following questions and comments related to the project's wastewater disposal system, and the garbage collection and disposal (including recycling):

1. Several of the questions and comments contained in GSD's December 5 comment letter in response to the Notice of Preparation are not addressed in the Facilities Plan. Please ensure that each of these questions and comments are addressed in future environmental analysis of the Project.
2. There is inadequate documentation to support many of the factual assertions contained in the Facilities Plan. Please provide the background studies and investigation to support these assertions in future environmental analysis of the Project.
3. The proposed wastewater treatment and/or recycling facilities will require a permit from GSD. The Project Description should be modified to reflect this requirement. More generally, the Facilities Plan should include clear delineation of the various permits required and the respective agencies with permit authority.
4. The Facilities Plan does not appear to include the purchase of the additional Noncontingent Assessments required by the assessment district regulations.
5. The Facilities Plan no longer consistently references a private wastewater treatment and disposal system, but rather references a recycling plant subject to permitting by the RWQCB and the State Health Department. As understood by the documents provided to date, GSD would consider either system to also likely require a Private Wastewater Disposal System Permit from the District.
6. Section 8.8 of the Draft Facilities Plan states that Allied Waste will provide waste collection and recycling for the Project, however, GSD has a franchise agreement with Seacoast Disposal which requires that Seacoast Disposal provide such services. Therefore, the Project should be modified to reflect this agreement.
7. Provide a detailed analysis of how the Project's wastewater treatment system, the MBR plant, will interact with the water recycling system, including, but not limited to, the proposed locations, conveyance, and storage systems of these

facilities, and a detailed analysis of how these systems will be constructed and maintained to avoid discharges into the environment.

8. Identify all wastewater infrastructure proposed to be installed in, on, over or near creeks, environmentally sensitive habitat area or other coastal resources.
9. Mitigation measures or alternatives to lessen or avoid any environmental impacts identified in this letter or identified in response to questions or comments raised in this letter should be incorporated into the final Project.

Because GSD has had no preliminary discussions with anyone from the Big Wave group concerning the Project, we would encourage the applicant to contact us at their earliest convenience to discuss these issues.

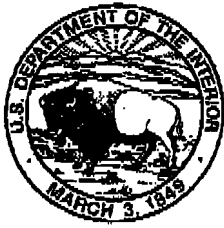
Thank you for your consideration of these questions and comments.

Sincerely,

GRANADA SANITARY DISTRICT


Chuck Duffy, General Manager

cc: Applicant
GSD Board of Directors
GSD General Manager



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846



In Reply Refer To:
81420-2009-TA-0452

FEB 27 2009

Ms. Camille Leung
San Mateo County Planning and Building Department
455 County Center, 2nd Floor
Redwood City, California 94063

Subject: Comments on the Big Wave Project near the City of Half Moon Bay, in
San Mateo County, California

Dear Ms. Leung:

This letter contains the U.S. Fish and Wildlife Service's (Service) comments on the Big Wave Project near the City of Half Moon Bay, San Mateo County, California. The Service received the project information and *Facilities Plan: Draft 2, Big Wave Property* on January 21, 2009. Our comments are provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

It is our understanding the proposed project consists of the construction of four three-story buildings and associated parking lots, 70 residential units, a storage building, a swimming pool, and associated infrastructure which includes parking lots, on-site trails and walkways, a water treatment facility, and seawater desalination facility. The proposed project also includes 75 acres of row-crop agricultural areas, a native plant nursery, and livestock farming and dairy operation. The proposed project includes wetlands restoration, a groundwater infiltration system, and the extension of the coastal trail to the Pillar Point Bluffs. The proposed project is located adjacent to and within the Half Moon Bay Airport property on Airport Street.

The Service is concerned about the potential adverse effects of the project on the threatened California red-legged frog (*Rana aurora draytonii*) (red-legged frog) and the endangered San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) (garter snake). The Service is also concerned that portions of the proposed project may adversely affect the threatened marbled murrelet (*Branchyramphus marmoratus*), threatened Pacific Coast population of the western

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snowy plover (*Charadrius alexandrinus nivosus*), threatened Southern sea otter (*Enhydra lutris nereis*), and possibly the endangered Myrtle's silverspot butterfly (*Speyeria zerene myrtleae*).

Section 9 of the Act prohibits the take of any federally listed animal species by any person subject to the jurisdiction of the United States. As defined in the Act, take is defined as "...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm has been further defined to include habitat destruction when it injures or kills a listed species by interfering with essential behavioral patterns, such as breeding, foraging, or resting. Thus, not only are the red-legged frog, garter snake, marbled murrelet, and Southern sea otter protected from such activities as collecting and hunting, but also from actions that cause their death or injury through damage or destruction of their habitat. The term "person" is defined as "...an individual, corporation, partnership, trust, association, or any other private entity; or any officer, employee, agent, department, or instrumentality of the Federal government, of any State, municipality, or political subdivision of a State, or any other entity subject to the jurisdiction of the United States."

Take incidental to an otherwise lawful activity may be authorized by one of two procedures. If a Federal agency is involved with the permitting, funding, or carrying out of the project and a listed species is going to be adversely affected; then initiation of formal consultation between that agency and the Service pursuant to section 7 of the Act is required. Such consultation would result in a biological opinion addressing the anticipated effects of the project to the listed species and may authorize a limited level of incidental take. If a Federal agency is not involved in the project, and federally listed species may be taken as part of the project, then an incidental take permit pursuant to section 10(a)(1)(B) of the Act should be obtained. The Service may issue such a permit upon completion of a satisfactory conservation plan for the listed species that would be taken by the project.

The proposed project area is located adjacent to and within suitable habitat for the red-legged frog and garter snake, and is located adjacent to environmentally sensitive areas, such as the Pillar Point Marsh and the mouth of Denniston Creek, which provides habitat for the garter snake and red-legged frog. Observations of both red-legged frogs and garter snakes have been made upstream within Denniston Creek (CDFG 2009). This waterway provides dispersal and foraging habitat, as well as possible, breeding habitat for both of these listed species. Along with various unnamed drainages, Denniston Creek provides continuity for dispersal of these species to the proposed project area. In 1999, adult and juvenile red-legged frogs were documented just south of the adjacent West Point Road within the drainage that flows through the proposed project area (CDFG 2009). In addition, red-legged frogs and Pacific tree frogs, the prey of the garter snake, have been observed in the Denniston Creek watershed, Pillar Point Marsh, and within former stock ponds near the proposed project area.

Research has shown that agriculturally disturbed lands do not preclude the presence of red-legged frogs. Dispersing frogs in northern Santa Cruz County were recorded traveling distances from 0.25 miles to more than 2 miles without apparent regard to topography, vegetation type, or riparian corridors (Bulger *et al.* 2003). Fellers and Kleeman (2007) and Bulger *et al.* (2003)

found that California red-legged frog migration corridors can be less "pristine" (e.g., closely grazed fields, plowed agricultural lands) than breeding or non-breeding habitats. Bulger *et al.* (2003) observed that this listed ranid did not avoid or prefer any landscape feature or vegetation type. They tracked individuals that crossed agricultural land, including recently tilled fields and areas with mature crops. Due to the presence of suitable habitat and connectivity between documented sightings, nearby observations of red-legged frogs, garter snakes, and its prey, the Pacific tree frog at or near the site, and the biology and ecology of these two listed species, the Service believes that the garter snake and red-legged frog are reasonably certain to occur at the proposed project area.

The proposed project includes the extension of the existing coastal trail to the Pillar Point Bluffs and the addition of desalination and brine return pipelines from the proposed project area to the ocean. The Service believes that the proposed extension of the coastal trail would increase human presence and recreational activities to the adjacent Pillar Point Harbor Beach, thereby degrading the quality of a known roosting and foraging site for wintering Western snowy plovers through increased human presence, unleashed dogs, kites, and other disturbing activities. Garter snakes and red-legged frogs may be harassed, injured or killed by pedestrian and bicycle traffic on the trail. Garter snakes are often attracted to trails for basking and are likely to be crushed or harassed by pedestrian and bicycle traffic on the trail.

The construction and maintenance of the desalination intake and brine return pipelines and associated infrastructure would also adversely affect garter snakes and red-legged frogs through entrapment in trenches and injury or death through crushing by equipment. The proposed desalination intake and brine return may also adversely affect marbled murrelets and Southern sea otters. Marbled murrelets have been documented utilizing the Pillar Point harbor and surrounding areas for foraging with sightings ranging from 2 birds to 66 (CDFG 2009). Southern sea otters range from Half Moon Bay to Point Conception on the central and southern California coasts, but individuals may wander as far north as Marin County and south into Mexico.

Myrtle's silverspot butterfly was described from specimens collected in coastal San Mateo County. It has not recently been observed in this area, however, no surveys have been conducted for the animal. The larvae feed on the blue violet (*Viola adunca*). Myrtle's silverspot butterfly is known from sand dune and coastal grassland habitats.

We recommend that adequate assessments for the six listed species be completed and provided to us and the California Department of Fish and Game for review and comment. If appropriate, authorization for incidental take via sections 7 or 10(a)(1)(B) of the Act should be obtained for the California red-legged frog, San Francisco garter snake, Pacific Coast population of the western snowy plover, marbled murrelet, southern sea otter, and Myrtle's silverspot butterfly prior to certification of the environmental documents prepared for the California Environmental Quality Act.

Ms. Camille Leung

4

Please note that this letter does not authorize take for California red-legged frog, San Francisco garter snake, Western snowy plover, marbled murrelet, southern sea otter, and/or Myrtle's silverspot butterfly.

This concludes our comments on the *Facilities Plan: Draft 2, Big Wave Property*. We are interested in working with the County of San Mateo and/or the applicant in the resolution of these issues to listed species and wildlife. If you have any questions regarding our comments, please contact Ryan Olah or me at the letterhead address, telephone 916/414-6625, or via electronic mail (Ryan_Olah@fws.gov; Chris_Nagano@fws.gov).

Sincerely,



Christopher D. Nagano
Deputy Assistant Field Supervisor
Endangered Species Program

cc:

Scott Wilson, Richard Fitzgerald, Dave Johnston, Suzanne DeLeon, California Department of Fish and Game, Yountville, California
Ruby Pap, California Coastal Commission, San Francisco, California

Literature Cited

Bulger, J. B., N. J. Scott Jr., and R. B. Seymour. 2003. Terrestrial activity and conservation of adult California red-legged frogs *Rana aurora draytonii* in coastal forests and grasslands. *Biological Conservation* 110:85-95.

California Department of Fish and Game. 2009. RAREFIND. Natural Heritage Division, Sacramento, California.

Fellers, G. M. and P. M. Kleeman. 2007. California Red-Legged Frog (*Rana draytonii*) Movement and Habitat Use: Implications for Conservation. *Journal of Herpetology* 41(2): 271-281.

Fwd Opposition to proposed Big Wave project

>>> <mullinsealcove@comcast.net> 2/20/2009 10:09 AM >>>

Ms Leung--I am a Seal Cove resident and I am opposed to the Big wave project for the following reasons:

The site is located adjacent to an environmentally sensitive area.

It is in a seismic study area.

We in Seal Cove are already impacted by the influx of people coming to Pillar Point Bluff and Maverick's and this project would only increase the traffic congestion and thus cause more potential safety hazards and access issues.

Airport Blvd does not have sidewalks--school kids wait for the bus and people walk, bike, push baby strollers down Airport Blvd--Airport Blvd cannot safely handle any more traffic --it is marginal now !

We do not need monstrous buildings in our small semi-rural neighborhood.

I think the project is a great idea but it needs to be located elsewhere.

Sincerely,

Cathy Mullin
66 Precita Ave.
Moss Beach, Ca.

Big Wave

>>> Carol <oceanatsanlucas@yahoo.com> 2/19/2009 3:52 PM >>>

Dear Ms Leung,

I am just beginning to get the size of this proposed Big Wave project. I had thought that it was a sheltered workshop/home/facility for maybe 20 developmentally handicapped people, which sounded like a good thing.

Now the picture in the Half Moon Bay Review and Pescadero Pebble shows a geemoungous developmentally challenged complex the size of which I never would have imagined in my 40 plus years here in Seal Cove.

whatever is the thinking/planning here? Imagine getting out on Highway one with all that probable traffic. And with all the sadly empty buildings and shopfronts on our Coastside--what clients are they thinking of?

Not to mention that if my memory serves, the bottom of that lovely ridge is the home of the active Seal Cove earthquake fault. Reminds me of that song about the Titanic: They'll put them down below where they'll be the first to go . . .

But seriously, do let me know more about this plan, and ways it can be modified to a state of reasonableness. I can't begin to download the many pages which have (thank heavens, and you-all for that) been put up on our computers.

Sincerely,

Carol Guion
Ocean at San Lucas
Moss Beach

Big Wave Project Princeton

By straining existing infrastructure, the proposed Big Wave development at Princeton is bound to affect adversely everyone already living or working at Princeton and the Seal Cove neighborhood of Moss Beach, including my wife and me. This is not in itself a reason to reject it, but it is a reason to consider carefully the limits of the site. I have three main concerns:

1. The site is many times farther away from CA-1 highway access than any development of its projected size on the Coastside. Airport Street is wide and straight, but connecting links at both ends are risible. At the north, Cypress Avenue is narrow, without shoulders, and restricted midway by a bridge not even two lanes wide. Residents using it already have to dodge and sometimes back up to make room for SamTrans buses turning into it or crossing the bridge. At the south end Airport Street is reached only through a maze of little roads, almost always crowded with pedestrians in the area around Princeton's several popular restaurants. To place a large development on the proposed site without major access improvements would surely be poor planning.
2. Described as an office park, the project seems to propose uses at least hitherto uncharacteristic of the location. West of Capistrano Road this has been almost exclusively light industry, the airport, small warehouses, and boatyards. If light industrial uses are proposed for Big Wave, they should be publicly addressed.
3. Finally, I am concerned about visual scale. The site is backed by protected land, and development, especially the height of buildings, needs to be carefully regulated to maintain the integrity of the coastal landscape.

Sincerely,
Carl and Mary Peterson
116 Los Baños Avenue
Moss Beach

Big Wave Project

>>> "Ari Etheridge" <ari_urakubo@yahoo.com> 2/6/2009 9:06 AM >>>
Ms. Leung,

I am a resident of unincorporated San Mateo County in the Miramar area and would like to offer comments on the Big Wave development. While I laud the purpose of the project which would provide residence and employment for developmentally disabled adults, I do find some aspects of this project concerning both with respect to the impact on the local community as well as the mission of the project.

The current services available in the area appear to be inadequate for the project involved. The access to highway one is limited by Cypress Avenue in the north and through Princeton in the south. Both points of access are small roads which do not appear to be able to sustain adequately the increased traffic created by the development as well as the traffic created by construction.

It would seem that the underlying goal of the Big Wave project would be to integrate developmentally disabled adults into the larger community. While providing a place of residence and employment services would help achieve these goals, the placement of the development would actually serve to further isolate these individuals as there are few existing community resources in the immediate area and accessing many services (such as health, food, financial, library, recreation) would require transportation which is limited, especially on weekends.

I support the development of a project which aims to achieve the goals of the Big Wave development, but believe there are serious drawbacks to this particular project.

Thank you for your time.

Sincerely,

Ari Etheridge

Fwd RE Big Wave Project

>>> "Mike or Yvonne" <mbeeds@yahoo.com> 2/20/2009 3:39 PM >>>
Dear Ms Cleung,

I am unable to support this project, because the Community needs to have a traffic impact study done. This project will add traffic and congestion to our already over burdened roads.

Thank you,

Yvonne Bedor
P.O. Box 873
El Granada 94018

APPENDIX C

LETTERS FROM PUBLIC SERVICE AND UTILITY AGENCIES



April 22, 2009

Paul Cole, Assistant Fire Chief
Coastside Fire Protection District
District Headquarters
1191 Main Street
Half Moon Bay, CA 94019

**RE: San Mateo County Big Wave Wellness Center and Office Park Project Environmental Review –
Request for Fire Service Information**

Dear Assistant Chief Cole:

Christopher A. Joseph & Associates (CAJA) is working with the County of San Mateo to prepare an Environmental Impact Report (EIR) for the proposed Big Wave Wellness Center and Office Park project, and is requesting information to determine whether the project would have the potential to have a significant environmental effect related to public services, including fire protection and emergency medical response services. The proposed project will be evaluated in accordance with State Guidelines for the implementation of the California Environmental Quality Act (CEQA) to determine its potential impacts on the environment. For your review and evaluation, following is a brief description of the Big Wave Wellness Center and Office Park project.

The 19.4-acre project site is located on Airport Street, northwest of the Princeton/Pillar Point Harbor area in the Mid-Coast region of unincorporated County of San Mateo. The project area is accessible via SR 1 (Cabrillo Highway), located less than 0.5 miles to the east, and Airport Street. The project site can be directly accessed from the surrounding Capistrano Road, Prospect Way, and California and Cornell Avenues, located to the east and south of the site, respectively (refer to Figure 1, Regional and Vicinity Map). Surrounding land uses include the Half Moon Bay Airport (east), the El Granada Mobile Home Park (north), the Pillar Point Marsh (west), and the Princeton/Pillar Point Harbor industrial/commercial area (south) (refer to Figure 2, Aerial Photograph of the Project Site and Surrounding Area).

The project area includes two adjacent parcels (APN: 047-311-060 and APN 047-312-040) that is currently in agricultural production. The site is relatively flat, with gentle slopes to the south and west. Due to extensive site farming activities, little to no native vegetation remains over the great majority of the project site. A natural drainage swale separates the two parcels and leads to the Pillar Point Marsh. A total of 0.74 acres of wetlands under the protection of the California Coastal Commission of which 0.45 acres is Federal jurisdictional waters/wetlands occur on the project site under the permit authority of the US Army Corps of Engineers (USACOE).

The proposed project is designed as an economically and environmentally sustainable community development that provides housing and employment opportunities for low-income developmentally disabled (DD) adults. The two

primary components of the proposed project include: (1) the Office Park property (northern parcel) development consisting of four, three-story buildings (225,000 square feet total) planned for mixed office use, a 640-space parking lot, and a two-story Communication Building (refer to Figure 3, Office Park Site Plan); and (2) the Wellness Center property (southern parcel) development with 70 apartment style and single-story style units (“breezeway units”) for use by up to 50 DD adult residents and 20 live-in staff members, other on-site living and recreation facilities for residents, associated fencing, a separate storage building and a 73-space parking lot (refer to Figure 4, Wellness Center Site Plan). These components would be designed in tandem, so that the DD adults could be employed by both the Wellness Center and Office Park. Additionally, the proposed project would include: development of an on-site walkway/trail system to allow pedestrian and wheelchair access between the proposed Wellness Center and the Office Park properties; restoration of wetland habitat; and development of bus stops and shuttle services. All buildings and development would be designed to meet Platinum-level Leadership in Energy and Environmental Design (LEED) certified construction.

The purpose of the EIR is to assess the project’s potential impacts to various environmental issue areas and public service and utility agencies, including the Coastside Fire District (District). We hope you can help us identify potential impacts to fire protection and emergency medical response that may be created by the proposed project. If applicable, the EIR will also provide recommendations that may be necessary to reduce such potential impacts to “less-than-significant” levels. Any assistance that you can provide with the following questions would be greatly appreciated:

1. Which stations would provide fire protection services to the project site?
 - 1a. Which fire station would provide initial response to the proposed project?
 - 1b. What are the types and numbers of staff at each of these stations?
 - 1c. What are the types and numbers of equipment (e.g., fire trucks, engines, rescue ambulances, etc.) at each of these stations?
2. Are the existing staff levels at the stations discussed in answer to Question #1 adequate to meet current demands for fire protection services in the project area?
 - 2a. If not, what is needed to accommodate current demands?
3. What other agencies provide mutual aid to the proposed project site and surrounding areas?
4. Does the District have plans to develop any new fire stations or make improvements to the staff/equipment levels of stations in the area of the proposed project?
 - 4a. If so, please describe the specifics of these planned improvements.
5. What is/are the average response time(s) from each fire station included in your response to Question #1 to the project area?

- 5a. What is the desired response time of the District?
6. What is the current ratio of firefighters per population? Does the District have a preferred ratio?
7. Would implementation of the proposed project require the District to construct new facilities or expand existing facilities to accommodate the increased demand for fire protection services created by the proposed project?
8. In addition to addressing project-specific impacts to fire protection services, the EIR will also address cumulative impacts to fire protection services. We are in the process of compiling a list of reasonably-foreseeable development in the County. Table 1 includes a list of some of the other major, reasonably-foreseeable approved development in the County in proximity to the proposed project's location. Can the District accommodate the demand for fire protection services associated with the development of these projects in conjunction with the proposed project?
9. How does your agency address the growing demand for fire protection services?
 - 9a. Do you have any projections for future demand based on projected growth in the region?
 - 9b. What would be needed to meet the cumulative demand for fire protection services?
10. Please provide any recommendations that could reduce the demand for fire protection services created by the proposed project and cumulative development.

Thank you for your assistance with the questions outlined above. Any response that you can provide will help us ensure that our analysis of project-specific and cumulative impacts on fire protection services is accurate and complete. In order to attain a timely completion of our analysis, please provide your response (via mail, email, or fax) no later than **May 1, 2009**. Should you have any questions, feel free to call me at (707) 676-1913. You may also reach me by email at megan.marruffo@cajaeir.com and by fax at (707) 283-4041.

Sincerely,

Megan Marruffo
Assistant Environmental Planner
Christopher A. Joseph & Associates

Enclosed:

- Figure 1: Regional and Vicinity Map
- Figure 2: Aerial Photograph of the Project Site and Surrounding Area
- Figure 3: Office Park Site Plan
- Figure 4: Wellness Center Site Plan
- Table 1: Related Projects



Coastside Fire Protection District



1191 Main Street • Half Moon Bay, California • 94019
Paul Cole, Fire Chief

Date: 5/14/09 From: Paul Cole, CHIEF

To: MEGAN MARUFFO

Fax: 707-883-4041 Pages: 3

Phone: _____

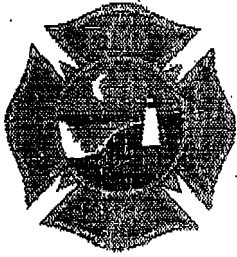
Re: BIG WAVE WILDFIRE PROTECT cc:

Urgent For Review Please Comment Please Reply Per Your Request

Comments:
PLEASE SEE ATTACHED.

If you do not receive all pages, please call back immediately.
Telephone: (650) 726-5213
Fax: (650) 726-0132

"Smoke Detectors - Don't Stay Home Without One"

**COASTSIDE FIRE PROTECTION DISTRICT**

1191 MAIN STREET # HALF MOON BAY, CA 94019

TELEPHONE (650) 726-5213

FAX (650) 726-0132

May 14, 2009

Ms. Megan Marruffo
Assistant Environmental Planner
Christopher A. Joseph & Associates
179 H. Street
Petaluma, CA, 94952

Re: Big Wave Wellness Center and Officer Park Project

Dear Ms. Marruffo,

The following are the requested responses pursuant to your environmental analysis of the proposed Big Wave Wellness Center and Office Park Project:

Question # 1 - What stations would provide fire protection services to the project site?

Answer #1 - Station 41 would provide initial fire and emergency medical services. The station is staffed with one engine and three (3) personnel. Two other stations would support the initial response, Station 40 (Half Moon Bay) and Station 44 (Moss Beach). Station 40 is staffed with five (5) personnel and Station 44 is staffed with three (3). Apparatus at Station 40 include one 75" ladder truck (Quaint), one patrol, and one light-duty rescue. This is in addition the type 1 fire engine. Both Station 41 and Station 44 have one type 1 fire engine and reserve engine each.

Question # 2 - Are the existing staff levels at the stations discussed in answers to Question # 1 adequate to meet the current demands for fire protection services in the project area?

Answer #2 - Unknown at this time. Depending upon the layout of the 3-story project, the aerial ladder may not reach the roof of the building. Also, depending upon the service demands in the DD facility, additional personnel may be needed to meet the response time demands.

Question # 3 - What other agencies provide mutual aid to the proposed project site and surrounding area?

Answer #3 - The Coastside Fire Protection District is a signatory of the San Mateo County Automatic Aid agreement. This agreement provides for aid from all fire agencies in San Mateo County.

Question # 4 - Does the District have plans to develop any new fire stations or make improvements to the staff/equipment levels of stations in the area of the proposed site?

Answer #4 - Not at this time.

Question # 5 - What is/are the average response time(s) for each fire station in your response to Question # 1 to the project area?

Answer #5 - Approximately 6:59 (min) to 12:00 (min).

Question # 6 - What is the current ratio of firefighters per population? Does the District have a preferred ratio?

Answer # 6 - None established at this time.

Question # 7 - Would implementation of the proposed project require the District to construct new facilities or expand existing facilities to accommodate the increased demand for fire protection services created by the proposed project?

Answer # 7 - If the service demands increase, one additional company could be required at Station 41. The current station cannot support the additional company and would need to be expanded and/or newly constructed.

Question # 8 - In addition to addressing project-specific impacts to fire protection services, the EIR will also address cumulative impacts to fire protection services. We are in the process of compiling a list of reasonably foreseeable development in the County. Table 1 includes a list of some of the other major, reasonably foreseeable approved development on the County in proximity to the proposed project's location. Can the District accommodate the demand for fire protection services associated with the development of these projects in conjunction with the proposed project?

Answer # 8 - It would depend upon the type and number of calls for service each of these projects would generate. However, with the addition of one additional staffed engine/truck company the District could meet the demands as projected.

Question # 9 - How does your agency address the growing demands for fire protection services?

Answer # 9 - One method utilized is through our Community Facilities Development process (Mello-Roos).

Question # 10 - Please provide any recommendations that could reduce the demand for fire protection services created by the proposed project and cumulative development.

Answer # 10 - All proposed construction plans shall meet the provisions set forth in our local fire ordinances. In addition, the District may examine expanding the scope of our current Community Facilities Development process.

Sincerely,



Paul Cole, Chief
Coastside Fire Protection District.



April 22, 2009

Mr. Martín Gómez, Director of Library Services
San Mateo County Library
125 Lessingia Court
San Mateo, CA 94402

**RE: San Mateo County Big Wave Wellness Center and Office Park Project Environmental Review –
Request for Library Service Information**

Dear Mr. Gómez:

Christopher A. Joseph & Associates (CAJA) is working with the County of San Mateo to prepare an Environmental Impact Report (EIR) for the proposed Big Wave Wellness Center and Office Park project, and is requesting information to determine whether the project would have the potential to have a significant environmental effect related to public services, including library services. The proposed project will be evaluated in accordance with State Guidelines for the implementation of the California Environmental Quality Act (CEQA) to determine its potential impacts on the environment. For your review and evaluation, following is a brief description of the Big Wave Wellness Center and Office Park project.

The 19.4-acre project site is located on Airport Street, northwest of the Princeton/Pillar Point Harbor area in the Mid-Coast region of unincorporated County of San Mateo. The project area is accessible via SR 1 (Cabrillo Highway), located less than 0.5 miles to the east, and Airport Street. The project site can be directly accessed from the surrounding Capistrano Road, Prospect Way, and California and Cornell Avenues, located to the east and south of the site, respectively (refer to Figure 1, Regional and Vicinity Map). Surrounding land uses include the Half Moon Bay Airport (east), the El Granada Mobile Home Park (north), the Pillar Point Marsh (west), and the Princeton/Pillar Point Harbor industrial/commercial area (south) (refer to Figure 2, Aerial Photograph of the Project Site and Surrounding Area).

The project area includes two adjacent parcels (APN: 047-311-060 and APN 047-312-040) that is currently in agricultural production. The site is relatively flat, with gentle slopes to the south and west. Due to extensive site farming activities, little to no native vegetation remains over the great majority of the project site. A natural drainage swale separates the two parcels and leads to the Pillar Point Marsh. A total of 0.74 acres of wetlands under the protection of the California Coastal Commission of which 0.45 acres is Federal jurisdictional waters/wetlands occur on the project site under the permit authority of the US Army Corps of Engineers (USACOE).

The proposed project is designed as an economically and environmentally sustainable community development that provides housing and employment opportunities for low-income developmentally disabled (DD) adults. The two primary components of the proposed project include: (1) the Office Park property (northern parcel) development

Mr. Gómez, Director of Library Services

San Mateo County Library

April 22, 2009

Page 2

consisting of four, three-story buildings (225,000 square feet total) planned for mixed office use, a 640-space parking lot, and a two-story Communication Building (refer to Figure 3, Office Park Site Plan); and (2) the Wellness Center property (southern parcel) development with 70 apartment style and single-story style units (“breezeway units”) for use by up to 50 DD adult residents and 20 live-in staff members, other on-site living and recreation facilities for residents, associated fencing, a separate storage building and a 73-space parking lot (refer to Figure 4, Wellness Center Site Plan). These components would be designed in tandem, so that the DD adults could be employed by both the Wellness Center and Office Park. Additionally, the proposed project would include: development of an on-site walkway/trail system to allow pedestrian and wheelchair access between the proposed Wellness Center and the Office Park properties; restoration of wetland habitat; and development of bus stops and shuttle services. All buildings and development would be designed to meet Platinum-level Leadership in Energy and Environmental Design (LEED) certified construction.

The purpose of the EIR is to assess the project’s potential impacts to various environmental issue areas and public service and utility agencies, including the San Mateo County Library. We hope you can help us identify potential impacts to library services that may be created by the proposed project. If applicable, the EIR will also provide recommendations that may be necessary to reduce such potential impacts to “less-than-significant” levels. Any assistance that you can provide with the following questions would be greatly appreciated:

1. The Half Moon Bay Library is the nearest branch library to the project site. Would this library serve the proposed project? Would any other libraries or branches provide service to the residents of the proposed project?
2. What is/are the size(s) of each library included in your response to Question #1 (in square feet)?
3. What is/are the amount of volumes of books in each library included in your response to Question #1?
4. What is/are the estimated population(s) served by each library included in your response to Question #1?
5. What is/are the staffing level(s) of each library included in your response to Question #1?
6. Does the San Mateo County Library have any plans to develop new libraries or expand existing libraries in the project area?
7. Does the San Mateo County Library implement fee-based assessments (i.e., mitigation fees) to new development projects? If so, how are the fees calculated for commercial and residential uses?
8. Area the library/libraries included in your response to Question #1 adequately meeting the project area’s current demand for library services?
9. Would the library/libraries included in your response to Question #1 be able to meet the proposed project’s demand for library services?

10. In addition to addressing project-specific impacts to library services, the EIR will also address cumulative impacts to library services. We are in the process of compiling a list of reasonably-foreseeable development in the County. Table 1 includes a list of some of the other major, reasonably-foreseeable approved development in the County in proximity to the proposed project's location. Can the San Mateo County Library accommodate the demand for library services associated with the development of these projects in conjunction with the proposed project?

10a. How does your agency address the growing demand for library services?

10b. Do you have any projections for future demand based on projected growth in the region?

10c. What would be needed to meet the cumulative demand for library services?

11. Please provide any recommendations that could reduce the demand for library services created by the proposed project and cumulative development.

Thank you for your assistance with the questions outlined above. Any response that you can provide will help us ensure that our analysis of project-specific and cumulative impacts on library services is accurate and complete. In order to attain a timely completion of our analysis, please provide your response (via mail, email, or fax) no later than **May 1, 2009**. Should you have any questions, feel free to call me at (707) 676-1913. You may also reach me by email at megan.marruffo@cajaeir.com and by fax at (707) 283-4041.

Sincerely,

Megan Marruffo
Assistant Environmental Planner
Christopher A. Joseph & Associates

Enclosed:

- Figure 1: Regional and Vicinity Map
- Figure 2: Aerial of Site and Surrounding Area
- Figure 3: Office Park Property Site Plan
- Figure 4: Wellness Center Property Site Plan
- Table 1: Related Projects

Jennie Anderson

From: Despain, Anne-Marie [despain@smcl.org]
Sent: Thursday, May 21, 2009 3:45 PM
To: Megan Marruffo
Subject: RE: Request for Library Service Information Follow-Up (Big Wave Project)

Hi Megan, please find our responses below.

1. The Half Moon Bay Library is the nearest branch library and would serve the proposed project. I don't believe any of our other libraries would provide service to the residents of the project.
2. The Half Moon Bay Library is 7,825 square feet.
3. The Half Moon Bay Library has 88,814 volumes in their collection.
4. The Half Moon Bay Library serves the City of Half Moon Bay (population 12,912) and the nearby unincorporated areas (population 13,598) for a total population of 26,510. The Half Moon Bay Library has served the residents of the City of Half Moon Bay and the surrounding unincorporated Coastside area for over thirty years. This single facility serves a 270-square mile area that was once served by three libraries, two of which were closed in 1978 following the passage of Proposition 13. The library originally constructed in 1971 to serve the City of Half Moon Bay, today also serves ten small communities that line the coast: Montara, Moss Beach, Princeton, El Granada, Miramar, King's Mountain, La Honda, Loma Mar, San Gregorio and Pescadero.
5. The Half Moon Bay Library has a staffing level of 10.4 FTE.
6. Plans for a new Half Moon Bay Library recommends the demolition of the existing building and the construction of a new 33,000 square foot library on the same site. The project is not currently active due to lack of funding.
7. No fee-based assessments are charged by the San Mateo County Library.
8. The 7,825 square foot Half Moon Bay Library is 37-years-old and is not meeting current community service needs. The population served has increased by 42% resulting in a facility that is inadequate and in need of replacement or expansion and remodeling.
9. Demand for library services would not change significantly based on the proposed project.
10. Since its opening, the population served has grown from 4,320 to over 29,000 with 42% living in the City of Half Moon Bay and 58% living in the surrounding unincorporated areas of the County. By 2020, the overall service population is expected to grow by 25% to reach an estimated 36,000 people. At 0.27 square feet per capita, the current 7,825 square foot library building is not meeting the current service needs.
11. Demand for library services would not change significantly based on the proposed project.

Let me know if you have any questions,

Anne-Marie Despain
San Mateo County Library
125 Lessingia Court
San Mateo, CA 94402
T 650.312.5245 F 650.312.5382 E despain@smcl.org

From: Megan Marruffo [mailto:megan.marruffo@cajaeir.com]
Sent: Wednesday, May 13, 2009 8:31 AM
To: Despain, Anne-Marie

Subject: Request for Library Service Information Follow-Up (Big Wave Project)

Dear Ms. Despain,

I wanted to follow-up with you regarding the Request for Library Service Information letter we spoke about last Wednesday, dated April 22, 2009 (attached for your reference). The letter was sent in regards to the Big Wave Wellness Center and Office Park Project, located northwest of the Princeton/Pillar Point Harbor area in the Mid-Coast region of unincorporated San Mateo County.

Any information you can provide in response to the attached letter is greatly appreciated and will ensure that our analysis of project-specific and cumulative impacts on library services is accurate and complete.

In order to ensure a timely completion of our analysis, please provide a response (via mail, e-mail, or fax) at your earliest convenience, or by May 20, 2009.

Thank you for your assistance. Please do not hesitate to contact me with any questions. I look forward to your response.

Sincerely,

Megan Marruffo
Assistant Environmental Planner
megan.marruffo@cajaeir.com

Christopher A. Joseph & Associates
Environmental Planning and Research
www.cajaeir.com

Petaluma Office
179 H Street
Petaluma, CA 94952
Phone: (707) 283-4040
Direct Line: (707) 676-1913
Fax: (707) 283-4041

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Confidentiality Statement

This transmittal is intended to be transmitted to the person named. Should it be received by another person, its contents are to be treated as strictly confidential. It is privileged communications between the firm and the person(s) named. Any use, distribution, or reproduction of the information by anyone other than that person is prohibited.



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April 22, 2009

David G. Holland, Director
County of San Mateo Department of Parks
455 County Center
4th Floor
Redwood City, CA 94063-1646

**RE: San Mateo County Big Wave Wellness Center and Office Park Project Environmental Review –
Request for Parks and Recreational Services Information**

Dear Director Holland:

Christopher A. Joseph & Associates (CAJA) is working with the County of San Mateo to prepare an Environmental Impact Report (EIR) for the proposed Big Wave Wellness Center and Office Park project, and is requesting information to determine whether the project would have the potential to have a significant environmental effect related to public services, including parks and recreational services. The proposed project will be evaluated in accordance with State Guidelines for the implementation of the California Environmental Quality Act (CEQA) to determine its potential impacts on the environment. For your review and evaluation, following is a brief description of the Big Wave Wellness Center and Office Park project.

The 19.4-acre project site is located on Airport Street, northwest of the Princeton/Pillar Point Harbor area in the Mid-Coast region of unincorporated County of San Mateo. The project area is accessible via SR 1 (Cabrillo Highway), located less than 0.5 miles to the east, and Airport Street. The project site can be directly accessed from the surrounding Capistrano Road, Prospect Way, and California and Cornell Avenues, located to the east and south of the site, respectively (refer to Figure 1, Regional and Vicinity Map). Surrounding land uses include the Half Moon Bay Airport (east), the El Granada Mobile Home Park (north), the Pillar Point Marsh (west), and the Princeton/Pillar Point Harbor industrial/commercial area (south) (refer to Figure 2, Aerial Photograph of the Project Site and Surrounding Area).

The project area includes two adjacent parcels (APN: 047-311-060 and APN 047-312-040) that is currently in agricultural production. The site is relatively flat, with gentle slopes to the south and west. Due to extensive site farming activities, little to no native vegetation remains over the great majority of the project site. A natural drainage swale separates the two parcels and leads to the Pillar Point Marsh. A total of 0.74 acres of wetlands under the protection of the California Coastal Commission of which 0.45 acres is Federal jurisdictional waters/wetlands occur on the project site under the permit authority of the US Army Corps of Engineers (USACOE).

The proposed project is designed as an economically and environmentally sustainable community development that provides housing and employment opportunities for low-income developmentally disabled (DD) adults. The two primary components of the proposed project include: (1) the Office Park property (northern parcel) development consisting of four, three-story buildings (225,000 square feet total) planned for mixed office use, a 640-space parking lot, and a two-story Communication Building (refer to Figure 3, Office Park Site Plan); and (2) the Wellness Center property (southern parcel) development with 70 apartment style and single-story style units (“breezeway units”) for use by up to 50 DD adult residents and 20 live-in staff members, other on-site living and recreation facilities for residents, associated fencing, a separate storage building and a 73-space parking lot (refer to Figure 4, Wellness Center Site Plan). These components would be designed in tandem, so that the DD adults could be employed by both the Wellness Center and Office Park. Additionally, the proposed project would include: development of an on-site walkway/trail system to allow pedestrian and wheelchair access between the proposed Wellness Center and the Office Park properties; restoration of wetland habitat; and development of bus stops and shuttle services. All buildings and development would be designed to meet Platinum-level Leadership in Energy and Environmental Design (LEED) certified construction.

The purpose of the EIR is to assess the project’s potential impacts to various environmental issue areas and public service and utility agencies, including the County of San Mateo Department of Parks (Department). We hope you can help us identify potential impacts to parks and recreational facilities that may be created by the proposed project. If applicable, the EIR will also provide recommendations that may be necessary to reduce such potential impacts to “less than significant” levels. Any assistance that you can provide with the following questions would be greatly appreciated.

1. According to the County of San Mateo Department of Parks’ website, the Department operates 17 separate parks within the County. Please confirm if this is still accurate.
2. Are the Department’s existing parks and recreational facilities adequate to meet the project area’s current demand for parks and recreational facilities?
3. Would the existing parks and recreational facilities be able to meet the proposed project’s demand for parks and recreational facilities?
4. Does the Department have any plans to develop new parks or recreation facilities or expand existing parks or recreational facilities within a two-mile radius of the project site?
5. Is six acres of parkland per 1,000 residents the current ratio of parkland to population, as identified in the 2002 Midcoast Regional Needs Assessment?
 - 5a. If not, please identify the desired ratio of parkland to population in the County.
 - 5b. What is the current parkland to population ratio for the County?

6. What effect, if any, would the proposed project have on the parks and recreational facilities in the County?
7. Would the proposed project require the Department to develop new parks and recreational facilities or expand existing parks and recreational facilities to accommodate any demand created by the project?
8. In addition to addressing project-specific impacts to parks and recreational services, the EIR will also address cumulative impacts to parks and recreational services. We are in the process of compiling a list of reasonably-foreseeable development in the County. Table 1 includes a list of some of the other major, reasonably-foreseeable approved development in the County in proximity to the proposed project's location. Can the Department accommodate the demand for parks and recreational services associated with the development of these projects in conjunction with the proposed project?
 - 8a. How does your agency address the growing demand for parks and recreational services?
 - 8b. Do you have any projections for future demand based on projected growth in the region?
 - 8c. What would be needed to meet the cumulative demand for parks and recreational services?
9. Please provide any recommendations that could reduce the demand for parks and recreational services created by the proposed project and cumulative development.

Thank you for your assistance with the questions outlined above. Any response that you can provide will help us ensure that our analysis of project-specific and cumulative impacts on parks and recreation is accurate and complete. In order to attain a timely completion of our analysis, please provide your response (via mail, email, or fax) no later than **May 1, 2009**. Should you have any questions, feel free to call me at (707) 676-1913. You may also reach me by email at megan.marruffo@cajaeir.com and by fax at (707) 283-4041.

Sincerely,

Megan Marruffo
Assistant Environmental Planner
Christopher A. Joseph & Associates

Enclosed:

- Figure 1: Regional and Vicinity Map
- Figure 2: Aerial of Site and Surrounding Area
- Figure 3: Office Park Property Site Plan
- Figure 4: Wellness Center Property Site Plan
- Table 1: Related Projects

Jennie Anderson

From: Samuel Herzberg [sherzberg@co.sanmateo.ca.us]
Sent: Friday, May 08, 2009 10:18 AM
To: Megan Marruffo
Subject: Big Wave and Midcoast Park Needs

Megan,

Sorry I'm late in getting back to you. In response to your questions:

1. According to County of San Mateo Department of Park's website, the Department operates 17 separate parks within the County.

That has recently changed as County Parks has now assumed ownership, operations, and maintenance of Quarry Park in El Granada our 18th park.

2. Are the Department's existing parks and recreational facilities adequate to meet the project area's current demand for park and recreation facilities?

No. See on County Park website www.eparks.net under Park Planning, the Midcoast Recreational Needs Assessment and the more recent Midcoast Action Plan for Parks and Recreation where specific needs are identified. Also visit website for Midcoast Park and Recreation committee to see status of current efforts at mprc.sanmateo.org/priorities.

3. Would the existing parks and recreation facilities be able to meet the proposed project's demand for parks and recreational facilities?

Will add to existing deficits. Again see 2 above.

4. Does the Department have any plans to develop new parks or recreation facilities or expand existing parks or recreational facilities within a two mile radius of project site?

Yes. See documents referenced in number 2 above, and Fitzgerald Marine Reserve Master Plan, which the County is currently working on implementing including new interpretive center, green parking lot, improved coastal trail and access, interpretive sculptures, signage, access at Seal Cove beach, vegetation management, etc...

5. Is six acres of parkland per 1,000 residents the current ratio of parkland to population, as identified in the 2002 Midcoast Recreational Needs Assessment?

Yes. This was a specific assessment and goal set by the County Board of Supervisors when adopting the Midcoast Recreational Needs Assessment for this urbanized Midcoast whose population is getting close to that of the City of Half Moon Bay. National Park and Recreation Association standards typically range from 6 to 10 acres per 1,000 people.

6. What effect, if any would the proposed project have on the parks and recreational facilities in the County?

Likely will add to use.

7. Would the proposed project require the Department to develop new parks and regional facilities or expand existing parks and recreational facilities to accommodate increased demand created by the project?

See response to answer 4. Assessments are based on existing population and the Local Coastal Plan's anticipated buildout of the Midcoast.

8. In addition to addressing project-specific impacts to parks and recreational services, the EIR will also address cumulative impacts to parks and recreational services. We are in the process of compiling a list of reasonably foreseeable development in the County. Table 1 includes a list of some of the other major reasonably-foreseeable approved development in the county in proximity to the proposed project's location. Can the

Department accommodate the demand for parks and recreational services associated with the development of these projects in conjunction with the proposed project?

See response to answer 4 above. County Parks is working with the Midcoast Park and Recreation Committee to implement immediate priorities using Midcoast Park and Recreation fees raised through Building Permits for new development or remodels in the Midcoast issued by San Mateo County Planning and Building Department. The Local Agency Formation Commission is currently assessing service providers in the Midcoast, and amongst other issues is evaluating the potential for park and recreation services to be created by a new Community Services District that could include multiple utility and other services. For additional information contact LAFCO staff Martha Poyatos at 650/363-4224.

9. Please provide any recommendations that could reduce the demand for park and recreational services created by the proposed project and cumulative development.

Parks and recreation service demands will exist when jobs are created or residential development, but most impact when residential.

Hope that helps.

Sam Herzberg
Senior Planner
San Mateo County Parks Department

Save Paper.
Think before you print.



April 22, 2009

Dave Vincent, Superintendent
California State Parks – Santa Cruz District
303 Big Trees Park Road
Felton, CA 95108

RE: San Mateo County Big Wave Wellness Center and Office Park Project Environmental Review – Request for Parks and Recreational Services Information

Dear Superintendent Vincent:

Christopher A. Joseph & Associates (CAJA) is working with the County of San Mateo to prepare an Environmental Impact Report (EIR) for the proposed Big Wave Wellness Center and Office Park project, and is requesting information to determine whether the project would have the potential to have a significant environmental effect related to public services, including parks and recreational services. The proposed project will be evaluated in accordance with State Guidelines for the implementation of the California Environmental Quality Act (CEQA) to determine its potential impacts on the environment. For your review and evaluation, following is a brief description of the Big Wave Wellness Center and Office Park project.

The 19.4-acre project site is located on Airport Street, northwest of the Princeton/Pillar Point Harbor area in the Mid-Coast region of unincorporated County of San Mateo. The project area is accessible via SR 1 (Cabrillo Highway), located less than 0.5 miles to the east, and Airport Street. The project site can be directly accessed from the surrounding Capistrano Road, Prospect Way, and California and Cornell Avenues, located to the east and south of the site, respectively (refer to Figure 1, Regional and Vicinity Map). Surrounding land uses include the Half Moon Bay Airport (east), the El Granada Mobile Home Park (north), the Pillar Point Marsh (west), and the Princeton/Pillar Point Harbor industrial/commercial area (south) (refer to Figure 2, Aerial Photograph of the Project Site and Surrounding Area).

The project area includes two adjacent parcels (APN: 047-311-060 and APN 047-312-040) that is currently in agricultural production. The site is relatively flat, with gentle slopes to the south and west. Due to extensive site farming activities, little to no native vegetation remains over the great majority of the project site. A natural drainage swale separates the two parcels and leads to the Pillar Point Marsh. A total of 0.74 acres of wetlands under the protection of the California Coastal Commission of which 0.45 acres is Federal jurisdictional waters/wetlands occur on the project site under the permit authority of the US Army Corps of Engineers (USACOE).

The proposed project is designed as an economically and environmentally sustainable community development that provides housing and employment opportunities for low-income developmentally disabled (DD) adults. The two primary components of the proposed project include: (1) the Office Park property (northern parcel) development

consisting of four, three-story buildings (225,000 square feet total) planned for mixed office use, a 640-space parking lot, and a two-story Communication Building (refer to Figure 3, Office Park Site Plan); and (2) the Wellness Center property (southern parcel) development with 70 apartment style and single-story style units (“breezeway units”) for use by up to 50 DD adult residents and 20 live-in staff members, other on-site living and recreation facilities for residents, associated fencing, a separate storage building and a 73-space parking lot (refer to Figure 4, Wellness Center Site Plan). These components would be designed in tandem, so that the DD adults could be employed by both the Wellness Center and Office Park. Additionally, the proposed project would include: development of an on-site walkway/trail system to allow pedestrian and wheelchair access between the proposed Wellness Center and the Office Park properties; restoration of wetland habitat; and development of bus stops and shuttle services. All buildings and development would be designed to meet Platinum-level Leadership in Energy and Environmental Design (LEED) certified construction.

The purpose of the EIR is to assess the project’s potential impacts to various environmental issue areas and public service and utility agencies, including the California State Parks - Santa Cruz District (District). We hope you can help us identify potential impacts to parks and recreational facilities that may be created by the proposed project. If applicable, the EIR will also provide recommendations that may be necessary to reduce such potential impacts to “less than significant” levels. Any assistance that you can provide with the following questions would be greatly appreciated.

1. Nearby State Parks facilities include the Montara and Half Moon Bay State Beaches. Please describe any other State parks and recreations facilities that are found in proximity to the project site (including location, size, and types of facilities).
2. Are the State parks and recreational facilities included in your response to Question #1 adequate to meet the project area’s current demand for parks and recreational facilities?
3. According to the County of San Mateo General Plan, there are 8,353 acres of State park and recreation facilities in the County. Is this adequate to meet current demand?
4. What effect, if any, would the proposed project have on the State parks and recreational facilities in the County?
5. Would the proposed project require the District to develop new State parks and recreational facilities or expand existing parks and recreational facilities to accommodate any demand created by the project?
6. Does the District have any plans to develop new State parks or recreation facilities or expand existing parks or recreation facilities within a two-mile radius of the project site?
7. In addition to addressing project-specific impacts to State parks and recreational services, the EIR will also address cumulative impacts to parks and recreational services. We are in the process of compiling a list of reasonably-foreseeable development in the County. Table 1 includes a list of some of the other major,

reasonably-foreseeable approved development in the County in proximity to the proposed project's location. Can the District accommodate the demand for parks and recreational services associated with the development of these projects in conjunction with the proposed project?

- 7a. How does your agency address the growing demand for parks and recreational services?
- 7b. Do you have any projections for future demand based on projected growth in the region?
- 7c. What would be needed to meet the cumulative demand for parks and recreational services?
8. Please provide any recommendations that could reduce the demand for parks and recreational services created by the proposed project and cumulative development.

Thank you for your assistance with the questions outlined above. Any response that you can provide will help us ensure that our analysis of project-specific and cumulative impacts on parks and recreation is accurate and complete. In order to attain a timely completion of our analysis, please provide your response (via mail, email, or fax) no later than **May 1, 2009**. Should you have any questions, feel free to call me at (707) 676-1913. You may also reach me by email at megan.marruffo@cajaeir.com and by fax at (707) 283-4041.

Sincerely,

Megan Marruffo
Assistant Environmental Planner
Christopher A. Joseph & Associates

Enclosed:

- Figure 1: Regional and Vicinity Map
- Figure 2: Aerial of Site and Surrounding Area
- Figure 3: Office Park Property Site Plan
- Figure 4: Wellness Center Property Site Plan
- Table 1: Related Projects

Jennie Anderson

From: Keel, Paul [PKEEL@parks.ca.gov]
Sent: Friday, May 01, 2009 3:42 PM
To: Megan Marruffo
Subject: Wellness Center Review

Hello,

This email is in response to your request for comment on the Wellness Center Environmental Review.

I received your request just recently and there is insufficient time to thoroughly assess the potential impacts to the state parks in this area. However, the following are brief responses to the questions:

1. The listed parks are the closest ones.
2. Unknown.
3. Unknown if demand for parks is met or not. At certain busy times, all park facilities are at capacity with visitors.
4. Unknown.
5. Unlikely.
6. No development planned at this time.
7. Unknown. General Plans and looking at visitation trends help direct future park planning. No future projections for projected growth at this time.
8. Not enough information to comment.

[Paul Keel](#)
Sector Superintendent
California State Parks
Santa Cruz District
San Mateo Coast Sector
(650) 726-8817



April 22, 2009

Robert Gaskill, Superintendent
Cabrillo Unified School District
498 Kelly Avenue
Half Moon Bay, CA 94019

**RE: San Mateo County Big Wave Wellness Center and Office Park Project Environmental Review –
Request for School Service Information**

Dear Superintendent Gaskill:

Christopher A. Joseph & Associates (CAJA) is working with the County of San Mateo to prepare an Environmental Impact Report (EIR) for the proposed Big Wave Wellness Center and Office Park project, and is requesting information to determine whether the project would have the potential to have a significant environmental effect related to public services, including school services. The proposed project will be evaluated in accordance with State Guidelines for the implementation of the California Environmental Quality Act (CEQA) to determine its potential impacts on the environment. For your review and evaluation, following is a brief description of the Big Wave Wellness Center and Office Park project.

The 19.4-acre project site is located on Airport Street, northwest of the Princeton/Pillar Point Harbor area in the Mid-Coast region of unincorporated County of San Mateo. The project area is accessible via SR 1 (Cabrillo Highway), located less than 0.5 miles to the east, and Airport Street. The project site can be directly accessed from the surrounding Capistrano Road, Prospect Way, and California and Cornell Avenues, located to the east and south of the site, respectively (refer to Figure 1, Regional and Vicinity Map). Surrounding land uses include the Half Moon Bay Airport (east), the El Granada Mobile Home Park (north), the Pillar Point Marsh (west), and the Princeton/Pillar Point Harbor industrial/commercial area (south) (refer to Figure 2, Aerial Photograph of the Project Site and Surrounding Area).

The project area includes two adjacent parcels (APN: 047-311-060 and APN 047-312-040) that is currently in agricultural production. The site is relatively flat, with gentle slopes to the south and west. Due to extensive site farming activities, little to no native vegetation remains over the great majority of the project site. A natural drainage swale separates the two parcels and leads to the Pillar Point Marsh. A total of 0.74 acres of wetlands under the protection of the California Coastal Commission of which 0.45 acres is Federal jurisdictional waters/wetlands occur on the project site under the permit authority of the US Army Corps of Engineers (USACOE).

The proposed project is designed as an economically and environmentally sustainable community development that provides housing and employment opportunities for low-income developmentally disabled (DD) adults. The two

primary components of the proposed project include: (1) the Office Park property (northern parcel) development consisting of four, three-story buildings (225,000 square feet total) planned for mixed office use, a 640-space parking lot, and a two-story Communication Building (refer to Figure 3, Office Park Site Plan); and (2) the Wellness Center property (southern parcel) development with 70 apartment style and single-story style units (“breezeway units”) for use by up to 50 DD adult residents and 20 live-in staff members, other on-site living and recreation facilities for residents, associated fencing, a separate storage building and a 73-space parking lot (refer to Figure 4, Wellness Center Site Plan). These components would be designed in tandem, so that the DD adults could be employed by both the Wellness Center and Office Park. Additionally, the proposed project would include: development of an on-site walkway/trail system to allow pedestrian and wheelchair access between the proposed Wellness Center and the Office Park properties; restoration of wetland habitat; and development of bus stops and shuttle services. All buildings and development would be designed to meet Platinum-level Leadership in Energy and Environmental Design (LEED) certified construction.

The purpose of the EIR is to assess the project’s potential impacts to various environmental issue areas and public service and utility agencies, including the Cabrillo Unified School District (District). We hope you can help us identify potential impacts to school services that may be created by the proposed project. If applicable, the EIR will also provide recommendations that may be necessary to reduce such potential impacts to “less-than-significant” levels. Any assistance that you can provide with the following questions would be greatly appreciated:

1. According to the District’s website at http://www.cabrillo.k12.ca.us/CUSD_topic/desc_mission.htm, the District has four elementary schools, one middle school, one high school, one continuation school, and an adult education program. Is this still accurate?
2. Please confirm if the following schools would serve the project area. Would any additional schools serve the proposed project?
 - El Granada Elementary School
 - Cunha Intermediate School
 - Half Moon Bay High School
3. Could you please provide the current student **capacity** and current student **enrollment** statistics for the schools included in your response to Question #1?
4. Are there any improvements or additions planned for schools that serve the project area?
5. Are there plans to build any new schools that would serve the project area?
6. According to the District’s website at http://www.cabrillo.k12.ca.us/CUSD_topic/faq.htm, current school impact fee rates for residential land uses are \$2.24 per square foot of living space (no garage or decking) and \$0.36 per square foot for commercial land uses. After 5/15, the rates will be \$2.63 and \$0.42 per square foot, respectively. Please confirm these rates.

- 6a. Would school impact fees be required of the proposed project?
7. Is existing school capacity within the District adequate to meet current student populations?
8. Is the District using any bussing programs and/or portable classrooms to accommodate overcrowded schools?
9. Could you please provide student generation rates for residential and commercial development?
10. In addition to addressing project-specific impacts to school services, the EIR will also address cumulative impacts to school services. We are in the process of compiling a list of reasonably-foreseeable development in the County. Table 1 includes a list of some of the other major, reasonably-foreseeable approved development in the County in proximity to the proposed project's location. Can the District accommodate the demand for school services associated with the development of these projects in conjunction with the proposed project?
- 10a. How does the District address the growing demand for school services?
- 10b. Do you have any projections for future demand based on projected growth in the region?
- 10c. What would be needed to meet the cumulative demand for school services?
11. Please provide any recommendations that could eliminate or lessen the proposed project's impacts on the Cabrillo Unified School District.

Thank you for your assistance with the questions outlined above. Any response that you can provide will help us ensure that our analysis of project-specific and cumulative impacts on school services is accurate and complete. In order to attain a timely completion of our analysis, please provide your response (via mail, email, or fax) no later than **May 1, 2009**. Should you have any questions, feel free to call me at (707) 676-1913. You may also reach me by email at megan.marruffo@cajaeir.com and by fax at (707) 283-4041.

Sincerely,

Megan Marruffo
Assistant Environmental Planner
Christopher A. Joseph & Associates

Enclosed:

- Figure 1: Regional and Vicinity Map
- Figure 2: Aerial of Site and Surrounding Area
- Figure 3: Office Park Property Site Plan
- Figure 4: Wellness Center Property Site Plan
- Table 1: Related Projects

Jennie Anderson

From: Diane Stupi [Stupi@cabrillo.k12.ca.us]
Sent: Thursday, April 30, 2009 8:43 AM
To: Megan Marruffo
Subject: RE: Response to Big Wave Request for School Service Info

Since we have an open enrollment policy in our district, students really are able to apply to transfer to any of our elementary schools. For that reason I have provided the district-wide numbers to you for your study.

Diane E. Stupi
Director, Fiscal Services
Cabrillo Unified School District
Stupi@Cabrillo.k12.ca.us
650-712-7135

"If a society chooses to be free and democratic it has a responsibility to educate the next generation. Failure to provide for that generation undermines the principals of democracy."

>>> "Megan Marruffo" <megan.marruffo@cajaeir.com> 4/30/2009 8:35 AM >>>

Dear Ms. Stupi,

Thank you for your response to the Request for School Service Information letter regarding the Big Wave Wellness Center and Office Park project (attached for your reference). Your information will help us ensure that our analysis of project-specific and cumulative impacts on school services is accurate and complete.

To confirm, are the current student capacity and enrollment statistics provided in Response #3 for the entire Cabrillo Unified School District, or for the three schools (El Granada Elementary, Cunha Intermediate, and Half Moon Bay High School) that would serve the project site?

I was able to find enrollment statistics through the 2007-2008 school year for each of the three schools serving the project area on the California Department of Education's website (<http://dq.cde.ca.gov/dataquest/>); however, school capacity statistics are not provided. Could you please provide current enrollment (2008-2009 school year) and capacity statistics for each of the three schools that would serve the project site?

Thank you for your help in addressing the above questions. Your assistance is most appreciated.

Sincerely,

Megan Marruffo
Assistant Environmental Planner
megan.marruffo@cajaeir.com

Christopher A. Joseph & Associates
Environmental Planning and Research
www.cajaeir.com

Petaluma Office
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Fax: (707) 283-4041

7/14/2009

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Please consider the environment before printing this e-mail

From: Diane Stupi [mailto:Stupi@cabrillo.k12.ca.us]
Sent: Wednesday, April 29, 2009 4:32 PM
To: Megan Marruffo
Subject: Response to Big Wave Request for School Service Info

Dear Ms. Marruffo:

Responding to your April 22nd request for school information:

1. Your information is still accurate.
2. We can confirm the following schools would serve the project area:
 - a. El Granada Elementary School
 - b. Cunha Intermediate School
 - c. Half Moon Bay High School
3. Current student capacity and current student enrollments are:
 - a. Current Capacity = 3238
 - b. Current Enrollment = 3386
4. There plans to modernize the intermediate school in process.
5. There are no plans to build any new schools.
6. The current school impact fee rates effective 05/12/2008 for residential land use is \$2.97 per square foot and for commercial land use is \$0.47 per square foot.
 - a. Yes, school impact fees would be required of the proposed project.
7. Existing school capacity within the district is not adequate to meet current student population.
8. Yes, the district utilizes bussing programs and portable classrooms to accommodate overcrowded schools.
9. The student generation rate for Cabrillo Unified is 0.609.

10. The District will be working with each individual developer to accommodate the demand for school services associated with their specific development.
 - a. Currently the District uses Impact Fees and portable classrooms.
 - b. We do not at this time have any projections for future demand.
 - c. What would be needed to meet cumulative demand is not known at this time.

11. We have no recommendations at this time.

We hope this information is useful to you. Please feel free to contact my office at any time should the need arise.

Sincerely,

Diane E. Stupi
Director, Fiscal Services
Cabrillo Unified School District
Stupi@Cabrillo.k12.ca.us
650-712-7135

"If a society chooses to be free and democratic it has a responsibility to educate the next generation. Failure to provide for that generation undermines the principals of democracy."

If this email is spam, report it here:
<http://www.OnlyMyEmail.com/ReportSpam>



April 22, 2009

Greg Munks, Sheriff
County of San Mateo Sheriff's Office
400 County Center
Redwood City, CA 94063

**RE: San Mateo County Big Wave Wellness Center and Office Park Project Environmental Review –
Request for Sheriff Service Information**

Dear Sheriff Munks:

Christopher A. Joseph & Associates (CAJA) is working with the County of San Mateo to prepare an Environmental Impact Report (EIR) for the proposed Big Wave Wellness Center and Office Park project, and is requesting information to determine whether the project would have the potential to have a significant environmental effect related to public services, including police protection services. The proposed project will be evaluated in accordance with State Guidelines for the implementation of the California Environmental Quality Act (CEQA) to determine its potential impacts on the environment. For your review and evaluation, following is a brief description of the Big Wave Wellness Center and Office Park project.

The 19.4-acre project site is located on Airport Street, northwest of the Princeton/Pillar Point Harbor area in the Mid-Coast region of unincorporated County of San Mateo. The project area is accessible via SR 1 (Cabrillo Highway), located less than 0.5 miles to the east, and Airport Street. The project site can be directly accessed from the surrounding Capistrano Road, Prospect Way, and California and Cornell Avenues, located to the east and south of the site, respectively (refer to Figure 1, Regional and Vicinity Map). Surrounding land uses include the Half Moon Bay Airport (east), the El Granada Mobile Home Park (north), the Pillar Point Marsh (west), and the Princeton/Pillar Point Harbor industrial/commercial area (south) (refer to Figure 2, Aerial Photograph of the Project Site and Surrounding Area).

The project area includes two adjacent parcels (APN: 047-311-060 and APN 047-312-040) that is currently in agricultural production. The site is relatively flat, with gentle slopes to the south and west. Due to extensive site farming activities, little to no native vegetation remains over the great majority of the project site. A natural drainage swale separates the two parcels and leads to the Pillar Point Marsh. A total of 0.74 acres of wetlands under the protection of the California Coastal Commission of which 0.45 acres is Federal jurisdictional waters/wetlands occur on the project site under the permit authority of the US Army Corps of Engineers (USACOE).

The proposed project is designed as an economically and environmentally sustainable community development that provides housing and employment opportunities for low-income developmentally disabled (DD) adults. The two

primary components of the proposed project include: (1) the Office Park property (northern parcel) development consisting of four, three-story buildings (225,000 square feet total) planned for mixed office use, a 640-space parking lot, and a two-story Communication Building (refer to Figure 3, Office Park Site Plan); and (2) the Wellness Center property (southern parcel) development with 70 apartment style and single-story style units ("breezeway units") for use by up to 50 DD adult residents and 20 live-in staff members, other on-site living and recreation facilities for residents, associated fencing, a separate storage building and a 73-space parking lot (refer to Figure 4, Wellness Center Site Plan). These components would be designed in tandem, so that the DD adults could be employed by both the Wellness Center and Office Park. Additionally, the proposed project would include: development of an on-site walkway/trail system to allow pedestrian and wheelchair access between the proposed Wellness Center and the Office Park properties; restoration of wetland habitat; and development of bus stops and shuttle services. All buildings and development would be designed to meet Platinum-level Leadership in Energy and Environmental Design (LEED) certified construction.

The purpose of the EIR is to assess the project's potential impacts to various environmental issue areas and public service and utility agencies, including the County of San Mateo Sheriff's Department (Department). We hope you can help us identify potential impacts to sheriff protection services that may be created by the proposed project. If applicable, the EIR will also provide recommendations that may be necessary to reduce such potential impacts to "less-than-significant" levels. Any assistance that you can provide with the following questions would be greatly appreciated:

1. What Department station(s) would serve the project area?
2. What are the existing staff levels (both sworn and civilian) of the station(s) included in your response to Question #1?
 - 2a. Are the existing staff levels at the station(s) adequate to meet current demands for protection services in the project area?
3. What is the existing equipment inventory at each police station included in your response to Question #1?
 - 3a. Are the equipment levels adequate to meet the project area's current demand for police services?
4. In which Reporting District is the proposed project located? Please provide recent crime statistics for this Reporting District.
5. What is the current officer-to-population ratio of the project's Reporting District? Does this number meet the desire service ratio standard of the Department?
6. What is/are the average response time(s) to the project area for each station included in your response to Question #1?

- 6a. Does the Department have a preferred response time goal?
7. What effect, if any, would the project have on the Department?
8. Would the Department need to construct new police facilities or expand existing facilities in order to accommodate the project's demand for police services?
- 8a. Would the project require the Department to hire more officers or staff?
- 8b. Would the project require the Department to purchase more equipment?
9. In addition to addressing project-specific impacts to police services, the EIR will also address cumulative impacts to police services. We are in the process of compiling a list of reasonably-foreseeable development in the County. Table 1 includes a list of some of the other major, reasonably-foreseeable approved development in the County in proximity to the proposed project's location. Can the Department accommodate the demand for police services associated with the development of these projects in conjunction with the proposed project?
- 9a. How does your agency address the growing demand for police services?
- 9b. Do you have any projections for future demand based on projected growth in the region?
- 9c. What would be needed to meet the cumulative demand for police services?
10. Please provide any recommendations that could reduce the demand for police services associated with the proposed project and cumulative development.

Thank you for your assistance with the questions outlined above. Any response that you can provide will help us ensure that our analysis of project-specific and cumulative impacts on police protection services is accurate and complete. In order to attain a timely completion of our analysis, please provide your response (via mail, email, or fax) no later than **May 1, 2009**. Should you have any questions, feel free to call me at (707) 676-1913. You may also reach me by email at megan.marruffo@cajaeir.com and by fax at (707) 283-4041.

Sincerely,

Megan Marruffo
Assistant Environmental Planner
Christopher A. Joseph & Associates

Enclosed:

Figure 1: Regional and Vicinity Map

Figure 2: Aerial of Site and Surrounding Area

Figure 3: Office Park Property Site Plan

Figure 4: Wellness Center Property Site Plan

Table 1: Related Projects



COUNTY OF SAN MATEO

Office of the Sheriff

GREG MUNKS
SHERIFF

CARLOS G. BOLANOS
UNDERSHERIFF

TRISHA L. SANCHEZ
ASSISTANT SHERIFF

400 COUNTY CENTER ◻ REDWOOD CITY ◻ CALIFORNIA 94063-1662 ◻ TELEPHONE (650) 599-1664 ◻ www.smcsheriff.com

ADDRESS ALL COMMUNICATIONS TO THE SHERIFF

April 29, 2009

Ms. Megan Marruffo
Christopher A. Joseph & Associates
179 H. Street
Petaluma, CA 94952

**RE: RESPONSE TO - San Mateo County Big Wave Well Center and Office Park Project
Environmental Review – Request for SHERIFF Service Information**

Dear Ms. Marruffo,

I have reviewed your request for information and here are the answers to your questions as outlined on pages two and three, in your letter to Sheriff Munks:

- 1) What Department station(s) would serve the project area?
The Moss Beach Substation, Hwy 1, Moss Beach, CA.

- 2) What are the existing staff levels (both sworn and civilian) of the station(s) included in your response to Question #1?
Two sergeants, eight deputies, one civilian.

- 2a) Are the existing staffing levels at the station(s) adequate to meet the current demands for protection services in the project area?
We believe so.

- 3) What is the existing equipment inventory at each station included in your response to Question 1?
Enough vehicles for staff.

- 3a) Are the equipment levels adequate to meet current demands for protection services in the project area?
Yes.

- 4) In which Reporting District is the proposed project located? Please provide recent crime statistics for this Reporting District?
Coast Patrol Bureau 70 Beat, 9, 885 calls for service from January 1, 2008 through January 1, 2009.
- 5) What is the current deputy - to -population ratio of the project's Reporting District? Does this number meet the desired service ratio standard of the department?
5:11,227 = 1 FTE per 2,245 pop. Yes
- 6) What is/are the average response time(s) to the project area for each station included in your response to Question #1?
Unlike the fire service, our patrol deputies respond from their beat area. We show an average of thirteen and a half minutes.
- 6a) Does the Department have a preferred response time goal?
Yes, within 15 minutes for all but emergency calls.
- 7) What effect, if any, would the project have on the Department?
Unsure at this time.
- 8) Would the Department need to construct a new "police" facility or expand existing facilities in order to accommodate the project's demand for police services?
No.
- 8a) Would the project require the department to hire more deputies or staff?
Unknown at this time, it would depend upon the calls for service. Currently this area a vacant farm land.
- 8b) Would the project require the Department to purchase more equipment?
Only if we needed extra staff to provide greater service to the project area.

9) In addition to addressing project specific impacts to police services, the EIR will also address cumulative impacts to police services. We are in the process of compiling a list of reasonably-foreseeable approved development in the County in the proximity to the proposed project's location. Can the Department accommodate the demand for police services associated with the development of these projects in conjunction with the proposed project?

We would need to assess the proposed project's size, use and projected population of the target area.

9a) How does your agency address the growing demand for police services?
On a case-by-case basis.

9b) Do you have any projections for the future demand based upon projected growth in the region?

No, as most of the remaining land in San Mateo County is mainly dedicated agriculture. It is difficult to base any projections until we are made aware of the project, size and use.

9c) What would be needed to meet cumulative demand for police services?
A clear explanation of the type of use and projected population for that project.

10) Please provide any recommendations that could reduce the demand for police services associated with the proposed project and cumulative development.

On site security with clear lines of communication to fire and emergency medical response.

Sincerely,
Mark S. Hanlon
Captain of Operations
650.363.4390
mhanlon@co.sanmateo.ca.us

APPENDIX D

AIR QUALITY DATA

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\Big Wave-San Mateo County\URBEMIS\Big Wave Wellness Center.urb924

Project Name: Big Wave Wellness Center

Project Location: San Mateo County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2010 TOTALS (lbs/day unmitigated)	19.67	173.38	88.51	0.04	84.43	6.90	89.10	17.64	6.35	21.93	23,220.56
2010 TOTALS (lbs/day mitigated)	19.67	173.38	88.51	0.04	5.39	6.90	10.06	1.13	6.35	6.40	23,220.56
2011 TOTALS (lbs/day unmitigated)	18.37	158.73	83.29	0.04	0.15	6.27	6.43	0.05	5.76	5.82	23,222.38
2011 TOTALS (lbs/day mitigated)	18.37	158.73	83.29	0.04	0.15	6.27	6.43	0.05	5.76	5.82	23,222.38
2012 TOTALS (lbs/day unmitigated)	17.58	145.40	78.81	0.04	14.81	5.60	16.98	3.09	5.14	5.20	23,223.79
2012 TOTALS (lbs/day mitigated)	17.58	145.40	78.81	0.04	0.95	5.60	5.75	0.20	5.14	5.20	23,223.79

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	6.30	2.84	11.33	0.00	0.03	0.03	3,319.51

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TOTALS (lbs/day, mitigated)	6.26	2.29	10.92	0.00	0.03	0.03	2,658.97
Percent Reduction	0.63	19.37	3.62	NaN	0.00	0.00	19.90

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	12.45	9.64	142.05	0.15	28.59	5.34	15,898.29
TOTALS (lbs/day, mitigated)	12.46	9.67	142.44	0.15	28.67	5.36	15,942.00
Percent Reduction	-0.08	-0.31	-0.27	0.00	-0.28	-0.37	-0.27

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	18.75	12.48	153.38	0.15	28.62	5.37	19,217.80
TOTALS (lbs/day, mitigated)	18.72	11.96	153.36	0.15	28.70	5.39	18,600.97
Percent Reduction	0.16	4.17	0.01	0.00	-0.28	-0.37	3.21

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 6/1/2010-6/30/2010 Active Days: 22	12.33	115.91	48.31	0.01	84.43	4.67	89.10	17.64	4.29	21.93	11,792.68
Fine Grading 06/01/2010-06/30/2010	12.33	115.91	48.31	0.01	84.43	4.67	89.10	17.64	4.29	21.93	11,792.68
Fine Grading Dust	0.00	0.00	0.00	0.00	84.40	0.00	84.40	17.63	0.00	17.63	0.00
Fine Grading Off Road Diesel	11.98	111.07	45.03	0.00	0.00	4.49	4.49	0.00	4.13	4.13	10,882.72
Fine Grading On Road Diesel	0.30	4.75	1.56	0.01	0.03	0.18	0.21	0.01	0.16	0.17	750.30
Fine Grading Worker Trips	0.05	0.09	1.71	0.00	0.01	0.00	0.01	0.00	0.00	0.01	159.66

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Time Slice 7/1/2010-7/30/2010 Active Days: 22	5.01	43.37	19.48	0.00	0.01	1.82	1.84	0.00	1.68	1.68	5,062.75
Trenching 07/01/2010-07/31/2010	5.01	43.37	19.48	0.00	0.01	1.82	1.84	0.00	1.68	1.68	5,062.75
Trenching Off Road Diesel	4.94	43.24	16.91	0.00	0.00	1.82	1.82	0.00	1.67	1.67	4,823.25
Trenching Worker Trips	0.08	0.13	2.56	0.00	0.01	0.01	0.02	0.00	0.00	0.01	239.50
Time Slice 8/2/2010-9/30/2010 Active Days: 44	19.67	173.38	88.51	0.04	0.15	6.90	7.06	0.05	6.35	6.40	23,220.56
Building 08/01/2010-09/30/2010	19.67	173.38	88.51	0.04	0.15	6.90	7.06	0.05	6.35	6.40	23,220.56
Building Off Road Diesel	18.49	166.44	59.26	0.00	0.00	6.63	6.63	0.00	6.10	6.10	19,659.21
Building Vendor Trips	0.42	5.68	4.21	0.01	0.04	0.22	0.26	0.01	0.20	0.21	1,223.26
Building Worker Trips	0.76	1.27	25.04	0.02	0.11	0.05	0.16	0.04	0.04	0.08	2,338.09
Time Slice 10/1/2010-12/31/2010 Active Days: 66	19.67	173.38	88.51	0.04	0.15	6.90	7.06	0.05	6.35	6.40	23,220.56
Building 10/01/2010-03/31/2012	19.67	173.38	88.51	0.04	0.15	6.90	7.06	0.05	6.35	6.40	23,220.56
Building Off Road Diesel	18.49	166.44	59.26	0.00	0.00	6.63	6.63	0.00	6.10	6.10	19,659.21
Building Vendor Trips	0.42	5.68	4.21	0.01	0.04	0.22	0.26	0.01	0.20	0.21	1,223.26
Building Worker Trips	0.76	1.27	25.04	0.02	0.11	0.05	0.16	0.04	0.04	0.08	2,338.09
Time Slice 1/3/2011-12/30/2011 Active Days: 260	18.37	158.73	83.29	0.04	0.15	6.27	6.43	0.05	5.76	5.82	23,222.38
Building 10/01/2010-03/31/2012	18.37	158.73	83.29	0.04	0.15	6.27	6.43	0.05	5.76	5.82	23,222.38
Building Off Road Diesel	17.29	152.49	56.22	0.00	0.00	6.02	6.02	0.00	5.54	5.54	19,659.21
Building Vendor Trips	0.39	5.09	3.93	0.01	0.04	0.19	0.24	0.01	0.18	0.19	1,223.18
Building Worker Trips	0.69	1.15	23.14	0.02	0.11	0.05	0.16	0.04	0.04	0.08	2,339.99

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Time Slice 1/2/2012-3/30/2012 Active Days: 65	17.58	145.40	78.81	0.04	0.15	5.60	5.75	0.05	5.14	5.20	23,223.79
Building 10/01/2010-03/31/2012	17.58	145.40	78.81	0.04	0.15	5.60	5.75	0.05	5.14	5.20	23,223.79
Building Off Road Diesel	16.59	139.82	53.72	0.00	0.00	5.37	5.37	0.00	4.94	4.94	19,659.21
Building Vendor Trips	0.36	4.53	3.68	0.01	0.04	0.17	0.22	0.01	0.16	0.17	1,223.06
Building Worker Trips	0.63	1.05	21.41	0.02	0.11	0.06	0.17	0.04	0.05	0.09	2,341.52
Time Slice 4/2/2012-4/30/2012 Active Days: 21	3.26	17.40	12.63	0.00	0.02	1.45	1.47	0.01	1.34	1.34	1,873.66
Asphalt 04/01/2012-04/30/2012	3.26	17.40	12.63	0.00	0.02	1.45	1.47	0.01	1.34	1.34	1,873.66
Paving Off-Gas	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.65	16.20	10.06	0.00	0.00	1.41	1.41	0.00	1.29	1.29	1,418.44
Paving On Road Diesel	0.07	1.08	0.37	0.00	0.01	0.04	0.05	0.00	0.04	0.04	215.37
Paving Worker Trips	0.06	0.11	2.19	0.00	0.01	0.01	0.02	0.00	0.00	0.01	239.85
Time Slice 5/1/2012-10/31/2012 Active Days: 132	6.57	54.55	22.13	0.00	14.81	2.17	16.98	3.09	2.00	5.09	7,538.91
Fine Grading 05/01/2012-10/31/2012	6.57	54.55	22.13	0.00	14.81	2.17	16.98	3.09	2.00	5.09	7,538.91
Fine Grading Dust	0.00	0.00	0.00	0.00	14.80	0.00	14.80	3.09	0.00	3.09	0.00
Fine Grading Off Road Diesel	6.52	54.47	20.42	0.00	0.00	2.17	2.17	0.00	1.99	1.99	7,352.36
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.05	0.08	1.71	0.00	0.01	0.00	0.01	0.00	0.00	0.01	186.55

Phase Assumptions

Phase: Fine Grading 6/1/2010 - 6/30/2010 - Initial grading/materials sorting

Total Acres Disturbed: 11.6

Maximum Daily Acreage Disturbed: 4.22

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

Page: 5

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On Road Truck Travel (VMT): 186.36

Off-Road Equipment:

- 1 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day
- 2 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 2 Scrapers (637 hp) operating at a 0.72 load factor for 8 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Fine Grading 5/1/2012 - 10/31/2012 - Wetlands and Landscaping

Total Acres Disturbed: 0.74

Maximum Daily Acreage Disturbed: 0.74

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

- 4 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 7/1/2010 - 7/31/2010 - Utilities Installation

Off-Road Equipment:

- 3 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day
- 2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 2 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 4/1/2012 - 4/30/2012 - permeable parking lots and fire trails

Acres to be Paved: 3.97

Off-Road Equipment:

- 4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

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- 1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
- 2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 8/1/2010 - 9/30/2010 - Foundation construction

Off-Road Equipment:

- 1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day
- 3 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day
- 2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 10 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Pumps (53 hp) operating at a 0.74 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Building Construction 10/1/2010 - 3/31/2012 - Wellness Center & Office Park

Off-Road Equipment:

- 1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day
- 3 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day
- 2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 10 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Pumps (53 hp) operating at a 0.74 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

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CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 6/1/2010-6/30/2010 Active Days: 22	12.33	115.91	48.31	0.01	<u>5.39</u>	4.67	<u>10.06</u>	<u>1.13</u>	4.29	5.43	11,792.68
Fine Grading 06/01/2010- 06/30/2010	12.33	115.91	48.31	0.01	5.39	4.67	10.06	1.13	4.29	5.43	11,792.68
Fine Grading Dust	0.00	0.00	0.00	0.00	5.36	0.00	5.36	1.12	0.00	1.12	0.00
Fine Grading Off Road Diesel	11.98	111.07	45.03	0.00	0.00	4.49	4.49	0.00	4.13	4.13	10,882.72
Fine Grading On Road Diesel	0.30	4.75	1.56	0.01	0.03	0.18	0.21	0.01	0.16	0.17	750.30
Fine Grading Worker Trips	0.05	0.09	1.71	0.00	0.01	0.00	0.01	0.00	0.00	0.01	159.66
Time Slice 7/1/2010-7/30/2010 Active Days: 22	5.01	43.37	19.48	0.00	0.01	1.82	1.84	0.00	1.68	1.68	5,062.75
Trenching 07/01/2010-07/31/2010	5.01	43.37	19.48	0.00	0.01	1.82	1.84	0.00	1.68	1.68	5,062.75
Trenching Off Road Diesel	4.94	43.24	16.91	0.00	0.00	1.82	1.82	0.00	1.67	1.67	4,823.25
Trenching Worker Trips	0.08	0.13	2.56	0.00	0.01	0.01	0.02	0.00	0.00	0.01	239.50
Time Slice 8/2/2010-9/30/2010 Active Days: 44	<u>19.67</u>	<u>173.38</u>	<u>88.51</u>	<u>0.04</u>	0.15	<u>6.90</u>	7.06	0.05	<u>6.35</u>	<u>6.40</u>	<u>23,220.56</u>
Building 08/01/2010-09/30/2010	19.67	173.38	88.51	0.04	0.15	6.90	7.06	0.05	6.35	6.40	23,220.56
Building Off Road Diesel	18.49	166.44	59.26	0.00	0.00	6.63	6.63	0.00	6.10	6.10	19,659.21
Building Vendor Trips	0.42	5.68	4.21	0.01	0.04	0.22	0.26	0.01	0.20	0.21	1,223.26
Building Worker Trips	0.76	1.27	25.04	0.02	0.11	0.05	0.16	0.04	0.04	0.08	2,338.09
Time Slice 10/1/2010-12/31/2010 Active Days: 66	<u>19.67</u>	<u>173.38</u>	<u>88.51</u>	<u>0.04</u>	0.15	<u>6.90</u>	7.06	0.05	<u>6.35</u>	<u>6.40</u>	<u>23,220.56</u>
Building 10/01/2010-03/31/2012	19.67	173.38	88.51	0.04	0.15	6.90	7.06	0.05	6.35	6.40	23,220.56
Building Off Road Diesel	18.49	166.44	59.26	0.00	0.00	6.63	6.63	0.00	6.10	6.10	19,659.21
Building Vendor Trips	0.42	5.68	4.21	0.01	0.04	0.22	0.26	0.01	0.20	0.21	1,223.26
Building Worker Trips	0.76	1.27	25.04	0.02	0.11	0.05	0.16	0.04	0.04	0.08	2,338.09

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Time Slice 1/3/2011-12/30/2011 Active Days: 260	<u>18.37</u>	<u>158.73</u>	<u>83.29</u>	<u>0.04</u>	<u>0.15</u>	<u>6.27</u>	<u>6.43</u>	<u>0.05</u>	<u>5.76</u>	<u>5.82</u>	<u>23,222.38</u>
Building 10/01/2010-03/31/2012	18.37	158.73	83.29	0.04	0.15	6.27	6.43	0.05	5.76	5.82	23,222.38
Building Off Road Diesel	17.29	152.49	56.22	0.00	0.00	6.02	6.02	0.00	5.54	5.54	19,659.21
Building Vendor Trips	0.39	5.09	3.93	0.01	0.04	0.19	0.24	0.01	0.18	0.19	1,223.18
Building Worker Trips	0.69	1.15	23.14	0.02	0.11	0.05	0.16	0.04	0.04	0.08	2,339.99
Time Slice 1/2/2012-3/30/2012 Active Days: 65	<u>17.58</u>	<u>145.40</u>	<u>78.81</u>	<u>0.04</u>	<u>0.15</u>	<u>5.60</u>	<u>5.75</u>	<u>0.05</u>	<u>5.14</u>	<u>5.20</u>	<u>23,223.79</u>
Building 10/01/2010-03/31/2012	17.58	145.40	78.81	0.04	0.15	5.60	5.75	0.05	5.14	5.20	23,223.79
Building Off Road Diesel	16.59	139.82	53.72	0.00	0.00	5.37	5.37	0.00	4.94	4.94	19,659.21
Building Vendor Trips	0.36	4.53	3.68	0.01	0.04	0.17	0.22	0.01	0.16	0.17	1,223.06
Building Worker Trips	0.63	1.05	21.41	0.02	0.11	0.06	0.17	0.04	0.05	0.09	2,341.52
Time Slice 4/2/2012-4/30/2012 Active Days: 21	<u>3.26</u>	<u>17.40</u>	<u>12.63</u>	<u>0.00</u>	<u>0.02</u>	<u>1.45</u>	<u>1.47</u>	<u>0.01</u>	<u>1.34</u>	<u>1.34</u>	<u>1,873.66</u>
Asphalt 04/01/2012-04/30/2012	3.26	17.40	12.63	0.00	0.02	1.45	1.47	0.01	1.34	1.34	1,873.66
Paving Off-Gas	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.65	16.20	10.06	0.00	0.00	1.41	1.41	0.00	1.29	1.29	1,418.44
Paving On Road Diesel	0.07	1.08	0.37	0.00	0.01	0.04	0.05	0.00	0.04	0.04	215.37
Paving Worker Trips	0.06	0.11	2.19	0.00	0.01	0.01	0.02	0.00	0.00	0.01	239.85
Time Slice 5/1/2012-10/31/2012 Active Days: 132	<u>6.57</u>	<u>54.55</u>	<u>22.13</u>	<u>0.00</u>	<u>0.95</u>	<u>2.17</u>	<u>3.12</u>	<u>0.20</u>	<u>2.00</u>	<u>2.20</u>	<u>7,538.91</u>
Fine Grading 05/01/2012-10/31/2012	6.57	54.55	22.13	0.00	0.95	2.17	3.12	0.20	2.00	2.20	7,538.91
Fine Grading Dust	0.00	0.00	0.00	0.00	0.94	0.00	0.94	0.20	0.00	0.20	0.00
Fine Grading Off Road Diesel	6.52	54.47	20.42	0.00	0.00	2.17	2.17	0.00	1.99	1.99	7,352.36
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.05	0.08	1.71	0.00	0.01	0.00	0.01	0.00	0.00	0.01	186.55

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/1/2010 - 6/30/2010 - Initial grading/materials sorting

For Soil Stabilizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Fine Grading 5/1/2012 - 10/31/2012 - Wetlands and Landscaping

For Soil Stabilizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.20	2.72	2.06	0.00	0.00	0.00	3,302.66
Hearth							
Landscape	0.74	0.12	9.27	0.00	0.03	0.03	16.85
Consumer Products	3.42						
Architectural Coatings	1.94						
TOTALS (lbs/day, unmitigated)	6.30	2.84	11.33	0.00	0.03	0.03	3,319.51

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.16	2.17	1.65	0.00	0.00	0.00	2,642.12
Hearth							
Landscape	0.74	0.12	9.27	0.00	0.03	0.03	16.85
Consumer Products	3.42						
Architectural Coatings	1.94						
TOTALS (lbs/day, mitigated)	6.26	2.29	10.92	0.00	0.03	0.03	2,658.97

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00
Industrial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments low rise	1.33	0.65	9.90	0.01	1.94	0.36	1,086.81
Racquetball/health	0.79	0.77	11.15	0.01	2.28	0.43	1,264.41
General office building	5.35	4.62	68.67	0.08	13.72	2.56	7,640.69
Manufacturing	1.25	0.83	12.44	0.01	2.46	0.46	1,374.11
Research & Development	2.42	1.95	28.10	0.03	5.77	1.08	3,192.93
Storage	1.31	0.82	11.79	0.01	2.42	0.45	1,339.34
TOTALS (lbs/day, unmitigated)	12.45	9.64	142.05	0.15	28.59	5.34	15,898.29

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments low rise	1.33	0.66	10.00	0.01	1.96	0.37	1,098.61
Racquetball/health	0.79	0.77	11.18	0.01	2.29	0.43	1,267.13
General office building	5.36	4.63	68.82	0.08	13.75	2.57	7,657.15
Manufacturing	1.25	0.83	12.47	0.01	2.47	0.46	1,377.07
Research & Development	2.42	1.96	28.16	0.03	5.78	1.08	3,199.81
Storage	1.31	0.82	11.81	0.01	2.42	0.45	1,342.23
TOTALS (lbs/day, mitigated)	12.46	9.67	142.44	0.15	28.67	5.36	15,942.00

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

NOTE this mitigation measure INCREASES Trips by 0.22%

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 63.

The employment for the study area (within a 1/2 mile radius of the project) is 720.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

NOTE this mitigation measure INCREASES Trips by 0.22%

Inputs Selected:

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Nonresidential Mitigation Measures

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 63.
 The employment for the study area (within a 1/2 mile radius of the project) is 720.

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 90 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments low rise	4.38	1.90	dwelling units	70.00	133.00	1,137.11
Racquetball/health		33.80	1000 sq ft	5.30	179.14	1,335.94
General office building		11.01	1000 sq ft	90.00	990.90	8,028.77
Manufacturing		3.82	1000 sq ft	45.00	171.90	1,440.87
Research & Development		8.11	1000 sq ft	56.30	456.59	3,375.59

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Storage	3.56	1000 sq ft	53.80	191.53	1,415.97	
				2,123.06	16,734.25	

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	60.6	0.5	99.3	0.2
Light Truck < 3750 lbs	7.7	0.8	97.5	1.7
Light Truck 3751-5750 lbs	25.9	0.0	100.0	0.0
Med Truck 5751-8500 lbs	1.4	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.2	0.0	71.4	28.6
Lite-Heavy Truck 10,001-14,000 lbs	0.1	0.0	66.7	33.3
Med-Heavy Truck 14,001-33,000 lbs	0.1	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.1	0.0	0.0	100.0
Other Bus	0.0	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.6	57.1	42.9	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.1	0.0	100.0	0.0

Travel Conditions

Residential	Home-Shop	Home-Other	Commuter	Non-Work	Customer
10.8	7.3	7.5	9.5	7.4	7.4
Commercial					

Urban Trip Length (miles)

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Racquetball/health				5.0	2.5	92.5
General office building				35.0	17.5	47.5
Manufacturing				48.0	24.0	28.0
Research & Development				2.0	1.0	97.0
Storage				2.0	1.0	97.0

Operational Changes to Defaults

Ambient summer temperature changed from 85 degrees F to 90 degrees F

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\Big Wave-San Mateo County\URBEMIS\Big Wave Wellness Center.urb924

Project Name: Big Wave Wellness Center

Project Location: San Mateo County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2010 TOTALS (lbs/day unmitigated)	19.67	173.38	88.51	0.04	84.43	6.90	89.10	17.64	6.35	21.93	23,220.56
2010 TOTALS (lbs/day mitigated)	19.67	173.38	88.51	0.04	5.39	6.90	10.06	1.13	6.35	6.40	23,220.56
2011 TOTALS (lbs/day unmitigated)	18.37	158.73	83.29	0.04	0.15	6.27	6.43	0.05	5.76	5.82	23,222.38
2011 TOTALS (lbs/day mitigated)	18.37	158.73	83.29	0.04	0.15	6.27	6.43	0.05	5.76	5.82	23,222.38
2012 TOTALS (lbs/day unmitigated)	17.58	145.40	78.81	0.04	14.81	5.60	16.98	3.09	5.14	5.20	23,223.79
2012 TOTALS (lbs/day mitigated)	17.58	145.40	78.81	0.04	0.95	5.60	5.75	0.20	5.14	5.20	23,223.79

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	5.56	2.72	2.06	0.00	0.00	0.00	3,302.66

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TOTALS (lbs/day, mitigated)	5.52	2.17	1.65	0.00	0.00	0.00	2,642.12
Percent Reduction	0.72	20.22	19.90	NaN	NaN	NaN	20.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	11.14	15.69	138.46	0.13	28.59	5.34	12,995.77
TOTALS (lbs/day, mitigated)	11.17	15.74	138.85	0.13	28.67	5.36	13,031.50
Percent Reduction	-0.27	-0.32	-0.28	0.00	-0.28	-0.37	-0.27

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	16.70	18.41	140.52	0.13	28.59	5.34	16,298.43
TOTALS (lbs/day, mitigated)	16.69	17.91	140.50	0.13	28.67	5.36	15,673.62
Percent Reduction	0.06	2.72	0.01	0.00	-0.28	-0.37	3.83

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 6/1/2010-6/30/2010 Active Days: 22	12.33	115.91	48.31	0.01	84.43	4.67	89.10	17.64	4.29	21.93	11,792.68
Fine Grading 06/01/2010- 06/30/2010	12.33	115.91	48.31	0.01	84.43	4.67	89.10	17.64	4.29	21.93	11,792.68
Fine Grading Dust	0.00	0.00	0.00	0.00	84.40	0.00	84.40	17.63	0.00	17.63	0.00
Fine Grading Off Road Diesel	11.98	111.07	45.03	0.00	0.00	4.49	4.49	0.00	4.13	4.13	10,882.72
Fine Grading On Road Diesel	0.30	4.75	1.56	0.01	0.03	0.18	0.21	0.01	0.16	0.17	750.30
Fine Grading Worker Trips	0.05	0.09	1.71	0.00	0.01	0.00	0.01	0.00	0.00	0.01	159.66

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Time Slice 7/1/2010-7/30/2010 Active Days: 22	5.01	43.37	19.48	0.00	0.01	1.82	1.84	0.00	1.68	1.68	5,062.75
Trenching 07/01/2010-07/31/2010	5.01	43.37	19.48	0.00	0.01	1.82	1.84	0.00	1.68	1.68	5,062.75
Trenching Off Road Diesel	4.94	43.24	16.91	0.00	0.00	1.82	1.82	0.00	1.67	1.67	4,823.25
Trenching Worker Trips	0.08	0.13	2.56	0.00	0.01	0.01	0.02	0.00	0.00	0.01	239.50
Time Slice 8/2/2010-9/30/2010 Active Days: 44	19.67	173.38	88.51	0.04	0.15	6.90	7.06	0.05	6.35	6.40	23,220.56
Building 08/01/2010-09/30/2010	19.67	173.38	88.51	0.04	0.15	6.90	7.06	0.05	6.35	6.40	23,220.56
Building Off Road Diesel	18.49	166.44	59.26	0.00	0.00	6.63	6.63	0.00	6.10	6.10	19,659.21
Building Vendor Trips	0.42	5.68	4.21	0.01	0.04	0.22	0.26	0.01	0.20	0.21	1,223.26
Building Worker Trips	0.76	1.27	25.04	0.02	0.11	0.05	0.16	0.04	0.04	0.08	2,338.09
Time Slice 10/1/2010-12/31/2010 Active Days: 66	19.67	173.38	88.51	0.04	0.15	6.90	7.06	0.05	6.35	6.40	23,220.56
Building 10/01/2010-03/31/2012	19.67	173.38	88.51	0.04	0.15	6.90	7.06	0.05	6.35	6.40	23,220.56
Building Off Road Diesel	18.49	166.44	59.26	0.00	0.00	6.63	6.63	0.00	6.10	6.10	19,659.21
Building Vendor Trips	0.42	5.68	4.21	0.01	0.04	0.22	0.26	0.01	0.20	0.21	1,223.26
Building Worker Trips	0.76	1.27	25.04	0.02	0.11	0.05	0.16	0.04	0.04	0.08	2,338.09
Time Slice 1/3/2011-12/30/2011 Active Days: 260	18.37	158.73	83.29	0.04	0.15	6.27	6.43	0.05	5.76	5.82	23,222.38
Building 10/01/2010-03/31/2012	18.37	158.73	83.29	0.04	0.15	6.27	6.43	0.05	5.76	5.82	23,222.38
Building Off Road Diesel	17.29	152.49	56.22	0.00	0.00	6.02	6.02	0.00	5.54	5.54	19,659.21
Building Vendor Trips	0.39	5.09	3.93	0.01	0.04	0.19	0.24	0.01	0.18	0.19	1,223.18
Building Worker Trips	0.69	1.15	23.14	0.02	0.11	0.05	0.16	0.04	0.04	0.08	2,339.99

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Time Slice 1/2/2012-3/30/2012 Active Days: 65	17.58	145.40	78.81	0.04	0.15	5.60	5.75	0.05	5.14	5.20	23,223.79
Building 10/01/2010-03/31/2012	17.58	145.40	78.81	0.04	0.15	5.60	5.75	0.05	5.14	5.20	23,223.79
Building Off Road Diesel	16.59	139.82	53.72	0.00	0.00	5.37	5.37	0.00	4.94	4.94	19,659.21
Building Vendor Trips	0.36	4.53	3.68	0.01	0.04	0.17	0.22	0.01	0.16	0.17	1,223.06
Building Worker Trips	0.63	1.05	21.41	0.02	0.11	0.06	0.17	0.04	0.05	0.09	2,341.52
Time Slice 4/2/2012-4/30/2012 Active Days: 21	3.26	17.40	12.63	0.00	0.02	1.45	1.47	0.01	1.34	1.34	1,873.66
Asphalt 04/01/2012-04/30/2012	3.26	17.40	12.63	0.00	0.02	1.45	1.47	0.01	1.34	1.34	1,873.66
Paving Off-Gas	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.65	16.20	10.06	0.00	0.00	1.41	1.41	0.00	1.29	1.29	1,418.44
Paving On Road Diesel	0.07	1.08	0.37	0.00	0.01	0.04	0.05	0.00	0.04	0.04	215.37
Paving Worker Trips	0.06	0.11	2.19	0.00	0.01	0.01	0.02	0.00	0.00	0.01	239.85
Time Slice 5/1/2012-10/31/2012 Active Days: 132	6.57	54.55	22.13	0.00	14.81	2.17	16.98	3.09	2.00	5.09	7,538.91
Fine Grading 05/01/2012-10/31/2012	6.57	54.55	22.13	0.00	14.81	2.17	16.98	3.09	2.00	5.09	7,538.91
Fine Grading Dust	0.00	0.00	0.00	0.00	14.80	0.00	14.80	3.09	0.00	3.09	0.00
Fine Grading Off Road Diesel	6.52	54.47	20.42	0.00	0.00	2.17	2.17	0.00	1.99	1.99	7,352.36
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.05	0.08	1.71	0.00	0.01	0.00	0.01	0.00	0.00	0.01	186.55

Phase Assumptions

Phase: Fine Grading 6/1/2010 - 6/30/2010 - Initial grading/materials sorting

Total Acres Disturbed: 11.6

Maximum Daily Acreage Disturbed: 4.22

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

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On Road Truck Travel (VMT): 186.36

Off-Road Equipment:

- 1 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day
- 2 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 2 Scrapers (637 hp) operating at a 0.72 load factor for 8 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Fine Grading 5/1/2012 - 10/31/2012 - Wetlands and Landscaping

Total Acres Disturbed: 0.74

Maximum Daily Acreage Disturbed: 0.74

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

- 4 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 7/1/2010 - 7/31/2010 - Utilities Installation

Off-Road Equipment:

- 3 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day
- 2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 2 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 4/1/2012 - 4/30/2012 - permeable parking lots and fire trails

Acres to be Paved: 3.97

Off-Road Equipment:

- 4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

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- 1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
- 2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 8/1/2010 - 9/30/2010 - Foundation construction

Off-Road Equipment:

- 1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day
- 3 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day
- 2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 10 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Pumps (53 hp) operating at a 0.74 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Building Construction 10/1/2010 - 3/31/2012 - Wellness Center & Office Park

Off-Road Equipment:

- 1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day
- 3 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day
- 2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 10 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Pumps (53 hp) operating at a 0.74 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

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CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 6/1/2010-6/30/2010 Active Days: 22	12.33	115.91	48.31	0.01	<u>5.39</u>	4.67	<u>10.06</u>	<u>1.13</u>	4.29	5.43	11,792.68
Fine Grading 06/01/2010- 06/30/2010	12.33	115.91	48.31	0.01	5.39	4.67	10.06	1.13	4.29	5.43	11,792.68
Fine Grading Dust	0.00	0.00	0.00	0.00	5.36	0.00	5.36	1.12	0.00	1.12	0.00
Fine Grading Off Road Diesel	11.98	111.07	45.03	0.00	0.00	4.49	4.49	0.00	4.13	4.13	10,882.72
Fine Grading On Road Diesel	0.30	4.75	1.56	0.01	0.03	0.18	0.21	0.01	0.16	0.17	750.30
Fine Grading Worker Trips	0.05	0.09	1.71	0.00	0.01	0.00	0.01	0.00	0.00	0.01	159.66
Time Slice 7/1/2010-7/30/2010 Active Days: 22	5.01	43.37	19.48	0.00	0.01	1.82	1.84	0.00	1.68	1.68	5,062.75
Trenching 07/01/2010-07/31/2010	5.01	43.37	19.48	0.00	0.01	1.82	1.84	0.00	1.68	1.68	5,062.75
Trenching Off Road Diesel	4.94	43.24	16.91	0.00	0.00	1.82	1.82	0.00	1.67	1.67	4,823.25
Trenching Worker Trips	0.08	0.13	2.56	0.00	0.01	0.01	0.02	0.00	0.00	0.01	239.50
Time Slice 8/2/2010-9/30/2010 Active Days: 44	<u>19.67</u>	<u>173.38</u>	<u>88.51</u>	<u>0.04</u>	0.15	<u>6.90</u>	7.06	0.05	<u>6.35</u>	<u>6.40</u>	<u>23,220.56</u>
Building 08/01/2010-09/30/2010	19.67	173.38	88.51	0.04	0.15	6.90	7.06	0.05	6.35	6.40	23,220.56
Building Off Road Diesel	18.49	166.44	59.26	0.00	0.00	6.63	6.63	0.00	6.10	6.10	19,659.21
Building Vendor Trips	0.42	5.68	4.21	0.01	0.04	0.22	0.26	0.01	0.20	0.21	1,223.26
Building Worker Trips	0.76	1.27	25.04	0.02	0.11	0.05	0.16	0.04	0.04	0.08	2,338.09
Time Slice 10/1/2010-12/31/2010 Active Days: 66	<u>19.67</u>	<u>173.38</u>	<u>88.51</u>	<u>0.04</u>	0.15	<u>6.90</u>	7.06	0.05	<u>6.35</u>	<u>6.40</u>	<u>23,220.56</u>
Building 10/01/2010-03/31/2012	19.67	173.38	88.51	0.04	0.15	6.90	7.06	0.05	6.35	6.40	23,220.56
Building Off Road Diesel	18.49	166.44	59.26	0.00	0.00	6.63	6.63	0.00	6.10	6.10	19,659.21
Building Vendor Trips	0.42	5.68	4.21	0.01	0.04	0.22	0.26	0.01	0.20	0.21	1,223.26
Building Worker Trips	0.76	1.27	25.04	0.02	0.11	0.05	0.16	0.04	0.04	0.08	2,338.09

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Time Slice 1/3/2011-12/30/2011 Active Days: 260	<u>18.37</u>	<u>158.73</u>	<u>83.29</u>	<u>0.04</u>	<u>0.15</u>	<u>6.27</u>	<u>6.43</u>	<u>0.05</u>	<u>5.76</u>	<u>5.82</u>	<u>23,222.38</u>
Building 10/01/2010-03/31/2012	18.37	158.73	83.29	0.04	0.15	6.27	6.43	0.05	5.76	5.82	23,222.38
Building Off Road Diesel	17.29	152.49	56.22	0.00	0.00	6.02	6.02	0.00	5.54	5.54	19,659.21
Building Vendor Trips	0.39	5.09	3.93	0.01	0.04	0.19	0.24	0.01	0.18	0.19	1,223.18
Building Worker Trips	0.69	1.15	23.14	0.02	0.11	0.05	0.16	0.04	0.04	0.08	2,339.99
Time Slice 1/2/2012-3/30/2012 Active Days: 65	<u>17.58</u>	<u>145.40</u>	<u>78.81</u>	<u>0.04</u>	<u>0.15</u>	<u>5.60</u>	<u>5.75</u>	<u>0.05</u>	<u>5.14</u>	<u>5.20</u>	<u>23,223.79</u>
Building 10/01/2010-03/31/2012	17.58	145.40	78.81	0.04	0.15	5.60	5.75	0.05	5.14	5.20	23,223.79
Building Off Road Diesel	16.59	139.82	53.72	0.00	0.00	5.37	5.37	0.00	4.94	4.94	19,659.21
Building Vendor Trips	0.36	4.53	3.68	0.01	0.04	0.17	0.22	0.01	0.16	0.17	1,223.06
Building Worker Trips	0.63	1.05	21.41	0.02	0.11	0.06	0.17	0.04	0.05	0.09	2,341.52
Time Slice 4/2/2012-4/30/2012 Active Days: 21	<u>3.26</u>	<u>17.40</u>	<u>12.63</u>	<u>0.00</u>	<u>0.02</u>	<u>1.45</u>	<u>1.47</u>	<u>0.01</u>	<u>1.34</u>	<u>1.34</u>	<u>1,873.66</u>
Asphalt 04/01/2012-04/30/2012	3.26	17.40	12.63	0.00	0.02	1.45	1.47	0.01	1.34	1.34	1,873.66
Paving Off-Gas	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.65	16.20	10.06	0.00	0.00	1.41	1.41	0.00	1.29	1.29	1,418.44
Paving On Road Diesel	0.07	1.08	0.37	0.00	0.01	0.04	0.05	0.00	0.04	0.04	215.37
Paving Worker Trips	0.06	0.11	2.19	0.00	0.01	0.01	0.02	0.00	0.00	0.01	239.85
Time Slice 5/1/2012-10/31/2012 Active Days: 132	<u>6.57</u>	<u>54.55</u>	<u>22.13</u>	<u>0.00</u>	<u>0.95</u>	<u>2.17</u>	<u>3.12</u>	<u>0.20</u>	<u>2.00</u>	<u>2.20</u>	<u>7,538.91</u>
Fine Grading 05/01/2012-10/31/2012	6.57	54.55	22.13	0.00	0.95	2.17	3.12	0.20	2.00	2.20	7,538.91
Fine Grading Dust	0.00	0.00	0.00	0.00	0.94	0.00	0.94	0.20	0.00	0.20	0.00
Fine Grading Off Road Diesel	6.52	54.47	20.42	0.00	0.00	2.17	2.17	0.00	1.99	1.99	7,352.36
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.05	0.08	1.71	0.00	0.01	0.00	0.01	0.00	0.00	0.01	186.55

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/1/2010 - 6/30/2010 - Initial grading/materials sorting

For Soil Stabilizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Fine Grading 5/1/2012 - 10/31/2012 - Wetlands and Landscaping

For Soil Stabilizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.20	2.72	2.06	0.00	0.00	0.00	3,302.66
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	3.42						
Architectural Coatings	1.94						
TOTALS (lbs/day, unmitigated)	5.56	2.72	2.06	0.00	0.00	0.00	3,302.66

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.16	2.17	1.65	0.00	0.00	0.00	2,642.12
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	3.42						
Architectural Coatings	1.94						
TOTALS (lbs/day, mitigated)	5.52	2.17	1.65	0.00	0.00	0.00	2,642.12

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00
Industrial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments low rise	0.76	1.06	9.53	0.01	1.94	0.36	889.58
Racquetball/health	0.90	1.26	11.03	0.01	2.28	0.43	1,032.69
General office building	5.31	7.52	66.41	0.06	13.72	2.56	6,248.11
Manufacturing	0.95	1.35	11.93	0.01	2.46	0.46	1,124.20
Research & Development	2.27	3.17	27.87	0.03	5.77	1.08	2,607.44
Storage	0.95	1.33	11.69	0.01	2.42	0.45	1,093.75
TOTALS (lbs/day, unmitigated)	11.14	15.69	138.46	0.13	28.59	5.34	12,995.77

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments low rise	0.77	1.08	9.63	0.01	1.96	0.37	899.24
Racquetball/health	0.90	1.26	11.06	0.01	2.29	0.43	1,034.92
General office building	5.33	7.54	66.56	0.06	13.75	2.57	6,261.57
Manufacturing	0.95	1.35	11.95	0.01	2.47	0.46	1,126.62
Research & Development	2.27	3.18	27.93	0.03	5.78	1.08	2,613.05
Storage	0.95	1.33	11.72	0.01	2.42	0.45	1,096.10
TOTALS (lbs/day, mitigated)	11.17	15.74	138.85	0.13	28.67	5.36	13,031.50

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

NOTE this mitigation measure INCREASES Trips by 0.22%

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 63.

The employment for the study area (within a 1/2 mile radius of the project) is 720.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

NOTE this mitigation measure INCREASES Trips by 0.22%

Inputs Selected:

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Nonresidential Mitigation Measures

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 63.
The employment for the study area (within a 1/2 mile radius of the project) is 720.

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments low rise	4.38	1.90	dwelling units	70.00	133.00	1,137.11
Racquetball/health		33.80	1000 sq ft	5.30	179.14	1,335.94
General office building		11.01	1000 sq ft	90.00	990.90	8,028.77
Manufacturing		3.82	1000 sq ft	45.00	171.90	1,440.87
Research & Development		8.11	1000 sq ft	56.30	456.59	3,375.59

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Storage	3.56	1000 sq ft	53.80	191.53	1,415.97	
				2,123.06	16,734.25	

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	60.6	0.5	99.3	0.2
Light Truck < 3750 lbs	7.7	0.8	97.5	1.7
Light Truck 3751-5750 lbs	25.9	0.0	100.0	0.0
Med Truck 5751-8500 lbs	1.4	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.2	0.0	71.4	28.6
Lite-Heavy Truck 10,001-14,000 lbs	0.1	0.0	66.7	33.3
Med-Heavy Truck 14,001-33,000 lbs	0.1	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.1	0.0	0.0	100.0
Other Bus	0.0	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.6	57.1	42.9	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.1	0.0	100.0	0.0

Travel Conditions

Residential	Home-Shop	Home-Other	Commuter	Commercial	Customer
10.8	7.3	7.5	9.5	7.4	7.4
Urban Trip Length (miles)					

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Racquetball/health				5.0	2.5	92.5
General office building				35.0	17.5	47.5
Manufacturing				48.0	24.0	28.0
Research & Development				2.0	1.0	97.0
Storage				2.0	1.0	97.0

Operational Changes to Defaults

Ambient summer temperature changed from 85 degrees F to 90 degrees F

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\Big Wave-San Mateo County\URBEMIS\Big Wave Wellness Center.urb924

Project Name: Big Wave Wellness Center

Project Location: San Mateo County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2010 TOTALS (tons/year unmitigated)	1.27	11.29	5.61	0.00	0.94	0.45	1.39	0.20	0.41	0.61	1,462.54
2010 TOTALS (tons/year mitigated)	1.27	11.29	5.61	0.00	0.07	0.45	0.52	0.02	0.41	0.43	1,462.54
Percent Reduction	0.00	0.00	0.00	0.00	92.76	0.00	62.62	92.14	0.00	29.68	0.00
2011 TOTALS (tons/year unmitigated)	2.39	20.64	10.83	0.00	0.02	0.82	0.84	0.01	0.75	0.76	3,018.91
2011 TOTALS (tons/year mitigated)	2.39	20.64	10.83	0.00	0.02	0.82	0.84	0.01	0.75	0.76	3,018.91
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2012 TOTALS (tons/year unmitigated)	1.04	8.51	4.15	0.00	0.98	0.34	1.32	0.21	0.31	0.52	1,272.01
2012 TOTALS (tons/year mitigated)	1.04	8.51	4.15	0.00	0.07	0.34	0.41	0.02	0.31	0.33	1,272.01
Percent Reduction	0.00	0.00	0.00	0.00	93.10	0.00	69.15	92.72	0.00	36.82	0.00

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AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	1.08	0.51	1.21	0.00	0.00	0.00	604.25
TOTALS (tons/year, mitigated)	1.07	0.41	1.13	0.00	0.00	0.00	483.71
Percent Reduction	0.93	19.61	6.61	NaN	NaN	NaN	19.95

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	2.19	2.12	25.71	0.02	5.21	0.98	2,724.87
TOTALS (tons/year, mitigated)	2.20	2.13	25.77	0.02	5.23	0.98	2,732.36
Percent Reduction	-0.46	-0.47	-0.23	0.00	-0.38	0.00	-0.27

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	3.27	2.63	26.92	0.02	5.21	0.98	3,329.12
TOTALS (tons/year, mitigated)	3.27	2.54	26.90	0.02	5.23	0.98	3,216.07
Percent Reduction	0.00	3.42	0.07	0.00	-0.38	0.00	3.40

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
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2010		1.27	11.29	5.61	0.00	0.94	0.45	1.39	0.20	0.41	0.61	1,462.54
	Fine Grading 06/01/2010-06/30/2010	0.14	1.28	0.53	0.00	0.93	0.05	0.98	0.19	0.05	0.24	129.72
	Fine Grading Dust	0.00	0.00	0.00	0.00	0.93	0.00	0.93	0.19	0.00	0.19	0.00
	Fine Grading Off Road Diesel	0.13	1.22	0.50	0.00	0.00	0.05	0.05	0.00	0.05	0.05	119.71
	Fine Grading On Road Diesel	0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.25
	Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.76
	Trenching 07/01/2010-07/31/2010	0.06	0.48	0.21	0.00	0.00	0.02	0.02	0.00	0.02	0.02	55.69
	Trenching Off Road Diesel	0.05	0.48	0.19	0.00	0.00	0.02	0.02	0.00	0.02	0.02	53.06
	Trenching Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.63
	Building 08/01/2010-09/30/2010	0.43	3.81	1.95	0.00	0.00	0.15	0.16	0.00	0.14	0.14	510.85
	Building Off Road Diesel	0.41	3.66	1.30	0.00	0.00	0.15	0.15	0.00	0.13	0.13	432.50
	Building Vendor Trips	0.01	0.12	0.09	0.00	0.00	0.00	0.01	0.00	0.00	0.00	26.91
	Building Worker Trips	0.02	0.03	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.44
	Building 10/01/2010-03/31/2012	0.65	5.72	2.92	0.00	0.01	0.23	0.23	0.00	0.21	0.21	766.28
	Building Off Road Diesel	0.61	5.49	1.96	0.00	0.00	0.22	0.22	0.00	0.20	0.20	648.75
	Building Vendor Trips	0.01	0.19	0.14	0.00	0.00	0.01	0.01	0.00	0.01	0.01	40.37
	Building Worker Trips	0.03	0.04	0.83	0.00	0.00	0.00	0.01	0.00	0.00	0.00	77.16
2011		2.39	20.64	10.83	0.00	0.02	0.82	0.84	0.01	0.75	0.76	3,018.91
	Building 10/01/2010-03/31/2012	2.39	20.64	10.83	0.00	0.02	0.82	0.84	0.01	0.75	0.76	3,018.91
	Building Off Road Diesel	2.25	19.82	7.31	0.00	0.00	0.78	0.78	0.00	0.72	0.72	2,555.70
	Building Vendor Trips	0.05	0.66	0.51	0.00	0.01	0.03	0.03	0.00	0.02	0.03	159.01
	Building Worker Trips	0.09	0.15	3.01	0.00	0.01	0.01	0.02	0.01	0.01	0.01	304.20

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- 2 Scrapers (637 hp) operating at a 0.72 load factor for 8 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Fine Grading 5/1/2012 - 10/31/2012 - Wetlands and Landscaping

Total Acres Disturbed: 0.74

Maximum Daily Acreage Disturbed: 0.74

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

- 4 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 7/1/2010 - 7/31/2010 - Utilities Installation

Off-Road Equipment:

- 3 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day
- 2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 2 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 4/1/2012 - 4/30/2012 - permeable parking lots and fire trails

Acres to be Paved: 3.97

Off-Road Equipment:

- 4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
- 1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
- 2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

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Phase: Building Construction 8/1/2010 - 9/30/2010 - Foundation construction

Off-Road Equipment:

- 1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day
- 3 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day
- 2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 10 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Pumps (53 hp) operating at a 0.74 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Building Construction 10/1/2010 - 3/31/2012 - Wellness Center & Office Park

Off-Road Equipment:

- 1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day
- 3 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day
- 2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 10 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Pumps (53 hp) operating at a 0.74 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

COG ROG NOx SO2 PM10 Dust PM10 Exhaust PM2.5 Dust PM2.5 Exhaust CO2

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2010		1.27	11.29	5.61	0.00	0.07	0.45	0.52	0.02	0.41	0.43	1,462.54
	Fine Grading 06/01/2010-06/30/2010	0.14	1.28	0.53	0.00	0.06	0.05	0.11	0.01	0.05	0.06	129.72
	Fine Grading Dust	0.00	0.00	0.00	0.00	0.06	0.00	0.06	0.01	0.00	0.01	0.00
	Fine Grading Off Road Diesel	0.13	1.22	0.50	0.00	0.00	0.05	0.05	0.00	0.05	0.05	119.71
	Fine Grading On Road Diesel	0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.25
	Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.76
	Trenching 07/01/2010-07/31/2010	0.06	0.48	0.21	0.00	0.00	0.02	0.02	0.00	0.02	0.02	55.69
	Trenching Off Road Diesel	0.05	0.48	0.19	0.00	0.00	0.02	0.02	0.00	0.02	0.02	53.06
	Trenching Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.63
	Building 08/01/2010-09/30/2010	0.43	3.81	1.95	0.00	0.00	0.15	0.16	0.00	0.14	0.14	510.85
	Building Off Road Diesel	0.41	3.66	1.30	0.00	0.00	0.15	0.15	0.00	0.13	0.13	432.50
	Building Vendor Trips	0.01	0.12	0.09	0.00	0.00	0.00	0.01	0.00	0.00	0.00	26.91
	Building Worker Trips	0.02	0.03	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.44
	Building 10/01/2010-03/31/2012	0.65	5.72	2.92	0.00	0.01	0.23	0.23	0.00	0.21	0.21	766.28
	Building Off Road Diesel	0.61	5.49	1.96	0.00	0.00	0.22	0.22	0.00	0.20	0.20	648.75
	Building Vendor Trips	0.01	0.19	0.14	0.00	0.00	0.01	0.01	0.00	0.01	0.01	40.37
	Building Worker Trips	0.03	0.04	0.83	0.00	0.00	0.00	0.01	0.00	0.00	0.00	77.16
2011		2.39	20.64	10.83	0.00	0.02	0.82	0.84	0.01	0.75	0.76	3,018.91
	Building 10/01/2010-03/31/2012	2.39	20.64	10.83	0.00	0.02	0.82	0.84	0.01	0.75	0.76	3,018.91
	Building Off Road Diesel	2.25	19.82	7.31	0.00	0.00	0.78	0.78	0.00	0.72	0.72	2,555.70
	Building Vendor Trips	0.05	0.66	0.51	0.00	0.01	0.03	0.03	0.00	0.02	0.03	159.01
	Building Worker Trips	0.09	0.15	3.01	0.00	0.01	0.01	0.02	0.01	0.01	0.01	304.20

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For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Fine Grading 5/1/2012 - 10/31/2012 - Wetlands and Landscaping

For Soil Stabilizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.04	0.50	0.38	0.00	0.00	0.00	602.73
Hearth							
Landscaping	0.07	0.01	0.83	0.00	0.00	0.00	1.52
Consumer Products	0.62						
Architectural Coatings	0.35						
TOTALS (tons/year, unmitigated)	1.08	0.51	1.21	0.00	0.00	0.00	604.25

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Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOx	CO	SO ₂	PM10	PM2.5	CO ₂
Natural Gas	0.03	0.40	0.30	0.00	0.00	0.00	482.19
Hearth							
Landscape	0.07	0.01	0.83	0.00	0.00	0.00	1.52
Consumer Products	0.62						
Architectural Coatings	0.35						
TOTALS (tons/year, mitigated)	1.07	0.41	1.13	0.00	0.00	0.00	483.71

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00
Industrial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments low rise	0.21	0.14	1.78	0.00	0.35	0.07	186.35
Racquetball/health	0.15	0.17	2.03	0.00	0.42	0.08	216.66
General office building	0.97	1.02	12.40	0.01	2.50	0.47	1,309.71
Manufacturing	0.21	0.18	2.24	0.00	0.45	0.08	235.57
Research & Development	0.43	0.43	5.11	0.01	1.05	0.20	547.09
Storage	0.22	0.18	2.15	0.00	0.44	0.08	229.49
TOTALS (tons/year, unmitigated)	2.19	2.12	25.71	0.02	5.21	0.98	2,724.87

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments low rise	0.21	0.15	1.80	0.00	0.36	0.07	188.37
Racquetball/health	0.15	0.17	2.03	0.00	0.42	0.08	217.13
General office building	0.98	1.02	12.42	0.01	2.51	0.47	1,312.53
Manufacturing	0.21	0.18	2.24	0.00	0.45	0.08	236.08
Research & Development	0.43	0.43	5.13	0.01	1.05	0.20	548.27
Storage	0.22	0.18	2.15	0.00	0.44	0.08	229.98
TOTALS (tons/year, mitigated)	2.20	2.13	25.77	0.02	5.23	0.98	2,732.36

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Operational Mitigation Options Selected

Residential Mitigation Measures

NOTE this mitigation measure INCREASES Trips by 0.22%

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 63.

The employment for the study area (within a 1/2 mile radius of the project) is 720.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

NOTE this mitigation measure INCREASES Trips by 0.22%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

Nonresidential Mitigation Measures

number of residential units included in the project are 63.

The employment for the study area (within a 1/2 mile radius of the project) is 720.

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments low rise	4.38	1.90	dwelling units	70.00	133.00	1,137.11
Racquetball/health		33.80	1000 sq ft	5.30	179.14	1,335.94
General office building		11.01	1000 sq ft	90.00	990.90	8,028.77
Manufacturing		3.82	1000 sq ft	45.00	171.90	1,440.87
Research & Development		8.11	1000 sq ft	56.30	456.59	3,375.59
Storage		3.56	1000 sq ft	53.80	191.53	1,415.97
					2,123.06	16,734.25

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	60.6	0.5	99.3	0.2
Light Truck < 3750 lbs	7.7	0.8	97.5	1.7
Light Truck 3751-5750 lbs	25.9	0.0	100.0	0.0
Med Truck 5751-8500 lbs	1.4	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.2	0.0	71.4	28.6
Lite-Heavy Truck 10,001-14,000 lbs	0.1	0.0	66.7	33.3
Med-Heavy Truck 14,001-33,000 lbs	0.1	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.1	0.0	0.0	100.0
Other Bus	0.0	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.6	57.1	42.9	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.1	0.0	100.0	0.0

Travel Conditions

	Residential				Commercial	
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
% of Trips - Commercial (by land use)						
Racquetball/health				5.0	2.5	92.5
General office building				35.0	17.5	47.5
Manufacturing				48.0	24.0	28.0
Research & Development				2.0	1.0	97.0
Storage				2.0	1.0	97.0

Operational Changes to Defaults

Ambient summer temperature changed from 85 degrees F to 90 degrees F

EXPLANATION OF CHANGES MADE TO DEFAULT SETTINGS IN URBEMIS 2007

The following pages include the printed results of the air pollutant emissions modeling for one of the land use components of the proposed project. The air emissions modeling was conducted using the URBEMIS 2007 for Windows computer program. URBEMIS 2007 is programmed with EMFAC 2007 emission factors developed by the California Air Resources Board.

As part of this analysis, changes have been made to several of the default values programmed into URBEMIS 2007. These changes were made to more accurately reflect the nature of the proposed land use. Each of

Vehicle Trip Rates

The default vehicle trip rate values were changed to be consistent with the traffic impact analysis prepared

Vehicle Fleet Mix

URBEMIS 2007 is programmed with the following state-wide average vehicle fleet mix:

State-Wide Vehicle Type	Total	
Automobiles	53.5%	
Light-Duty Trucks <3,750 pounds	6.8%	
Light-Duty Trucks 3,751-5,750 pounds	22.9%	
Medium-Duty Trucks 5,751-8,500 pounds	10.0%	} 13.40% Total Trucks
Light-Heavy-Duty Trucks 8,501-10,000 pounds	1.5%	
Light-Heavy-Duty Trucks 10,001-14,000 pound	0.5%	
Medium-Heavy-Duty Trucks 14,001-33,000 pot	0.9%	
Heavy-Heavy-Duty Trucks 33,001-60,000 pour	0.5%	
Line-Haul Vehicles	0.0%	
Urban Buses	0.1%	
Motorcycles	2.3%	
School Buses	0.1%	
Motor Homes	1.0%	

However, this state-wide average fleet mix is not appropriate for the majority of land use analyses. The project land use assessed in this analysis is identified below along with the total percentage of trucks (medium and heavy) that are expected for this land use. The following vehicle mix was calculated based on the percentage of trucks associated with this land use. The percentage of trucks for each land use

Code	Project Land Use:	Truck %	ADT	Truck #
221	Low-Rise Apartment	0.88%	133	1
710	General Office	1.84%	991	18
140	Manufacturing	8.00%	172	14
760	Research Center	1.84%	456	8
492	Racquet Club	0.44%	180	1
151	Mini Warehouse	7.00%	191	13
0			0	0
0			0	0
0			0	0
0			0	0
0			0	0
0			0	0
Project Totals:			2,123	56
Project Truck %:			2.62%	

Vehicle Type	Total	
Automobiles	60.088%	
Light-Duty Trucks <3,750 pounds	7.637%	
Light-Duty Trucks 3,751-5,750 pounds	25.720%	
Medium-Duty Trucks 5,751-8,500 pounds	1.959%	} 2.62% Total Trucks
Light-Heavy-Duty Trucks 8,501-10,000 pounds	0.294%	
Light-Heavy-Duty Trucks 10,001-14,000 pound	0.098%	
Medium-Heavy-Duty Trucks 14,001-33,000 pot	0.176%	
Heavy-Heavy-Duty Trucks 33,001-60,000 pour	0.098%	
Line-Haul Vehicles	0.000%	
Urban Buses	0.112%	
Motorcycles	2.583%	
School Buses	0.112%	
Motor Homes	1.123%	
		100.00%

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Title: Big Wave Wellness Center

Background Information

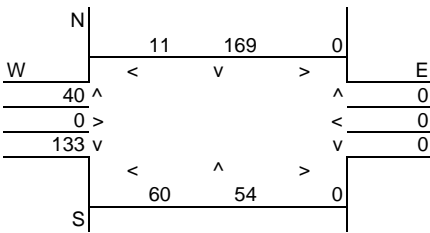
Nearest Air Monitoring Station measuring CO: Redwood City
 Background 1-hour CO Concentration (ppm): 5.5
 Background 8-hour CO Concentration (ppm): 2.3
 Persistence Factor: 0.7
 Analysis Year: 2012

Roadway Data

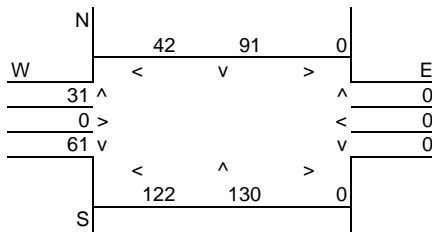
Intersection: Airport St & La Granada Ave
 Analysis Condition: Cumulative (future + project + projected projects)

	Roadway Type	No. of Lanes	Average Speed		
			A.M.	P.M.	
North-South Roadway:	Airport St	At Grade	2	5	5
East-West Roadway:	La Granada Ave	At Grade	2	5	5

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	416	N-S Road:	404
E-W Road:	244	E-W Road:	256

Roadway CO Contributions and Concentrations

$$\text{Emissions} = (A \times B \times C) / 100,000^1$$

Roadway	Reference CO Concentrations				Traffic Volume	Emission Factors ²	Estimated CO Concentrations			
	E.O.R.	25 Feet	50 Feet	100 Feet			E.O.R.	25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour										
North-South Road	14.0	7.6	5.7	4.0	416	6.35	0.37	0.20	0.15	0.11
East-West Road	3.7	2.7	2.2	1.7	244	6.35	0.06	0.04	0.03	0.03
P.M. Peak Traffic Hour										
North-South Road	14.0	7.6	5.7	4.0	404	6.35	0.36	0.20	0.15	0.10
East-West Road	3.7	2.7	2.2	1.7	256	6.35	0.06	0.04	0.04	0.03

¹ Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

² Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

$$\text{Peak Hour Emissions} = \text{North-South Concentration} + \text{East-West Concentration} + \text{Background 1-hour Concentration}^2$$

$$\text{8-Hour Emissions} = ((\text{Highest Peak Hour Concentration} - \text{Background 1-hour Concentration}) \times \text{Persistence Factor}) + \text{Background 8-hour Conc.}^2$$

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
Roadway Edge	5.9	5.9	2.6
25 Feet from Roadway Edge	5.7	5.7	2.5
50 Feet from Roadway Edge	5.7	5.7	2.4
100 Feet from Roadway Edge	5.6	5.6	2.4

² Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Title: Big Wave Wellness Center

Background Information

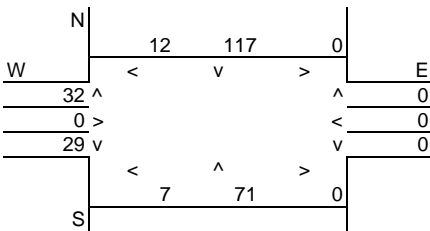
Nearest Air Monitoring Station measuring CO: Redwood City
 Background 1-hour CO Concentration (ppm): 5.5
 Background 8-hour CO Concentration (ppm): 2.3
 Persistence Factor: 0.7
 Analysis Year: 2012

Roadway Data

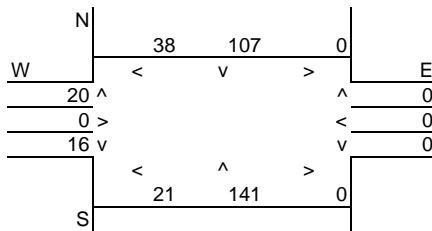
Intersection: Airport St & Los Banos Ave
 Analysis Condition: Cumulative (future + project + projected projects)

Roadway Type	No. of Lanes	Average Speed		
		A.M.	P.M.	
North-South Roadway: Airport St	At Grade	2	5	5
East-West Roadway: Los Banos Ave	At Grade	2	5	5

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	232	N-S Road:	306
E-W Road:	80	E-W Road:	95

Roadway CO Contributions and Concentrations

$$\text{Emissions} = (A \times B \times C) / 100,000^1$$

Roadway	Reference CO Concentrations				Traffic Volume	Emission Factors ²	Estimated CO Concentrations			
	E.O.R.	25 Feet	50 Feet	100 Feet			E.O.R.	25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour										
North-South Road	14.0	7.6	5.7	4.0	232	6.35	0.21	0.11	0.08	0.06
East-West Road	3.7	2.7	2.2	1.7	80	6.35	0.02	0.01	0.01	0.01
P.M. Peak Traffic Hour										
North-South Road	14.0	7.6	5.7	4.0	306	6.35	0.27	0.15	0.11	0.08
East-West Road	3.7	2.7	2.2	1.7	95	6.35	0.02	0.02	0.01	0.01

¹ Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

² Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

$$\text{Peak Hour Emissions} = \text{North-South Concentration} + \text{East-West Concentration} + \text{Background 1-hour Concentration}^2$$

$$\text{8-Hour Emissions} = ((\text{Highest Peak Hour Concentration} - \text{Background 1-hour Concentration}) \times \text{Persistence Factor}) + \text{Background 8-hour Conc.}^2$$

Roadway Edge	A.M.	P.M.	8-Hour
	Peak Hour	Peak Hour	
Roadway Edge	5.7	5.8	2.5
25 Feet from Roadway Edge	5.6	5.7	2.4
50 Feet from Roadway Edge	5.6	5.6	2.4
100 Feet from Roadway Edge	5.6	5.6	2.4

² Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Title: Big Wave Wellness Center

Background Information

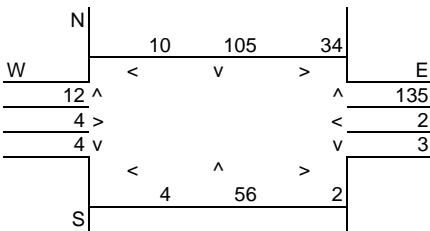
Nearest Air Monitoring Station measuring CO: Redwood City
 Background 1-hour CO Concentration (ppm): 5.5
 Background 8-hour CO Concentration (ppm): 2.3
 Persistence Factor: 0.7
 Analysis Year: 2012

Roadway Data

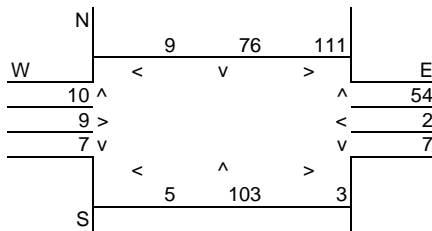
Intersection: Airport St & Stanford Ave/Cornell Ave
 Analysis Condition: Cumulative (future + project + projected projects)

Roadway Type	No. of Lanes	Average Speed		
		A.M.	P.M.	
North-South Roadway: Airport St	At Grade	2	5	5
East-West Roadway: Stanford/Cornell Ave	At Grade	2	5	5

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	352	N-S Road:	363
E-W Road:	180	E-W Road:	186

Roadway CO Contributions and Concentrations

$$\text{Emissions} = (A \times B \times C) / 100,000^1$$

Roadway	Reference CO Concentrations				Traffic Volume	Emission Factors ²	Estimated CO Concentrations			
	A ₁ E.O.R.	A ₂ 25 Feet	A ₃ 50 Feet	A ₄ 100 Feet			E.O.R.	25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour										
North-South Road	14.0	7.6	5.7	4.0	352	6.35	0.31	0.17	0.13	0.09
East-West Road	3.7	2.7	2.2	1.7	180	6.35	0.04	0.03	0.03	0.02
P.M. Peak Traffic Hour										
North-South Road	14.0	7.6	5.7	4.0	363	6.35	0.32	0.18	0.13	0.09
East-West Road	3.7	2.7	2.2	1.7	186	6.35	0.04	0.03	0.03	0.02

¹ Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

² Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

$$\text{Peak Hour Emissions} = \text{North-South Concentration} + \text{East-West Concentration} + \text{Background 1-hour Concentration}^2$$

$$\text{8-Hour Emissions} = ((\text{Highest Peak Hour Concentration} - \text{Background 1-hour Concentration}) \times \text{Persistence Factor}) + \text{Background 8-hour Conc.}^2$$

Roadway Edge	A.M.	P.M.	8-Hour
	Peak Hour	Peak Hour	
Roadway Edge	5.9	5.9	2.6
25 Feet from Roadway Edge	5.7	5.7	2.4
50 Feet from Roadway Edge	5.7	5.7	2.4
100 Feet from Roadway Edge	5.6	5.6	2.4

² Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Title: Big Wave Wellness Center

Background Information

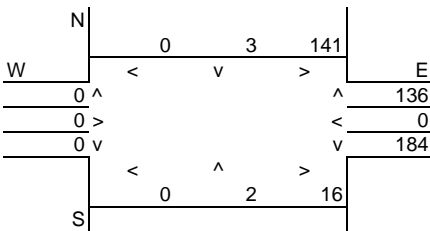
Nearest Air Monitoring Station measuring CO: Redwood City
 Background 1-hour CO Concentration (ppm): 5.5
 Background 8-hour CO Concentration (ppm): 2.3
 Persistence Factor: 0.7
 Analysis Year: 2012

Roadway Data

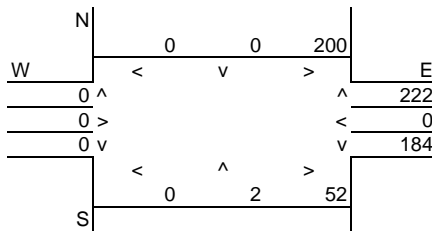
Intersection: Broadway & Prospect Way
 Analysis Condition: Cumulative (future + project + projected projects)

	Roadway Type	No. of Lanes	Average Speed		
			A.M.	P.M.	
North-South Roadway:	Broadway	At Grade	2	5	5
East-West Roadway:	Prospect Way	At Grade	2	5	5

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	282	N-S Road:	424
E-W Road:	477	E-W Road:	658

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000¹

Roadway	Reference CO Concentrations				Traffic Volume	Emission Factors ²	Estimated CO Concentrations			
	E.O.R.	25 Feet	50 Feet	100 Feet			E.O.R.	25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	282	6.35	0.07	0.05	0.04	0.03
East-West Road	14.0	7.6	5.7	4.0	477	6.35	0.42	0.23	0.17	0.12
P.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	424	6.35	0.10	0.07	0.06	0.05
East-West Road	14.0	7.6	5.7	4.0	658	6.35	0.59	0.32	0.24	0.17

¹ Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

² Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration²

8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Conc.²

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
Roadway Edge	6.0	6.2	2.8
25 Feet from Roadway Edge	5.8	5.9	2.6
50 Feet from Roadway Edge	5.7	5.8	2.5
100 Feet from Roadway Edge	5.7	5.7	2.4

² Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Title: Big Wave Wellness Center

Background Information

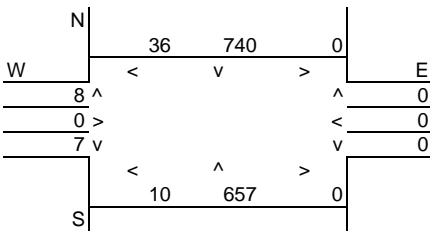
Nearest Air Monitoring Station measuring CO: Redwood City
 Background 1-hour CO Concentration (ppm): 5.5
 Background 8-hour CO Concentration (ppm): 2.3
 Persistence Factor: 0.7
 Analysis Year: 2012

Roadway Data

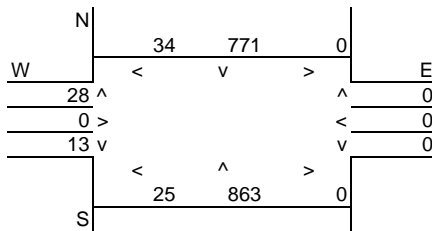
Intersection: Hwy 1 (Cabrillo) & Capistrano Rd (North)
 Analysis Condition: Cumulative (future + project + projected projects)

Roadway Type	No. of Lanes	Average Speed		
		A.M.	P.M.	
North-South Roadway: Hwy 1 (Cabrillo)	At Grade	2	5	5
East-West Roadway: Capistrano Rd (North)	At Grade	2	5	5

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road: 1,441 N-S Road: 1,696
 E-W Road: 61 E-W Road: 100

Roadway CO Contributions and Concentrations

$$\text{Emissions} = (A \times B \times C) / 100,000^1$$

Roadway	Reference CO Concentrations				Traffic Volume	Emission Factors ²	Estimated CO Concentrations			
	E.O.R.	25 Feet	50 Feet	100 Feet			E.O.R.	25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour										
North-South Road	14.0	7.6	5.7	4.0	1,441	6.35	1.28	0.70	0.52	0.37
East-West Road	3.7	2.7	2.2	1.7	61	6.35	0.01	0.01	0.01	0.01
P.M. Peak Traffic Hour										
North-South Road	14.0	7.6	5.7	4.0	1,696	6.35	1.51	0.82	0.61	0.43
East-West Road	3.7	2.7	2.2	1.7	100	6.35	0.02	0.02	0.01	0.01

¹ Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

² Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

$$\text{Peak Hour Emissions} = \text{North-South Concentration} + \text{East-West Concentration} + \text{Background 1-hour Concentration}^2$$

$$\text{8-Hour Emissions} = ((\text{Highest Peak Hour Concentration} - \text{Background 1-hour Concentration}) \times \text{Persistence Factor}) + \text{Background 8-hour Conc.}^2$$

Roadway Edge	A.M.	P.M.	8-Hour
	Peak Hour	Peak Hour	
Roadway Edge	6.8	7.0	3.4
25 Feet from Roadway Edge	6.2	6.3	2.9
50 Feet from Roadway Edge	6.0	6.1	2.7
100 Feet from Roadway Edge	5.9	5.9	2.6

² Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Title: Big Wave Wellness Center

Background Information

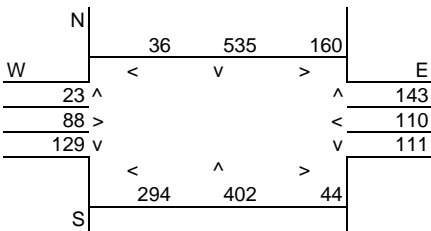
Nearest Air Monitoring Station measuring CO: Redwood City
 Background 1-hour CO Concentration (ppm): 5.5
 Background 8-hour CO Concentration (ppm): 2.3
 Persistence Factor: 0.7
 Analysis Year: 2012

Roadway Data

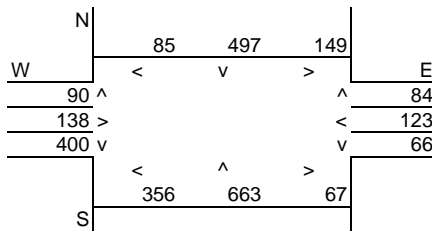
Intersection: Hwy 1 (Cabrillo) & Capistrano Rd (South)
 Analysis Condition: Cumulative (future + project + projected projects)

Roadway Type	No. of Lanes	Average Speed		
		A.M.	P.M.	
North-South Roadway: Hwy 1 (Cabrillo)	At Grade	2	5	5
East-West Roadway: Capistrano Rd (South)	At Grade	2	5	5

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	1,515	N-S Road:	2,049
E-W Road:	680	E-W Road:	1,192

Roadway CO Contributions and Concentrations

$$\text{Emissions} = (A \times B \times C) / 100,000^1$$

Roadway	Reference CO Concentrations				Traffic Volume	Emission Factors ²	Estimated CO Concentrations			
	E.O.R.	25 Feet	50 Feet	100 Feet			E.O.R.	25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour										
North-South Road	14.0	7.6	5.7	4.0	1,515	6.35	1.35	0.73	0.55	0.38
East-West Road	3.7	2.7	2.2	1.7	680	6.35	0.16	0.12	0.10	0.07
P.M. Peak Traffic Hour										
North-South Road	14.0	7.6	5.7	4.0	2,049	6.35	1.82	0.99	0.74	0.52
East-West Road	3.7	2.7	2.2	1.7	1,192	6.35	0.28	0.20	0.17	0.13

¹ Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

² Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

$$\text{Peak Hour Emissions} = \text{North-South Concentration} + \text{East-West Concentration} + \text{Background 1-hour Concentration}^2$$

$$\text{8-Hour Emissions} = ((\text{Highest Peak Hour Concentration} - \text{Background 1-hour Concentration}) \times \text{Persistence Factor}) + \text{Background 8-hour Conc.}^2$$

Roadway Edge	A.M.	P.M.	8-Hour
	Peak Hour	Peak Hour	
Roadway Edge	7.0	7.6	3.8
25 Feet from Roadway Edge	6.3	6.7	3.1
50 Feet from Roadway Edge	6.1	6.4	2.9
100 Feet from Roadway Edge	6.0	6.1	2.8

² Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Title: Big Wave Wellness Center

Background Information

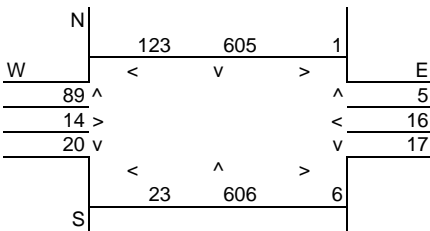
Nearest Air Monitoring Station measuring CO: Redwood City
 Background 1-hour CO Concentration (ppm): 5.5
 Background 8-hour CO Concentration (ppm): 2.3
 Persistence Factor: 0.7
 Analysis Year: 2012

Roadway Data

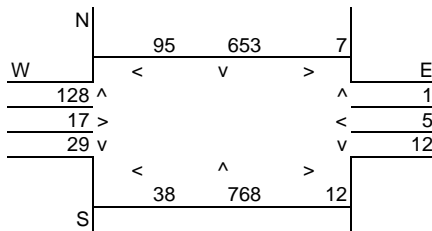
Intersection: Hwy 1 (Cabrillo) & Cypress Ave
 Analysis Condition: Cumulative (future + project + projected projects)

Roadway Type	No. of Lanes	Average Speed		
		A.M.	P.M.	
North-South Roadway: Hwy 1 (Cabrillo)	At Grade	2	5	5
East-West Roadway: Cypress Ave	At Grade	2	5	5

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	1,429	N-S Road:	1,652
E-W Road:	285	E-W Road:	312

Roadway CO Contributions and Concentrations

$$\text{Emissions} = (A \times B \times C) / 100,000^1$$

Roadway	Reference CO Concentrations				Traffic Volume	Emission Factors ²	Estimated CO Concentrations			
	E.O.R.	25 Feet	50 Feet	100 Feet			E.O.R.	25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour										
North-South Road	14.0	7.6	5.7	4.0	1,429	6.35	1.27	0.69	0.52	0.36
East-West Road	3.7	2.7	2.2	1.7	285	6.35	0.07	0.05	0.04	0.03
P.M. Peak Traffic Hour										
North-South Road	14.0	7.6	5.7	4.0	1,652	6.35	1.47	0.80	0.60	0.42
East-West Road	3.7	2.7	2.2	1.7	312	6.35	0.07	0.05	0.04	0.03

¹ Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

² Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

$$\text{Peak Hour Emissions} = \text{North-South Concentration} + \text{East-West Concentration} + \text{Background 1-hour Concentration}^2$$

$$\text{8-Hour Emissions} = ((\text{Highest Peak Hour Concentration} - \text{Background 1-hour Concentration}) \times \text{Persistence Factor}) + \text{Background 8-hour Conc.}^2$$

Roadway Edge	A.M.	P.M.	8-Hour
	Peak Hour	Peak Hour	
Roadway Edge	6.8	7.0	3.4
25 Feet from Roadway Edge	6.2	6.4	2.9
50 Feet from Roadway Edge	6.1	6.1	2.7
100 Feet from Roadway Edge	5.9	6.0	2.6

² Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Title: Big Wave Wellness Center

Background Information

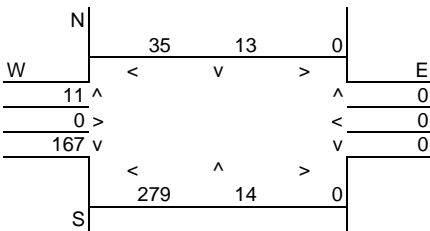
Nearest Air Monitoring Station measuring CO: Redwood City
 Background 1-hour CO Concentration (ppm): 5.5
 Background 8-hour CO Concentration (ppm): 2.3
 Persistence Factor: 0.7
 Analysis Year: 2012

Roadway Data

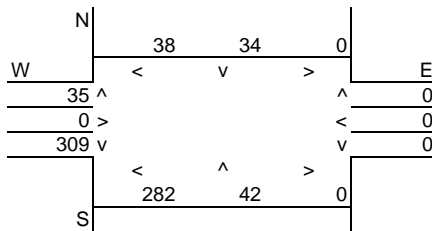
Intersection: Prospect & Capistrano
 Analysis Condition: Cumulative (future + project + projected projects)

Roadway Type	No. of Lanes	Average Speed		
		A.M.	P.M.	
North-South Roadway: Capistrano Rd	At Grade	2	5	5
East-West Roadway: Prospect Way	At Grade	2	5	5

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	473	N-S Road:	667
E-W Road:	492	E-W Road:	664

Roadway CO Contributions and Concentrations

$$\text{Emissions} = (A \times B \times C) / 100,000^1$$

Roadway	Reference CO Concentrations				Traffic Volume	Emission Factors ²	Estimated CO Concentrations			
	E.O.R.	25 Feet	50 Feet	100 Feet			E.O.R.	25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	473	6.35	0.11	0.08	0.07	0.05
East-West Road	14.0	7.6	5.7	4.0	492	6.35	0.44	0.24	0.18	0.12
P.M. Peak Traffic Hour										
North-South Road	14.0	7.6	5.7	4.0	667	6.35	0.59	0.32	0.24	0.17
East-West Road	3.7	2.7	2.2	1.7	664	6.35	0.16	0.11	0.09	0.07

¹ Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

² Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

$$\text{Peak Hour Emissions} = \text{North-South Concentration} + \text{East-West Concentration} + \text{Background 1-hour Concentration}^2$$

$$\text{8-Hour Emissions} = ((\text{Highest Peak Hour Concentration} - \text{Background 1-hour Concentration}) \times \text{Persistence Factor}) + \text{Background 8-hour Conc.}^2$$

Roadway Edge	A.M.	P.M.	8-Hour
	Peak Hour	Peak Hour	
Roadway Edge	6.0	6.2	2.8
25 Feet from Roadway Edge	5.8	5.9	2.6
50 Feet from Roadway Edge	5.7	5.8	2.5
100 Feet from Roadway Edge	5.7	5.7	2.5

² Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

APPENDIX E

BIOLOGICAL RESOURCES DATA

San Mateo County Biological Impact Report

**Big Wave Development Site
Princeton, San Mateo County, California**

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November, 2001

INTRODUCTION

On October 27 and November 20, 2000, Wetlands Research Associates, Inc. (WRA) conducted a biotic assessment of the Big Wave Development Site ("Study Area") in Princeton, western San Mateo County, California. The Study Area is located west of Airport Street and north of Stanford Avenue in Princeton (Figure 1).

San Mateo County Biological Impact Report Guidelines define Sensitive Habitats as;

".... any areas in which plant or animal life or their habitats are either rare or especially valuable and those areas which meet one of the following criteria: (1) habitats containing or supporting "rare and endangered" species as defined by the State Fish and Game Commission, (2) all perennial and intermittent streams and their tributaries, (3) coastal tidelands and marshes, (4) coastal and offshore areas containing breeding and/or nesting sites and coastal areas used by migratory and resident water-associated birds for nesting and feeding, (5) areas used for scientific study and research concerning fish and wildlife, (6) lakes and ponds and adjacent shore habitat, (7) existing game and wildlife refuges and reserves, and (8) sand dunes. Such areas include riparian areas, wetlands, sand dunes, marine habitats, sea cliffs, and habitats supporting rare, endangered, and unique species."

Special status species are those plants and animals that have been formally listed or proposed as endangered or threatened, or are candidates for such listing under the federal Endangered Species Act or California Endangered Species Act. Listed and proposed species are afforded protection under these acts. California Department of Fish and Game (CDFG) Species of Special Concern are also treated as special status species. Species of Special Concern are those that face extirpation in California if current trends continue. Although they have no special legal status, these species (and federal species of concern) are given management consideration whenever possible. Impacts to these special status species are considered significant according to the California Environmental Quality Act (CEQA).

Special Status plants also include all plants included in Lists 1 through 4 of the CNPS Inventory (Skinner and Pavlik 1994), and plants that qualify under the definition of "rare" in the California Environmental Quality Act, section 15380. Impacts to List 1 and 2 plants are always considered significant according to the California Environmental Quality Act (CEQA), and List 3 and 4 plants may be considered significant.

PROJECT AND PROPERTY DESCRIPTION

The Study Area is located west of Airport Street and north of Stanford Avenue in Princeton. The property covers approximately fifteen acres and is mostly flat or gently sloping. The Study Area

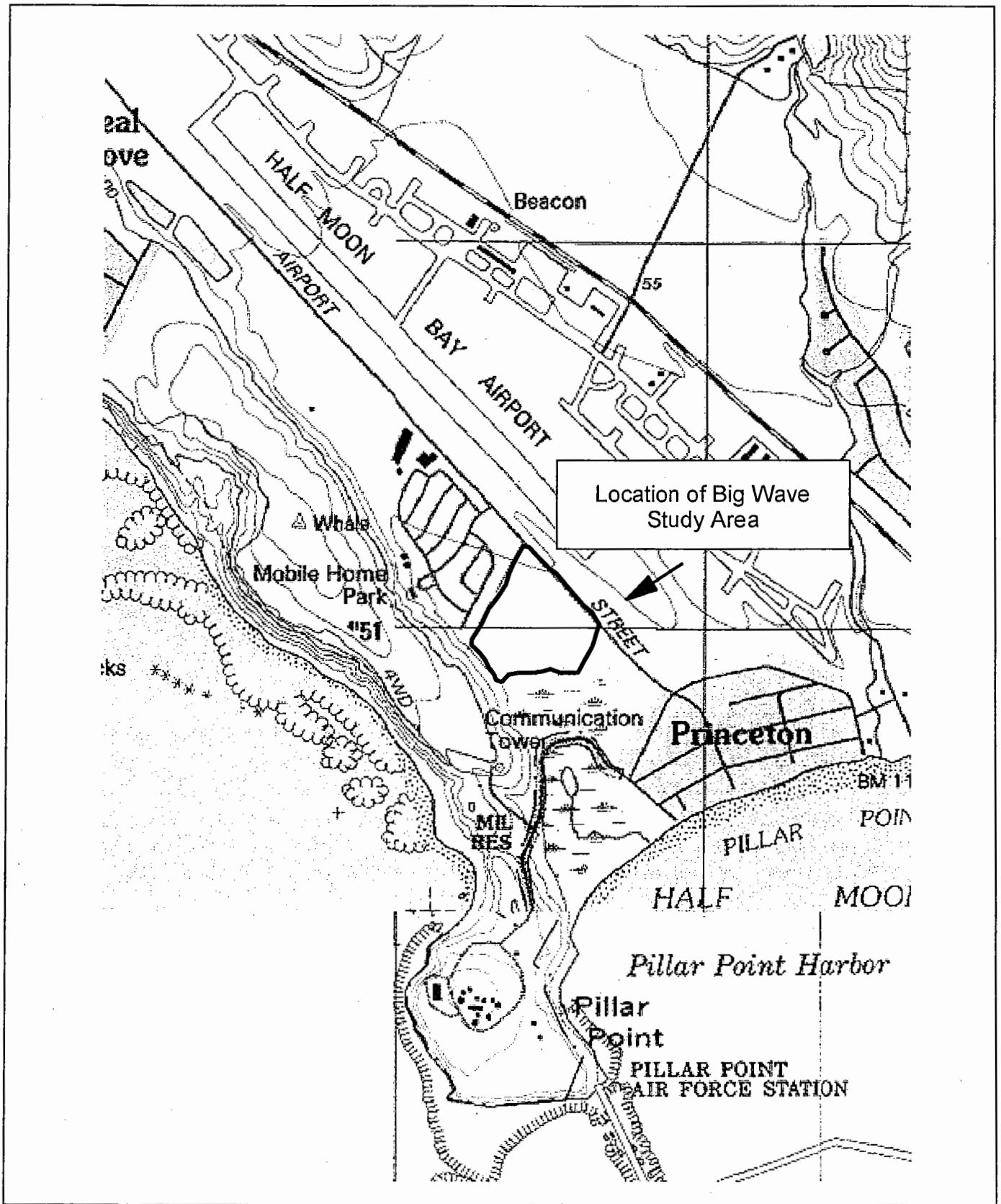


Figure 1. Location of Big Wave Study Area, Princeton, San Mateo County, California.



Wellands Research Associates, Inc.

generally consists of four community types: seasonal wetland, riparian, annual grassland, and coyote brush scrub.

The dominant plant community in the northeastern portion of the Study Area is annual grassland containing primarily non-native annual grasses and herbs. Dominant plants include Italian ryegrass (*Lolium multiflorum*) and bristly ox-tongue (*Picris echioides*). Coyote brush scrub, dominated by the native coyote brush (*Baccharis pilularis*), is scattered throughout most of the upland portions of the site. In the southern and western portions of the Study Area, riparian habitat and wetland habitat occurs, dominated by native species including California blackberry (*Rubus ursinus*), arroyo willow (*Salix lasiolepis*), giant horsetail (*Equisetum telmateia*), common horsetail (*Equisetum arvense*), cinquefoil (*Potentilla anserina*), water smartweed (*Polygonum amphibium*), tule (*Scirpus californicus*), soft rush (*Juncus effusus*) and slough sedge (*Carex obnupta*).

METHODS

Wetlands

Wetlands were delineated using definitions contained in the San Mateo County Local Coastal Program. The Study Area was thoroughly searched for areas containing appropriate vegetation, soils, and wetland hydrology indicators. A full report is contained in Appendix A.

Botanical

Prior to the site visit, the California Department of Fish and Game Natural Diversity Data Base (CDFG 2000) and California Native Plant Society Electronic Inventory (CNPS 2000) were reviewed to determine documented special status plant species recorded in the region (Table 1). The site was traversed on foot on October 27, 2000 to determine potential habitat for special status plant species in the Study Area identified during the NDDB and Electronic Inventory searches. All taxonomic nomenclature followed *The Jepson Manual* (Hickman 1993).

Zoological

Prior to the site visit, the California Department of Fish and Game Natural Diversity Data Base (CDFG 2000) and other CDFG lists and publications (Jennings and Hayes 1994, Williams 1986, Zeiner et al. 1990) were reviewed to determine documented or potential presence of special status wildlife species in western San Mateo County in habitats similar to those found on the Big Wave Study Area (Table 1). The site was traversed on foot on November 20, 2000 to determine if existing conditions provided suitable habitat for special status wildlife species and to observe species on the site. Common wildlife species use of the site was also considered and evaluated. All wildlife observed or otherwise detected were noted.

RESULTS

Wetlands

Potential LCP wetlands were found in the southeastern and northwestern portion of the Study Area. Wetland results are discussed in detail in Appendix A.

Botanical

The Study Area supports potential habitat for several special status plant species (Table 1). The site visit occurred outside the normal identification period for these species, and therefore surveys following standard procedures (Nelson 1987) could not be conducted to determine if these species actually occur in the Study Area. Species, in particular, which have moderate potential of occurring on site include coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*), bent-flowered fiddleneck (*Amsinckia lunaris*), marsh horsetail (*Equisetum palustre*), and Hickman's cinquefoil (*Potentilla hickmanii*). Surveys for these species, during appropriate identification times, are recommended

Zoological

Several special status plant and wildlife species have been documented to occur, or potentially occur, in western San Mateo County (Table 1). A search of the CDFG Natural Diversity Data Base (CNDDB) found no documented occurrences of special status species on the site. However, the CNDDB search found one documented occurrence of California red-legged frog (*Rana aurora draytonii*) in pools located in the wetland area near West Point Road. One adult and one subadult California red-legged frog (CRLF) were observed in this location on May 7, 1999. Twelve wildlife species were observed or otherwise detected in the Big Wave Study Area during the November 20 assessment (Table 2). One special status species was observed during the assessment, the white-tailed kite (*Elanus leucurus*); however, potential habitat is present for other protected or sensitive wildlife. The riparian woodland provided potential habitat for the long-eared owl (*Asio otus*), saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*), northern harrier (*Circus cyaneus*), and Allen's hummingbird (*Selasphorus sasin*). Other species observed during the assessment are common resident species in the San Francisco Bay region or are common winter visitors to the area.

Table 1. Special status species that have been recorded in San Mateo County in the vicinity of the Pillar Point Marsh study area. List compiled from a review of records from the Half Moon Bay and Montara Mountain USGS quadrangles in the CDFG Natural Diversity Data Base (2000), other CDFG lists and publications (Jennings and Hayes 1994; Zeiner et al. 1990), and the CNPS electronic inventory.

Species	Status	Typical Habitat	Potential for Occurrence in the Study Area
PLANTS			
<i>Allium peninsulare</i> var. <i>franciscanum</i> Franciscan onion	FSC, IB	Cismontane woodland, valley and foothill grassland. Found on clay, often serpentine at elevations of 100-300m.	Low potential. This species' typical habitats do not occur on site.
<i>Ansinckia lunaris</i> bent-flowered fiddleneck	IB	Coastal bluff scrub, cismontane woodland, and valley and foothill grassland. Found at elevations of 3-500m.	Moderate potential. Suitable habitat may be present on the site.
<i>Arctostaphylos andersonii</i> Santa Cruz manzanita	FSC, IB	Broadleaved upland forest, chaparral, and North Coast coniferous forest. Found on open sites and redwood forest at elevations of 60-700m. Known only from Santa Cruz Mountains.	Not present. No manzanita present on site.
<i>Arctostaphylos montaraensis</i> Montara manzanita	FSC, IB	Chaparral and coastal scrub. Found on slopes and ridges at elevations of 150-500m. Endemic to San Mateo County.	Not present. No manzanita present on site.
<i>Arctostaphylos regismontana</i> Kings Mountain manzanita	IB	Broadleaved upland forest, chaparral, and North Coast coniferous forest. Found on granitic or sandstone soils at elevations of 305-730m.	Not present. No manzanita present on site.
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i> coastal marsh milk-vetch	IB	Coastal dunes (mesic) and marshes and swamps (coastal salt, streamsides). Found at elevations of 0-30m.	Moderate potential. Suitable habitat may be present on the site.
<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i> San Francisco Bay spineflower	FSC, IB	Coastal bluff scrub, coastal dunes, coastal prairie, and coastal scrub. Found on terraces and slopes in sandy soil at elevations of 3-215m.	Low potential. Upland portions of the site are fairly disturbed from former agricultural uses, but suitable habitat may be present on the site.

Species	Status	Typical Habitat	Potential for Occurrence in the Study Area
<i>Collinsia multicolor</i> San Francisco collinsia	1B	Closed-cone coniferous forest, and coastal scrub. Sometimes found on serpentine at elevations of 30-250m.	Low potential. This species' typical habitats do not occur on site.
<i>Dirca occidentalis</i> western leatherwood	1B	Broadleaved upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, North Coast coniferous forest, riparian forest, riparian woodland. Found on brushy slopes, mesic sites mostly in mixed evergreen and foothill woodland communities at elevations of 50-395m.	Not present. No leatherwood shrubs present on site.
<i>Equisetum palustre</i> marsh horsetail	3	Found in marshes and swamps at elevations of 45-1,000m.	Moderate potential. Suitable habitat may be present on the site.
<i>Eriogonum luteolum</i> var. <i>caninum</i> Tiburon buckwheat	3	Chaparral, coastal prairie, and valley and foothill grassland. Found on serpentine at elevations of 10-500m.	Not present. Suitable habitat is not present on site, and species was not observed.
<i>Erysimum ammophilum</i> coast wallflower	FSC, 1B	Maritime chaparral, coastal dunes, and coastal scrub. Found in sandy openings at elevations of 0-130m.	Low potential. Upland portions of the site are fairly disturbed from former agricultural uses, but suitable habitat may be present on the site.
<i>Fritillaria biflora</i> var. <i>ineziana</i> Hillsborough chocolate lily	1B	Cismontane woodland and valley and foothill grassland. Endemic to San Mateo County. Typically on serpentine at elevations of 90-160m.	Not present. This species' typical habitats do not occur on site.
<i>Fritillaria liliacea</i> fragrant fritillary	FSC, 1B	Coastal scrub, valley and foothill grassland, and coastal prairie. Usually found on clay soils (often serpentine) at elevations of 3-410m.	Low potential. Upland portions of the site are fairly disturbed from former agricultural uses, but suitable habitat may be present on the site.
<i>Grindelia hirsutula</i> var. <i>maritima</i> San Francisco gumplant	FSC, 1B	Coastal scrub, coastal bluff scrub, and valley and foothill grassland. Found on sandy or serpentine slopes and sea bluffs at elevations of 15-400m.	Low potential. Suitable habitat present on site, but species not observed.

Species	Status	Typical Habitat	Potential for Occurrence in the Study Area
<i>Horkelia marinensis</i> Point Reyes horkelia	FSC, IB	Coastal dunes, coastal prairie, and coastal scrub. Found on sandy soils at elevations of 5-350m.	Low potential. Upland portions of the site are fairly disturbed from former agricultural uses, but suitable habitat may be present on the site.
<i>Lessingia arachnoidea</i> Crystal Springs lessingia	FSC, IB	Coastal sage scrub, valley and foothill grassland, and cismontane woodland. Found on grassy slopes on serpentinite, sometime on roadsides at elevations of 60-200m.	Not present. This species' typical habitats do not occur on site.
<i>Linanthus croceus</i> coast yellow linanthus	IB	Coastal bluff scrub and coastal prairie at elevations of 10-150m.	Low potential. Upland portions of the site are fairly disturbed from former agricultural uses, but suitable habitat may be present on the site.
<i>Linanthus rosaceus</i> rose linanthus	IB	Coastal bluff scrub at elevations of 0-100m.	Low potential. Upland portions of the site are fairly disturbed from former agricultural uses, but suitable habitat may be present on the site.
<i>Lupinus eximius</i> San Mateo tree lupine	FSC, 3	Chaparral and coastal scrub. An evergreen shrub found at elevations of 90-550m.	Low potential. Tree lupine not observed on site during site assessment, but suitable habitat is present.
<i>Malacothamnus arcuatus</i> arcuate bush mallow	IB	This evergreen shrub is found in chaparral at elevations of 15-355m.	Low potential. This species' typical habitats do not occur on site.
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	FE, SE, IB	Found in valley and foothill grassland on open dry rocky slopes and grassy areas. Often on serpentinite at elevations of 35-620m.	Not present. This species' typical habitats do not occur on site.

Species	Status	Typical Habitat	Potential for Occurrence in the Study Area
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> Choris' popcornflower	IB	Chaparral, coastal prairie, and coastal scrub. Found in mesic areas at elevations of 15-100m.	Low potential. Upland portions of the site are fairly disturbed from former agricultural uses, but suitable habitat may be present on the site.
<i>Potentilla hickmanii</i> Hickman's cinquefoil	FE, SE, IB	Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps, and marshes and swamps. Found in freshwater marshes, seeps, and small streams in forested areas along the coast at elevations of 10-135m.	Moderate potential. Suitable habitat may be present on the site.
<i>Silene verecunda</i> ssp. <i>verecunda</i> San Francisco campion	FSC, IB	Coastal scrub, valley and foothill grassland, coastal bluff scrub, chaparral, and coastal prairie. Found on open slopes and exposed outcrops of mudstone or shale; one site on serpentine at elevations of 30-645m.	Low potential. This species' typical habitats do not occur on site.
<i>Triphysaria floribunda</i> San Francisco owl's clover	FSC, IB	Coastal prairie, coastal scrub, and valley and foothill grassland. Usually found on serpentine at elevations of 10-160m.	Low potential. This species' typical habitats do not occur on site.
INVERTEBRATES			
Bumblebee scarab beetle <i>Lichnanthe ursina</i>		Inhabits coastal sand dunes from Sonoma county south to San Mateo County	Low potential. No suitable habitat on site, however suitable habitat is present on dunes adjacent to site.
San Bruno elfin butterfly <i>Incisalia mossii bayensis</i>	FE	Found in coastal, mountainous area with grassy ground cover, mainly in the vicinity of San Bruno Mountain, San Mateo County. Larval host plant is <i>Sedum spathulifolium</i> .	Not Present. No suitable habitat on site.
Mission blue butterfly <i>Icaricia icarioides missionensis</i>	FE	Inhabits grasslands of the San Francisco Peninsula. Three larval hostplants: <i>Lupinus albifrons</i> , <i>L. varicolor</i> , and <i>L. formosus</i> .	Low potential. Presence depends on occurrence of host plant.

Species	Status	Typical Habitat	Potential for Occurrence in the Study Area
Monarch butterfly <i>Danaus plexippus</i>		Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind protected tree groves, with nectar and water sources nearby.	Present. One individual observed on site during November 20 assessment. Suitable winter roost sites exist in tall pines adjacent to property site and butterflies may utilize the study area for water and nectar resources.
FISH			
Steelhead-Central California Coast ESU <i>Oncorhynchus mykiss</i>	FT	Adults spawn in cool streams with a substrate of clean gravel and cobbles. Juveniles remain in the stream for one or more years before migrating to the sea.	Absent. No suitable aquatic habitat on site.
AMPHIBIANS AND REPTILES			
California red-legged frog <i>Rana aurora draytonii</i>	FT, CSC	Ponds, pools, or in slow-moving perennial to ephemeral streams, where water remains long enough for breeding and development of young. Emergent or shoreline riparian vegetation closely associated with deep, still, or slow-moving water is the preferred but not essential habitat.	High potential. CRLF have been observed in pools located in wetland area near West Point Road adjacent to property site. The property site may serve as suitable dispersal and foraging habitat due to the presence of the riparian corridor.
Western pond turtle <i>Emydoidea blandingii</i>	CSC, FSC	Ponds with woody debris, overhanging vegetation and rocky outcrops is optimal for basking and thermoregulation.	Low potential. No suitable perennial aquatic habitat on site, but species may occur in perennial pools in wetlands on adjacent property.

Species	Status	Typical Habitat	Potential for Occurrence in the Study Area
San Francisco garter snake <i>Thamnophis sirtalis tetrataenia</i>	FE, SE	Ponds, lakes, reservoirs, streams, and drainage ditches, that are bordered at least partially by dense emergent or riparian vegetation, and nearby grasslands and brush.	Low potential. It is unlikely that suitable perennial aquatic habitat is present on site. It is possible that perennial pools in wetlands on adjacent property provide suitable habitat for this species.
BIRDS			
Cooper's hawk <i>Accipiter cooperi</i>	CSC	Uses many habitats in winter and during migration; nests in deciduous and coniferous woodlands. Usually not found without dense tree stands, or patchy woodland habitat.	Moderate Potential. Suitable foraging habitat is present on site, but suitable breeding habitat is limited.
Sharp-shinned hawk <i>Accipiter striatus</i>	CSC	Uses many habitats in winter and during migration; breeds in oak, conifer, and riparian forests.	Moderate Potential. Suitable foraging habitat is present on site, but suitable breeding habitat is limited.
White-tailed kite <i>Elanus leucurus</i>	CFP	Forages in open to herbaceous stages of many habitats. Nests in shrubs and trees adjacent to grasslands.	Present. Pair of kites observed on site on two occasions perched in willows and coyote brush along wetland area. May nest in these tree stands.
Northern harrier <i>Circus cyaneus</i>	CSC	Forages in open to herbaceous stages of many habitats. Nests on ground in shrubby vegetation, usually near wetlands.	High potential. Suitable breeding and foraging habitat is present on site.
Golden eagle <i>Aquila chrysaetos</i>	CSC, CFP	Uses many habitats for foraging; breeds in cliffs or in remote large trees and structures.	Low potential. Suitable foraging habitat is present, no suitable nesting habitat on site, however adjacent to site large trees suitable for nesting are present.

Species	Status	Typical Habitat	Potential for Occurrence in the Study Area
Long-eared owl <i>Asio otus</i>	CSC	Prefer riparian groves, planted woodlots, and belts of live oaks paralleling stream courses.	Moderate potential. Suitable habitat is present in riparian area on property site.
Vaux's swift <i>Chaetura vauxi</i>	CSC FSC	Forages over most terrains and habitats, often high in the air. Most important habitat requirement appears to be large hollow trees for nest sites.	Low Potential. May forage over site, but large nest trees are not present.
Allen's hummingbird <i>Selasphorus sasin</i>	FSC	Coastal scrub, valley foothill hardwood, valley foothill riparian habitats; also common in closed-cone pine-cypress, urban, and redwood habitats.	Moderate Potential. Suitable foraging and breeding habitat on site.
Red-breasted sapsucker <i>Sphyrapicus ruber</i>	FSC	Most numerous in riparian, deciduous hardwood, or in a mixture of hardwood and conifer habitats.	Low Potential. Probably does not breed in San Mateo County. May occur in winter.
Olive-sided flycatcher <i>Contopus cooperi</i>	FSC	Mixed conifer, montane hardwood-conifer, Douglas-fir, redwood, red fir and lodgepole pine. Requires large, tall trees, usually conifers for nesting and roosting.	Low potential. No suitable habitat on site, prefers larger trees for nesting.
Pacific-slope flycatcher <i>Empidonax difficilis</i>	FSC	Widespread in warm moist woodlands, including valley foothill and montane riparian.	Low potential. No suitable habitat on site, prefers larger trees.
Purple martin <i>Progne subis</i>	CSC	Frequents old-growth, multi-layered, open forest and woodland with snags in the breeding season.	Low Potential. Large snags for nest sites are not present on the site; may forage in the vicinity of the bridge.
Bewick's wren <i>Thryomanes bewickii</i>	FSC	Common resident in scrub, riparian, and woodland habitats.	Moderate potential. Suitable breeding habitat is present in riparian area.
Saltmarsh common yellowthroat <i>Geothlypis trichas sinuosa</i>	CSC	Found in fresh and salt water marshes in the San Francisco Bay region. Requires thick, continuous cover for foraging and tall grasses, tule patches, and willows for nesting.	High potential. Suitable nesting and foraging habitat is present on site.

Species	Status	Typical Habitat	Potential for Occurrence in the Study Area
California yellow warbler <i>Dendroica petechia brewsteri</i>	CSC	Breeds in riparian woodlands, particularly those dominated by willows and cottonwoods.	Low potential. Likely to use site during winter, but unlikely to use as breeding habitat.
Yellow-breasted chat <i>Icteria virens</i>	CSC	Frequents dense, brushy thickets and tangles near water, and thick understory in riparian woodland.	Low potential. Suitable habitat is present, but the species is uncommon in the region.
MAMMALS			
Pallid bat <i>Antrozous pallidus</i>	CSC	Day roosts in outcrops, mines, caves, hollow trees, buildings, and bridges; night roosts under bridges, in caves, and mines.	Low potential. No suitable roost habitat on site, but may forage on site.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	CSC, FSC	Caverns are preferred for day roosts, but night roosts can include bridges and other open settings.	Low potential. No suitable roost habitat on site, but may forage on site.
Long-eared myotis <i>Myotis evotis</i>	FSC	Day roosts include caverns, hollow trees, under bark, outcrops, and buildings; bridges and caverns are used as night roosts.	Low potential. No suitable roost habitat on site, but may forage on site.
Fringed myotis <i>Myotis thysanodes</i>	FSC	Day roosts in caverns, trees, and buildings. Majority of roosts documented in California have been in buildings or mines.	Low potential. No suitable roost habitat on site, but may forage on site.
Long-legged myotis <i>Myotis volans</i>	FSC	Hollow trees, crevices, caverns, and buildings provide day roost habitat; night roosts are usually caverns.	Low potential. No suitable roost habitat on site, but may forage on site.
Yuma myotis <i>Myotis yumanensis</i>	FSC	Day and night roosts include buildings, trees, bridges, and caverns.	Low potential. No suitable roost habitat on site, but may forage on site.

Species	Status	Typical Habitat	Potential for Occurrence in the Study Area
San Francisco dusky-footed woodrat <i>Neotoma fuscipes annexens</i>	CSC, FSC	Frequents deciduous, coniferous, and riparian woodlands and adjacent scrub habitats.	Moderate potential. Suitable habitat present in riparian area on site.
Key to Status:			
FE	Federal Endangered		
FT	Federal Threatened		
FSC	USFWS Species of Concern		
SE	State Endangered		
ST	State Threatened		
CSC	CDFG Species of Special Concern		
CFP	CSDF Fully Protected Species		
1B	CNPS list of plants rare, threatened, or endangered in California and elsewhere		
3	CNPS plants about which we need more information - a review list		

Table 2. Wildlife species observed at the Big Wave Study Area during a biological assessment on November 20, 2000.

Common Name	Species	Seasonal Status	Comments
White tailed kite	<i>Elanus leucurus</i>	resident	Pair of individuals observed perched in willow stands and on coyote brush during entire duration of November 20 assessment and October 26 assessment.
Red-tailed hawk	<i>Buteo jamaicensis</i>	resident	Observed perched on telephone pole on site and soaring over site.
Turkey vulture	<i>Cathartes aura</i>	resident	Observed soaring over site.
Mourning dove	<i>Zenaidura macroura</i>	resident	Numerous individuals observed on site.
Black phoebe	<i>Sayornis nigricans</i>	resident	Adult calling near bridge; nest present under bridge on beam
Say's phoebe	<i>Sayornis saya</i>	winter migrant	One individual observed perched on telephone wire.
Anna's hummingbird	<i>Calypte anna</i>	resident	Heard calls of numerous individuals in riparian area.
Common snipe	<i>Gallinago gallinago</i>	winter migrant	One individual flushed from vegetation along edge of Airport Way.
White-crowned sparrow	<i>Zonotrichia leucophrys</i>	resident	Numerous individuals observed foraging along roadside.
Song sparrow	<i>Melospiza melodia</i>	resident	Numerous individuals observed foraging along roadside.
Monarch butterfly	<i>Danaus plexippus</i>	winter migrant	One individual observed flying on site.
Pacific treefrog	<i>Hyla regilla</i>	resident	Heard calls of a few individuals in wetland area.

POTENTIAL IMPACTS TO SPECIAL STATUS SPECIES AND ASSOCIATED MITIGATION

Based on the results of this assessment, it is possible that some special status species or wetlands may be impacted as a result of development of this Study Area. However, impacts to wetlands and special status species and their habitats are difficult to assess without knowledge of construction plans, location of buildings, and other pertinent information. Therefore the information provided in this report regarding impacts and associated mitigation is based on mitigation commonly required by the United States Fish and Wildlife Service, California Coastal Commission, and the California Department of Fish and Game for the species in question. Actual mitigation requirements may vary when the project plan has been finalized.

Potential seasonal wetlands were found on the Study Area. Under the California Coastal Act, impacts to these wetlands allowed only under limited circumstances as defined by the Coastal Act. Residential and commercial facilities are generally not allowable uses of wetlands, therefore, the proposed project will need to avoid these areas. Furthermore, a buffer zone, generally 100 feet wide, will be required around each wetland area.

If special status plants are found on the Study Area during surveys, and the proposed project will impact these plants, appropriate mitigation will be required. Such mitigation may include avoidance or relocation of impacted individuals to another location in the Study Area.

The California red-legged frog (*Rana aurora draytonii*) is the largest native frog in the western United States and is a Federal Threatened species. Any impacts to California red-legged frog (CRLF) or their habitat is considered significant according to California Environmental Quality Act (CEQA) guidelines. The range of the frog extends along the coast from Marin County to northwestern Baja California and inland from the vicinity of Redding, Shasta County. It is typically found from sea level to elevations of approximately 1,500 meters. CRLF use a variety of aquatic, upland, and riparian habitats including ephemeral ponds, intermittent streams, seasonal wetlands, springs, seeps, permanent ponds, perennial creeks, marshes, riparian corridors, blackberry thickets, non-native annual grasslands, and oak savannas. It appears that CRLF can use any aquatic habitat provided that a permanent water source is nearby and that no non-native predators are present. Dispersal from breeding habitat to various aquatic, upland, and riparian habitats often occurs in the summer. Dispersal over long distances (up to 2 miles) is common can occur without regard to topography, vegetation type, or riparian corridors. Frogs often make long-distance movements that are straight-line, point-to-point migrations rather than using corridors for moving between locations. Therefore, populations of CRLF are most successful in areas where there are multiple breeding locations within an assemblage of habitats that are used for dispersal.

A CNDDDB search found a documented occurrence of CRLF in pools located in the riparian area near the Study Area (Figure 2). This species occurs primarily in coastal regions from Marin County to Ventura County in isolated ponds or pools, or in slow-moving perennial or ephemeral

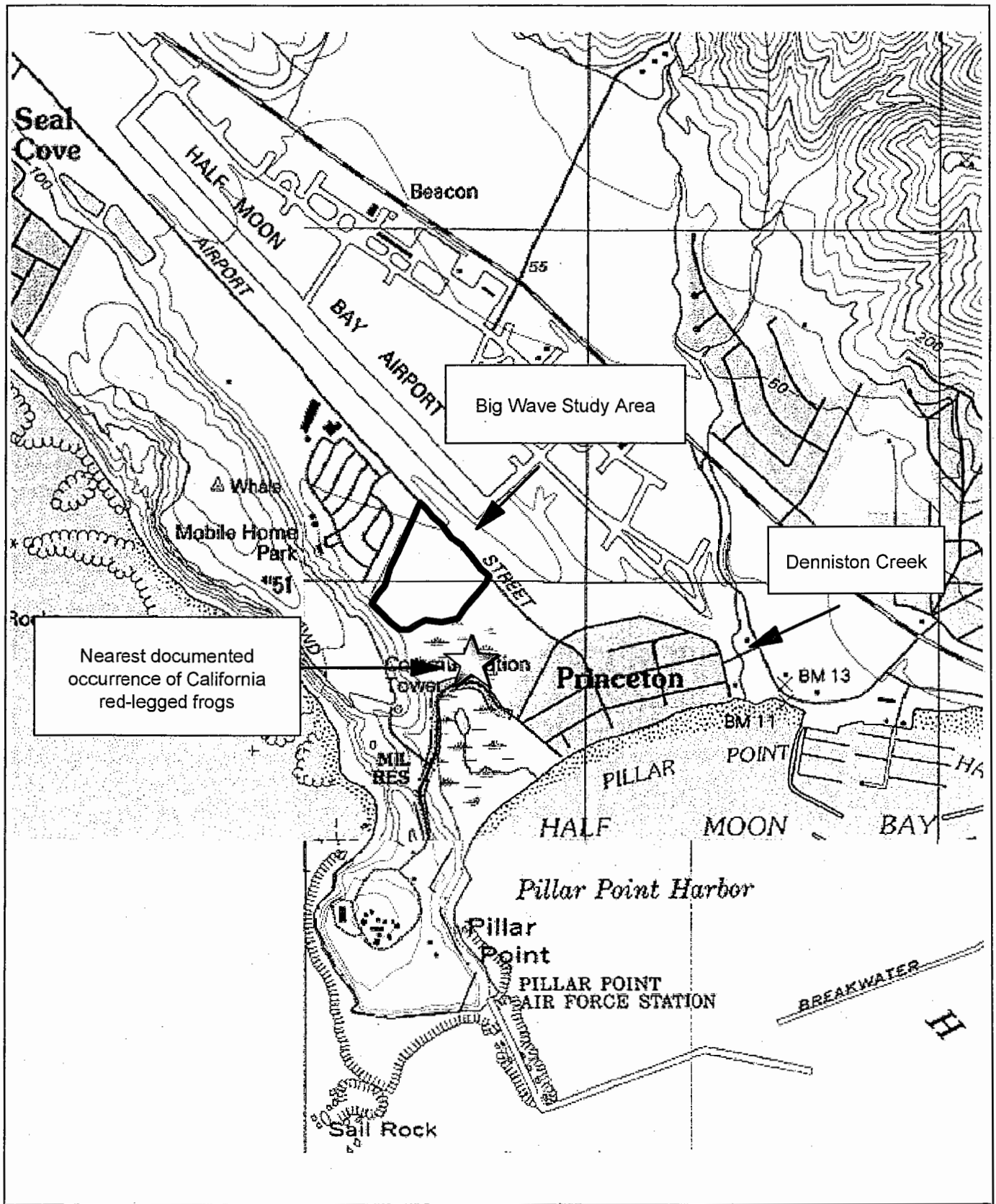


Figure 2. Location of Big Wave Study Area and nearest documented occurrence of California red-legged frogs. Location of Denniston Creek (breeding location for California red-legged frogs) is also shown.



streams, where water remains long enough for breeding and development of young. Emergent or shoreline riparian vegetation closely associated with deep, still, or slow-moving water is the preferred but not essential habitat. California red-legged frogs can travel or disperse several miles while migrating to and from breeding sites. They are most active in the wet season (November-May), when breeding occurs. During the remainder of the year, many adults are believed to estivate in vacant ground squirrel and other small mammal burrows. Others remain in or near permanent water throughout the year.

Potential impacts could occur to CRLF and their habitat due to development of the Study Area. The site is located within Unit 14 of the recently proposed California red-legged frog critical habitat. Loss of breeding, estivation, or dispersal habitat which are all constituent elements of proposed critical habitat is considered to be a significant impact. The riparian areas on the study site may provide suitable foraging habitat for the CRLF and may be used as a dispersal corridor. Depending on the length of time this riparian area stays inundated, pools in this area may serve as suitable breeding habitat. Extremely dense vegetation that covers most of the riparian area makes it extremely difficult to detect any perennial pools that may be present along this riparian corridor. However, no pools were detected in accessible areas. Suitable breeding habitat for CRLF does exist near the Study Area in the riparian area along West Point Road, and CRLF were detected in pools in this area on May 7, 1999 (CDFG 2000).

According to USFWS to be considered critical habitat the aquatic component must consist of two or more breeding sites located within 1.25 miles of each other, if at least one of the sites is a permanent water source. Denniston Creek is located less than 1.25 miles from the Study Area and provides suitable breeding habitat for CRLF as well as a permanent water source. In addition, these sites must be connected by suitable dispersal habitat which may consist of all upland and wetland habitat free of barriers that connects two or more patches of suitable aquatic habitat within 1.25 miles of each other. Barriers can include heavily traveled roads (more than 30 cars per hour), moderate to high density industrial or urban developments, and large reservoirs. It appears that no significant barriers to CRLF exist between the project site and Denniston Creek. The area between these two points is lightly developed, consisting mostly of a few industries as well as a few single family homes. The roads lying between these two points do not appear to be heavily traveled and would likely not surpass 30 cars per hour. In addition, the upper portion of Denniston Creek may also be reached by frogs dispersing from the project site by crossing Airport Road and traversing the Half Moon Bay Airport fields and runways. Airport Road does not appear to surpass the 30 car per hour limit and the airport would not provide a major barrier to dispersal as well. Movements of dispersing frogs occur largely at night, when travel traffic on roads is typically less than daytime traffic as well.

Based on these conditions for critical habitat designation, it is likely that USFWS would consider the Big Wave Study Area and surrounding aquatic habitat adjacent to the site as critical habitat for the CRLF. If the project site is deemed to be critical habitat for CRLF, a section 7 or 10a consultation must be entered into with the USFWS. Mitigation for impacts to CRLF habitat may include establishing a buffer zone around suitable aquatic habitat on site and adjacent to the site

as well as the establishment of a dispersal corridor between the pools located on the adjacent property and the nearest known breeding population located in Denniston Creek.

Impacts to nesting raptors may also potentially occur as a result of development of the Study Area. On both the October 27 and November 20, 2000 site visits two white-tailed kites (*Elanus leucurus*) were observed in the riparian area on the Study Area. White-tailed kites are a CDFG Fully Protected species and any impacts to them are considered significant according to CEQA. White-tailed kites forage in open to herbaceous stages of many habitats including grasslands, meadows, and emergent wetlands. They nest in trees and shrubs adjacent to grasslands (Zeiner et al. 1990). It appears that these kites have established a foraging territory on the project site. These kites may be a bonded pair and may attempt to nest on the site during the spring breeding season. Pre-construction surveys for raptor nests will be required prior to any construction or activity on the site which may disturb an active raptor nest. In addition to providing suitable habitat for white-tailed kites, the project site also provides suitable nesting habitat for northern harriers (*Circus cyaneus*), a CDFG Species of Special Concern. Northern harriers forage in open to herbaceous stages of many habitats and nest on the ground, usually near wetlands (Zeiner et al. 1990).

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APPENDIX A

Wetland Delineation Report

**San Mateo County
Local Coastal Program
Wetland Delineation Study**

**Big Wave Development Site
Princeton, San Mateo County, California**

Prepared for:

Big Wave LLC
190 Mendell Street
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Contact: Jeff Peck
(415) 824-0314

Prepared by:

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San Rafael, CA 94901
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November, 2001

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1.0 INTRODUCTION

Wetlands Research Associates, Inc. (WRA) conducted a wetland delineation study to determine whether any areas on the proposed Big Wave development ("Study Area") met the wetland definition utilized by San Mateo County in its certified Local Coastal Program, which implements the California Coastal Act. The Study Area is located in Princeton, San Mateo County, California (Figure 1) west of Airport Street and north of Stanford Avenue. The Study Area covers approximately fifteen acres.

1.1 COASTAL ACT AND LOCAL COASTAL PROGRAM DEFINITION

The Coastal Act defines wetlands as:

"Wetland means land within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens".

(Public Resources Code § 30121)

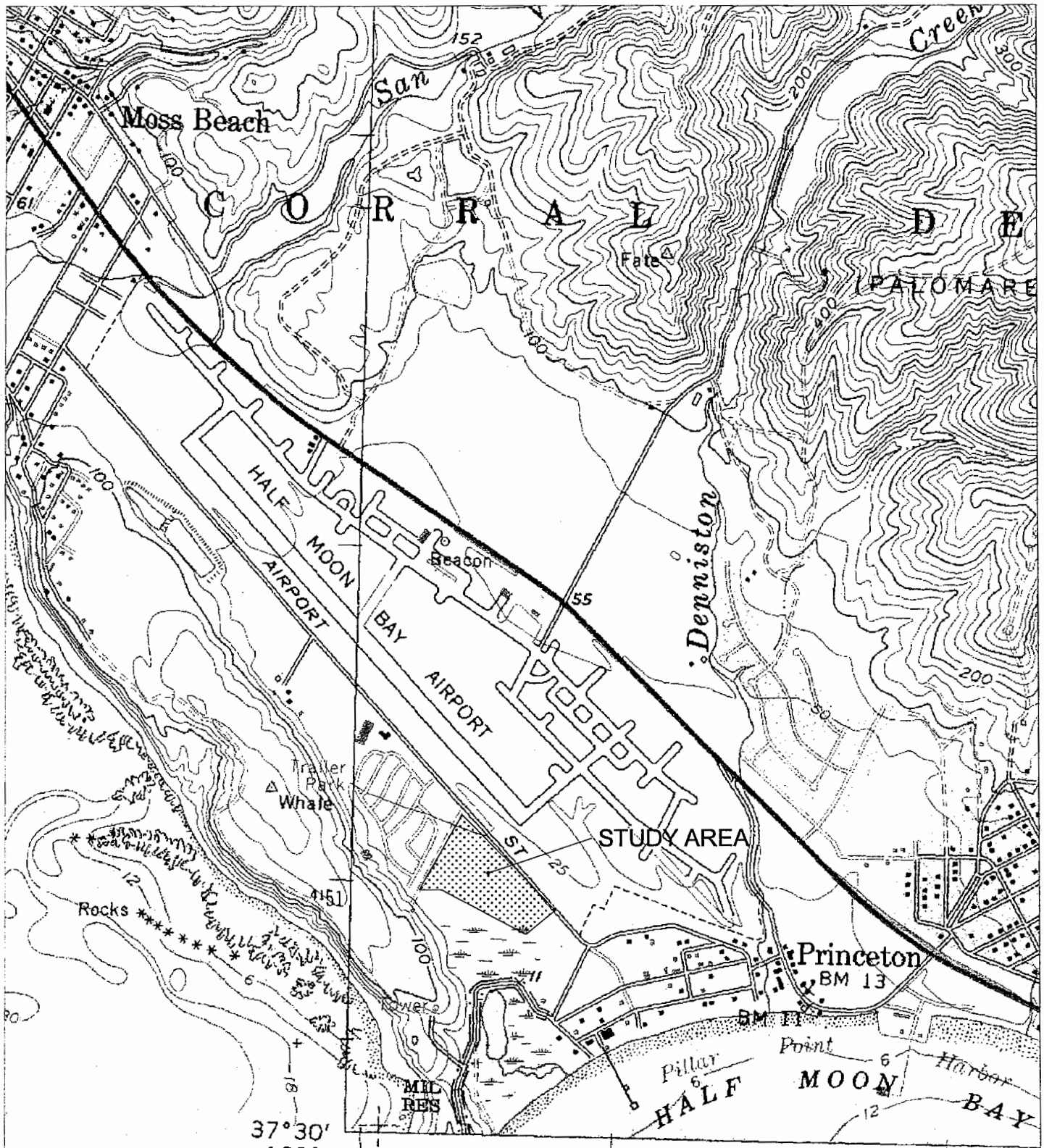
The San Mateo County Local Coastal Program ("LCP") which has been certified by the Coastal Commission to implement the Coastal Act defines a wetland as:

"The County will:

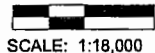
Define wetland as an area where the water table is at, near, or above the land surface long enough to bring about the formation of hydric soils or to support the growth of plants which normally are found to grow in water or wet ground. Such wetlands can include mudflats (barren of vegetation), marshes, and swamps. Such wetlands can be either fresh or saltwater, along streams (riparian), tidally influenced areas (near the ocean and usually below extreme high water of spring tides), marginal to lakes, ponds, and man-made impoundments. Wetlands do not include areas which in normal rainfall years are permanently submerged (streams, lakes, ponds, and impoundments, nor marine estuarine areas below extreme low water of spring tides, nor vernal wet areas where the soils are not hydric.

In San Mateo county, wetlands typically contain the following plants: cordgrass, pickleweed, jaumea, frankenia, marsh mint, tule, bullrush, narrow-leaf cattail, broadleaf cattail, pacific silverweed, salt rush, and bog rush. To qualify, a wetland must contain at least a 50% cover of some combination of these plants, unless it is a mudflat."

(Section 7.14, San Mateo County Local Coastal Program, June 1998)



500 0 500 Feet



SCALE: 1:18,000

Figure 1

PURPOSE: Wetland Delineation

DATUM: NGVD

USGS QUADRANGLE: Montara Mountain, 1980 7.5 minute series

VICINITY MAP

Valoff & Peck Coatings
 190 Mendell Stree
 San Francisco, CA
 94124
 Contact: Jeff Peck
 415-824-0314

LOCATION: Princeton, west of Airport Road, north of Standford Avenue

COUNTY: San Mateo

Application by: Jeff Peck

Sheet: 1 of 1 DATE: November 2000

2.0 METHODS

Soils and vegetation were examined at locations within the Study Area that had the potential to meet the County wetland definition. Prior to conducting field studies, available reference materials were reviewed. These included National Wetland Inventory maps (US Fish and Wildlife Service 1985, Montara Mountain quadrangle) and the San Mateo County Soil Survey, Western Part (US Soil Conservation Service 1961).

2.1 WETLAND VEGETATION

Plant species were assigned a wetland status according to the U.S. Fish and Wildlife Service list of plant species that occur in wetlands (Reed 1988). This wetland plant classification system is based on the expected frequency of occurrence of plants in wetlands.

OBL	Obligate, always found in wetlands	> 99% frequency
FACW	Facultative wetland, usually found in wetlands	67-99%
FAC	Facultative, equal in wetland or non-wetlands	34-66%
FACU	Facultative upland, usually found in non-wetlands	1-33%
UPL/NL	Not found in local wetlands	<1%

The plant species listed in the LCP wetland definition are presented in Table 1 along with their US Fish and Wildlife Service wetland indicator status (Reed 1988). This list is made up of mostly obligate species with two facultative wetland species. It includes most but not all dominant OBL and FACW species found in coastal wetlands in San Mateo County. Sedges (e.g. *Carex obnupta*, OBL) and willows (e.g. *Salix lucida*, OBL and *Salix lasiolepis*, FACW) are notable omissions to this list. Strict adherence to the LCP list and definition could result in some wetland areas dominated by OBL and FACW species being determined as uplands. In order to avoid this, we considered any OBL or FACW species equivalent to the typical species listed in the LCP wetland definition.

Vegetation was examined at sampling points to determine whether its composition met the requirement contained in Section 7.14 of the County LCP. Areal cover was determined for plant species in an area ranging from approximately 5 feet to 30 feet in radius depending on topography and hydrologic conditions. The top five species with greater than 10 % cover were considered dominants. Areas with at least 50% cover of any OBL and FACW species were determined to meet the LCP wetland definition. In addition we also considered areas where greater than 50% of the dominant species were OBL and FACW as LCP wetlands.

Table 1. Typical plants found in San Mateo County LCP wetlands. ¹

COMMON NAME	SCIENTIFIC NAME	STATUS
frankenian	<i>Frankenia salina</i>	FACW+
jaumea	<i>Jaumea carnosa</i>	OBL
bog rush	<i>Juncus effusus</i>	OBL
salt rush	<i>Juncus lesueurii</i>	FACW
marsh mint	<i>Mentha pulegium</i>	OBL
pacific silverweed	<i>Potentilla anserina</i>	OBL
pickleweed	<i>Salicornia virginica</i>	OBL
tule	<i>Scirpus acutus</i>	OBL
bulrush	<i>Scirpus maritimus</i>	OBL
cordgrass	<i>Spartina foliosa</i>	OBL
narrow-leaf cattail	<i>Typha angustifolia</i>	OBL
broadleaf cattail	<i>Typha latifolia</i>	OBL

¹ To qualify, a wetland must contain at least a 50% cover of some combination of these plants, unless it is a mudflat.

2.2 HYDRIC SOILS

The Natural Resource Conservation Service defines a hydric soil as:

“A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.”

(Federal Register July 13, 1994, US
Department of Agriculture, Natural
Resource Conservation Service.)

Soils formed over long periods of time under wetland (anaerobic) conditions sometimes possess characteristics that indicate that they meet the definition of hydric soils.

According to the Technical Notes issued by the National Technical Committee for Hydric Soils (NTCHS), the definition of hydric soils must be met for a soil to be considered hydric:

Several terms are frequently used to describe hydric soil delineation methodology. These are: Hydric Soil Definition, Hydric Soil Criteria, Hydric Soil Lists, Hydric Soil Indicators, and, lastly, hydric soils. According to the deliberations of the National Technical Committee for Hydric Soils (NTCHS), each of these terms has a specific meaning and use. All hydric soils must satisfy requirements of the Hydric Soil Definition. Hydric Soil Criteria are used to generate Hydric Soil Lists. Hydric Soil Lists contain a listing of soils that have a probability of being hydric. Hydric Soil Indicators are primarily morphological indicators used for field identification of hydric soils. Hydric Soil Criteria and Hydric Soil Lists are primarily used as offsite assessment tools. A hydric soil is a soil that meets the Hydric Soil Definition; presence of one (or more) of the Hydric Soil Indicators is evidence that the definition has been met.

NTCHS Technical Note 1 (1998)

The relationship between soil saturation and the anaerobic conditions required to meet the hydric soil definition is inconsistent and dependent on many biological and environmental factors. Soils which meet the hydric criteria for saturation may not necessarily meet the anaerobic requirement of the hydric soil definition. Although hydric soil criteria 3 and 4 (frequent ponding or flooding) are technically approved for use as field indicators, they may not necessarily identify soils which meet the anaerobic definition.

Because it is difficult to determine whether a soil is anaerobic through direct field observations of soil morphology, the NTCHS has issued a manual that provides guidance on the field indicators (redoximorphic features) that may be observed in various soil types for that soil to be considered hydric. The presence of one (or more) of the Hydric Soil Indicators as described in the Field Indicators of Hydric Soils in the United States (Version 4.0, March 1998) (Field Indicators) was used to determine the presence of a hydric soil. However, the absence of a Field Indicator can not be used to determine the absence of a hydric soil. In the field, when Field Indicators are lacking, other evidence of anaerobic conditions, including Hydric Criteria 3 or 4, may be used to determine whether a hydric soil that meets the Hydric Soil Definition is present.

In the field, a shovel was used to collect soil samples (approximately 18 inches deep). Soil profiles were described including horizon depths, color, redoximorphic features, texture, and structure and evaluated for redoximorphic features as described by the NTCHS (1998). Soil color was determined using a Munsell soil color chart (Gretag Macbeth, 2000).

3.0 STUDY AREA DESCRIPTION

The fifteen acre Study Area is in Princeton, San Mateo County, at approximately 25 feet elevation (NGVD). The terrain is mostly flat or gently sloping toward the west. To the north of the Study Area is a trailer park, to the east is Airport Street and Half Moon Bay airport, to the

south is undeveloped land, and to the west is undeveloped land and coastal bluffs.

3.1 PLANT COMMUNITIES

The dominant upland plant community in the northeastern portion of the Study Area is annual grassland containing primarily non-native annual grasses and herbs. Riparian vegetation occurs along the west flowing creek bordering the southern portion of the Study Area and along the northwestern Study Area boundary. A portion of the Pillar Point Marsh with a seasonal emergent marsh community occurs near the southwestern Study Area boundary.

3.2 SOILS

The Soil Survey, San Mateo Area (USDA 1961) maps two soil phases from four soil series on the site:

- Denison clay loam, nearly level (DcA)
- Denison clay loam, nearly level, imperfectly drained (DdA)

Surface horizon in the non-hydric Denison series is a low value and chroma, black (10YR 2/1) clay loam.

The Field Office Official List of Hydric Soil Map Units of San Mateo Area, California (Local Hydric Soil List) (USDA, Soil Conservation Service 1992) indicates that none of the component soil phases of the two Denison mapping units are classified as hydric soils because they fail to meet the Criteria for Hydric Soils (NTCHS 1991).

The List also identifies any named or unnamed hydric soil inclusions which may occur in a soil mapping unit. Inclusions are soil components of minor extent which usually can only be located by on-site investigation. The Denison clay loam nearly level, imperfectly drained may contain depressions with unnamed soil inclusions that meet the Criteria for Hydric Soils with a water table less than or equal to 1 foot from the surface.

On-site investigation of soil profile characteristics is necessary to determine if soils within a site have profile characteristics similar to those of the site's soil mapping unit components or listed hydric and non-hydric inclusions. On-site investigation of soil profile characteristics was conducted by WRA as part of this Wetland Delineation Study.

3.3 HYDROLOGY

The principal apparent hydrologic sources for the Study Area are direct precipitation and surface

runoff from north and east of the Study Area. The importance of groundwater inputs is unknown, but may be insignificant given the clay loam soils. Nearly level topography and surface runoff from the east and north produces seasonal wetland conditions in the areas mapped as LCP wetlands along the northwestern and southeastern boundary of the site.

The most recent U.S. Fish and Wildlife Service (USFWS) wetland inventory map for the Study Area was completed in 1985 (Montara Mountain Quadrangle 1985). Seasonal wetlands are mapped along the southern and western boundary of the Study Area. Two wetland types are mapped: palustrine scrub shrub, seasonally flooded, diked impounded and palustrine emergent, seasonally flooded. Wetland inventory maps prepared by USFWS are for habitat purposes and are not considered to be jurisdictional determinations because they are developed from large scale aerial photographs and are not sufficiently accurate for delineation.

The USGS topographic map for this area (Montara Mountain quadrangle 1991) maps an area of marsh which corresponds to most of the NWI palustrine scrub shrub area (Figure 1).

4.0 RESULTS

Wetland areas mapped in Appendix A were dominated by FACW and OBL plant species similar to the typical wetland plants listed in the San Mateo County LCP. The west flowing creek along the southern boundary of the Study Area was dominated by riparian plants species such as arroyo willow (*Salix lasiolepis*, FACW), California blackberry (*Rubus ursinus*, FACW), and giant horsetail (*Equisetum telmateia* ssp. *braunii*, OBL).

Depressional areas in the northwestern portion of the Study Area were dominated by giant horsetail, California blackberry, hairy willow-herb (*Epilobium ciliatum*, FACW), and poison hemlock (*Conium maculatum*, FACW). Riparian species, such as arroyo willow and California blackberry, formed a dense canopy near the depressional areas along the northwestern Study Area boundary

The northeastern portion of the Study Area was primarily dominated by upland species such as Italian ryegrass, soft chess (*Bromus hordeaceus*, FACU-) and coyote brush (*Baccharis pilularis*, NL).

Morphology of the soils observed in the Study Area was not definitive in making a determination of the presence of hydric soils. Soil color in the upper 20 inches at all sample points was a low value, low chroma, black (10YR 2/1). No redoximorphic features were observed within 12 inches of the surface. This morphology does not meet any of the Field Indicators. While the low chroma of black or very dark soils is considered a hydric soil in the 1987 Corps Manual, it is often the result of organic matter accumulation under upland grassland vegetation. Redoximorphic features which are indicative of wetland soil conditions, may be masked by the high organic matter content in black hydric soils. Soil morphology of this black high organic

soil, therefore, could not be used to determine the presence of hydric soils. The data from Local Hydric Soil List were used to determine the presence of hydric soils. The Study Area is mapped as the non-hydric Denison series which has a low value, low chroma, black (10YR 2/1) surface horizon without redoximorphic features. This dark soil was formed under grassland vegetation (USDA 1961). The Denison series is not listed as a hydric soil on the Local Hydric Soil List. However, the Denison clay loam nearly level, imperfectly drained mapping unit may contain depressions with unnamed hydric soil inclusions that meet the Criteria for Hydric Soils with a water table less than or equal to 1 foot from the surface. Depressions occurred within the Study Area that had vegetation that was predominantly hydrophytic and dominated by FACW and OBL species. These depressions were assumed to be the hydric inclusions described in the Local Hydric Soil List that have saturated and anaerobic conditions that meet the hydric criteria and definition. Areas outside of depressions were assumed to be the non-hydric Denison series.

The FAC-neutral test, the Local Soil Survey Data and topography were three secondary indicators of wetland hydrology in the Study Area. No primary indicators of wetland hydrology were present even in areas dominated solely by OBL species. Low areas and depressions were considered to have wetland hydrology. These depressional areas corresponded to areas with wetland vegetation dominated by FACW and OBL plant species that passed the FAC-neutral test.

5.0 CONCLUSION

Wetland vegetation was used to determine the presence of San Mateo County LCP wetlands in the Big Wave Development Study Area. Vegetation meeting the LCP definition was found in the riparian areas along a south flowing drainage along the northwestern Study Area boundary, and along a west flowing drainage along the southern Study Area boundary. Wetland vegetation was also found a linear depression feeding into the south flowing drainage in the northwestern portion of the Study Area.

The total area of San Mateo County LCP wetlands on the Study Area is 0.53 acres (22,897 square feet).

6.0 REFERENCES

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Appendix A

San Mateo County LCP Wetlands on the Big Wave Development Study Area



Wetlands Research Associates, Inc.
 2169-G East Francisco Blvd.
 San Rafael, CA 94901
 (415) 454-8868 Phone
 (415) 454-0129 Fax

**BIG WAVE
 DEVELOPMENT SITE**

PRINCETON, CALIFORNIA

San Mateo County
 Local Coastal Program
 Wetland Delineation

APPENDIX A

PROJECT: 10079
 DRAWN BY: F.L.
 DATE: December 4, 2001

SCALE: 1"=100'



DATE: UTMINTL.WCS&L0N
 PHOTO SOURCE: Pacific Aerial Surveys, Inc.
 FILENAME: 10079.dwg wra-bigwave.dwg



LEGEND

- Study Area Boundary
- San Mateo County LCP Wetlands
- Offsite Wetland Boundary
- 100 Foot Buffer Zone
- Sample Location

**San Mateo County
Local Coastal Program
Wetland Delineation Study**

**Big Wave Development Site
Princeton, San Mateo County, California**

Prepared for:

Big Wave LLC
190 Mendell Street
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November, 2001

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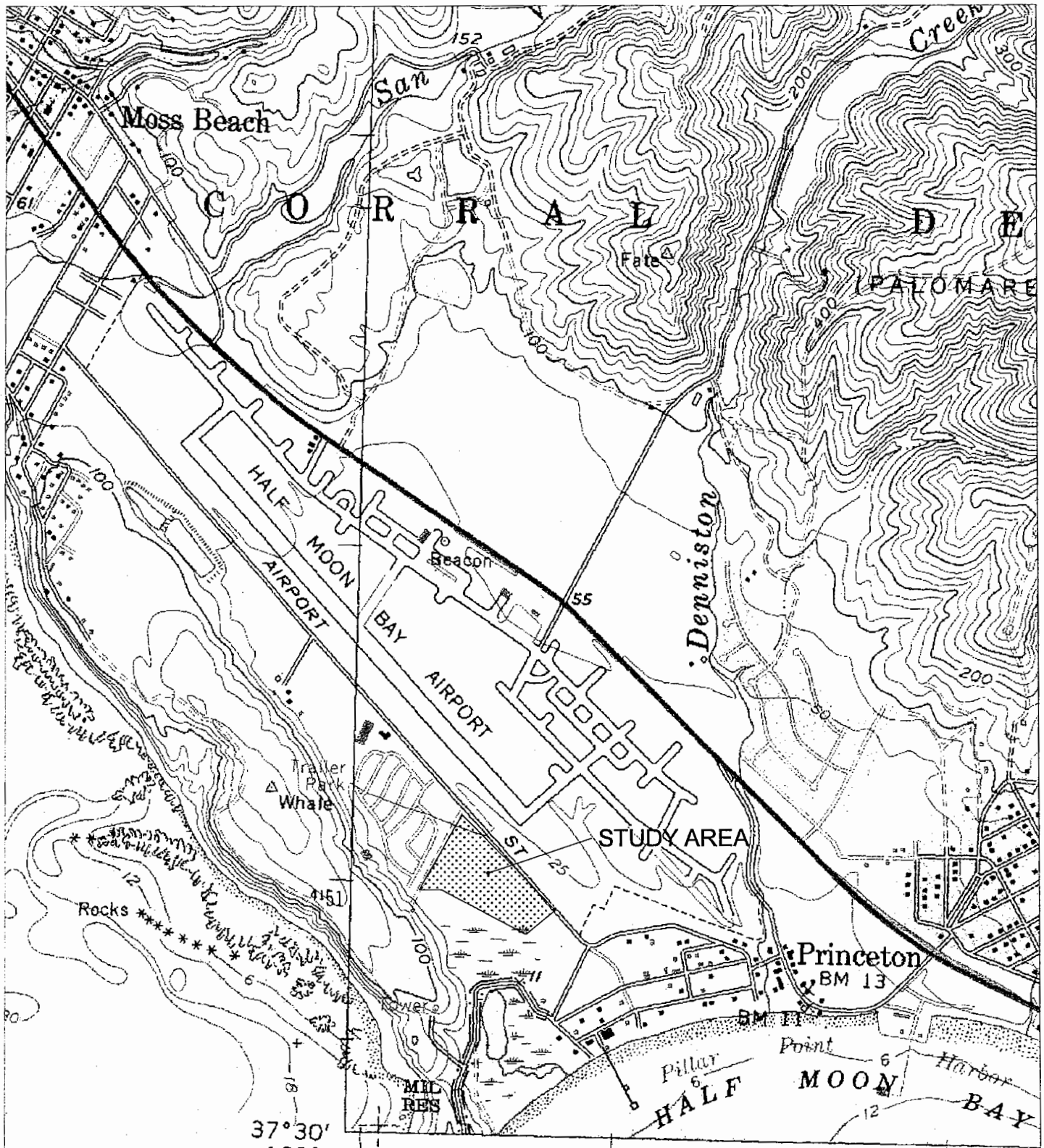
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"The County will:

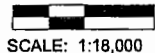
Define wetland as an area where the water table is at, near, or above the land surface long enough to bring about the formation of hydric soils or to support the growth of plants which normally are found to grow in water or wet ground. Such wetlands can include mudflats (barren of vegetation), marshes, and swamps. Such wetlands can be either fresh or saltwater, along streams (riparian), tidally influenced areas (near the ocean and usually below extreme high water of spring tides), marginal to lakes, ponds, and man-made impoundments. Wetlands do not include areas which in normal rainfall years are permanently submerged (streams, lakes, ponds, and impoundments, nor marine estuarine areas below extreme low water of spring tides, nor vernal wet areas where the soils are not hydric.

In San Mateo county, wetlands typically contain the following plants: cordgrass, pickleweed, jaumea, frankenia, marsh mint, tule, bullrush, narrow-leaf cattail, broadleaf cattail, pacific silverweed, salt rush, and bog rush. To qualify, a wetland must contain at least a 50% cover of some combination of these plants, unless it is a mudflat."

(Section 7.14, San Mateo County Local Coastal Program, June 1998)



500 0 500 Feet



SCALE: 1:18,000

Figure 1

PURPOSE: Wetland Delineation

DATUM: NGVD

USGS QUADRANGLE: Montara Mountain, 1980 7.5 minute series

VICINITY MAP

Valoff & Peck Coatings
 190 Mendell Stree
 San Francisco, CA
 94124
 Contact: Jeff Peck
 415-824-0314

LOCATION: Princeton, west of Airport Road, north of Standford Avenue

COUNTY: San Mateo

Application by: Jeff Peck

Sheet: 1 of 1 DATE: November 2000

2.0 METHODS

Soils and vegetation were examined at locations within the Study Area that had the potential to meet the County wetland definition. Prior to conducting field studies, available reference materials were reviewed. These included National Wetland Inventory maps (US Fish and Wildlife Service 1985, Montara Mountain quadrangle) and the San Mateo County Soil Survey, Western Part (US Soil Conservation Service 1961).

2.1 WETLAND VEGETATION

Plant species were assigned a wetland status according to the U.S. Fish and Wildlife Service list of plant species that occur in wetlands (Reed 1988). This wetland plant classification system is based on the expected frequency of occurrence of plants in wetlands.

OBL	Obligate, always found in wetlands	> 99% frequency
FACW	Facultative wetland, usually found in wetlands	67-99%
FAC	Facultative, equal in wetland or non-wetlands	34-66%
FACU	Facultative upland, usually found in non-wetlands	1-33%
UPL/NL	Not found in local wetlands	<1%

The plant species listed in the LCP wetland definition are presented in Table 1 along with their US Fish and Wildlife Service wetland indicator status (Reed 1988). This list is made up of mostly obligate species with two facultative wetland species. It includes most but not all dominant OBL and FACW species found in coastal wetlands in San Mateo County. Sedges (e.g. *Carex obnupta*, OBL) and willows (e.g. *Salix lucida*, OBL and *Salix lasiolepis*, FACW) are notable omissions to this list. Strict adherence to the LCP list and definition could result in some wetland areas dominated by OBL and FACW species being determined as uplands. In order to avoid this, we considered any OBL or FACW species equivalent to the typical species listed in the LCP wetland definition.

Vegetation was examined at sampling points to determine whether its composition met the requirement contained in Section 7.14 of the County LCP. Areal cover was determined for plant species in an area ranging from approximately 5 feet to 30 feet in radius depending on topography and hydrologic conditions. The top five species with greater than 10 % cover were considered dominants. Areas with at least 50% cover of any OBL and FACW species were determined to meet the LCP wetland definition. In addition we also considered areas where greater than 50% of the dominant species were OBL and FACW as LCP wetlands.

Table 1. Typical plants found in San Mateo County LCP wetlands. ¹

COMMON NAME	SCIENTIFIC NAME	STATUS
frankenian	<i>Frankenia salina</i>	FACW+
jaumea	<i>Jaumea carnosa</i>	OBL
bog rush	<i>Juncus effusus</i>	OBL
salt rush	<i>Juncus lesueurii</i>	FACW
marsh mint	<i>Mentha pulegium</i>	OBL
pacific silverweed	<i>Potentilla anserina</i>	OBL
pickleweed	<i>Salicornia virginica</i>	OBL
tule	<i>Scirpus acutus</i>	OBL
bulrush	<i>Scirpus maritimus</i>	OBL
cordgrass	<i>Spartina foliosa</i>	OBL
narrow-leaf cattail	<i>Typha angustifolia</i>	OBL
broadleaf cattail	<i>Typha latifolia</i>	OBL

¹ To qualify, a wetland must contain at least a 50% cover of some combination of these plants, unless it is a mudflat.

2.2 HYDRIC SOILS

The Natural Resource Conservation Service defines a hydric soil as:

“A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.”

(Federal Register July 13, 1994, US
Department of Agriculture, Natural
Resource Conservation Service.)

Soils formed over long periods of time under wetland (anaerobic) conditions sometimes possess characteristics that indicate that they meet the definition of hydric soils.

According to the Technical Notes issued by the National Technical Committee for Hydric Soils (NTCHS), the definition of hydric soils must be met for a soil to be considered hydric:

Several terms are frequently used to describe hydric soil delineation methodology. These are: Hydric Soil Definition, Hydric Soil Criteria, Hydric Soil Lists, Hydric Soil Indicators, and, lastly, hydric soils. According to the deliberations of the National Technical Committee for Hydric Soils (NTCHS), each of these terms has a specific meaning and use. All hydric soils must satisfy requirements of the Hydric Soil Definition. Hydric Soil Criteria are used to generate Hydric Soil Lists. Hydric Soil Lists contain a listing of soils that have a probability of being hydric. Hydric Soil Indicators are primarily morphological indicators used for field identification of hydric soils. Hydric Soil Criteria and Hydric Soil Lists are primarily used as offsite assessment tools. A hydric soil is a soil that meets the Hydric Soil Definition; presence of one (or more) of the Hydric Soil Indicators is evidence that the definition has been met.

NTCHS Technical Note 1 (1998)

The relationship between soil saturation and the anaerobic conditions required to meet the hydric soil definition is inconsistent and dependent on many biological and environmental factors. Soils which meet the hydric criteria for saturation may not necessarily meet the anaerobic requirement of the hydric soil definition. Although hydric soil criteria 3 and 4 (frequent ponding or flooding) are technically approved for use as field indicators, they may not necessarily identify soils which meet the anaerobic definition.

Because it is difficult to determine whether a soil is anaerobic through direct field observations of soil morphology, the NTCHS has issued a manual that provides guidance on the field indicators (redoximorphic features) that may be observed in various soil types for that soil to be considered hydric. The presence of one (or more) of the Hydric Soil Indicators as described in the Field Indicators of Hydric Soils in the United States (Version 4.0, March 1998) (Field Indicators) was used to determine the presence of a hydric soil. However, the absence of a Field Indicator can not be used to determine the absence of a hydric soil. In the field, when Field Indicators are lacking, other evidence of anaerobic conditions, including Hydric Criteria 3 or 4, may be used to determine whether a hydric soil that meets the Hydric Soil Definition is present.

In the field, a shovel was used to collect soil samples (approximately 18 inches deep). Soil profiles were described including horizon depths, color, redoximorphic features, texture, and structure and evaluated for redoximorphic features as described by the NTCHS (1998). Soil color was determined using a Munsell soil color chart (Gretag Macbeth, 2000).

3.0 STUDY AREA DESCRIPTION

The fifteen acre Study Area is in Princeton, San Mateo County, at approximately 25 feet elevation (NGVD). The terrain is mostly flat or gently sloping toward the west. To the north of the Study Area is a trailer park, to the east is Airport Street and Half Moon Bay airport, to the

south is undeveloped land, and to the west is undeveloped land and coastal bluffs.

3.1 PLANT COMMUNITIES

The dominant upland plant community in the northeastern portion of the Study Area is annual grassland containing primarily non-native annual grasses and herbs. Riparian vegetation occurs along the west flowing creek bordering the southern portion of the Study Area and along the northwestern Study Area boundary. A portion of the Pillar Point Marsh with a seasonal emergent marsh community occurs near the southwestern Study Area boundary.

3.2 SOILS

The Soil Survey, San Mateo Area (USDA 1961) maps two soil phases from four soil series on the site:

- Denison clay loam, nearly level (DcA)
- Denison clay loam, nearly level, imperfectly drained (DdA)

Surface horizon in the non-hydric Denison series is a low value and chroma, black (10YR 2/1) clay loam.

The Field Office Official List of Hydric Soil Map Units of San Mateo Area, California (Local Hydric Soil List) (USDA, Soil Conservation Service 1992) indicates that none of the component soil phases of the two Denison mapping units are classified as hydric soils because they fail to meet the Criteria for Hydric Soils (NTCHS 1991).

The List also identifies any named or unnamed hydric soil inclusions which may occur in a soil mapping unit. Inclusions are soil components of minor extent which usually can only be located by on-site investigation. The Denison clay loam nearly level, imperfectly drained may contain depressions with unnamed soil inclusions that meet the Criteria for Hydric Soils with a water table less than or equal to 1 foot from the surface.

On-site investigation of soil profile characteristics is necessary to determine if soils within a site have profile characteristics similar to those of the site's soil mapping unit components or listed hydric and non-hydric inclusions. On-site investigation of soil profile characteristics was conducted by WRA as part of this Wetland Delineation Study.

3.3 HYDROLOGY

The principal apparent hydrologic sources for the Study Area are direct precipitation and surface

runoff from north and east of the Study Area. The importance of groundwater inputs is unknown, but may be insignificant given the clay loam soils. Nearly level topography and surface runoff from the east and north produces seasonal wetland conditions in the areas mapped as LCP wetlands along the northwestern and southeastern boundary of the site.

The most recent U.S. Fish and Wildlife Service (USFWS) wetland inventory map for the Study Area was completed in 1985 (Montara Mountain Quadrangle 1985). Seasonal wetlands are mapped along the southern and western boundary of the Study Area. Two wetland types are mapped: palustrine scrub shrub, seasonally flooded, diked impounded and palustrine emergent, seasonally flooded. Wetland inventory maps prepared by USFWS are for habitat purposes and are not considered to be jurisdictional determinations because they are developed from large scale aerial photographs and are not sufficiently accurate for delineation.

The USGS topographic map for this area (Montara Mountain quadrangle 1991) maps an area of marsh which corresponds to most of the NWI palustrine scrub shrub area (Figure 1).

4.0 RESULTS

Wetland areas mapped in Appendix A were dominated by FACW and OBL plant species similar to the typical wetland plants listed in the San Mateo County LCP. The west flowing creek along the southern boundary of the Study Area was dominated by riparian plants species such as arroyo willow (*Salix lasiolepis*, FACW), California blackberry (*Rubus ursinus*, FACW), and giant horsetail (*Equisetum telmateia* ssp. *braunii*, OBL).

Depressional areas in the northwestern portion of the Study Area were dominated by giant horsetail, California blackberry, hairy willow-herb (*Epilobium ciliatum*, FACW), and poison hemlock (*Conium maculatum*, FACW). Riparian species, such as arroyo willow and California blackberry, formed a dense canopy near the depressional areas along the northwestern Study Area boundary

The northeastern portion of the Study Area was primarily dominated by upland species such as Italian ryegrass, soft chess (*Bromus hordeaceus*, FACU-) and coyote brush (*Baccharis pilularis*, NL).

Morphology of the soils observed in the Study Area was not definitive in making a determination of the presence of hydric soils. Soil color in the upper 20 inches at all sample points was a low value, low chroma, black (10YR 2/1). No redoximorphic features were observed within 12 inches of the surface. This morphology does not meet any of the Field Indicators. While the low chroma of black or very dark soils is considered a hydric soil in the 1987 Corps Manual, it is often the result of organic matter accumulation under upland grassland vegetation. Redoximorphic features which are indicative of wetland soil conditions, may be masked by the high organic matter content in black hydric soils. Soil morphology of this black high organic

soil, therefore, could not be used to determine the presence of hydric soils. The data from Local Hydric Soil List were used to determine the presence of hydric soils. The Study Area is mapped as the non-hydric Denison series which has a low value, low chroma, black (10YR 2/1) surface horizon without redoximorphic features. This dark soil was formed under grassland vegetation (USDA 1961). The Denison series is not listed as a hydric soil on the Local Hydric Soil List. However, the Denison clay loam nearly level, imperfectly drained mapping unit may contain depressions with unnamed hydric soil inclusions that meet the Criteria for Hydric Soils with a water table less than or equal to 1 foot from the surface. Depressions occurred within the Study Area that had vegetation that was predominantly hydrophytic and dominated by FACW and OBL species. These depressions were assumed to be the hydric inclusions described in the Local Hydric Soil List that have saturated and anaerobic conditions that meet the hydric criteria and definition. Areas outside of depressions were assumed to be the non-hydric Denison series.

The FAC-neutral test, the Local Soil Survey Data and topography were three secondary indicators of wetland hydrology in the Study Area. No primary indicators of wetland hydrology were present even in areas dominated solely by OBL species. Low areas and depressions were considered to have wetland hydrology. These depressional areas corresponded to areas with wetland vegetation dominated by FACW and OBL plant species that passed the FAC-neutral test.

5.0 CONCLUSION

Wetland vegetation was used to determine the presence of San Mateo County LCP wetlands in the Big Wave Development Study Area. Vegetation meeting the LCP definition was found in the riparian areas along a south flowing drainage along the northwestern Study Area boundary, and along a west flowing drainage along the southern Study Area boundary. Wetland vegetation was also found a linear depression feeding into the south flowing drainage in the northwestern portion of the Study Area.

The total area of San Mateo County LCP wetlands on the Study Area is 0.53 acres (22,897 square feet).

6.0 REFERENCES

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Appendix A

San Mateo County LCP Wetlands on the Big Wave Development Study Area

San Mateo County Biological Impact Report

**Big Wave Development Site
Princeton, San Mateo County, California**

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May 2003

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1.0 INTRODUCTION

Wetlands Research Associates, Inc. (WRA) conducted a biological assessment of the Big Wave Development (Project Area) in Princeton, western San Mateo County, California. The Study Area included the 14.25 acre Big Wave property (Property), the proposed 3.42 acre Project Area within the Property, and adjacent areas, including the Pillar Point marsh owned by San Mateo County. The purpose of this assessment was to determine the potential suitability of the Study Area for special-status species and sensitive habitats and potential impacts to these species and habitats associated with the development of the Project Area.

San Mateo County Biological Impact Report Guidelines define Sensitive Habitats as;

“.... any areas in which plant or animal life or their habitats are either rare or especially valuable and those areas which meet one of the following criteria: (1) habitats containing or supporting “rare and endangered” species as defined by the State Fish and Game Commission, (2) all perennial and intermittent streams and their tributaries, (3) coastal tidelands and marshes, (4) coastal and offshore areas containing breeding and/or nesting sites and coastal areas used by migratory and resident water-associated birds for nesting and feeding, (5) areas used for scientific study and research concerning fish and wildlife, (6) lakes and ponds and adjacent shore habitat, (7) existing game and wildlife refuges and reserves, and (8) sand dunes. Such areas include riparian areas, wetlands, sand dunes, marine habitats, sea cliffs, and habitats supporting rare, endangered, and unique species.”

Special status species are those plants and animals that have been formally listed or proposed as endangered or threatened, or are candidates for such listing under the federal Endangered Species Act or California Endangered Species Act. Listed and proposed species are afforded protection under these acts. California Department of Fish and Game (CDFG) Species of Special Concern are also treated as special status species. Species of Special Concern are those that face extirpation in California if current trends continue. Although they have no special legal status, these species (and federal species of concern) are given management consideration whenever possible. Impacts to these special status species are considered significant according to the California Environmental Quality Act (CEQA).

Special Status plants also include all plants included in Lists 1 through 4 of the CNPS Inventory (Skinner and Pavlik 1994), and plants that qualify under the definition of "rare" in the California Environmental Quality Act, section 15380. Impacts to List 1 and 2 plants are always considered significant according to the California Environmental Quality Act (CEQA), and List 3 and 4 plants may be considered significant.

1.1 PROJECT AND PROPERTY DESCRIPTION

The Big Wave Property is located adjacent to the west side of Airport Street and approximately one quarter mile north of Stanford Avenue in Princeton (Figure 1). The Property covers 14.25 acres and is gently sloping, with elevations ranging from 11.5 to 27.7 feet NGVD. To the

northwest of the Property is a trailer park, to the northeast is Airport Street and Half Moon Bay airport, to the south is undeveloped land, and to the southwest is Pillar Point Marsh and coastal bluffs.

Four plant communities occur in the Study Area: non-native annual grassland, coyote bush scrub, seasonal wet meadow wetland, and willow riparian scrub. The entire Project Area and most of the Property is non-native annual grassland dominated by soft chess (*Bromus hordeaceus*), common vetch (*Vicia sativa*), wild oat (*Avena fatua*), and scattered coyote brush (*Baccharis pilularis*). Coyote brush scrub occurs primarily in the southern portion of the Property where the native coyote brush forms open to dense stands with little herbaceous understory. Seasonal wet meadow wetland and willow riparian scrub occur along the southern and western boundaries of the Property and in the adjacent drainage channel to the south and the Pillar Point Marsh to the south. No wetlands, riparian habitat or other sensitive habitats occur within the Project Area. Seasonal wet meadow wetland is dominated by native species including soft rush (*Juncus effusus*), slough sedge (*Carex obnupta*) and Harford's sedge (*Carex harfordii*). Willow riparian scrub is dominated by Sitka willow (*Salix sitchensis*) and also includes California blackberry (*Rubus ursinus*), giant horsetail (*Equisetum telmateia*), cinquefoil (*Potentilla anserina*), and water parsley (*Oenanthe sarmentosa*). The Pillar Point Marsh west of the Property also includes seasonal freshwater marsh dominated by water smartweed (*Polygonum amphibium*), tule (*Scirpus californicus*), and willows (*Salix* spp.).

The proposed project involves the construction of a 2.96-acre parking lot that will be used for storage. The total graded area for this project will encompass 3.42 acres. This development will be located along Airport Street on the northeast portion of the Study Area.

2.0 METHODS

2.1 WETLANDS

Wetlands were delineated by WRA in 2001 using definitions contained in the San Mateo County Local Coastal Program. At the time of the 2001 delineation, the project description and development footprint were undetermined. This delineation was updated in 2003. The updated delineation presented here incorporates new information including the updated property area and development footprint, more accurate wetland plant indicator statuses as published in the revised 1996 National List of Vascular Plant Species that Occur in Wetlands (Reed), and also addresses comments by agencies on previous reports. A full report is contained in Appendix A.

Soils and vegetation were examined at locations within the Study Area that had the potential to meet the County wetland definition. New sample points were taken in approximately the same locations as previous sample points, and 2 additional areas were sampled. Prior to conducting field studies, available reference materials were reviewed. These included National Wetland Inventory maps (US Fish and Wildlife Service 1985, Montara Mountain quadrangle), and the San Mateo County Soil Survey, Western Part (US Soil Conservation Service 1961).

2.2 BOTANICAL

A list of special status plant species known to occur in the vicinity of the Study Area was compiled using occurrence records for the Montara Mountain, Half Moon Bay and San Francisco South USGS quadrangles in the California Department of Fish and Game's Natural Diversity Database (CNDDDB)(CDFG 2000 and 2003) and the California Native Plant Society's Electronic Inventory (CNPS 2000 and 2003) (Appendix B). The site was traversed on foot on October 27, 2000 to determine potential habitat for special status plant species in the Study Area. Based on this initial habitat assessment, rare plant surveys were conducted on March 19 and May 7, 2003 in order to coincide with the blooming periods of the rare plant species with potential to occur within the Study Area. Surveys were conducted by traversing the site in regular transects and all species observed during the rare plant surveys were identified and recorded (Appendix C). All taxonomic nomenclature followed *The Jepson Manual* (Hickman 1993).

2.3 ZOOLOGICAL

Prior to the site visit, the California Department of Fish and Game Natural Diversity Data Base (CDFG 2002) and other CDFG lists and publications (Jennings and Hayes 1994, Williams 1986, Zeiner et al. 1990) were reviewed to determine documented or potential presence of special status wildlife species in western San Mateo County in habitats similar to those found on the Big Wave Study Area (Appendix D). Published and non-published reports (Barry 1994, USFWS personal comm.) were investigated for information concerning special status species in the vicinity.

The Study Area was traversed on foot on January 17, 2003 to determine if existing conditions provided suitable habitat for special status wildlife species and to observe species on the site. All wildlife observed or otherwise detected were noted. Potential for special status species was evaluated by classifying the potential for occurrence for each listed species according to the following criteria:

- (1) Not Present. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime). The species has an extremely low probability of being found on the site.
- (2) Low Potential. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species has a low probability of being found on the site.
- (3) Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- (4) High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high

probability of being found on the site.

(5) Present. Species is observed on the site or has been recorded (i.e. CNDDDB) on the site recently.

3.0 RESULTS

3.1 WETLANDS

Areas with vegetation and soils meeting the LCP definition were found within the Property along the southern boundary. A total of 0.44 acre (19,236 square feet) of San Mateo County LCP wetland was located within the Property. None of this wetland occurred within the Project Area, or within 300 feet of the Project Area. Wetland delineation results are discussed in detail in Appendix A.

3.2 BOTANICAL

No special-status plant species were observed within the Property during the rare plant surveys conducted on March 19 and May 7, 2003. A list of all plant species observed during the surveys are presented in Appendix C.

3.3 ZOOLOGICAL

Several special status plant and wildlife species have been documented to occur, or potentially occur, in western San Mateo County (Appendix D). A search of the CDFG Natural Diversity Data Base (CNDDDB) found no documented occurrences of special status species in the Study Area (Figure 2). However, the CNDDDB search found one documented occurrence of California red-legged frog (*Rana aurora draytonii*) in pools located in the wetland area near West Point Road. One adult and one subadult California red-legged frog (CRLF) were observed in this location on May 7, 1999. The saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*), a federal and state species of concern, has also been documented to occur in the wetland adjacent to the Property.

Sixteen wildlife species were observed or otherwise detected in the Study Area during the January 17 assessment (Appendix E). Two special status species were observed during the assessment, the white-tailed kite (*Elanus leucurus*) and the northern harrier (*Circus cyaneus*); however, potential habitat is present for other protected or sensitive wildlife. Other species observed during the assessment are common resident species in the San Francisco Bay region or are common winter visitors to the area.

Potential breeding habitat for CRLF exists out-side but in close proximity to the Property in Pillar Point Marsh. Potential associated upland and foraging habitats for the frog occur within 300 feet of potential breeding habitat. The creek and associated wetlands located between potential breeding habitat and the Property may also be used for foraging and as a dispersal corridor. In addition, uplands within 100 feet of the wetland edge may be used as upland

dispersal habitat. Habitats which may be used by CRLF are shown in Figure 3. Potential upland dispersal habitat occurs within the southern portion of the Property; no potential habitat occurs within the Project Area or within 100 feet of the Project Area.

4.0 POTENTIAL IMPACTS AND ASSOCIATED MITIGATION FOR SPECIAL STATUS SPECIES AND SENSITIVE HABITATS

4.1 WETLANDS

Potential LCP wetlands occur on the Property along the southern boundary. A 100-foot set-back required by the San Mateo LCP for most commercial projects is indicated on the map in Appendix A. Although only a 100-foot buffer is required, the nearest potential LCP wetland area is approximately 260 feet from the Project Area. Therefore, the proposed project will have no impact on wetlands.

4.2 Botanical

No special-status plant species are present were observed within the Property during the rare plant surveys conducted during appropriate blooming periods in 2003. Therefore, the proposed project will have no impact on populations of rare plants.

4.3 Zoological

No direct impact or take of special status species is expected as a result of the proposed project because of the lack of sensitive habitat in the Project Area and distance from potential sensitive habitats and species. However, development in the Project Area has the potential to indirectly impact special-status species. Each of these species is addressed separately below; the western pond turtle and San Francisco garter snake are included because of their importance in the region.

California red legged frog (*Rana aurora draytonii*). The California red-legged frog is the largest native frog in the western United States and is a Federal Threatened species and CDFG Species of Special Concern. Any impacts to California red-legged frog or their habitat is considered significant according to California Environmental Quality Act (CEQA) guidelines.

The range of the frog extends along the coast from Marin County to northwestern Baja California and inland from the vicinity of Redding, Shasta County. It is typically found from sea level to elevations of approximately 1,500 meters. This species occurs primarily in coastal regions from Marin County to Ventura County in isolated ponds or pools, or in slow-moving perennial or ephemeral creeks. California red-legged frog use a variety of aquatic, upland, and riparian habitats including ephemeral ponds, intermittent streams, seasonal wetlands, springs, seeps, permanent ponds, perennial creeks, marshes, riparian corridors, blackberry thickets, non-native annual grasslands, and oak savannas. It appears that California red-legged frog can use any aquatic habitat provided that a permanent water source is nearby and that no non-native predators

are present. Dispersal from breeding habitat to various aquatic, upland, and riparian habitats often occurs in the summer. Dispersal over long distances (up to 2 miles) is common and can occur without regard to topography, vegetation type, or riparian corridors. Frogs often make long-distance movements that are straight-line, point-to-point migrations rather than using corridors for moving between locations. Therefore, populations of California red-legged frog are most successful in areas where there are multiple breeding locations within an assemblage of habitats that are used for dispersal.

Aquatic habitat capable of supporting breeding CRLF was not observed within the Property or the Project Area at the time of assessment and is not expected to occur because of the lack of landscape features capable of holding ponded water. However, potential breeding habitat does occur south of the Property near West Point Road. (Figure 3). A CNDDDB search found a documented occurrence of CRLF in a drainage ditch located south of West Point Road, adjacent to the riparian area south of the Property on May 7, 1999, as well as an occurrence along Denniston Creek on June, 9, 1989 (CDFG 2003) (Figure 2). Emergent wetlands composed of *Typha* and *Scirpus* species and ponded areas in the riparian woodland may hold water for a sufficient time for red-legged frog development to occur.

Associated uplands are essential to maintain the integrity of California red-legged frog aquatic habitat by providing the conditions essential for providing food, water, nutrients, and protection from disturbance necessary for normal behavior, and provide shelter to frogs inhabiting upland areas adjacent to suitable aquatic habitat. The Property is over 400 feet from the nearest potential breeding site; subsequently, associated upland habitat for California red-legged frogs will not be impacted.

Suitable dispersal habitat provides connectivity among California red-legged frog breeding locations. While frogs can pass many obstacles and do not require a particular type of habitat for dispersal, the habitat connecting suitable breeding locations and other aquatic habitat must be free of barriers.

Denniston Creek is located less than 1.25 miles east of the wetlands south of the Property and provides suitable breeding habitat for California red-legged frog as well as a permanent water source. It appears that no significant barriers to California red-legged frog movement exist between the nearby wetlands and Denniston Creek. The area between these two points is lightly developed, consisting mostly of a few industries as well as a few single family homes. The roads lying between these two points do not appear to be heavily traveled. In addition, the upper portion of Denniston Creek may also be reached by frogs dispersing from the nearby wetlands by crossing Airport Road and traversing the Half Moon Bay Airport fields and runways.

The proposed project is not within a dispersal corridor, and the proposed project will not impede movement of frogs between nearby potential breeding sites.

Potential Impacts/Mitigation

The proposed project will not impact California red-legged frog breeding habitat, associated

upland habitat, or impede dispersal.

Indirect impacts to red-legged frogs potentially occurring south of the Study Area could occur as a result of run-off from the proposed lot. Drainage from the proposed lot should be planned so as to minimize the potential run-off into the drainage or wetland area and to ensure that it does not contain toxic pollutants.

During construction, a herpetological barrier fence should be installed around the boundaries of the Project Area after a qualified biologist has surveyed the grounds for any red-legged frog individuals. This fence should be dug in approximately six inches into the ground, a minimum of 24 inches high, and installed with the support stakes on the inside and leaning outward so that frogs cannot climb over the fence.

San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*) The San Francisco garter snake is a state and federal endangered species. Their preferred habitat is a densely vegetated pond near an open hillside where they can sun themselves, feed, and find cover in rodent burrows; however, considerably less ideal habitats can be successfully occupied. Temporary ponds and other seasonal freshwater bodies are also used. The snakes avoid brackish marsh areas because their preferred prey (California red-legged frogs) cannot survive in saline water for extended periods. Emergent and bankside vegetation such as cattails (*Typha* spp.), bulrushes (*Scirpus* spp.) and spike rushes (*Juncus* spp. and *Eleocharis* spp.) apparently are preferred and used for cover. The area between stream and pond habitats and grasslands or bank sides is used for basking, while nearby dense vegetation or water often provide escape cover. Snakes also use floating algal or rush mats, if available.

The California red-legged frog and the San Francisco garter snake have life histories which coincide with each other. The San Francisco garter snake is a feeding specialist which prefers a diet of two specific amphibian species; the California red-legged frog and Pacific treefrog. The presence of red-legged frogs south of the Property suggests that conditions may occasionally or often provide suitable habitat for this species. However, Barry (1994) reported in his thesis of the distribution, habitat, and evolution of the San Francisco garter snake that:

The only substantial freshwater marsh without a *T. s. tetrataenia* population in San Mateo County is the extensive *Typha* bed along the north edge of Half Moon Bay. *T. s. tetrataenia* may occur in very low numbers in the marsh, which would explain its former presence in nearby Denniston Creek, but extensive searches during the 1970's yielded no *T.s. tetrataenia*, frog populations, or meadowlands. The Princeton road isolates most of the marsh from upland regions, a situation which may preclude habitation by *T.s. tetrataenia*, so the future suitability of this marsh for the subspecies is doubtful.

Barry also reported that the closest known population of *T.s. tetrataenia* at Denniston Creek (Figure 2) declined from 0.1 to zero (4-0) resident snakes from 1972 through 1977 and has remained at or near zero since then.

Because the snake has an extremely low probability of occurring adjacent to or on the Property,

the proposed development does not lie between areas of potential habitat, and the proposed development area is not characteristic of suitable upland habitat for this species, no impacts to this species are expected. In the remote likelihood that the snake is present in the adjacent wetland habitat, the herpetological barrier fence installed to exclude California red-legged frogs from the Project Area would be sufficient to ensure that no snake individuals find their way onto the Project Site.

Western Pond Turtle (*Clemmys marmorata*) The western pond turtle is a federal and state Species of Special Concern. It is associated with permanent or nearly permanent water in a wide variety of habitat types. Pond turtles require basking sites such as partially submerged logs, rocks, or mats of floating material. Hatchlings are preyed upon by fishes, bullfrogs, garter snakes, wading birds, and some mammals. Hatchlings may be subject to rapid death by desiccation if exposed to hot, dry conditions. Permanent water with associated basking habitat is not available in or adjacent to the Property. No impacts to this species are expected as a result of the proposed project.

Cooper's Hawk (*Accipiter cooperii*) The Cooper's hawk is a CDFG Species of Special Concern that is seldom found in areas without dense tree stands, or patchy woodland habitat. Nests are located in deciduous trees in crotches near open water or riparian vegetation. The Cooper's hawk plays an important role in the predation of small birds and may compete with sharp-shinned hawks for food. Suitable nesting habitat is not available in the Property. No impacts to this species are expected as a result of the proposed project.

Sharp-Shinned Hawk (*Accipiter striatus*) The sharp-shinned hawk is also a CDFG Species of Special Concern and is a fairly common migrant and winter resident throughout California. It usually nests near water in dense, even aged, single-layered forest canopy. This species is the least common breeding accipiter in California. Suitable nesting habitat is not available in the Property. No impacts to this species are expected as a result of the proposed project.

White-Tailed Kite (*Elanus leucurus*) The white-tailed kite is a CDFG fully protected species and a CDFG Species of Special Concern. It is a resident of coastal and valley grassland habitats throughout California, and is often found in agricultural areas throughout its range. Nests are located in tree stands near the edge of open foraging areas. One white-tailed kite was observed foraging over the Property at the time of assessment; however, nesting habitat is not present in the Property. The nearest potential breeding areas are 200-300 feet from the Property. No significant impacts to the white-tailed kite are expected as a result of the proposed project.

Northern Harrier (*Circus cyaneus*) The northern harrier is a CDFG Species of Special Concern. The northern harrier uses a variety of habitats ranging from sea level to alpine meadows. It frequents meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands; but is seldom found in wooded areas. It uses tall grasses and forbs in wetlands for cover and roosts on the ground and is mostly found in flat, or hummocky, open areas of tall dense grass. One female harrier was observed perching and foraging over the Property at the time of assessment.

Potential nesting habitat for harriers is available among coyote brush and wetlands south of the Property. Due to regular human disturbance associated with the airport and West Point Road during the breeding season, harriers are not expected to breed in or immediately adjacent to the Property. No significant impacts to the northern harrier are expected as a result of the proposed project.

Long-eared owl (*Asio otus*) The long-eared owl is a CDFG Species of Special Concern. Long eared owls are found in riparian bottomlands grown to tall willows and cottonwoods and also belts of live oak paralleling stream courses. It is associated with riparian habitats or other thickets with small, densely canopied trees required for roosting and nesting. Long-eared owls frequent dense riparian and oak thickets near meadow edges, and nearby woodland and forest habitat. They eat mostly voles and other rodents and occasionally other birds and vertebrates. The nearest potential breeding areas are 200-300 feet from the Property. No significant impacts to the white-tailed kite are expected as a result of the proposed project.

Allen's hummingbird (*Selasphorus sasin*) Allen's hummingbird is a USFWS Species of Concern. It is a common summer resident and migrant along most of the California coast. Breeders are most common in coastal scrub, valley foothill hardwood, and valley foothill riparian habitats. Its distribution is highly dependent on the abundance of nectar sources. Suitable breeding habitat is available for this species south of the Property. No impacts to this species are expected as a result of the proposed development.

Pacific-slope flycatcher (*Empidonax difficilis*) The Pacific-slope flycatcher is a USFWS Species of Concern. This bird prefers to nest in willow and alder thickets and similar riparian growth in oak woodlands and pine forests. The flycatcher usually arrives in California in April, and is mostly gone by October. This species is strongly associated with riparian or moist areas, usually near water. Suitable breeding habitat is available for this species in the riparian willow thickets located adjacent to the southern border of the Property. No impacts to this species are expected under the proposed development due to its distance from potential breeding habitat.

Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) Despite its name, this species also occurs in fresh and brackish marshes and wetlands. A CDFG Species of Special Concern and USFWS Species of Concern, the yellowthroat nests in emergent wetland vegetation and riparian vegetation in the San Francisco Bay region. Breeding populations have been documented in wetlands along the San Mateo County coast (CDFG 2003). The cattail wetland south of the Property may provide suitable breeding habitat for this species. The species has been documented at the Princeton Marsh in cattail/tule marsh habitat. Three breeding pairs were observed here during a 1985 survey though the construction of a 12-car parking lot in 1989 later destroyed some of this habitat (CDFG 2003). No impacts to this species are expected under the proposed development due to its distance from potential breeding and foraging habitat.

San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*) This woodrat is a CDFG Species of Special Concern and USFWS Species of Concern. Like other woodrats, the San Francisco dusky-footed woodrat prefers forest habitats with moderate canopy, year-round greenery, a brushy understory, and suitable nest-building materials. This species is preyed upon

by owls, coyotes, bobcats, hawks, and perhaps snakes. Habitat is threatened by cattle grazing and wildfires as these activities reduce available cover. Suitable habitat is available for this species in the riparian willow habitat adjacent to the southern border of the Property. No impacts to this species are expected under the proposed development due to its distance from potential habitat.

5.0 CONCLUSION

The 2.96 acres Project Area will be developed to a dry-storage parking-lot facility in a portion of the Property that contains non-native grassland and ruderal plant species. The proposed project is outside recommended buffers protecting LCP wetlands and CRLF breeding habitat and will therefore have no impacts to sensitive species or sensitive habitats. The Project Area is greater than 250 feet from potential LCP wetlands. No special status plants occur within the Property.

Sensitive wildlife habitats are located south of the Property and are capable of supporting a number of special-status wildlife species. Any potential wildlife corridors and sensitive habitats will not be impacted by this development. The Project Area is currently at a higher elevation than the rest of the Property to the south, indicating that runoff from the parking lot could drain onto the rest of the Property and toward sensitive habitats. However, maintaining recommended buffers protecting LCP wetlands and CRLF breeding habitat should be adequate to protect water quality of habitats.

No significant impacts to special status species are expected as a result of the proposed project because (1) the Project Area does not support special status species, and (2) seasonal freshwater and riparian wetlands that occur on the south boundary of the Property are greater than 300 feet from the Project Area (3) suitable breeding habitat for the CRLF in the adjacent Pillar Point Marsh is approximately 700 feet from the Project Area.

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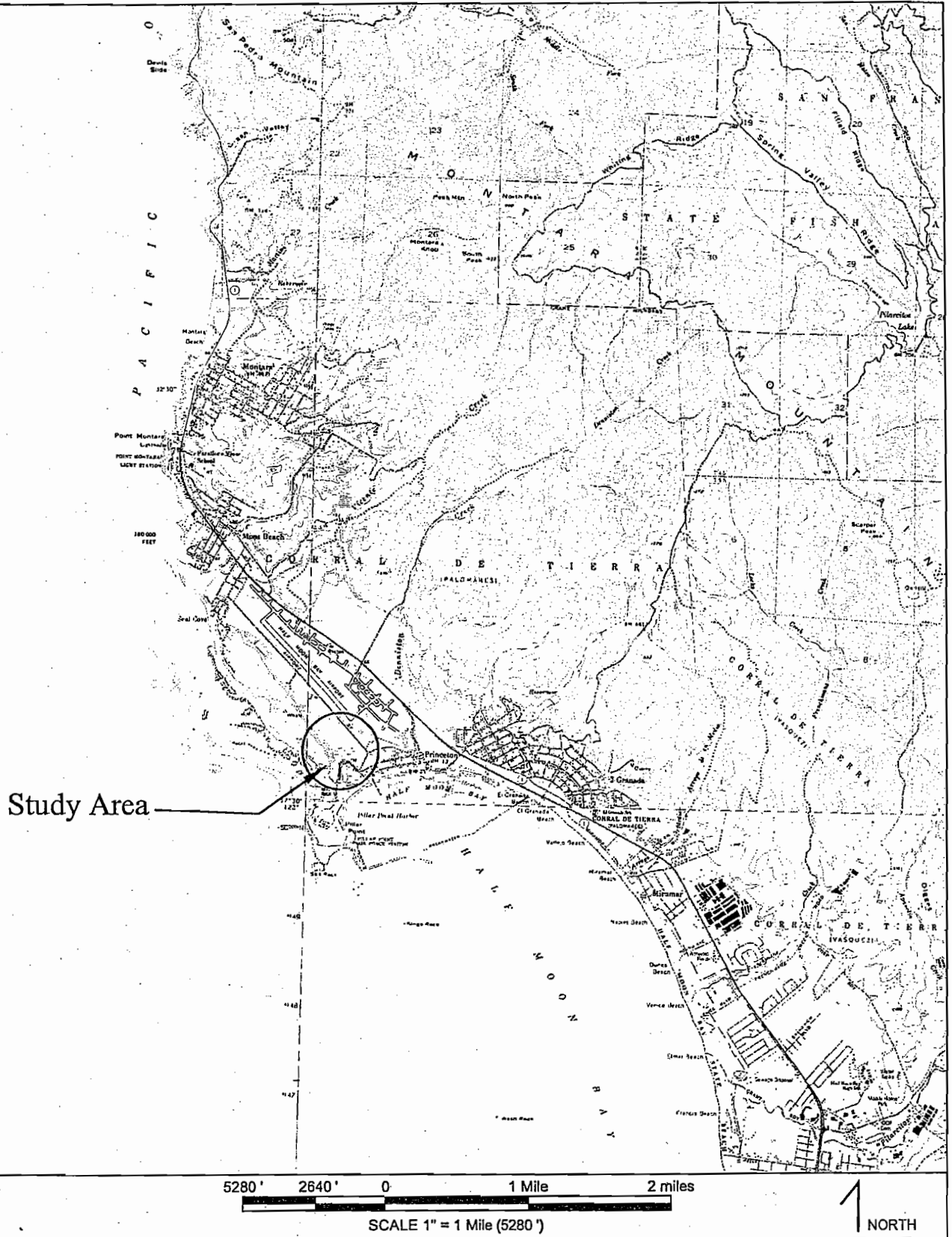


Figure 1.

Big Wave Development Site Study Area



Wetlands Research Associates, Inc.

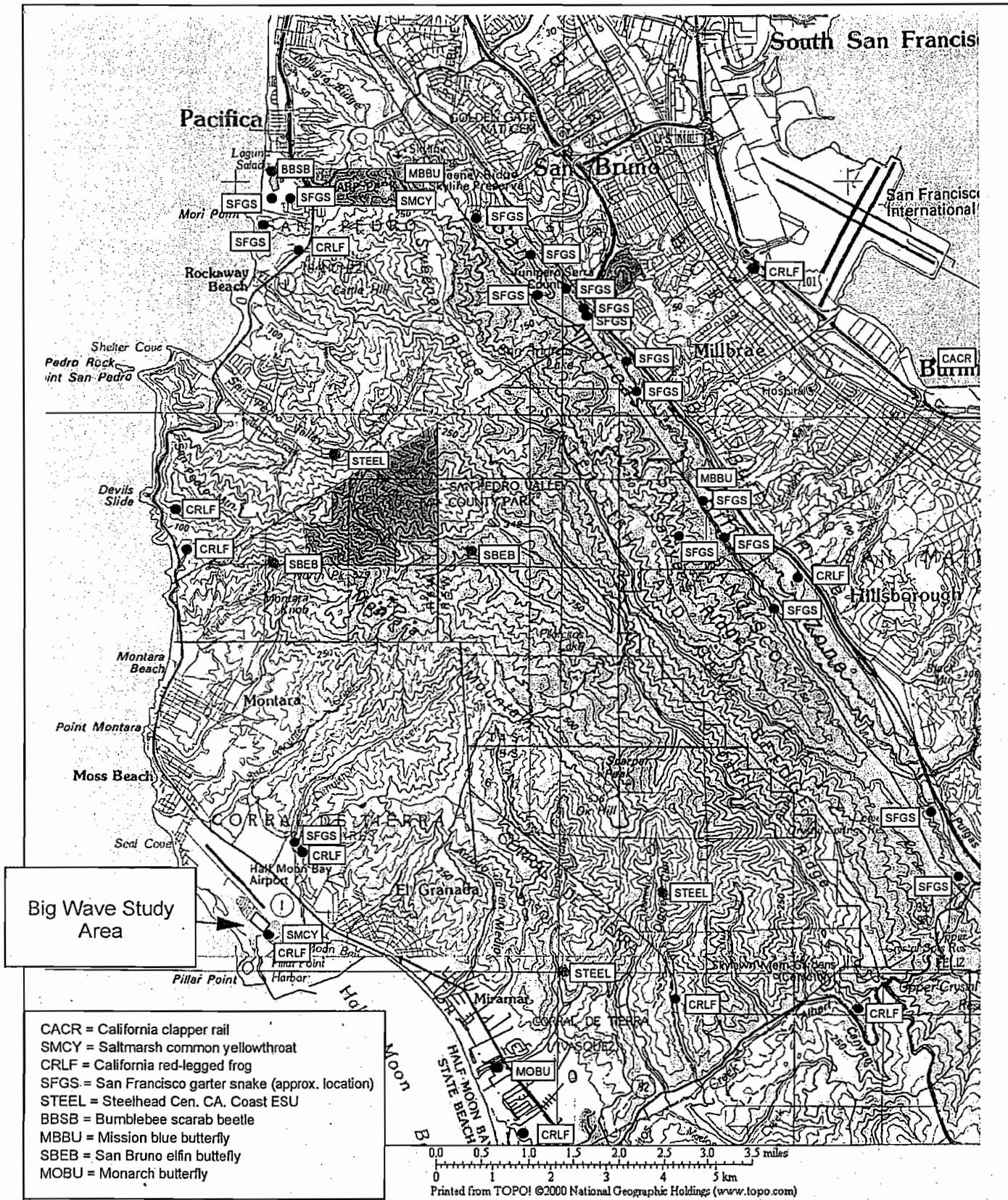


Figure 2. USGS map showing CNDDB locations of special-status wildlife in the vicinity of the Big Wave Study Area. San Francisco garter snake locations based on Barry (1994) Figure 6.



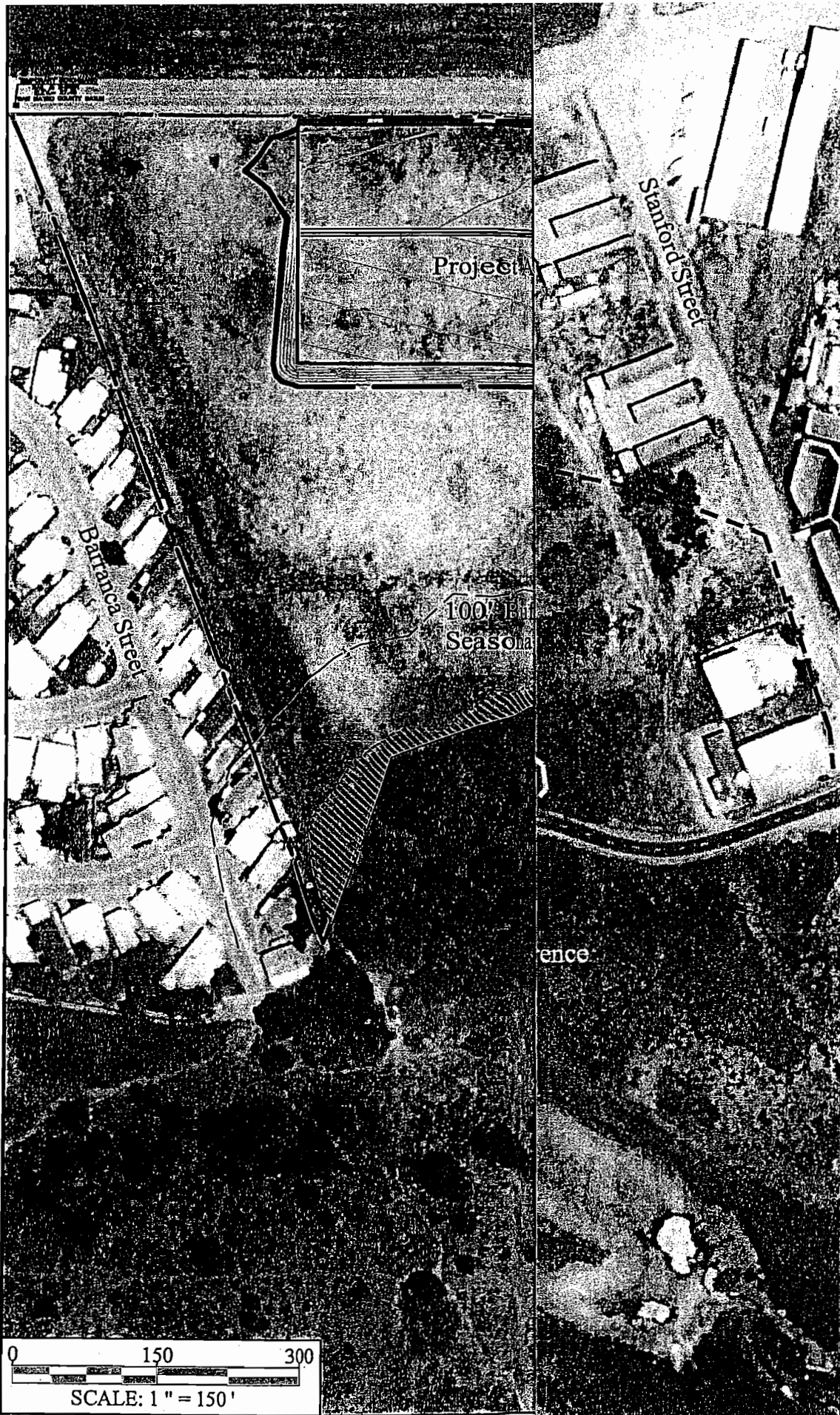
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BIG WAVE DEVELOPMENT SITE

PRINCETON,
CALIFORNIA

San Mateo County



LEGEND







-  Project Area Boundary
-  Property Boundary
-  San Mateo County LCP Wetlands
-  Offsite Wetland Boundary
-  Containment Fence
-  Proposed Project Grade

Figure 3
California Red-
Legged Frog Habitat

Project: 10079
Drawn By: GO

DATUM: UTM WGS84 - 10N

Appendix A
Big Wave LLC San Mateo County Local Coastal Program Wetland Delineation Report

**San Mateo County
Local Coastal Program
Wetland Delineation Study**

**Big Wave Development Site
Princeton, San Mateo County, California**

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May, 2003

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1.0 INTRODUCTION

Wetlands Research Associates, Inc. (WRA) conducted a wetland delineation study in 2001 to determine whether any areas on the proposed Big Wave development site met the wetland definition contained in the San Mateo County Local Coastal Program, which implements the California Coastal Act. At the time of the 2001 delineation, the project description and development footprint were undetermined. The updated delineation study presented here incorporates new information including the updated property area and development footprint, revised wetland plant indicator statuses as published in the revised 1996 *National List of Vascular Plant Species that Occur in Wetlands* (Reed), and also addresses comments by agencies on previous reports.

During the previous delineation study, the project description and development footprint were undetermined. Development is proposed within the Property on an approximately 3.43-acre Project Area adjacent to Airport Street. The 14.25-acre Property, plus adjacent off-site land, was included in the 2003 delineation study ("Study Area") for the purpose of identifying appropriate set-backs.

The Study Area is located in Princeton, San Mateo County, California (Figure 1) west of Airport Street and north of Stanford Avenue. Land within and adjacent to the Property was included in the delineation study.

1.1 COASTAL ACT AND LOCAL COASTAL PROGRAM DEFINITION

The Coastal Act defines wetlands as:

"Wetland means lands within the Coastal Zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens."

(Public Resources Code § 30121)

The San Mateo County Local Coastal Program ("SMCLCP"), which has been certified by the Coastal Commission to implement the Coastal Act, defines a wetland as:

"The County will:

Define 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. Such wetlands can include mudflats (barren of vegetation), marshes, and swamps. Such wetlands can be either fresh or saltwater, along streams (riparian), tidally influenced areas (near the ocean and usually below extreme high water of spring tides), marginal to lakes, ponds, and manmade impoundments. Wetlands do not include areas which in normal rainfall years are permanently submerged (streams, lakes, ponds, and impoundments), nor marine or estuarine areas below extreme low water of spring tides, nor vernal wet areas where the soils are not hydric.

In San Mateo county, wetlands typically contain the following plants: cordgrass, pickleweed, jaumea, frankenia, marsh mint, tule, bullrush, narrow-leaf cattail, broadleaf cattail, pacific silverweed, salt rush, and bog rush. To qualify, a wetland must contain at least a 50% cover of some combination of these plants, unless it is a mudflat.”

(Section 7.14, San Mateo County Local Coastal Program, June 1998)

2.0 METHODS

Soils and vegetation were examined at locations within the Study Area that had the potential to meet the County wetland definition. Sample locations from 2001 were revisited and 2 additional areas were sampled. Prior to conducting field studies, available reference materials were reviewed. These included National Wetland Inventory maps (US Fish and Wildlife Service 1985, Montara Mountain quadrangle), and the San Mateo County Soil Survey, Western Part (US Soil Conservation Service 1961).

2.1 WETLAND VEGETATION

Plant species were assigned a wetland status according to the U.S. Fish and Wildlife Service *National List of Vascular Plant Species that Occur in Wetlands* (Reed 1996). This wetland plant classification system is based on the expected frequency of occurrence of plants in wetlands.

OBL	Obligate, always found in wetlands	> 99% frequency
FACW	Facultative wetland, usually found in wetlands	67-99%
FAC	Facultative, equal in wetland or non-wetlands	34-66%
FACU	Facultative upland, usually found in non-wetlands	1-33%
UPL/NL	Not found in local wetlands	<1%

The plant species listed in the SMCLCP wetland definition are presented in Table 1 along with their US Fish and Wildlife Service wetland indicator status (Reed 1996). This list is made up of mostly obligate species with two facultative wetland species. It includes most, but not all, dominant OBL and FACW species found in coastal wetlands in San Mateo County.

Sedges (e.g. *Carex obnupta*, OBL) and willows (e.g. *Salix lucida*, OBL and *Salix lasiolepis*, FACW) are notable omissions to this list. Strict adherence to the LCP list and definition could result in some wetland areas dominated by OBL and FACW species being determined as uplands. In order to avoid this, we considered any OBL or FACW species equivalent to the typical species listed in the LCP wetland definition presented below.

Table 1. Typical plants found in San Mateo County LCP wetlands. ¹

COMMON NAME	SCIENTIFIC NAME	STATUS
frankenian	<i>Frankenia salina</i>	FACW+
jaumea	<i>Jaumea carnosa</i>	OBL
bog rush	<i>Juncus effusus</i>	FACW+
salt rush	<i>Juncus lesueurii</i>	FACW
marsh mint	<i>Mentha pulegium</i>	OBL
pacific silverweed	<i>Potentilla anserina</i>	OBL
pickleweed	<i>Salicornia virginica</i>	OBL
tule	<i>Scirpus acutus</i>	OBL
bulrush	<i>Scirpus maritimus</i>	OBL
cordgrass	<i>Spartina foliosa</i>	OBL
narrow-leaf cattail	<i>Typha angustifolia</i>	OBL
broadleaf cattail	<i>Typha latifolia</i>	OBL

¹ To qualify, a wetland must contain at least a 50% cover of some combination of these plants, unless it is a mudflat.

² Indicator status taken from the 1996 National List of Vascular Plant Species that Occur in Wetlands

Vegetation was examined at sampling points to determine whether its composition met the requirement contained in Section 7.14 of the County LCP. Areal cover was determined for plant species in an area approximately 5 feet in radius. All identifiable species were recorded. Areas with at least 50% cover of any OBL and FACW species were determined to meet the LCP wetland definition.

2.2 HYDRIC SOILS

The Natural Resource Conservation Service defines a hydric soil as:

“A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.”

(Federal Register July 13, 1994, US Department of Agriculture, Natural Resource Conservation Service.)

Soils formed over long periods of time under wetland (anaerobic) conditions sometimes possess characteristics that indicate that they meet the definition of hydric soils.

According to the Technical Notes issued by the National Technical Committee for Hydric Soils (NTCHS), the definition of hydric soils must be met for a soil to be considered hydric:

“Several terms are frequently used to describe hydric soil delineation methodology. These are: Hydric Soil Definition, Hydric Soil Criteria, Hydric Soil Lists, Hydric Soil Indicators, and, lastly, hydric soils. According to the deliberations of the National Technical Committee for Hydric Soils (NTCHS), each of these terms has a specific meaning and use. All hydric soils must satisfy requirements of the Hydric Soil Definition. Hydric Soil Criteria are used to generate Hydric Soil Lists. Hydric Soil Lists contain a listing of soils that have a probability of being hydric. Hydric Soil Indicators are primarily morphological indicators used for field identification of hydric soils. Hydric Soil Criteria and Hydric Soil Lists are primarily used as offsite assessment tools. A hydric soil is a soil that meets the Hydric Soil Definition; presence of one (or more) of the Hydric Soil Indicators is evidence that the definition has been met.”

NTCHS Technical Note 1 (1998)

The relationship between soil saturation and the anaerobic conditions required to meet the hydric soil definition is inconsistent and dependent on many biological and environmental factors. Soils which meet the hydric criteria for saturation may not necessarily meet the anaerobic requirement of the hydric soil definition.

Because it is difficult to determine whether a soil is anaerobic through direct field observations of soil morphology, the NTCHS has issued a manual that provides guidance on the field indicators (redoximorphic features) that may be observed in various soil types for that soil to be considered hydric. The presence of one (or more) of the Hydric Soil Indicators as described in the Field Indicators of Hydric Soils in the United States (Version 4.0, March 1998) (Field Indicators) was used to determine the presence of a hydric soil. However, the absence of a Field Indicator can not be used to determine the absence of a hydric soil. In the field, when Field Indicators are lacking, other evidence of anaerobic conditions, including Hydric Criteria 3 or 4, may be used to determine whether a hydric soil that meets the Hydric Soil Definition is present.

In the field, a shovel was used to collect soil samples (approximately 18 inches deep). Soil profiles were described including horizon depths, color, redoximorphic features, texture, and structure and evaluated for redoximorphic features as described by the NTCHS (1998). Soil color was determined using a Munsell soil color chart (Gretag Macbeth, 2000).

3.0 STUDY AREA DESCRIPTION

The Study Area is in Princeton, San Mateo County, at approximately 25 feet elevation (NGVD).

The terrain is mostly flat or gently sloping toward the west. To the northwest of the Study Area is a trailer park, to the north and east is Airport Street and Half Moon Bay airport, to the south is undeveloped land, and to the southwest is undeveloped land and coastal bluffs.

3.12 SOILS

The Soil Survey, San Mateo Area (USDA 1961) maps two soil phases on the site:

- Denison clay loam, nearly level (DcA)
- Denison clay loam, nearly level, imperfectly drained (DdA)

The Denison clay loam, nearly level (DcA) occurs over most of the Property. The Denison clay loam, nearly level, imperfectly drained occurs primarily in the Pillar Point Marsh to the south. This unit occurs on the Property along the southern boundary corresponding to the riparian and seasonal freshwater marsh areas. The Field Office Official List of Hydric Soil Map Units of San Mateo Area, California (Local Hydric Soil List) (USDA, Soil Conservation Service 1992) indicates that none of the component soil phases of the two Denison mapping units are classified as hydric soils because they fail to meet the Criteria for Hydric Soils (NTCHS 1991).

The List also identifies any named or unnamed hydric soil inclusions which may occur in a soil mapping unit. Inclusions are soil components of minor extent which usually can only be located by on-site investigation. The Denison clay loam, nearly level, imperfectly drained soil type may contain depressions with unnamed soil inclusions that meet the Criteria for Hydric Soils providing a water table less than or equal to 1 foot from the surface also exists.

Surface horizon in the non-hydric Denison series is a low value and chroma, black (10YR 2/1) clay loam. On-site investigation of soil profile characteristics is necessary to determine if soils within a site have profile characteristics similar to those of the site's soil mapping unit components or listed hydric and non-hydric inclusions. On-site investigation of soil profile characteristics was conducted by WRA as part of this Delineation Study.

3.2 HYDROLOGY

The principal apparent hydrologic sources for the Study Area are direct precipitation and surface runoff from north and east of the Study Area. The importance of groundwater inputs is unknown, but may be insignificant given the clay loam soils.

The most recent U.S. Fish and Wildlife Service (USFWS) wetland inventory map for the Study Area was completed in 1985 (Montara Mountain Quadrangle 1985). Seasonal wetlands are mapped along the southern and western boundary of the Study Area. Two wetland types are mapped: palustrine scrub shrub, seasonally flooded, diked/impounded; and palustrine emergent, seasonally flooded. Wetland inventory maps prepared by USFWS are for habitat purposes and are not considered to be jurisdictional determinations because they are developed from large scale aerial photographs and are

not sufficiently accurate for delineation.

The USGS topographic map for this area (Montara Mountain quadrangle 1991) maps an area of marsh which corresponds to most of the NWI palustrine scrub shrub area.

4.0 RESULTS

Potential LCP wetland areas are mapped in Appendix A; sample point data sheets are included in Appendix B. Sample points taken in 2003 were located as closely as possible to sample points taken in 2000 and were given the same sample numbers for comparative purposes. Two additional sample points (P6 & P7) were taken in potential LCP wetland areas.

4.1 VEGETATION

The dominant plant community of the Property is annual grassland containing primarily non-native annual grasses and herbs with scattered shrubs, mainly coyote brush (*Baccharis pilularis*, NL). Dominant herbaceous plants included soft chess (*Bromus hordeaceus*, FACU-), wild oats (*Avena fatua*, NL), and vetch (*Vicia sativa*, NL). Most of the Property contains only this habitat type. Slopes above seasonal wetlands also contain poison-hemlock (*Conium maculatum*, FAC), wild radish (*Raphanus sativa*, NL), field horsetail (*Equisetum arvense*, FAC), coast tarweed (*Madia sativa*, NL), and six-weeks fescue (*Vulpia bromoides*, FACU*).

The map in Appendix A shows the wetland boundary on the Property and the adjacent Pillar Point Marsh. Potential San Mateo County LCP Jurisdictional Wetland areas were dominated by FACW and OBL plant species similar to the typical wetland plants listed in the San Mateo County LCP. Riparian vegetation found along the drainage south of the Property and in the southwest corner of the Property included Sitka willow (*Salix sitchensis*, FACW+), California blackberry (*Rubus ursinus*, FAC+), water parsley (*Oenanthe sarmentosa*, OBL) and giant horsetail (*Equisetum telmateia*, OBL). Seasonal freshwater wetland occurs within the south boundary includes, soft rush (*Juncus effusus*, FACW+), slough sedge (*Carex obnupta*, OBL), and Harford's carex (*Carex harfordii*, OBL). The Pillar Point Marsh to the south of the Property additionally includes California tule (*Scirpus californicus*, OBL) and water smartweed (*Polygonum amphibian*, OBL). The Pillar Point Marsh to the south of the Property additionally includes California tule (*Scirpus californicus*, OBL) and water smartweed (*Polygonum amphibian*, OBL).

The upper elevation portions of the seasonal freshwater wetland include spreading rush (*Juncus patens*, FAC), bristly ox-tongue (FAC), and California aster (*Aster chilensis*, FAC), (sample points P4 & P6).

In the 2001 delineation, an area in the northwestern portion of the Study Area was delineated as potential SMCLCP wetland because it was dominated by giant horsetail (OBL), hairy willow-herb (*Epilobium ciliatum*, FACW), California blackberry (FAC+), and poison hemlock (FAC). At the time, California blackberry and poison hemlock were classed as FACW wetland plant species by the 1988 National List; however, new information identifies these two species to be found equally in

wetlands and non-wetlands in California. Therefore, areas dominated by these two species would not meet the LCP wetland definition under the updated National List.

Of these four plant species, only poison hemlock (FAC) was observed to contribute greater than 20 percent cover in the area during the 2003 delineation study. Neither of the 2003 sample points taken in this area (P2 & P7) had greater than 50 percent cover by OBL or FACW plant species. Therefore, this area was not determined to meet LCP wetland vegetation criteria.

4.2 SOILS

Soil color in the upper 12-18 inches at all sample points (except those with a disturbed profile) was a low value, low chroma, black (10YR 2/1). However, this low chroma color is typical for the non-hydric Denison clay loam, nearly level which where it is the result of organic matter accumulation under grassland vegetation.

- Denison clay loam, nearly level, imperfectly drained (DdA)

Neither redoximorphic features nor mottles were observed within 12 inches of the surface (except at sample point P4 which had oxidized rhizospheres at 10 inches). This morphology does not meet any of the Field Indicators. Redoximorphic features, which are indicative of wetland soil conditions, may have been masked by the high organic matter content of the black soil, or may not have been present. Therefore, soil morphology could not be used to determine the presence of hydric soils. Instead, data from the Local Hydric Soil List and associated topography were used to determine the presence of hydric soils.

The Study Area is mapped as the non-hydric Denison series which has a low value, low chroma, black (10YR 2/1) surface horizon without redoximorphic features. This dark soil was formed under grassland vegetation (USDA 1961). The Denison series is not listed as a hydric soil on the Local Hydric Soil List. However, the Denison clay loam, nearly level, imperfectly drained mapping unit may contain depressions with unnamed hydric soil inclusions that meet the Criteria for Hydric Soils with a water table less than or equal to 1 foot from the surface. Riparian terraces (which are considered edges of linear depressions, i.e., the channel) and swale-like topographic features occurred within the Study Area. If these depressions also supported OBL and/or FACW plant species, they were assumed to be the hydric inclusions described in the Local Hydric Soil List that have saturated and anaerobic conditions, and therefore, were determined to meet hydric criteria. Areas outside of depressions were assumed to be the non-hydric Denison series.

4.3 HYDROLOGY

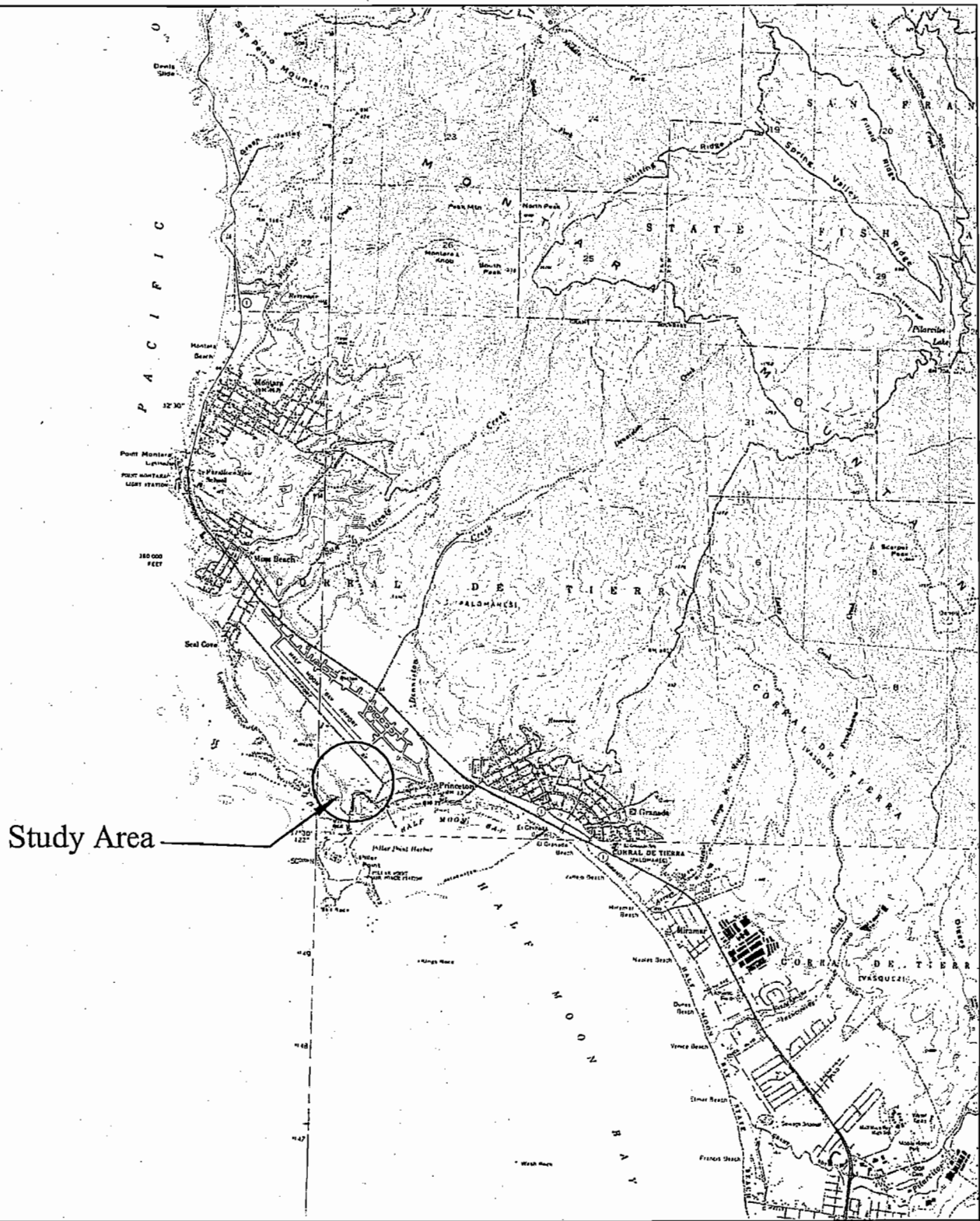
No primary indicators of wetland hydrology were observed in the Study Area within 12 inches of the surface, even in areas dominated solely by OBL species. At two sample locations (P4 & P6) the water table was observed just below 12 inches. Due to the lack of primary indicators, the FAC-neutral test, Local Soil Survey Data, and topography were used as secondary indicators of wetland hydrology. Low areas and depressions were considered to have wetland hydrology. These depressions corresponded to areas which had wetland vegetation dominated by OBL and/or FACW plant species that also passed the FAC-neutral test.

5.0 CONCLUSION

Wetland vegetation was the primary indicator used to determine the presence of San Mateo County LCP wetlands in the Big Wave Development Study Area. Vegetation meeting the LCP definition was found in and adjacent to the riparian zone along the southern Property boundary. The majority of the delineated wetland area was outside the Property boundary; however, a total of 0.44 acre (19,236 square feet) of San Mateo County LCP wetland was located within the Property. None of this wetland occurred within the Project Area, or within 100 feet of the Project Area.

6.0 REFERENCES

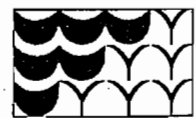
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5280' 2640' 0 1 Mile 2 miles
SCALE 1" = 1 Mile (5280')



Figure 1.
Big Wave Development Site Study Area



Wetlands Research Associates, Inc.

Appendix A

San Mateo County LCP Wetlands on the Big Wave Development Study Area

Appendix B

Delineation Data Sheets

Project Site: Big Wave Development Site
 County: San Mateo
 Applicant/Owner: Jeff Peck

WRA Investigator(s): Phil Greer, Tom Mahony
 Habitat: upland, near NW property corner
 Plot ID: Sample Point 1

Date: 10-Nov-00

VEGETATION

Dominant Plant Species	% Cover	Indicator Status (1996 List)	Sub-dominant Plant Species	% Cover	Indicator Status (1996 List)
<i>Lolium multiflorum</i>	40	FAC	<i>Conium maculatum</i>	5	FAC
<i>Picris echioides</i>	20	FAC	<i>Rumex crispus</i>	5	FACW-
<i>Bromus hordeaceus</i>	20	FACU-	<i>Phalaris aquatica</i>	<5	FAC
			<i>Aster chilensis</i>	<5	FAC
			<i>Cirsium vulgare</i>	<5	FAC
			<i>Brassica nigra</i>	<5	NL
			<i>Avena barbata</i>	<5	NL

Percent cover by FACW and/or OBL wetland plant species: 0%

Sample plot dominated by wetland plant vegetation (> 50%)? NO

Comments:

The sample point was not dominated by wetland plant species. This sample point was in an upland area near the NW property corner.

Plot ID: Sample Point 1

Date: 10-Nov-00

SOILS

Map Unit name: Denison clay loam, nearly level, imperfectly drained

Drainage Class: Imperfectly drained

Mapped type confirmed? YES

Profile Description

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color(s) (Munsell Moist)	Mottle Abundance/Contrast	Texture
0 - 18	A	10 YR 2/1	NONE		clay loam

Comments:

This soil is not a hydric soil. Neither redoximorphic features nor mottles were observed. The Denison clay loam soil is not classed as a hydric soil unless it is found in imperfectly drained depressions where the underlying water table is within one foot of the surface. The low chroma color, itself, is a result of organic matter accumulation under grassland vegetation and is not indicative of a hydric condition. Because the sample point was not located in a depression, it was assumed to be non-hydric.

HYDROLOGY

Depth of ponded surface water NONE inches

Depth to saturated soil NONE inches

Comments:

No indicators of hydrology were observed to 18 inches. Topography is linear and sloped to the south with no depressional features. Vegetation did not pass the FAC-Neutral test.

WETLAND DETERMINATION

This sample point was not located in an LCP wetland. It was located in an upland area in non-native grassland. It was not dominated by wetland plant species and did not have indicators of hydrology or hydric soils in the top 12 inches of the soil profile.

Project Site: Big Wave Development Site
 County: San Mateo
 Applicant/Owner: Jeff Peck

WRA Investigator(s): Phil Greer, Crystal Levine
 Habitat: drainage swale, near trailer park
 Plot ID: Sample Point 2

Date: 23-Jan-03

VEGETATION

Dominant Plant Species	% Cover	Indicator Status (1996 List)	Sub-dominant Plant Species	% Cover	Indicator Status (1996 List)
<i>Conium maculatum</i>	70	FAC	<i>Picris echioides</i>	10	FAC
			<i>Rubus ursinus</i>	10	FAC+
			<i>Geranium molle</i>	<2	NL
			<i>Bromus hordeaceus</i>	<2	FACU-
			<i>Senecio mikanioides</i>	<2	NL

Percent cover by FACW and/or OBL wetland plant species: 0%

Sample plot dominated by wetland plant vegetation (> 50%)? NO

Comments:

The sample point was dominated by a single facultative plant species. The area was densely vegetated by dead aerial stems of *Conium maculatum* and *Picris echioides*; live growth was present although sparse. *Senecio mikanioides* was completely over-growing the property boundary slope adjacent to the trailer park fence, but was only a minor presence within the sample point. This sample point was located at the southwest corner of the property in a slight swale topographic feature which drains toward the creek.

Plot ID: Sample Point 2

Date: 23-Jan-03

SOILS

Map Unit name: Denison clay loam, nearly level, imperfectly drained

Drainage Class: Imperfectly drained

Mapped type confirmed? YES

Profile Description

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color(s) (Munsell Moist)	Mottle Abundance/Contrast	Texture
0 - 11	A	10 YR 2/1	NONE		clay loam
11 - 12	A	10 YR 2/1	10 YR 4/6	10% / distinct	clay loam
>13		10 YR 2/1	10 YR 3/1	30% / distinct	clay loam
		"	10 YR 4/6	20% / distinct	clay loam

Comments:

This soil is not a hydric soil. The Denison clay loam soil is not classed as a hydric soil unless it is found in imperfectly drained depressions where the underlying water table is within one foot of the surface. The low chroma color, itself, is a result of organic matter accumulation under grassland vegetation and is not indicative of a hydric condition. Because the sample point was not located in a depression, it is assumed to be non-hydric. Mottles were observed at about 11 inches in depth; oxidized rhizospheres were observed at about 12 inches in depth, but not in surface soils. The sample point was located in a slight swale, but the feature apparently does not become saturated for a long enough duration to develop surface hydric soil characteristics.

HYDROLOGY

Depth of ponded surface water NONE inches

Depth to saturated soil NONE inches

Comments:

No indicators of hydrology were observed. Soil was slightly moist at the surface. Saturation was not reached at 18 inches in depth. Vegetation did not pass the FAC-Neutral test.

WETLAND DETERMINATION

This sample point was not located within an LCP wetland. It was located in a slight drainage swale which was not dominated by wetland plant species. It did not have indicators of hydrology in the top 12 inches of the soil profile. No indicators of hydrology were observed to 18 inches.

Project Site: Big Wave Development Site
 County: San Mateo
 Applicant/Owner: Jeff Peck

WRA Investigator(s): Phil Greer, Tom Mahony
 Habitat: upland, near P2
 Plot ID: Sample Point 3

Date: 10-Nov-00

VEGETATION

Dominant Plant Species	% Cover	Indicator Status (1996 List)	Sub-dominant Plant Species	% Cover	Indicator Status (1996 List)
<i>Lolium multiflorum</i>	40	FAC	<i>Baccharis pilularis</i>	10	NL
<i>Picris echioides</i>	20	FAC	<i>Rubus ursinus</i>	10	FAC+
<i>Bromus hordeaceus</i>	20	FACU-			

Percent cover by FACW and/or OBL wetland plant species: 0%

Sample plot dominated by wetland plant vegetation (> 50%)? NO

Comments:

The sample point was not dominated by wetland plant species. This sample point was in an upland area near sample point P2.

Plot ID: Sample Point 3

Date: 10-Nov-00

SOILS

Map Unit name: Denison clay loam, nearly level, imperfectly drained

Drainage Class: Imperfectly drained

Mapped type confirmed? YES

Profile Description

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color(s) (Munsell Moist)	Mottle Abundance/Contrast	Texture
0 - 18	A	10 YR 2/1	NONE		clay loam

Comments:

This soil is not a hydric soil. Neither redoximorphic features nor mottles were observed. The Denison clay loam soil is not classed as a hydric soil unless it is found in imperfectly drained depressions where the underlying water table is within one foot of the surface. The low chroma color, itself, is a result of organic matter accumulation under grassland vegetation and is not indicative of a hydric condition. Because the sample point was not located in a depression, it was assumed to be non-hydric.

HYDROLOGY

Depth of ponded surface water NONE inches

Depth to saturated soil NONE inches

Comments:

No indicators of hydrology were observed to 18 inches. Topography is linear and sloped to the south with no depressional features. Vegetation did not pass the FAC-Neutral test.

WETLAND DETERMINATION

This sample point was not located in an LCP wetland. It was located in an upland area east of sample point P2. It was not dominated by wetland plant species and did not have indicators of hydrology or hydric soils in the top 12 inches of the soil profile.

Project Site: Big Wave Development Site
 County: San Mateo
 Applicant/Owner: Jeff Peck

WRA Investigator(s): Phil Greer, Crystal Levine
 Habitat: riparian transition, near drainage
 Plot ID: Sample Point 4

Date: 23-Jan-03

VEGETATION

Dominant Plant Species	% Cover	Indicator Status (1996 List)	Sub-dominant Plant Species	% Cover	Indicator Status (1996 List)
<i>Aster chilensis</i>	70	FAC	<i>Juncus patens</i>	12	FAC
			<i>Carex obnupta</i>	12	OBL
			<i>Juncus effusus</i>	6	FACW+
			<i>Rubus ursinus</i>	<1	FAC+
			<i>Cirsium arvense</i>	<1	FAC-
			<i>Conium maculatum</i>	<1	FAC
			<i>Galium</i> sp.	<1	
			unidentifiable grass seedlings	<1	

Percent cover by FACW and/or OBL wetland plant species: 18%

Sample plot dominated by wetland plant vegetation (> 50%)? NO

Comments:

The sample point was not dominated by wetland plant species, although the presence of several healthy patches of wetland species indicates they can exist in this area. The sample point may have additional, or entirely different, dominant plant species at other times of year. This sample point was associated with the drainage, located at the upper extent of the riparian terrace/depression edge.

SOILS

Map Unit name: Denison clay loam, nearly level, imperfectly drained

Drainage Class: Imperfectly drained

Mapped type confirmed? YES

Profile Description

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color(s) (Munsell Moist)	Mottle Abundance/Contrast	Texture
0 - 3		10 YR 3/2	NONE		mixture
3 - 5		10 YR 3/2	10 YR 5/6	10% / prominent	mixture
3 - 5		"	5/N	20% / distinct	mixture
5 - 13	A	10 YR 2/1	NONE		clay loam

Comments:

This soil exhibited weak hydric indicators. The surface 5 inches of soil appeared to be a mixture of native Denison soil and other soils possibly deposited onto the site during channel excavation and maintenance. The soil to 5 inches was multicolored; the matrix was very dark grayish brown (10 YR 3/2), but contained yellowish-brown (10 YR 5/6), gray (5/N) and red inclusions, and rock fragments. These features did not appear to be a result of anaerobic soil conditions. Mottles were not observed in the lower Denison soils, possibly because they were masked by the black soil chroma (10 YR 2/1). Redoximorphic features (oxidized rhizospheres) were present at about 10 inches. The Denison clay loam soil is not classed as a hydric soil unless it is found in imperfectly drained depressions where the underlying water table is within one foot of the surface. The low chroma color, itself, is a result of organic matter accumulation under grassland vegetation and is not indicative of a hydric condition. Because the sample point was located in a riparian terrace/depression edge, it was assumed to be hydric.

HYDROLOGY

Depth of ponded surface water NONE inches

Depth to saturated soil 13 inches

Comments:

No primary indicators of hydrology were present in the top 12 inches. Soil was moist throughout the profile. Saturation was reached at 13 inches; this was also the depth that free water was observed flowing laterally through the profile. The sample was located at the upper extent of a riparian terrace/depression edge with a water table at 13 inches. The vegetation passed the FAC-Neutral test.

WETLAND DETERMINATION

This sample point was located within an LCP wetland. It was located at the upper extent of the adjacent riparian terrace/depression edge. It was not dominated by wetland plant species at the time of the site visit (January), but did have oxidized rhizospheres within the top 12 inches of the soil profile. The Denison clay loam, nearly level, imperfectly drained series is considered to be hydric when located in depressions with a water table within 1 foot of the surface. This point was taken at the upper extent of the wetland where lateral flow was observed at 13 inches; the vegetation passed the FAC-neutral test.

Project Site: Big Wave Development Site
 County: San Mateo
 Applicant/Owner: Jeff Peck

WRA Investigator(s): Phil Greer, Crystal Levine
 Habitat: upland, near drainage
 Plot ID: Sample Point 5

Date: 23-Jan-03

VEGETATION

Dominant Plant Species	% Cover	Indicator Status (1996 List)	Sub-dominant Plant Species	% Cover	Indicator Status (1996 List)
<i>Aster chilensis</i>	36	FAC	<i>Rubus ursinus</i>	11	FAC+
<i>Juncus patens</i>	33	FAC	<i>Baccharis pilularis</i>	7	NL
			<i>Holcus lanatus</i>	4	FAC
			<i>Geranium molle</i>	2	NL
			<i>Vulpia bromoides</i>	2	FACU
			<i>Picris echioides</i>	1	FAC
			<i>Achillea millefolium</i>	<1	FACU
			<i>Cirsium arvense</i>	<1	FAC-
			<i>Sanicula bipinnatifida</i>	<1	NL
			<i>Vicia</i> sp.	<1	
			unidentifiable grass seedlings	<1	

Percent cover by FACW and/or OBL wetland plant species: 0%

Sample plot dominated by wetland plant vegetation (> 50%)? NO

Comments:

The sample point was not dominated by wetland plant species. Vegetation was dominated by two FAC species. This sample point was in an upland area upslope of sample point P4.

Plot ID: Sample Point 5

Date: 23-Jan-03

SOILS

Map Unit name: Denison clay loam, nearly level, imperfectly drained

Drainage Class: Imperfectly drained

Mapped type confirmed? YES

Profile Description

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color(s) (Munsell Moist)	Mottle Abundance/Contrast	Texture
0 - 9		10 YR 3/1	10 YR 5/6	10% / prominent	mixture
0 - 9		"	5/N	20% / distinct	mixture
9 - 18	A	10 YR 2/1 to 2/0	NONE		clay loam

Comments:

This soil is not a hydric soil. The surface 9 inches of soil appeared to be a mixture of native Denison soil and other soils possibly deposited onto the site during channel excavation and maintenance. The soil to 9 inches was multicolored; the matrix was very dark gray (10 YR 3/1), but contained yellowish-brown (10 YR 5/6), gray (5/N) and red inclusions, and rock fragments. These features did not appear to be a result of anaerobic soil conditions. Neither redoximorphic features nor mottles were observed in the underlying Denison soil. The Denison clay loam soil is not classed as a hydric soil unless it is found in imperfectly drained depressions where the underlying water table is within one foot of the surface. The low chroma color, itself, is a result of organic matter accumulation under grassland vegetation and is not indicative of a hydric condition. Because the sample point was not located in a depression, it was assumed to be non-hydric.

HYDROLOGY

Depth of ponded surface water NONE inches

Depth to saturated soil NONE inches

Comments:

No indicators of hydrology present. Soil was slightly moist throughout the profile. Saturation was not reached at 18 inches in depth. The vegetation did not pass the FAC-Neutral test.

WETLAND DETERMINATION

This sample point was not located in an LCP wetland. It was located in an upland area upslope of sample point P4 in non-native grassland just downslope of coyote brush scrub habitat. It was not dominated by wetland plant species and did not have indicators of hydrology or hydric soils in the top 12 inches of the soil profile.

Project Site: Big Wave Development Site
 County: San Mateo
 Applicant/Owner: Jeff Peck

WRA Investigator(s): Phil Greer, Crystal Levine
 Habitat: riparian transition, near drainage
 Plot ID: Sample Point 6

Date: 23-Jan-03

VEGETATION

Dominant Plant Species	% Cover	Indicator Status (1996 List)	Sub-dominant Plant Species	% Cover	Indicator Status (1996 List)
<i>Carex obnupta</i>	25	OBL			
<i>Oenanthе sарmentosa</i>	25	OBL			
<i>Potentilla anserina</i>	25	OBL			
<i>Juncus effusus</i>	25	FACW+			

Percent cover by FACW and/or OBL wetland plant species: 100%

Sample plot dominated by wetland plant vegetation (> 50%)? YES

Comments:

The sample point was dominated approximately equally by four wetland plant species. The area was densely vegetated. This sample point was located in a flat riparian terrace/depression edge.

Plot ID: Sample Point 6

Date: 23-Jan-03

SOILS

Map Unit name: Denison clay loam, nearly level, imperfectly drained

Drainage Class: Imperfectly drained

Mapped type confirmed? YES

Profile Description

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color(s) (Munsell Moist)	Mottle Abundance/Contrast	Texture
0 - 14	A	10 YR 2/1	NONE		clay loam

Comments:

No hydric soil characteristics (other than low chroma) were observed, but they may have been masked by the low chroma color. The Denison clay loam soil is not classed as a hydric soil unless it is found in imperfectly drained depressions where the underlying water table is within one foot of the surface. The low chroma color, itself, is a result of organic matter accumulation under grassland vegetation and is not indicative of a hydric condition. Because the sample point was located in a riparian terrace/ depression edge, it was assumed to be hydric.

HYDROLOGY

Depth of ponded surface water NONE inches

Depth to saturated soil 14 inches

Comments:

No primary indicators of hydrology were present within the top 12 inches of soil. Soil was slightly moist at the surface. Water was observed to be flowing laterally through a single layer of the profile between 14-15 inches in depth. Soil was dry below this layer of saturation. The vegetation passes the FAC-Neutral test.

WETLAND DETERMINATION

This sample point was located in an LCP wetland. It was located in a riparian terrace/depression edge. It was dominated by OBL wetland plant species. The Denison clay loam, nearly level, imperfectly drained series is considered hydric when located in depressions with a water table within 1 foot of the surface. Lateral flow was observed just below 1 foot at 14 inches. The vegetation passed the FAC-neutral test.

Project Site: Big Wave Development Site
 County: San Mateo
 Applicant/Owner: Jeff Peck

WRA Investigator(s): Phil Greer, Crystal Levine
 Habitat: man-made ditch, near trailer park
 Plot ID: Sample Point 7

Date: 23-Jan-03

VEGETATION

Dominant Plant Species	% Cover	Indicator Status (1996 List)	Sub-dominant Plant Species	% Cover	Indicator Status (1996 List)
<i>Vulpia bromoides</i>	60	FACU	<i>Conium maculatum</i>	15	FAC
			<i>Picris echioides</i>	10	FAC
			<i>Rubus ursinus</i>	5	FAC+
			<i>Epilobium ciliatum</i>	5	FACW
			<i>Cirsium arvense</i>	2.5	FAC-
			<i>Equisetum telmateia</i>	2.5	OBL

Percent cover by FACW and/or OBL wetland plant species: 7.5%

Sample plot dominated by wetland plant vegetation (> 50%)? NO

Comments:

The sample point was dominated by facultative and facultative upland plant species. Several individuals of *Equisetum telmateia* were observed. This sample point was located north of sample point 4, at the upper extent of the drainage swale within a small man-made ditch.

Plot ID: Sample Point 7

Date: 23-Jan-03

SOILS

Map Unit name: Denison clay loam, nearly level, imperfectly drained

Drainage Class: Imperfectly drained

Mapped type confirmed? YES

Profile Description

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color(s) (Munsell Moist)	Mottle Abundance/Contrast	Texture
0 - 12	A	10 YR 2/1	NONE		clay loam

Comments:

This soil is not a hydric soil. The Denison clay loam soil is not classed as a hydric soil unless it is found in imperfectly drained depressions where the underlying water table is within one foot of the surface. The low chroma color, itself, is a result of organic matter accumulation under grassland vegetation and is not indicative of a hydric condition. Because the sample point was not located in a natural depression, it is assumed to be non-hydric. Redoximorphic features were not observed to a depth of 12 inches. The sample point was located in a man-made ditch, but the feature apparently does not become saturated for a long enough duration to develop hydric soil characteristics.

HYDROLOGY

Depth of ponded surface water NONE inches

Depth to saturated soil NONE inches

Comments:

No indicators of hydrology were present within the top 18 inches of soil. Soil was slightly moist at the surface.

WETLAND DETERMINATION

This sample point was not located in an LCP wetland. It was located in a man-made ditch which was not dominated by wetland plant species and did not have indicators of hydrology or hydric soils in the top 12 inches of the soil profile.

Appendix B. Special status plant species that have been recorded in San Mateo County in the vicinity of the Big Wave LLC Property and within habitat types similar to those present within the Property. List compiled from a review of records from the Montara Mountain, Half Moon Bay and San Francisco South USGS quadrangles in the CDFG Natural Diversity Data Base (2000 and 2003) and the CNPS electronic inventory (2000 and 2003).

Species	Status	Typical Habitat (<i>Blooming Period</i>)	Potential for Occurrence within the Study Area
PLANTS			
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	1B	Coastal bluff scrub, cismontane woodland, and valley and foothill grassland. Found at elevations of 3-500m. (<i>March-June</i>)	Not present. Species not observed during March and May surveys.
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i> coastal marsh milk-vetch	1B	Coastal dunes (mesic) and marshes and swamps (coastal salt, streambanks). Found at elevations of 0-30m. (<i>April-October</i>)	Not present. Species not observed during May survey.
<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i> San Francisco Bay spineflower	FSC, 1B	Coastal bluff scrub, coastal dunes, coastal prairie, and coastal scrub. Found on terraces and slopes in sandy soil at elevations of 3-550m. (<i>April-August</i>)	Not present. Species not observed during May survey.
<i>Chorizanthe robusta</i> var. <i>robusta</i> robust spineflower	FE, 1B	Cismontane woodland (openings), coastal dunes, and coastal scrub. Found on terraces and slopes in sandy or gravelly soil at elevations of 3-300m. (<i>April-September</i>)	Not present. Species not observed during May survey.
<i>Cirsium andrewsii</i> Franciscan thistle	1B	Mesic areas in broadleaved upland forest, coastal bluff scrub, coastal prairie, coastal scrub. Sometimes on serpentine at elevations of 0-135m. (<i>March-July</i>)	Not present. Species not observed during March and May surveys.
<i>Cirsium occidentale</i> var. <i>compactum</i> compact cobwebby thistle	FSC, 1B	Chaparral, coastal dunes, coastal prairie, coastal scrub at elevations of 0-150m. (<i>April-June</i>)	Not present. Species not observed during May survey.
<i>Equisetum palustre</i> marsh horsetail	3	Found in marshes and swamps at elevations of 45-1,000m. (unknown)	Not present. Species not observed during March and May surveys.

Species	Status	Typical Habitat (<i>Blooming Period</i>)	Potential for Occurrence within the Study Area
<i>Fritillaria liliacea</i> fragrant fritillary	FSC, 1B	Coastal scrub, valley and foothill grassland, and coastal prairie. Usually found on clay soils (often serpentinite) at elevations of 3-410m. (<i>February-April</i>)	Not present. Species not observed during March survey.
<i>Helianthella castanea</i> Diablo helianthella	FSC, 1B	Broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland from 25-1,300m. (<i>April-June</i>)	Not present. Species not observed during May survey.
<i>Horkelia cuneata</i> ssp. <i>sericea</i> Kellogg's horkelia	FCS, 1B	Closed-cone coniferous forest, maritime chaparral, coastal dunes, coastal prairie, and coastal scrub. Found on sandy soils at elevations of 5-350m. (<i>April-September</i>)	Not present. Species not observed during May survey.
<i>Horkelia marinensis</i> Point Reyes horkelia	FSC, 1B	Coastal dunes, coastal prairie, and coastal scrub. Found on sandy soils at elevations of 5-350m. (<i>May-September</i>)	Not present. Species not observed during May survey.
<i>Linanthus croceus</i> coast yellow linanthus	1B	Coastal bluff scrub and coastal prairie at elevations of 10-150m. (<i>May</i>)	Not present. Species not observed during May survey.
<i>Microseris paludosa</i> marsh microseris	1B	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland from 5-300m. (<i>April-June</i>)	Not present. Species not observed during May survey.
<i>Plagiobothrys chorisianus</i> var. <i>choristianus</i> Choris' popcornflower	1B	Chaparral, coastal prairie, and coastal scrub. Found in mesic areas at elevations of 15-100m. (<i>March-June</i>)	Not present. Species not observed during March and May surveys.
<i>Potentilla hickmanii</i> Hickman's cinquefoil	FE, SE, 1B	Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps, and marshes and swamps. Found in freshwater marshes, seeps, and small streams in forested areas along the coast at elevations of 10-135m. (<i>April-August</i>)	Not present. Species not observed during May survey.

Species	Status	Typical Habitat (<i>Blooming Period</i>)	Potential for Occurrence within the Study Area
<i>Sanicula maritima</i> adobe sanicle	FSC, 1B	Meadows and seeps, valley and foothill grassland, chaparral, coastal prairie on moist clay or ultramafic soils from 30-240m. (<i>February-May</i>)	Not present. Species not observed during March and May surveys.
<i>Triphysaria floribunda</i> San Francisco owl's clover	FSC, 1B	Coastal prairie, coastal scrub, and valley and foothill grassland. Usually found on serpentinite at elevations of 10-160m. (<i>April-June</i>)	Not present. Species not observed during May survey.

Key to Status:

- FE Federal Endangered
- FSC Federal Species of Concern
- SE State Endangered
- 1B CNPS list of plants rare, threatened, or endangered in California and elsewhere
- 3 CNPS plants about which we need more information - a review list

Appendix C. Plant species observed within the Big Wave LLC Property 2002-2003.

Scientific Name	Common Name	Observed on Project Site (X)
<i>Achillea millefolium</i>	yarrow	
<i>Anagallis arvensis</i>	scarlet pimpernil	
<i>Aster chilensis</i>	aster	
<i>Avena fatua</i>	wild oat	
<i>Baccharis pilularis</i>	coyote brush	X
<i>Brassica nigra</i>	black mustard	
<i>Bromus diandrus</i>	ripgut brome	
<i>Bromus hordeaceus</i>	soft chess	
<i>Calystegia sp.</i>	morning glory	
<i>Carduus pycnocephalus</i>	Italian thistle	
<i>Cardamine californica</i>	milk maids	
<i>Carex harfordii</i>	sedge	
<i>Carex obnupta</i>	sedge	
<i>Centaurium muehlenbergii</i>	Monterey centaury	
<i>Cirsium vulgare</i>	bull thistle	X
<i>Conium maculatum</i>	poison hemlock	
<i>Convolvulus arvensis</i>	field bindweed	X
<i>Cortaderia sp.</i>	Pampas grass	
<i>Cyperus eragrostis</i>	umbrella sedge	
<i>Eleocharis macrostachya</i>	spikerush	
<i>Epilobium brachycarpum</i>	willow herb	
<i>Epilobium ciliatum</i>	willow herb	X
<i>Epilobium densiflorum</i>	willow herb	
<i>Erigeron philadelphicus</i>	Philadelphia fleabane	
<i>Equisetum arvense</i>	common horsetail	X
<i>Equisetum telmateia ssp. braunii</i>	giant horsetail	
<i>Foeniculum vulgare</i>	fennel	X
<i>Galium aparine</i>	bedstraw	
<i>Geranium dissectum</i>	geranium	X
<i>Holcus lanatus</i>	purple velvet grass	X
<i>Hordeum marinum ssp. gussoneanum</i>	Mediterranean barley	
<i>Hypochaeris radicata</i>	hairy cat's ear	
<i>Juncus bufonius</i>	toad rush	
<i>Juncus effusus</i>	rush	
<i>Juncus patens</i>	rush	X
<i>Juncus xiphioides</i>	iris-leaved rush	
<i>Lolium multiflorum</i>	Italian rye grass	X
<i>Lonicera involucrata</i>	twinberry	
<i>Lupinus sp.</i>	bush lupine	
<i>Lythrum hyssopifolia</i>	hyssop, loosestrife	

Scientific Name	Common Name	Observed on Project Site (X)
<i>Medicago polymorpha</i>	bur clover	
<i>Mentha pulegium</i>	pennyroyal	
<i>Nasturtium majus</i>	garden nasturtium	
<i>Oenanthe sarmentosa</i>	oenanthe	
<i>Oxalis pes-caprae</i>	bermuda buttercup	
<i>Phalaris aquatica</i>	harding grass	X
<i>Picris echioides</i>	bristly ox-tongue	X
<i>Plantago lanceolata</i>	English plantain	
<i>Plantago coronopus</i>	cutleaf plantain	
<i>Polygonum punctatum</i>	dotted smartweed	
<i>Polypogon monspeliensis</i>	rabbit's-foot grass	
<i>Potentilla anserina ssp. pacifica</i>	cinquefoil	
<i>Potentilla glandulosa ssp. glandulosa</i>	cinquefoil	
<i>Raphanus sativus</i>	wild radish	X
<i>Rubus ursinus</i>	California blackberry	
<i>Rumex acetosella</i>	sheep sorrel	
<i>Rumex crispus</i>	curly dock	X
<i>Salix sitchensis</i>	Sitka willow	
<i>Sanicula crassicaulis</i>	pacific sanicle	
<i>Scrophularia californica</i>	California bee plant	
<i>Senecio mikanioides</i>	cape ivy	
<i>Sonchus oleraceus</i>	common sow thistle	X
<i>Typha angustifolia</i>	narrow -leaved cattail	
<i>Vicia sativa</i>	comon vetch	X
<i>Vicia tetrasperma</i>	vetch	X
<i>Vinca major</i>	greater periwinkle	
<i>Vulpia bromoides</i>	vulpia	
<i>Vulpia myuros</i>	rattail fescue	

Appendix D. Special status animal species that have been recorded in San Mateo County in the vicinity of the Big Wave LLC Property. List compiled from a review of records from the Half Moon Bay and Montara Mountain USGS quadrangles in the CDFG Natural Diversity Data Base (2002), and other CDFG lists and publications (Jennings and Hayes 1994; Zeiner et al. 1990).

Species	Status	Typical Habitat	Potential for Occurrence in the Study Area
INVERTEBRATES			
Bumblebee scarab beetle <i>Lichnanthe ursina</i>	FSC	Inhabits coastal sand dunes from Sonoma county south to San Mateo County	Low potential. No suitable habitat on site, however suitable habitat is present on dunes adjacent to site.
San Bruno elfin butterfly <i>Incisalia mossii bayensis</i>	FE	Found in coastal, mountainous area with grassy ground cover, mainly in the vicinity of San Bruno Mountain, San Mateo County. Larval host plant is <i>Sedum spathulifolium</i> .	Not Present. No suitable habitat on site.
Mission blue butterfly <i>Icaricia icarioides missionensis</i>	FE	Inhabits grasslands of the San Francisco Peninsula. Three larval hostplants: <i>Lupinus albus</i> , <i>L. varicolor</i> , and <i>L. formosus</i> .	Low potential. Presence depends on occurrence of host plant. Species is extremely rare.
Monarch butterfly <i>Danaus plexippus</i>	none	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind protected tree groves, with nectar and water sources nearby.	Present. One individual observed on site during November 20, 2001 assessment. Suitable winter roost sites exist in tall pines adjacent to property site and butterflies may utilize the study area for water and nectar resources.
FISH			
Steelhead-Central California Coast ESU <i>Oncorhynchus mykiss</i>	FT	Adults spawn in cool streams with a substrate of clean gravel and cobbles. Juveniles remain in the stream for one or more years before migrating to the sea.	Not present. No suitable aquatic habitat on site.

Species	Status	Typical Habitat	Potential for Occurrence in the Study Area
AMPHIBIANS AND REPTILES			
California red-legged frog <i>Rana aurora draytonii</i>	FT, CSC	Ponds, pools, or in slow-moving perennial to ephemeral streams, where water remains long enough for breeding and development of young. Emergent or shoreline riparian vegetation closely associated with deep, still, or slow-moving water is the preferred but not essential habitat.	Moderate potential. CRLF have been observed in pools located in wetland area near West Point Road adjacent to the Study Area. The Study Area may serve as suitable upland foraging habitat due to the presence of the nearby riparian corridor. Emergent wetland habitat and willow riparian area adjacent to site may support breeding CRLF in wet weather years.
Western pond turtle <i>Clemmys marmorata</i>	CSC, FSC	Ponds with woody debris, overhanging vegetation and rocky outcrops is optimal for basking and thermoregulation.	Low potential. No suitable perennial aquatic habitat on site, but species may occur in perennial pools in wetlands on adjacent property across West Point Road. This road likely acts a barrier to upland habitat west of or within the Study Area.
San Francisco garter snake <i>Thamnophis sirtalis tetrataenia</i>	FE, SE	Ponds, lakes, reservoirs, streams, and drainage ditches, that are bordered at least partially by dense emergent or riparian vegetation, and nearby grasslands and brush.	Low potential. It is unlikely that suitable perennial aquatic habitat is present adjacent to Study Area, thus upland habitat on the Study Area is unlikely to support the snake. It is possible that this species once occurred in the vicinity of the Study Area (Barry 1994). Further investigation of the seasonal nature of aquatic habitat west and south of the site may be warranted.

Species	Status	Typical Habitat	Potential for Occurrence in the Study Area
BIRDS			
Cooper's hawk <i>Accipiter cooperi</i>	CSC	Uses many habitats in winter and during migration; nests in deciduous and coniferous woodlands. Usually not found without dense tree stands, or patchy woodland habitat.	Moderate Potential. Suitable foraging habitat is present on site, but suitable breeding habitat is limited.
Sharp-shinned hawk <i>Accipiter striatus</i>	CSC	Uses many habitats in winter and during migration; breeds in oak, conifer, and riparian forests.	Moderate Potential. Suitable foraging habitat is present on site, but suitable breeding habitat is limited.
White-tailed kite <i>Elanus leucurus</i>	CFP, CSC, FSC	Forages in open to herbaceous stages of many habitats. Nests in shrubs and trees adjacent to grasslands.	Present. A kite was observed foraging and perching in the Study Area. Suitable breeding habitat available in willow stands and mature coyote bush.
Northern harrier <i>Circus cyaneus</i>	CSC	Forages in open to herbaceous stages of many habitats. Nests on ground in shrubby vegetation, usually near wetlands.	Present. Suitable breeding and foraging habitat is present on site. A female harrier was observed perching and foraging over the Study Area.
Golden eagle <i>Aquila chrysaetos</i>	CSC, CFP	Uses many habitats for foraging; breeds in cliffs or in remote large trees and structures.	Low potential. Suitable foraging habitat is present, no suitable nesting habitat on site, however adjacent to site large trees suitable for nesting are present.
Long-eared owl <i>Asio otus</i>	CSC	Prefer riparian groves, planted woodlots, and belts of live oaks paralleling stream courses. Requires adjacent open lands to forage and the old nests of crows, hawks or magpies for breeding.	Moderate potential. Suitable breeding and foraging habitat is present in willow riparian area south and west of the Study Area. and the grassland habitat on site.
Vaux's swift <i>Chaetura vauxi</i>	CSC, FSC	Forages over most terrains and habitats, often high in the air. Most important habitat requirement appears to be large hollow trees for nest sites.	Low Potential. May forage over site, but large nest trees are not present.

Species	Status	Typical Habitat	Potential for Occurrence in the Study Area
Allen's hummingbird <i>Selasphorus sasin</i>	FSC	Coastal scrub, valley foothill hardwood, valley foothill riparian habitats; also common in closed-cone pine-cypress, urban, and redwood habitats.	Moderate Potential. Suitable foraging and breeding habitat on site.
Red-breasted sapsucker <i>Sphyrapicus ruber</i>	FSC	Most numerous in riparian, deciduous hardwood, or in a mixture of hardwood and conifer habitats.	Low Potential. Probably does not breed in San Mateo County. May occur in winter.
Olive-sided flycatcher <i>Contopus cooperi</i>	FSC	Mixed conifer, montane hardwood-conifer, Douglas-fir, redwood, red fir and lodgepole pine. Requires large, tall trees, usually conifers for nesting and roosting.	Low potential. No suitable habitat on site, prefers larger trees for nesting.
Pacific-slope flycatcher <i>Empidonax difficilis</i>	FSC	Widespread in warm moist woodlands, including valley foothill and montane riparian.	Low potential. No suitable habitat on site, prefers larger trees. May utilize adjacent riparian area during migration.
Purple martin <i>Progne subis</i>	CSC	Frequents old-growth, multi-layered, open forest and woodland with snags in the breeding season.	Low Potential. Large snags for nest sites are not present on the site; may forage in the vicinity of the bridge.
Saltmarsh common yellowthroat <i>Geothlypis trichas sinuosa</i>	CSC, FSC	Found in fresh and salt water marshes in the San Francisco Bay region. Requires thick, continuous cover for foraging and tall grasses, tule patches, and willows for nesting.	High potential. Suitable nesting and foraging habitat is present on site. Species is documented to occur in the immediate vicinity.
California yellow warbler <i>Dendroica petechia brewsteri</i>	CSC	Breeds in riparian woodlands, particularly those dominated by willows and cottonwoods.	Low potential. An uncommon species that may utilize the site during migration. May breed in riparian woodland/thickets adjacent to Study Area.
Yellow-breasted chat <i>Icteria virens</i>	CSC	Frequents dense, brushy thickets and tangles near water, and thick understory in riparian woodland.	Low potential. Suitable habitat is present, but the species is uncommon in the region.

Species	Status	Typical Habitat	Potential for Occurrence in the Study Area
MAMMALS			
Pallid bat <i>Antrozous pallidus</i>	CSC	Day roosts in outcrops, mines, caves, hollow trees, buildings, and bridges; night roosts under bridges, in caves, and mines.	Low potential. No suitable roost habitat on site, but may forage on site.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	CSC, FSC	Caverns are preferred for day roosts, but night roosts can include bridges and other open settings.	Low potential. No suitable roost habitat on site, but may forage on site.
Long-eared myotis <i>Myotis evotis</i>	FSC	Day roosts include caverns, hollow trees, under bark, outcrops, and buildings; bridges and caverns are used as night roosts.	Low potential. No suitable roost habitat on site, but may forage on site.
Fringed myotis <i>Myotis thysanodes</i>	FSC	Day roosts in caverns, trees, and buildings. Majority of roosts documented in California have been in buildings or mines.	Low potential. No suitable roost habitat on site, but may forage on site.
Long-legged myotis <i>Myotis volans</i>	FSC	Hollow trees, crevices, caverns, and buildings provide day roost habitat; night roosts are usually caverns.	Low potential. No suitable roost habitat on site, but may forage on site.
Yuma myotis <i>Myotis yumanensis</i>	FSC	Day and night roosts include buildings, trees, bridges, and caverns.	Low potential. No suitable roost habitat on site, but may forage on site.
San Francisco dusky-footed woodrat <i>Neotoma fuscipes annectens</i>	CSC, FSC	Frequents deciduous, coniferous, and riparian woodlands and adjacent scrub habitats.	Moderate potential. Suitable habitat present in willow riparian area adjacent to Study Area. May utilize scrub habitat in Study Area.

Species **Status** **Typical Habitat** **Potential for Occurrence in the Study Area**

Key to Status:

- FE Federal Endangered
- FT Federal Threatened
- FSC USFWS Species of Concern
- SE State Endangered
- ST State Threatened
- CSC CDFG Species of Special Concern
- CFP CSDF Fully Protected Species
- none No status given but rookery sites monitored and protected by DFG

Appendix E. Wildlife species observed at the Big Wave LLC Property during a biological assessment on January 17, 2003.

Common Name	Species	Seasonal Status	Comments
White tailed kite	<i>Elanus leucurus</i>	resident	seen foraging over grassland, pair observed here in November, 2001.
Northern harrier	<i>Circus cyaneus</i>	resident	female seen foraging over grassland
Mourning dove	<i>Zenaidura macroura</i>	resident	flushed from adjacent woodland
Anna's hummingbird	<i>Calypte anna</i>	resident	foraging in woodland
Black phoebe	<i>Sayornis nigricans</i>	resident	perching and foraging
Chestnut-backed chickadee	<i>Parus rufescens</i>	resident	foraging in adjacent woodland
Bushtit	<i>Psaltriparus minimus</i>	resident	foraging in adjacent woodland
Ruby-crowned kinglet	<i>Regulus calendula</i>	migrant	foraging in adjacent woodland
American robin	<i>Turdus migratorius</i>	resident	foraging in adjacent woodland
Rufous-sided towhee	<i>Pipilo erythrophthalmus</i>	resident	foraging in adjacent woodland
Hutton's vireo	<i>Vireo huttoni</i>	resident	foraging in adjacent woodland
Song sparrow	<i>Melospiza melodia</i>	resident	foraging in adjacent woodland
White-crowned sparrow	<i>Zonotrichia leucophrys</i>	resident	foraging in adjacent woodland
Pacific treefrog	<i>Hyla regilla</i>	resident	heard calling in adjacent woodland
Racoon	<i>Procyon lotor</i>	resident	resting in tree in adjacent woodland
Coyote	<i>Canis latrans</i>	resident	flushed from grassland adjacent to woodland



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**BIG WAVE
 DEVELOPMENT SITE**

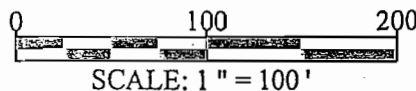
**PRINCETON,
 CALIFORNIA**

San Mateo County
 Local Coastal Program

Wetland Delineator

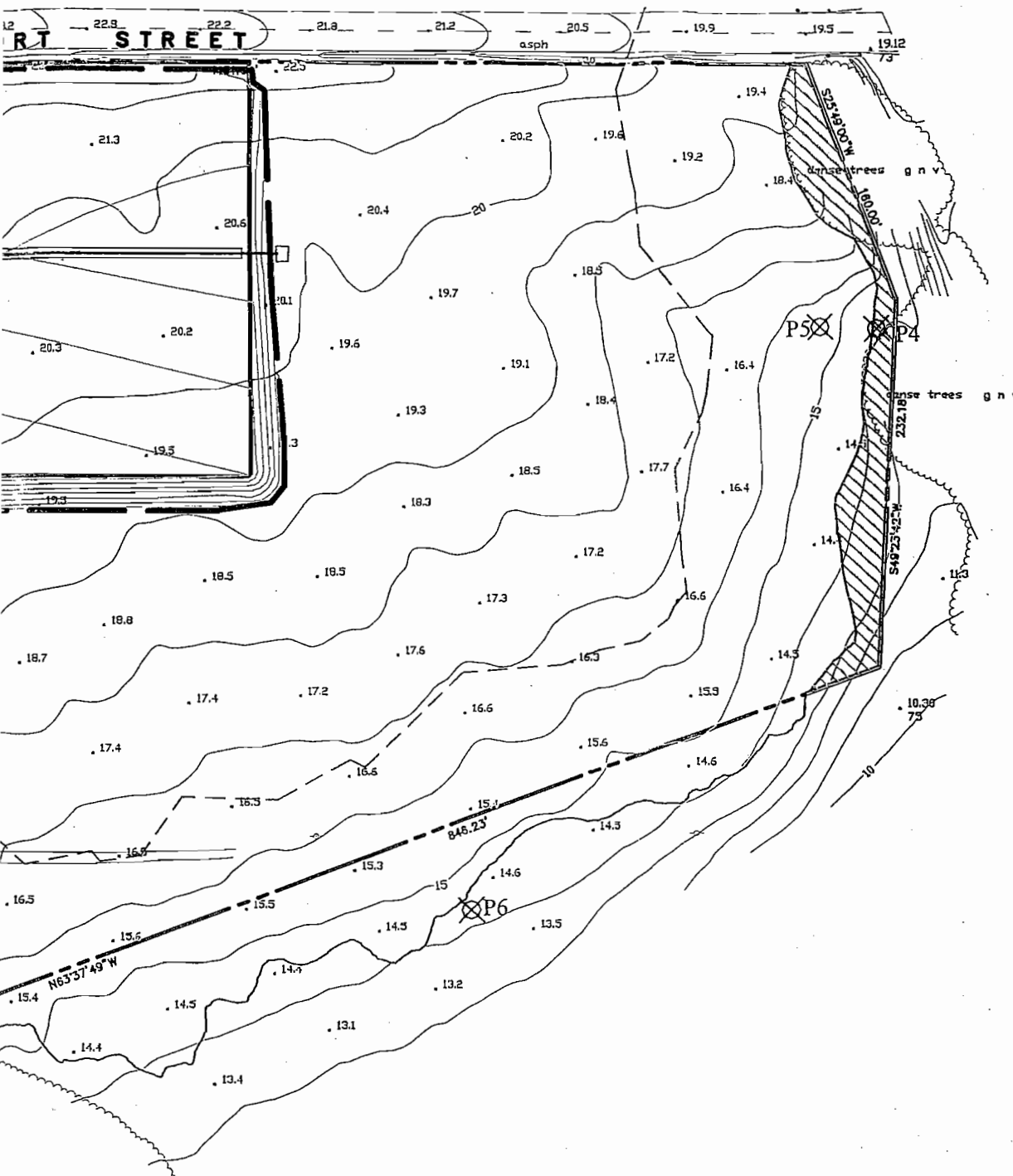
Appendix A

Project: 10079
 Drawn By: GO



DATUM: UTM WGS84 - 10N

ma Drain System



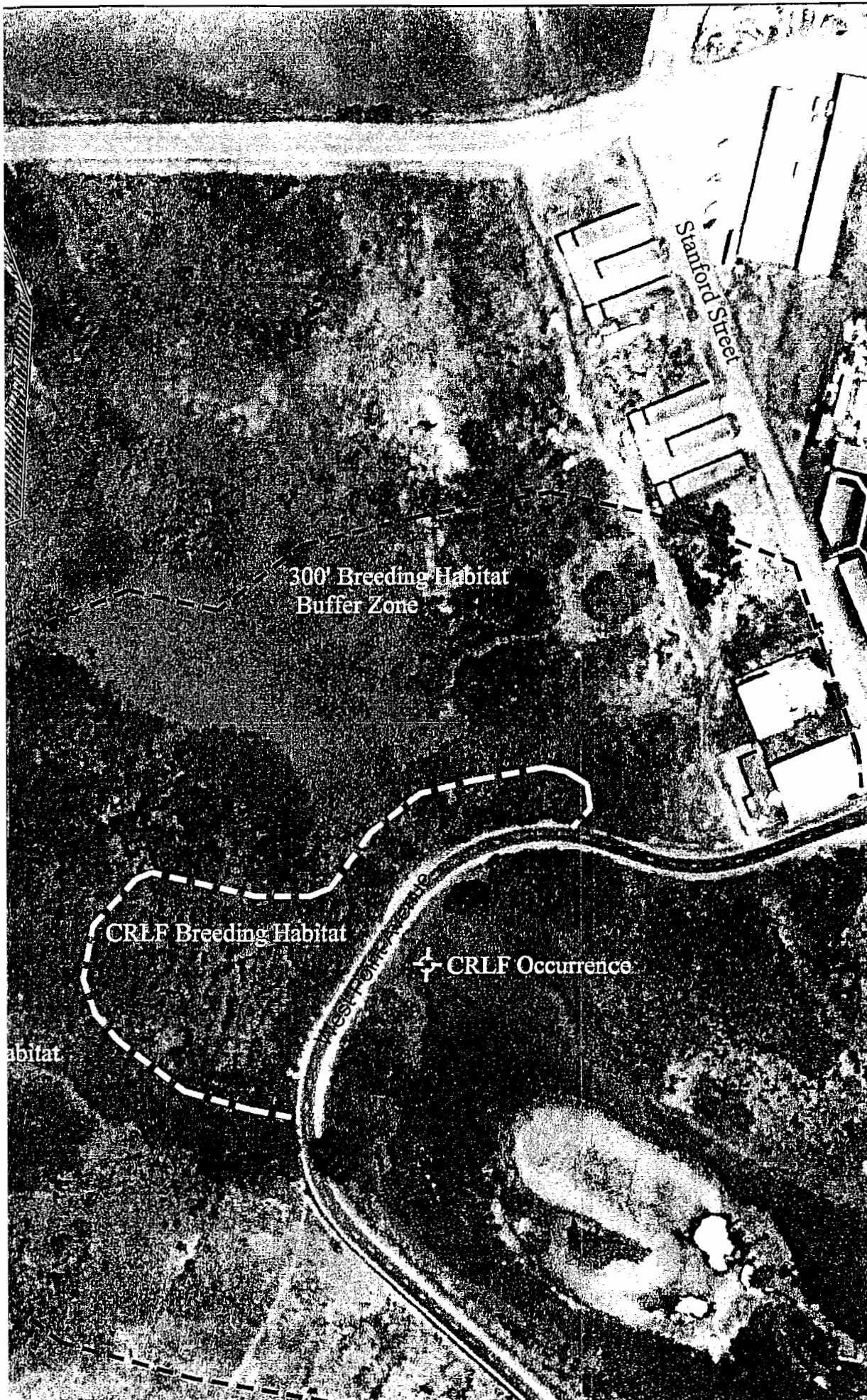


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**BIG WAVE
 DEVELOPMENT SITE**

**PRINCETON,
 CALIFORNIA**

San Mateo County



LEGEND

- Project Area Boundary
- Property Boundary
- San Mateo County LCP Wetlands
- Offsite Wetland Boundary
- Containment Fence
- Proposed Project Grade

**Figure 3
 California Red-
 Legged Frog Habitat**

Project: 10079
 Drawn By: GO



DATUM: UTM WGS84 - 10N

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San Mateo County
Planning Division

San Mateo County Rare Plant Report

**Big Wave Development Site
Princeton, San Mateo County, California**

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March 2004

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INTRODUCTION

Wetlands Research Associates, Inc. (WRA) has completed a rare plant survey for the Big Wave Development (Project Area) in Princeton, western San Mateo County, California. The Study Area included the 14.25-acre Big Wave property (Property), the proposed 3.42-acre Project Area within the Property. Prior to the surveys, an initial habitat assessment was conducted to determine whether surveys should be conducted. Subsequent surveys were conducted to determine presence or absence of special status plants and to identify any potential impacts that could occur to rare plant species as a result of proposed development of the Project Area. A biological assessment and jurisdictional wetlands delineation study were also conducted; results of these studies are presented in separate reports.

Special status plant species are those that have been formally listed or proposed as endangered or threatened, or are candidates for such listing under the federal Endangered Species Act or California Endangered Species Act. Listed and proposed species are afforded protection under these acts. Although they have no special legal status, federal species of concern are given management consideration whenever possible. Impacts to these special status species are considered significant according to the California Environmental Quality Act (CEQA). Special status plants also include all plants on Lists 1 through 4 of the California Native Plant Society's (CNPS) Rare Plant Inventory, and plants that qualify under the definition of "rare" in the California Environmental Quality Act, section 15380. Impacts to List 1 and 2 plants are always considered significant under CEQA, while List 3 and 4 plants may be considered significant.

PROJECT AND PROPERTY DESCRIPTION

The Big Wave Property is located west of Airport Street and approximately one quarter mile north of Stanford Avenue in Princeton, San Mateo County, California (Figure 1). The Property covers 14.25 acres and is gently sloping, with elevations ranging from 11.5 to 27.7 feet NGVD. To the northwest of the Property is a residential trailer park, to the northeast is the Half Moon Bay airport, to the south is undeveloped land, and to the southwest is Pillar Point Marsh owned by San Mateo County.

The Property is located in a low elevation coastal area which has a fog-influenced coastal climate. The Princeton/Half Moon Bay coastal area has been used for agriculture and livestock grazing for over a century. Pillar Point Marsh, which is just downslope of the Study Area to the west, was dammed by farmers in the earlier part of the century in order to prevent salt water from moving into upland farming areas, and to provide a means by which farm equipment could cross the marsh for access to the slopes above the marsh for farming (County of San Mateo, Environmental Services Agency, Parks and Recreation website). The Half Moon Bay airport, which is adjacent to the Study Area to the east was built in 1943.

As a result of these past activities, no undisturbed native vegetation occurs on the Property. Vegetation in the Property can be classified into four plant communities: non-native annual grassland, coyote brush scrub, seasonal wet meadow, and willow riparian scrub (Figure 2). The Pillar Point Marsh south of the Property supports riparian wetland, freshwater marsh, brackish marsh

and salt marsh. A linear drainage channel just outside the southeast boundary of the Property appears to have been created to carry storm water runoff from the Airport. Dredge spoils deposited during construction or maintenance of the channel form a low levee along the channel. The channel supports riparian and seasonal wetland vegetation.

The entire Project Area and most of the Property is non-native annual grassland dominated by soft chess (*Bromus hordeaceus*), common vetch (*Vicia sativa*), wild oat (*Avena fatua*), and scattered coyote brush (*Baccharis pilularis*). A small area of coyote brush scrub occurs outside the Project Area in the southern portion of the Property where the native coyote brush forms open to dense stands with no other shrub species and with an herbaceous understory composed of non-native grasses and forbs. Therefore it appears that coyote brush has invaded this area following agricultural use. Seasonal wet meadow wetland occurs in a narrow band along the southern and eastern boundaries of the Property. Seasonal wet meadow wetland is dominated by native species including soft rush (*Juncus effusus*), slough sedge (*Carex obnupta*) and Harford's sedge (*Carex harfordii*). Transitional slopes between seasonal wetlands and adjacent non-native annual grassland and coyote brush scrub habitats contained primarily weedy species, including poison-hemlock (*Conium maculatum*), wild radish (*Raphanus sativa*), field horsetail (*Equisetum arvense*), coast tarweed (*Madia sativa*), and six-weeks fescue (*Vulpia bromoides*). Willow riparian scrub occurs in a narrow band along the southern and eastern boundaries of the Property. Willow riparian scrub is dominated by Sitka willow (*Salix sitchensis*) and also includes California blackberry (*Rubus ursinus*), giant horsetail (*Equisetum telmateia*), cinquefoil (*Potentilla anserina*), and water parsley (*Oenanthe sarmentosa*).

No wetlands, riparian habitat or other sensitive natural habitats occur within the Project Area.

The proposed project involves the construction of a 2.96-acre parking lot that will be used for storage. The total graded area for this project will encompass 3.42 acres. This development will be located along Airport Street on the northeast portion of the Study Area.

METHODS

HABITAT ASSESSMENT

Prior to the initial plant habitat assessment of the Study Area, topographic maps and two species databases were reviewed to determine which special status plant species may occur or are known to occur in the vicinity of the Study Area: the California Department of Fish and Game's (CDFG) California Natural Diversity Data Base (CNDDB) (CDFG 2000) and the CNPS Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS 2000). These databases were searched for relevant occurrence records within the Montara Mountain and Half Moon Bay USGS quadrangles.

A list of special status plant species with a potential to occur in the Study Area was generated as a result of the records search. Species on this list and their associated habitat requirements were the focus of the initial assessment.

A reconnaissance level habitat survey was conducted on October 27, 2000 to assess the potential suitability of on-site habitats for the species on the above list. Potential for occurrence was evaluated according to the following criteria:

(1) Not Present. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (substrate type, elevation, hydrology, plant community, site history, disturbance regime). The species has an extremely low probability of being found on the site.

(2) Low Potential. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. Surveys are not recommended because the species has a low probability of being found on the site.

(3) Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. Surveys are recommended because the species has a moderate probability of being found on the site.

(4) High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. Surveys are recommended because the species has a high probability of being found on the site.

(5) Present. Species is observed on the site or has been recorded (i.e. CNDDDB) on the site recently.

After completing the habitat assessment site visit (October 27, 2000), WRA compiled a list of special status species and their assessed potential to occur within the Study Area. Each reported potential for occurrence is based on available data (species habitat requirements and known occurrences documented in databases, existing condition of on-site habitats), and is used only to determine if surveys are necessary to determine the presence or absence of special status species. WRA recommends that floristic rare plant surveys be conducted if any species are determined to have a moderate or high potential to occur in the Study Area.

RARE PLANT SURVEYS

Prior to conducting field surveys, an updated records search was conducted to assure that recently-listed species and/or recently-documented occurrences were not overlooked. In addition, the San Francisco South USGS quad was added to the records search. Floristic rare plant surveys were conducted on March 19 and May 7, 2003. These survey dates encompassed a portion of the blooming period for each plant species with moderate potential to occur in the Study Area (and all of those with low potential except perennial *Grindelia hirsutulavar. maritima*, San Francisco gumplant. No *Grindelia* sp. were observed during any of the surveys.). Each survey took three hours to complete in the 14.25-acre Study Area; a total of approximately 6 man-hours was devoted to focused floristic plant surveys. Surveys were conducted by traversing the site in regular transects and every plant observed in the Study Area during these surveys was identified to an appropriate level and recorded (Appendix B). All taxonomic nomenclature followed *The Jepson Manual* (Hickman 1993).

Additional plant species were observed and documented during wetland delineation site visits conducted in late fall and early winter on November 10, 2000 and January 23, 2003. These species were also included on the list in Appendix B.

Following the floristic surveys, the suitability of the habitats on the site were evaluated. Habitat suitability was assessed comparing the descriptions of habitats and associated species contained in occurrence records and other reference material and knowledge of habitat requirements for species observed on other sites with species and habitat characteristics observed on site. Given past disturbance and its domination by non-native species the site was assessed to be not suitable habitat for most of the species that had been assessed with a low and or moderate potential for occurrence. A discussion is included below for the few species for which the site was determined have marginal or moderate suitability.

RESULTS

HABITAT ASSESSMENT

As a result of the October 27, 2000 habitat assessment, grassland and scrub habitats present within the property were determined to have a low potential to support a population of special status plants, particularly within the proposed project area, due to agricultural disturbance and dominance of non-native species. Seasonal freshwater wetlands and riparian areas that occur on the western boundary of the property were determined to have greater potential to support special status plants, provided specific habitat requirements of the plants are provided. The Study Area was determined to supply moderate potential (no species were determined to have high potential) habitat for four special status plant species. Three of these (*Astragalus pycnostachyus* var. *pycnostachyus*, *Equisetum palustre*, *Potentilla hickmanii*) occur in freshwater wetland and/or riparian habitats; one (*Amsinckia lunaris*) occurs in grassland habitat (on further analysis and comparison of typical associated species and species observed during the surveys, habitat on the site was determined to be not suitable for this species). All other special status plant species were determined to have low or no potential to occur on-site due to existing habitat conditions which did not supply specific habitat requirements of the species.

The fall habitat assessment site visit occurred outside the normal identification period for most plant species, and therefore, could not be used to determine actual presence or absence within the Study Area. Field surveys, during appropriate identification times, were recommended for the four species with moderate potential to occur in the Study Area.

RARE PLANT SURVEYS

The 2003 spring floristic survey dates (March 19 and May 7, 2003) encompassed a portion of the blooming period for each plant species with moderate potential to occur in the Study Area (and all of those with low potential except perennial *Grindelia hirsutulavar. maritima*, San Francisco gumplant. No *Grindelia* sp. were observed during any of the surveys.). No special-status plant species were observed within the Property during the rare plant surveys.

Following the floristic surveys, an assessment of habitat suitability determined the non-native annual grassland and coyote brush scrub habitats, which dominate all of the Project Area and most of the Property, did not provide suitable habitat for any special status species. Therefore, the Project Site and upland habitats do not support and are not suitable habitat for any special status plant species and no further surveys are necessary.

The seasonal wet meadow habitat on the along the southeast and southwest boundaries of the Property provides marginally suitable habitat for five special status wetland plant species. Four of these species are perennial species associated with freshwater wetland and riparian habitats (*Astragalus pycnostachyus* var. *pycnostachyus*, *Equisetum palustre*, *Potentilla hickmanii*, *Microseris paludosa*). Because these species occur in wetlands they have long growing seasons. The first three species can be identified any time during the growing season based on vegetative (leaf and stem) morphology. *Microseris paludosa* can be identified to genus based on leaf morphology. Presence or absence of these perennial species can be determined based on surveys conducted during one growing season. Therefore no additional surveys of the seasonal and riparian wetlands on the Property are necessary for any of these species.

The assessment of habitat suitability determined that the site is marginally suitable habitat for one annual special status wetland plant species: *Plagiobothrys chorisianus* var. *chorisianus*, Choris' popcornflower. This species has been observed at other sites on the San Mateo coast and in the Santa Cruz Mountains in wetlands that differ significantly in topography, hydrology and plant composition. The off-site wetlands where this species has been observed were either ponded or flooded for long periods. In addition the habitats had low plant areal cover and height as a result of heavy horse grazing or off-road vehicle use. The wetlands on the south boundary of the Property are sloped and supported by saturated and not ponded soils. Plant cover is dense and tall relative to the occupied sites. Because the seasonal wetland habitat is more than 300 feet from the Project Site and the seasonal wetlands are considered to provide only marginally suitable habitat for this species, no further survey are necessary.

CONCLUSION

No special status plant species were observed during surveys conducted during the blooming periods of special status species with potential to occur on the Property.

The Project Area and all of the remainder of the Property within at least 300 feet have been historically disturbed by agricultural activities, support no undisturbed native vegetation and are dominated by non-native species. These areas are therefore, not suitable habitat for special status plant species. Seasonal freshwater wetland and riparian habitats occur on the southern and western boundaries of the Property more than 300 feet from the Project Area. The wetlands were determined to be marginally suitable habitat for several wetland special status plant species. Investigation of habitat requirements, life histories and associated plant species of these species found that the surveys conducted were adequate to determine that no special status species occur or can be expected to occur on the Property.

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Apr. 25, 2003 - 10:16am L:\Acad 2000 Files\10000\10079\LOCATION MAP.DWG (Layout1)

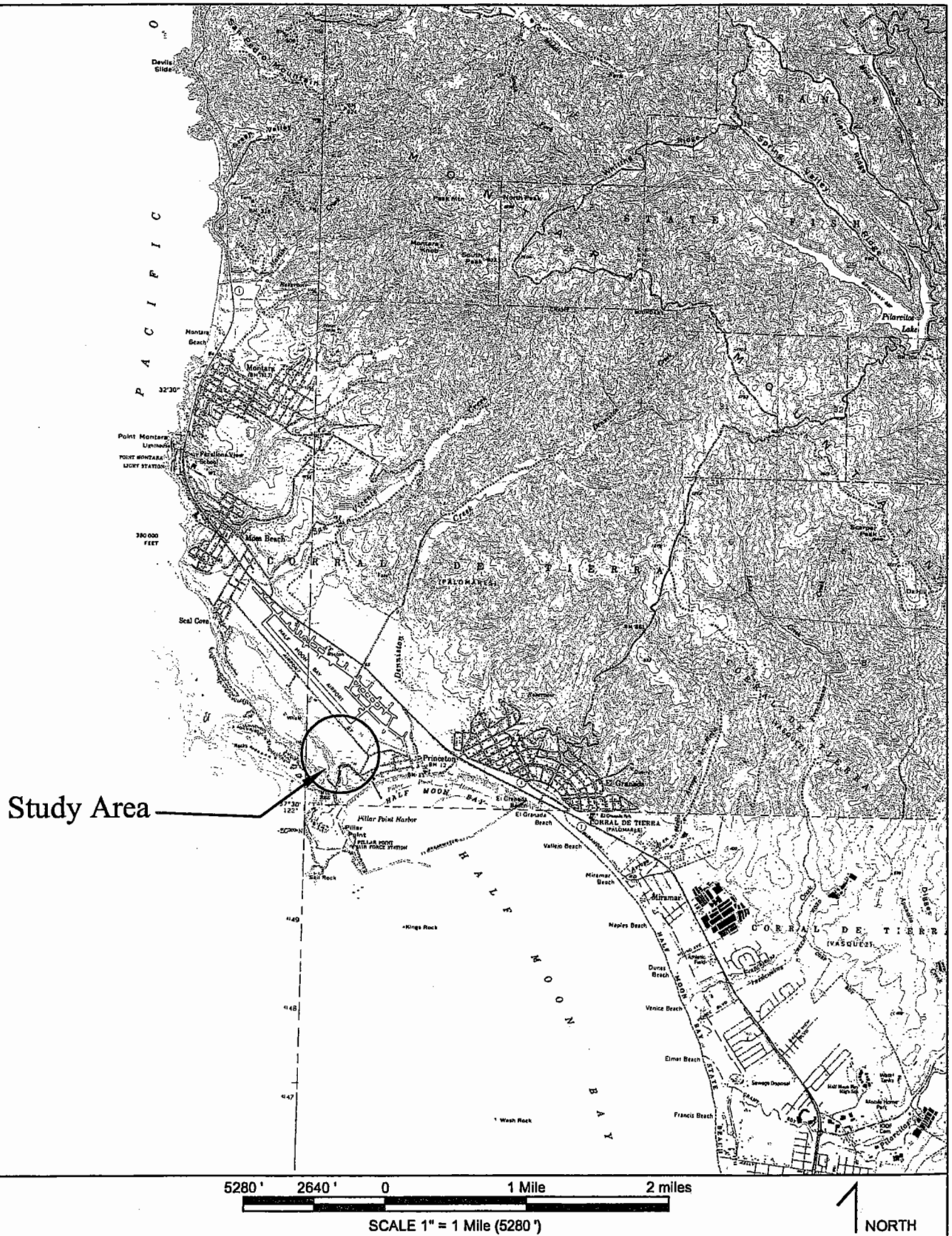


Figure 1.

Big Wave Development Site Study Area

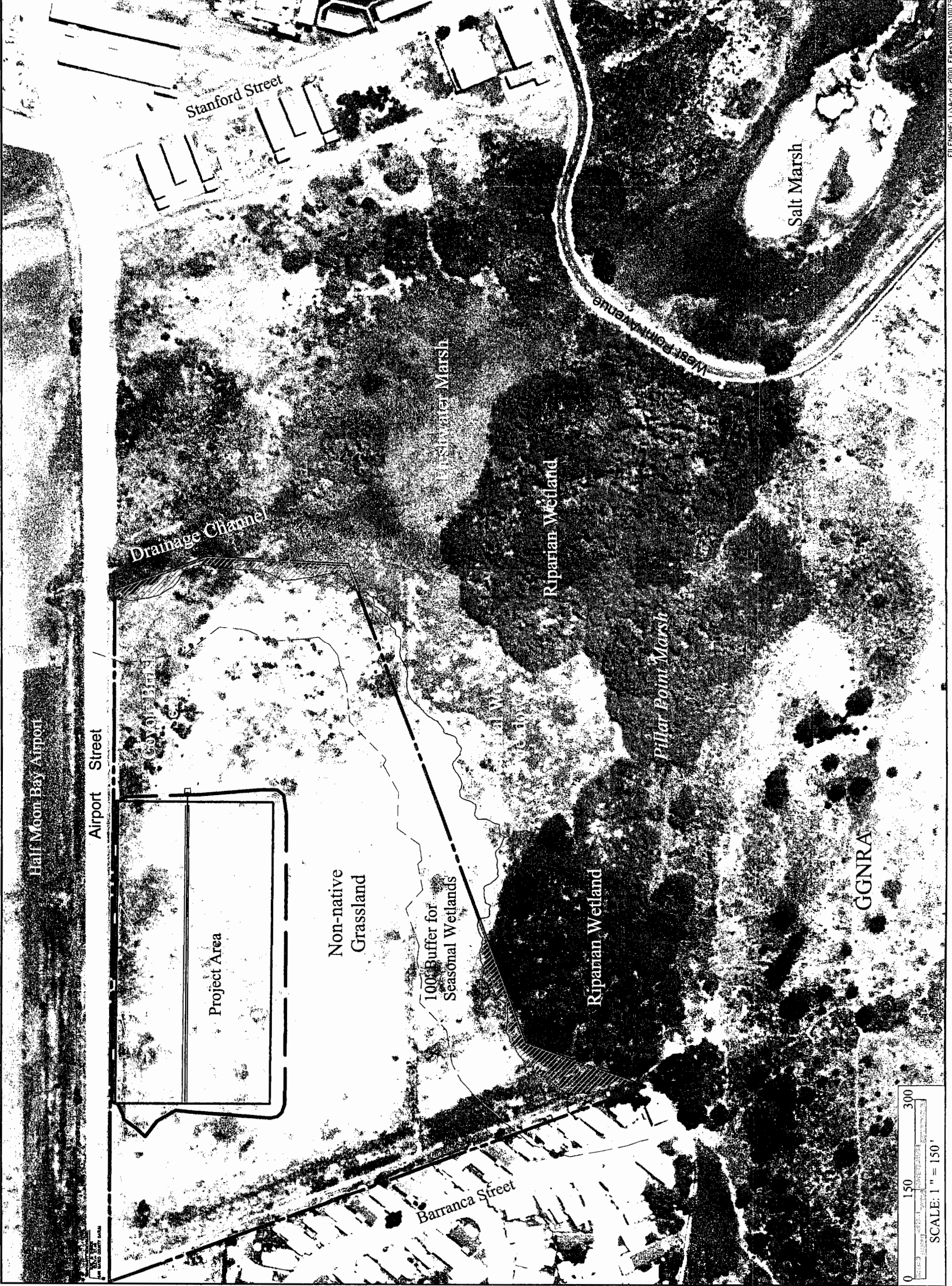


Wetlands Research Associates, Inc.

**BIG WAVE
 DEVELOPMENT SITE**
 PRINCETON,
 CALIFORNIA
 San Mateo County
 Special Status Plant
 Survey

- LEGEND**
- Project Area Boundary
 - - - Property Boundary
 - San Mateo County LCP Wetlands
 - Offsite Wetland Boundary
 - Containment Fence
 - Proposed Project Grade

Figure 2
 Big Wave Project
 Site Property and
 Vicinity Plant
 Communities



0 150 300
 SCALE: 1" = 150'

Appendix A. Special status plant species that have been recorded in San Mateo County in the vicinity of the Big Wave LLC Property and evaluated potential for these plants to occur within existing on-site habitats. List compiled from a review of records from the Montara Mountain, Half Moon Bay and San Francisco South USGS quadrangles in the CDFG Natural Diversity Data Base (2000 and 2003) and the CNPS electronic inventory (2000 and 2003).

Species	Status	Typical Habitat (<i>Blooming Period</i>)	Potential for Occurrence (assessed after site assessment)	Suitability of Habitat (assessed after field surveys)
<i>Allium peninsulare</i> var. <i>franciscanum</i> Franciscan onion	FSC, 1B	Cismontane woodland, valley and foothill grassland. Found on clay, often serpentine at elevations of 100-300m. (<i>May-June</i>)	Low potential. This species' typical habitats and substrates do not occur on site; site below elevational range of species.	Not suitable. This species' typical habitats and substrates do not occur on site; site below elevational range of species; not observed during May survey.
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	1B	Coastal bluff scrub, cismontane woodland, and valley and foothill grassland. Found at elevations of 3-500m. (<i>March-June</i>). Associated with well drained soils on moderate to steep slopes.	Low potential. The species was previously assessed to have a moderate potential for occurrence. Although grassland habitat is present, soil and topography of site not suitable.	Not suitable. Species' habitat requirements are not provided by the site; not observed during March or May surveys.
<i>Arctostaphylos andersonii</i> Santa Cruz manzanita	FSC, 1B	Broadleaved upland forest, chaparral, and North Coast coniferous forest. Found on open sites and redwood forest at elevations of 60-700m. Known only from Santa Cruz Mountains. (<i>November-April</i>)	Not present. This species' typical habitats do not occur on site; site below elevational range of species; no manzanita present on site.	Not suitable. This species' typical habitats do not occur on site; site below elevational range of species; no manzanita present on site.
<i>Arctostaphylos montaraensis</i> Montara manzanita	FSC, 1B	Chaparral and coastal scrub. Found on slopes and ridges at elevations of 150-500m. Endemic to San Mateo County. (<i>January-March</i>)	Not present. This species' typical habitats do not occur on site; site below elevational range of species; no manzanita present on site.	Not suitable. This species' typical habitats do not occur on site; site below elevational range of species; no manzanita present on site.
<i>Arctostaphylos regismontana</i> Kings Mountain manzanita	1B	Broadleaved upland forest, chaparral, and North Coast coniferous forest. Found on granitic or sandstone soils at elevations of 305-730m. (<i>January-April</i>)	Not present. This species' typical habitats and substrate do not occur on site; site below elevational range of species; no manzanita present on site.	Not suitable. This species' typical habitats and substrate do not occur on site; site below elevational range of species; no manzanita present on site.

Species	Status	Typical Habitat (<i>Blooming Period</i>)	Potential for Occurrence (assessed after site assessment)	Suitability of Habitat (assessed after field surveys)
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i> coastal marsh milk-vetch	1B	Coastal dunes (mesic) and marshes and swamps (coastal salt, stream-sides). Found at elevations of 0-30m. (<i>April-October</i>)	Moderate potential. Suitable streamside wetland habitat may be present on the site although species was not observed during October 27 assessment.	Marginal suitability. This perennial obligate wetland plant occurs in coastal dune wetlands, fringes of salt marshes and along coastal streams; not observed during October assessment or May survey.
<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i> San Francisco Bay spineflower	FSC, 1B	Coastal bluff scrub, coastal dunes, coastal prairie, and coastal scrub. Found on terraces and slopes in sandy soil at elevations of 3-550m. (<i>April-August</i>)	Low potential. This species' typical habitats and substrates do not occur on site.	Not suitable. This species' typical habitats and substrates do not occur on site; not observed during May survey.
<i>Chorizanthe robusta</i> var. <i>robusta</i> robust spineflower	FE, 1B	Cismontane woodland (openings), coastal dunes, and coastal scrub. Found on terraces and slopes in sandy or gravelly soil at elevations of 3-300m. (<i>April-September</i>)	Low potential. This species' typical habitats and substrates do not occur on site.	Not suitable. This species' typical habitats and substrates do not occur on site; not observed during May survey.
<i>Cirsium andrewsii</i> Franciscan thistle	1B	Mesic areas in broadleaved upland forest, coastal bluff scrub, coastal prairie, coastal scrub. Sometimes on serpentine at elevations of 0-135m. (<i>March-July</i>)	Low potential. This species' typical habitats and substrates do not occur on site.	Not suitable. This facultative wetland plants' typical habitats and substrates do not occur on site; not observed during March and May surveys.
<i>Cirsium occidentale</i> var. <i>compactum</i> compact cobwebby thistle	FSC, 1B	Chaparral, coastal dunes, coastal prairie, coastal scrub at elevations of 0-150m. (<i>April-June</i>). Found on dunes and on clay in chaparral.	Low potential. This species' typical habitats and substrates do not occur on site.	Not suitable. This species' typical habitats and substrates do not occur on site; not observed during May survey.
<i>Collinsia multicolor</i> San Francisco collinsia	1B	Closed-cone coniferous forest, and coastal scrub. Sometimes found on serpentine at elevations of 30-250m. (<i>March-May</i>)	Low potential. This species' typical habitats and substrate do not occur on site; site below elevational range of species.	Not suitable. This species' typical habitats and substrate do not occur on site; site below elevational range of species; not observed during March and May surveys.

Species	Status	Typical Habitat (<i>Blooming Period</i>)	Potential for Occurrence (assessed after site assessment)	Suitability of Habitat (assessed after field surveys)
<i>Dirca occidentalis</i> western leatherwood	1B	Broadleaved upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, North Coast coniferous forest, riparian forest, riparian woodland. Found on brushy slopes, mesic sites mostly in mixed evergreen and foothill woodland communities at elevations of 50-395m. (<i>January-April</i>)	Not present. This species' typical habitats do not occur on site; site below elevational range of species; no leatherwood shrubs present on site.	Not suitable. This species' typical habitats do not occur on site; site below elevational range of species; no leatherwood shrubs present on site.
<i>Equisetum palustre</i> marsh horsetail	3	Found in marshes and swamps at elevations of 45-1,000m. (N/A)	Moderate potential. This species' probability for occurrence in wetlands is facultative wetland. Suitable streamside wetland habitat may be present on the site, although elevational range of species is much higher than the site.	Marginal suitability. Perennial species not observed during March and May surveys when other horsetails were observed, site below elevational range for species.
<i>Eriogonum luteolum</i> var. <i>caninum</i> Tiburon buckwheat	3	Chaparral, coastal prairie, and valley and foothill grassland. Found on serpentine at elevations of 10-500m. (<i>June-September</i>)	Not present. Suitable serpentine habitat is not present on site; site slightly below elevational range of species, and species was not observed in October.	Not suitable. Suitable serpentine habitat is not present on site; site slightly below elevational range of species, and species was not observed in October.
<i>Erysimum ammophilum</i> coast wallflower	FSC, 1B	Maritime chaparral, coastal dunes, and coastal scrub. Found in sandy openings at elevations of 0-130m. (<i>February-June</i>)	Low potential. This species' typical habitats and substrate do not occur on site.	Not suitable. This species' typical habitats and substrate do not occur on site; not observed during March and May surveys.
<i>Fritillaria biflora</i> var. <i>ineziana</i> Hillsborough chocolate lily	1B	Cismontane woodland and valley and foothill grassland. Endemic to San Mateo County. Typically on serpentine at elevations of 90-160m. (<i>March-April</i>)	Not present. Suitable serpentine habitat is not present on site; elevational range of species is much higher than the site.	Not suitable. Suitable serpentine habitat is not present on site; elevational range of species is much higher than the site; not observed during March survey.

Species	Status	Typical Habitat (<i>Blooming Period</i>)	Potential for Occurrence (assessed after site assessment)	Suitability of Habitat (assessed after field surveys)
<i>Fritillaria liliacea</i> fragrant fritillary	FSC, 1B	Coastal scrub, valley and foothill grassland, and coastal prairie. Usually found on clay soils (often serpentine) at elevations of 3-410m. (<i>February-April</i>)	Low potential. This species' typical habitats and substrate do not occur on site.	Not suitable. This species' typical habitats and substrate do not occur on site; not observed during March survey.
<i>Grindelia hirsutula</i> var. <i>maritima</i> San Francisco gumplant	FSC, 1B	Coastal scrub, coastal bluff scrub, and valley and foothill grassland. Found on sandy or serpentine slopes and sea bluffs at elevations of 15-400m. (<i>August-September</i>)	Low potential. Marginal grassland habitat may be present on site but typical substrates are not present; site slightly below elevational range of species, species not observed in October.	Not suitable. Typical substrates are not present; site slightly below elevational range of species, No <i>Grindelia</i> species observed during any survey.
<i>Helianthella castanea</i> Diablo helianthella	FSC, 1B	Broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland from 25-1,300m. (<i>April-June</i>)	Low potential. This species occurs on slopes supporting mosaic of scrub, forest and grassland openings.	Not suitable. Hillside grassland habitat of this species does not occur on site. site below elevational range of species, not observed during May survey.
<i>Horkelia cuneata</i> ssp. <i>sericea</i> Kellogg's horkelia	FCS, 1B	Closed-cone coniferous forest, maritime chaparral, coastal dunes, coastal prairie, and coastal scrub. Found on sandy soils at elevations of 5-350m. (<i>April-September</i>)	Low potential. Sandy soils do not occur on site.	Not suitable. This species' typical habitats and substrate do not occur on site; not observed during May survey.
<i>Horkelia marinensis</i> Point Reyes horkelia	FSC, 1B	Coastal dunes, coastal prairie, and coastal scrub. Found on sandy soils at elevations of 5-350m. (<i>May-September</i>)	Low potential. Sandy soils do not occur on site.	Not suitable. This species' typical habitats and substrate do not occur on site; not observed during May survey.
<i>Lessingia arachnoidea</i> Crystal Springs lessingia	FSC, 1B	Coastal sage scrub, valley and foothill grassland, and cismontane woodland. Found on grassy slopes on serpentine, sometimes on roadsides at elevations of 60-200m. (<i>July-October</i>)	Not present. Suitable serpentine habitat is not present on site; elevational range of species is much higher than the site; not observed in October survey.	Not suitable. Serpentine soils are not present on site; elevational range of species is much higher than the site; not observed in October survey.

Species	Status	Typical Habitat (<i>Blooming Period</i>)	Potential for Occurrence (assessed after site assessment)	Suitability of Habitat (assessed after field surveys)
<i>Linanthus croceus</i> coast yellow linanthus	1B	Coastal bluff scrub and coastal prairie at elevations of 10-150m. (<i>May</i>)	Low potential. This species' habitat does not occur on site; site slightly below elevational range of species. Known from one extant occurrence in Moss Beach.	Not suitable. This species' cliff habitat and associated coastal bluff plant species do not occur on site; not observed during May survey.
<i>Linanthus rosaceus</i> rose linanthus	1B	Coastal bluff scrub at elevations of 0-100m. (<i>April-June</i>)	Low potential. This species' habitat does not occur on site; site slightly below elevational range of species. Known from one extant occurrence in Pacifica.	Not suitable. This species' cliff habitat and associated coastal bluff plant species do not occur on site; not observed during May survey.
<i>Lupinus eximius</i> San Mateo tree lupine	FSC, 3	Chaparral and coastal scrub. An evergreen shrub found at elevations of 90-550m. (<i>April-July</i>)	Not present. Tree lupine not observed, this species' typical habitats do not occur on site; elevational range of species is much higher than the site.	Not suitable. This species' typical habitats do not occur on site; elevational range of species is much higher than the site; not observed during May survey.
<i>Malacothamnus arcuatus</i> arcuate bush mallow	1B	This evergreen shrub is found in chaparral at elevations of 15-355m. (<i>April-September</i>)	Not present. This species' typical habitats do not occur on site; site slightly below elevational range of species; bush mallow not observed.	Not suitable. This species' typical habitats do not occur on site; site slightly below elevational range of species; bush mallow not observed; not observed during May survey.
<i>Microseris paludosa</i> marsh microseris	FSC, 1B	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland from 5-300m. (<i>April-June</i>)	Low potential. This perennial species probability for occurrence in wetlands is facultative wetland. Described as occurring on wet grassy slopes in the Santa Cruz Mountains. Also known from vernal pools and wooded slopes.	Marginal suitability. Seasonal wetland on south and west boundary of site may be suitable. Not observed during May survey.

Species	Status	Typical Habitat (<i>Blooming Period</i>)	Potential for Occurrence (assessed after site assessment)	Suitability of Habitat (assessed after field surveys)
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	FE, SE, 1B	Found in valley and foothill grassland on open dry rocky slopes and grassy areas. Often on serpentine at elevations of 35-620m. (<i>March-May</i>)	Not present. No suitable habitats or substrate is present on site; site below elevational range of species.	Not suitable. No suitable habitats or substrate is present on site; site below elevational range of species.
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> Choris' popcornflower	1B	Chaparral, coastal prairie, and coastal scrub. Found in mesic areas at elevations of 15-100m. (<i>March-June</i>) Species occurs on poorly drained soils in natural and man-made depressions that pond or flood during the growing season.	Low potential. This obligate wetland plants' ponded depression habitat does not occur on site; site below elevational range of species.	Not suitable. Wetlands on property occur on gentle slopes with saturated soils. No ponded depressions on property. Not observed during March or May.
<i>Potentilla hickmanii</i> Hickman's cinquefoil	FE, SE, 1B	Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps, and marshes and swamps. Found in freshwater marshes, seeps, and small streams in forested areas along the coast at elevations of 10-135m. (<i>April-August</i>)	Moderate potential. Suitable streamside seasonally wet meadow habitat may be present on the site.	Marginal suitability. Species not observed during May survey when other cinquefoil species were observed.
<i>Sanicula maritima</i> adobe sanicle	FSC, SR, 1B	Meadows and seeps, valley and foothill grassland, chaparral, coastal prairie on moist clay or ultramafic soils from 30-240m. (<i>February-May</i>)	Low potential. This facultative wetland plant occurs in ponded and saturated wetlands on moist clay or ultramafic soils.	Not suitable. The sloped clay loam soils on site do not pond water; elevational range of species higher than the site; not observed during March and May surveys.
<i>Silene verecunda</i> ssp. <i>verecunda</i> San Francisco campion	FSC, 1B	Coastal scrub, valley and foothill grassland, coastal bluff scrub, chaparral, and coastal prairie. Found on open slopes and exposed outcrops of mudstone or shale; one site on serpentine at elevations of 30-645m. (<i>March-August</i>)	Low potential. Marginal grassland habitat may be present on the site, but suitable substrates are not; elevational range of species higher than the site.	Not suitable. No suitable substrate on site; elevational range of species higher than the site; not observed during March and May surveys.
<i>Triphysaria floribunda</i> San Francisco owl's clover	FSC, 1B	Coastal prairie, coastal scrub, and valley and foothill grassland. Usually found on serpentine at elevations of 10-160m. (<i>April-June</i>)	Low potential. This species' typical substrate does not occur on site; site slightly below elevational range of species.	Not suitable. This species' typical habitats and substrate do not occur on site; site slightly below elevational range of species; not observed during May survey.

Key to Status Codes:

FE Federal Endangered

FSC Federal Species of Concern

SE State Endangered

SR State Rare

IB CNPS list of plants rare, threatened, or endangered in California and elsewhere

3 CNPS plants about which we need more information - a review list

Appendix B. Plant species observed within the Big Wave LLC Property 2000-2003.

Scientific Name	Common Name	Observed on Project Site (X)
<i>Achillea millefolium</i>	yarrow	
<i>Anagallis arvensis</i>	scarlet pimpernil	
<i>Aster chilensis</i>	aster	
<i>Avena fatua</i>	wild oat	
<i>Baccharis pilularis</i>	coyote brush	X
<i>Brassica nigra</i>	black mustard	
<i>Bromus diandrus</i>	ripgut brome	
<i>Bromus hordeaceus</i>	soft chess	
<i>Calystegia sp.</i>	morning glory	
<i>Carduus pycnocephalus</i>	Italian thistle	
<i>Cardamine californica</i>	milk maids	
<i>Carex harfordii</i>	sedge	
<i>Carex obnupta</i>	sedge	
<i>Centaureum muehlenbergii</i>	Monterey centauray	
<i>Cirsium vulgare</i>	bull thistle	X
<i>Conium maculatum</i>	poison hemlock	
<i>Convolvulus arvensis</i>	field bindweed	X
<i>Cortaderia sp.</i>	Pampas grass	
<i>Cyperus eragrostis</i>	umbrella sedge	
<i>Eleocharis macrostachya</i>	spikerush	
<i>Epilobium brachycarpum</i>	willow herb	
<i>Epilobium ciliatum</i>	willow herb	X
<i>Epilobium densiflorum</i>	willow herb	
<i>Erigeron philadelphicus</i>	Philadelphia fleabane	
<i>Equisetum arvense</i>	common horsetail	X
<i>Equisetum telmateia ssp. braunii</i>	giant horsetail	
<i>Foeniculum vulgare</i>	fennel	X
<i>Galium aparine</i>	bedstraw	
<i>Geranium dissectum</i>	geranium	X
<i>Holcus lanatus</i>	purple velvet grass	X
<i>Hordeum marinum ssp. gussoneanum</i>	Mediterranean barley	
<i>Hypochaeris radicata</i>	hairy cat's ear	
<i>Juncus bufonius</i>	toad rush	
<i>Juncus effusus</i>	rush	
<i>Juncus patens</i>	rush	X
<i>Juncus xiphioides</i>	iris-leaved rush	
<i>Lolium multiflorum</i>	Italian rye grass	X
<i>Lonicera involucrata</i>	twinberry	
<i>Lupinus sp.</i>	bush lupine	
<i>Lythrum hyssopifolia</i>	hyssop, loosestrife	
<i>Medicago polymorpha</i>	bur clover	

Scientific Name	Common Name	Observed on Project Site (X)
<i>Mentha pulegium</i>	pennyroyal	
<i>Nasturtium majus</i>	garden nasturtium	
<i>Oenanthe sarmentosa</i>	oenanthe	
<i>Oxalis pes-caprae</i>	bermuda buttercup	
<i>Phalaris aquatica</i>	harding grass	X
<i>Picris echinoides</i>	bristly ox-tongue	X
<i>Plantago lanceolata</i>	English plantain	
<i>Plantago coronopus</i>	cutleaf plantain	
<i>Polygonum punctatum</i>	dotted smartweed	
<i>Polypogon monspeliensis</i>	rabbit's-foot grass	
<i>Potentilla anserina ssp. pacifica</i>	Pacific cinquefoil	
<i>Potentilla glandulosa ssp. glandulosa</i>	sticky cinquefoil	
<i>Raphanus sativus</i>	wild radish	X
<i>Rubus ursinus</i>	California blackberry	
<i>Rumex acetosella</i>	sheep sorrel	
<i>Rumex crispus</i>	curly dock	X
<i>Salix sitchensis</i>	Sitka willow	
<i>Sanicula crassicaulis</i>	pacific sanicle	
<i>Scrophularia californica</i>	California bee plant	
<i>Senecio mikanioides</i>	cape ivy	
<i>Sonchus oleraceus</i>	common sow thistle	X
<i>Typha angustifolia</i>	narrow -leaved cattail	
<i>Vicia sativa</i>	comon vetch	X
<i>Vicia tetrasperma</i>	vetch	X
<i>Vinca major</i>	greater periwinkle	
<i>Vulpia bromoides</i>	vulpia	
<i>Vulpia myuros</i>	rattail fescue	

Wetland Delineation Study

*Big Wave Office Park and Wellness Center – Southern Parcel
San Mateo County, California*

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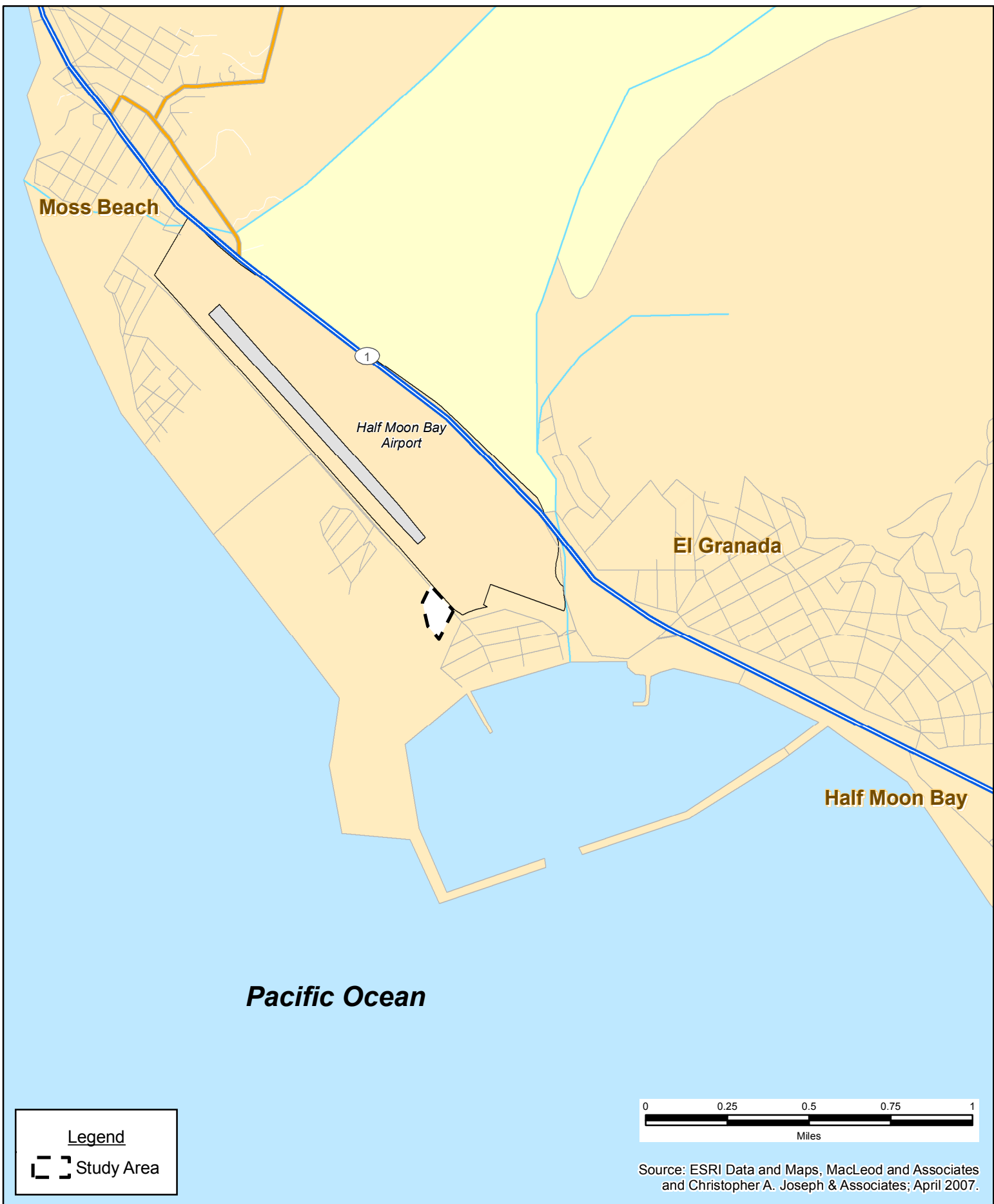
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INTRODUCTION


This report presents the results of a wetland delineation study conducted on the southern parcel of the proposed Big Wave Office Park and Wellness Center Project Site, located in the community of Princeton in San Mateo County, California. The County of San Mateo (County) requested Christopher A. Joseph and Associates (CAJA) to conduct this study to determine the location and extent of wetlands potentially subject to regulation by the U.S. Army Corps of Engineers (Corps) under Section 404 of the Federal Clean Water Act (CWA), and subject to County regulation under the San Mateo County Local Coastal Program (LCP). This study was conducted in order to provide additional information regarding potential impacts to sensitive biological resources from the proposed project for the County's Environmental Impact Report (EIR), also being prepared by CAJA. *The results of this study are considered to be preliminary until they are verified by the respective regulatory agencies and/or permits for impacts to the wetlands are either authorized or exempted by such agencies.*

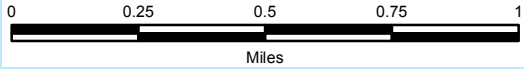
The proposed Big Wave Office Park and Wellness Center project consists of developing approximately 20 acres in unincorporated San Mateo County into a Wellness Center for the developmentally disabled, a recreation area, community center facilities, commercial space (office park), storage, associated parking and fencing. The project site consists of two parcels – an approximately 15 acre northern parcel and an approximately five acre southern parcel - divided by a natural drainage swale which drains into the Pillar Point Marsh west and southwest of the site; this drainage is mapped as part of the Pillar Point Marsh on map 7.1 of the LCP. Only the southern parcel is considered to be the “Study Area” for the purposes of this wetland delineation study; A previous wetland study had already been prepared for the proposed Project Site's northern parcel in 2003 (WRA 2003).

As shown in Figure 1, the study area is located in on the Montara Mountain U.S. Geological Survey (USGS) 7.5-minute quadrangle map in northwestern San Mateo County on the San Francisco Peninsula, northwest of the Princeton/Pillar Point Harbor area in unincorporated San Mateo County. The study area is accessible via State Route 1 (located less than one-half mile to the east), Airport Street (located adjacent to and north/east of the study area) and Stanford Avenue (located south/east of the study area). The study area can be accessed from the surrounding Capistrano Road, Prospect Way, and California, Cornell and Stanford Avenues, located to the east and south, respectively. Surrounding land uses include the Half Moon Bay Airport (east), the El Granada Mobile Home Park (north), the Pillar Point Marsh (west), and the Princeton/Pillar Point Harbor industrial/commercial area (south).



Legend

 Study Area



Source: ESRI Data and Maps, MacLeod and Associates and Christopher A. Joseph & Associates; April 2007.



The study area comprises 5.37 acres of relatively flat undeveloped topography at an elevation of approximately nine to 18 feet above mean sea level (msl), which gently slopes to the west/south toward Pillar Point Marsh. The majority of the study area is currently in vegetable crop production and had been planted with a cover crop (fava beans) at the time of the wetland study.

The study area is owned by Big Wave LLC, contact: Jeff Peck, (415) 541-7837.

REGULATIONS

The regulations pertaining to this wetland delineation study are summarized below. Other regulations may apply to wetlands or other natural features within or adjacent to the study area, but were not specifically addressed in this study; these include (1) Section 1600 of the California Fish and Game Code Section regulating Streambeds and Lakes (which includes riparian habitat) by the California Department of Fish and Game (CDFG), (2) Section 401 of the CWA regulating water quality within Waters of the U.S. by the State Water Resources Control Board through Regional Water Quality Control Boards (RWQCB), and (3) the California Porter-Cologne Act regulating water quality within Waters of the State by the RWQCB.

Federal Clean Water Act

Section 404 of the of the CWA authorizes the Secretary of the Army, acting through the Corps, to issue permits for the discharge of dredged or fill material into the Waters of the United States. The objective of the CWA is to maintain and restore the chemical, physical, and biological integrity of the Waters of the United States (33 CFR Part 328 Section 328.4). “Waters of the United States” is the encompassing term for areas that qualify for federal regulation under Section 404 of the CWA. Waters of the United States include “wetlands” and “other waters of the United States”.

- **Other waters of the United States**, refer to unvegetated waterways and other water bodies with a defined bed and bank, such as drainages, creeks, rivers, and lakes. This approximately translates to the bank to bank portion of water bodies, up to the ordinary high water mark. Other waters typically lack hydrophytic vegetation and may also lack hydric soils.
- **Wetlands** are defined as areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (CFR 328.3, CFR 230.3).

The Corps developed field methods for identifying the location and extent of jurisdictional wetlands (a subset of Waters of the United States) using the Corps Wetland Delineation Manual (Environmental Laboratory 1987). Recently, the Corps issued Interim Regional Supplements to the Wetland Delineation Manual, including the Arid West Region in December 2006 (Corps 2006) and the Western Mountains, Valley and Coast Region (WMVCR) in April 2007 (Corps 2007). These supplements were intended to address specific wetland issues within different regions of the country, and they supercede much of the previous 1987 Wetland Delineation Manual. This study utilizes the latter of these supplements, as it is geographically located within the mapped extent of the WMVCR supplement and exhibits similar physical, biological and hydrologic characteristics as those described in the this supplement.

According to the Corps wetland delineation methodology, a wetland must exhibit the following: (1) a prevalence or dominance of hydrophytic vegetation; (2) hydric soils; and (3) wetland hydrology. These are defined and described in further detail below.

Hydrophytic Vegetation

In general, hydrophytic (or “water loving”) vegetation is present when the plant community is dominated by species that can tolerate prolonged inundation or saturation during the growing season¹ (Corps 2007). Plant species were assigned a hydrophytic designation by the U.S. Fish and Wildlife Service (USFWS) in 1998, which was approved by the Corps for use during wetland delineations to determine the presence of hydrophytic vegetation (Reed 1988). Hydrophytic plants are those that are designated as “facultative” (FAC), “facultative wetland” (FACW), and “obligate” (OBL). FAC plants are those that are equally likely to occur in wetlands and non-wetlands (34 to 66 percent probability to occur in wetlands, or 76 to 34 percent probability to occur in uplands). FACW plants have an estimated 67 to 99 percent probability of occurring in wetlands (or a 33 percent to one percent probability of occurring in uplands). OBL plants have an estimated 99 percent probability of occurring in wetlands (or a one percent probability of occurring in uplands).

Hydric Soils

The National Technical Committee for Hydric Soils (NTCHS) defines a hydric soil as a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing

¹ Per the Foreword in the 1987 Corps Delineation Manual (Environmental Laboratory 1987), areas which are seasonally inundated and/or saturated for more than 12.5% of the growing season are wetlands; areas saturated between 5% and 12.5% of the growing season are sometimes wetlands and sometimes uplands. The percent of growing season translates to a number of consecutive days that an area is inundated or saturated during the growing season. According to the NRCS, the growing season is considered to be 365 days in Half Moon Bay; therefore, 5% of the growing season would be approximately 18 days (<ftp://ftp.wcc.nrcs.usda.gov/support/climate/wetlands/ca/06081.txt>).

season to develop anaerobic conditions in the upper part (U.S. Department of Agriculture [USDA], Soil Conservation Service [SCS] 1994). Nearly all hydric soils exhibit characteristic morphologies that result from repeated periods of saturation or inundation for more than a few days, including redoximorphic features such as orange oxidized mottles or light-colored (high value, low chroma) reduced matrix or mottle colors.

Wetland Hydrology

Wetland hydrology exists in areas that are periodically inundated or have saturated soils at some time during the growing season, and for a sufficient duration to support hydrophytic vegetation (Environmental Laboratory 1987). This condition can either be observed through direct observation of primary indicators (such as ponding, saturation, sediment deposits, algal matting), or through indirect or “secondary” indicators (such as drainage pattern, saturation visible on an aerial photograph, raised ant mounds).

California Coastal Act and Local Coastal Program

Under the California Coastal Act (Act), development within the Coastal Zone requires a Coastal Development permit to be issued by the California Coastal Commission (Commission); however, per the Act, the Commission can approve a Local Coastal Plan (LCP) prepared by a City, County or other region. Once approved, the LCP allows for the local agency to assume responsibility for issuing Coastal Development Permits. The Commission approved the San Mateo County LCP in 1980. For the County to issue a permit under the LCP, the proposed project must comply with the LCP policies protecting resources within the portion of the Coastal Zone within the County’s jurisdiction.

Per San Mateo County LCP policies (Section 7.14), a wetland is defined “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. Such wetlands can include mudflats (barren of vegetation), marshes, and swamps. Such wetlands can be either fresh or saltwater, along streams (riparian), in tidally influenced areas (near the ocean and usually below extreme high water of spring tides), marginal to lakes, ponds, and manmade impoundments. Wetlands do not include areas which in normal rainfall years are permanently submerged (streams, lakes, ponds and impoundments), nor marine or estuarine areas below extreme low water of spring tides, nor vernal wet areas where the soils are not hydric. In San Mateo County, wetlands typically contain the following plants: cordgrass, pickleweed, jaumea, frankenia, marsh mint, tule, bullrush, narrow-leaf cattail, broadleaf cattail, pacific silverweed, salt rush, and bog rush. To qualify, a wetland must contain at least a 50% cover of some combination of these plants, unless it is a mudflat” (San Mateo County 1988).

Per LCP policies, land uses and development are restricted in wetlands and within a 100-foot buffer of wetlands. Permitted uses within wetlands include (1) nature education and research, (2) hunting, (3) fishing, (4) fish and wildlife management, (5) mosquito abatement (6) diking, dredging, and filling for existing dike/channel maintenance or for biological restoration/enhancement (8) dredging manmade reservoirs for agricultural water supply (9) incidental public service purposes. Permitted uses within the 100-foot buffer include those uses permitted within wetlands and public trails, scenic overlooks, and agricultural uses that produce no impact on the adjacent wetlands. In addition, policy 7.20e states that for Pillar Point Marsh, “all adjacent development shall, where feasible, contribute to the restoration of biologic productivity and habitat.”

STUDY METHODOLOGY

Background Information Sources

The following reports and information sources were reviewed for this wetland delineation study:

Reports/Documents

- San Mateo County Local Coastal Program (LCP) (San Mateo County 1998);
- Soil studies conducted for the Pillar Point Marsh and vicinity in 1988 (Carlson 1988a and 1988b);
- Local Coastal Program Wetland Delineation Study conducted by Wetlands Research Associates for the parcel immediately north of the study area (WRA 2003);
- Fitzgerald Marine Reserve Master Plan (Brady/LSA 2002).

Maps or Map Data

- Wetland Delineation Map of the Pillar Point Marsh prepared by the Corps in 1994, with accompanying letter dated July 19, 1994 (Corps 1994);
- Historic aerial photographs from 1943 through 2001 (EDR 2007) and 2004 (Google Earth 2007);
- Current aerial photograph taken in January 2006 by HJW GeoSpatial;
- National Wetland Inventory (NWI) Map Data (USFWS 2007);
- Soil Series Map Data (USDA 2007);
- Topographic Map Data of the Study Area with one-foot contours provided by MacLeod and Associates;
- Pillar Point Wetland Map 7.1 from the LCP (San Mateo County 1998);
- Federal Emergency Management Agency (FEMA) Flood Zone Maps.

Other Data

- Regional Climate Data (NOAA 2007, NRCS 2002);
- Soil Series Descriptions and Hydric Soil Information (USDA 2007).

Field Investigation

Site Visits

Surveys were conducted by CAJA biologists and certified wetland delineators Shannon Lucas and/or Aindrea Jensen on December 12, 2006, January 10 and 11, 2007, and February 22, 2007. These surveys were conducted in order to assess the range of site conditions through the rainy season. The January 10th and 11th surveys were timed particularly to occur approximately one week following the previous precipitation event on January 3rd and 4th, which produced a total of approximately 0.6 inches of rainfall (NOAA 2007). Vegetation was barely evident during the December and January site visits due to the recent plowing and planting of fava bean seeds, but was more evident during the February site visit when plants were readily germinating throughout the site.

Corps Study Method

Surveys of the study area were conducted using the wetland delineation methodology provided by the Corps in their WMVCR Supplement to the Wetland Delineation Manual. This methodology involves observing and recording specific data at sample points regarding vegetation, soils and hydrology. Data at each sample point was recorded on the Corps' WMVCR Supplement Wetland Determination Data Forms (Appendix A). The location of each sample point was mapped using a Global Positioning System Unit (Trimble GeoXT, submeter accuracy) and overlaid on to parcel lines, topography, aerial photographs, and other available data and maps, in ArcView. During the January surveys, the extent of ponded and saturated areas was mapped in addition to data collected at sample points. Since the parcel boundaries were not evident in the field (i.e. no fencing or stakes), some sample points were later determined to be adjacent to but off-site. Representative photographs were also taken during site surveys to document existing site conditions (Appendix B).

Hydrophytic Vegetation

The WMVCR Supplement includes several ways of determining the presence of hydrophytic vegetation, including the dominance test, the prevalence index, morphological adaptations, and a

method for problematic hydrophytic vegetation². These methods were followed at each sample point to determine whether hydrophytic vegetation was present. However, at many of the sample points the vegetation had been removed and replaced with agricultural crops; these areas are considered to be “managed plant communities” and, therefore problematic. The following procedure is presented in the WMVCR Supplement for managed plant communities, and was used at sample points with potentially problematic hydrophytic vegetation:

1. Examine the vegetation on a nearby, unmanaged reference site having similar soils and hydrologic conditions. Assume that the same plant community would exist on the managed site in the absence of human alteration.
2. For recently cleared or plowed areas (not planted or seeded), leave representative area unmanaged for at least one growing season with normal rainfall and reevaluate the vegetation.
3. If management was initiated recently, use offsite data sources such as aerial photography, NWI maps, and public interviews to determine what plant community was present onsite before the management occurred.
4. If the unmanaged vegetation condition cannot be determined, make the wetland determination based on indicators of hydric soil and wetland hydrology.

Plant species observed were identified using *The Jepson Manual, Higher Plants of California* (Hickman, 1993) and *Plants of the San Francisco Bay Region* (Beidleman and Kozloff 2003).

Hydric Soils

Indicators of hydric soils contained within the WMVCR Supplement were used at each sample point to determine the presence of hydric soils. The WMVCR Supplement presents indicators that are designed to help identify and delineate hydric soils; however, indicators are not intended to replace or relieve the requirements contained in the definition of a hydric soil. Therefore, a soil that meets the definition of a hydric soil is hydric whether or not it exhibits indicators; these soils are often considered to be problematic. These “problematic hydric soils” exist for a number of reasons and their proper identification requires additional information, such as landscape position, presence or absence of restrictive soil layers, or information about hydrology. The following procedure is presented in the WMVCR Supplement and was used at sample points with potentially problematic hydric soils:

² The procedure for problematic hydrophytic vegetation should be applied only where indicators of hydric soil and wetland hydrology are present, unless one or both of these factors is also disturbed or problematic, but no indicators of hydrophytic vegetation are evident (Corps 2007). Certain types of soils, such as mollisols (present on-site), are considered difficult to interpret with regard to hydric soil indicators as redoximorphic features can often be masked; these are included in “problematic” soils (USDA 2002; Dixon 2003).

1. Verify that one or more indicators of hydrophytic vegetation are present.
2. Verify that at least one primary or two secondary indicators of wetland hydrology are present.
3. Thoroughly describe and document the soil profile and landscape setting. Verify that the area is in a landscape position that is likely to collect or concentrate water. Appropriate settings are below:
 - a. Concave surfaces, depressions, swales
 - b. Active floodplain or low terrace
 - c. Level or nearly level area (0-3% slope)
 - d. Toe slope or area of convergent slopes
 - e. Fringe of another wetland or water body
 - f. Area with a restrictive soil layer or aquitard within 24 inches of the surface
 - g. Other (explain why area is likely to be inundated or saturated for long periods).
4. Use one or more of the following approaches to determine whether the soil is hydric:
 - a. If one or more of the following indicators of problematic hydric soils is present
 - i. A10 (2 centimeters Muck)
 - ii. TF2 (Red Parent Material)
 - b. If one or more of the following indicators of problematic soil situations is present
 - i. Moderately to very strongly alkaline soils (LRR E)
 - ii. Volcanic ash or diatomaceous earth
 - iii. Vegetated sand and gravel bars within floodplains
 - iv. Dark parent material
 - v. Recently developed wetlands
 - vi. Seasonally ponded soils
 - vii. Other (explain)
 - c. Soils that change color when exposed to air
 - d. If use of alpha, alpha-dipyridyl on saturated soils causes a reaction resulting in pink or red coloration. The lack of a positive reaction does not preclude the presence of a hydric soil.
 - e. Gauge data, water-table monitoring data, or repeated direct hydrologic observations to determine whether the soil is ponded or flooded (or water table within 12 inches of surface) for 14 or more consecutive days during the growing season.

Soil colors were determined using the *Munsell Soil Color Charts* (Munsell 2000).

Wetland Hydrology

The wetland hydrology indicators presented in the WMVCR Supplement were used at each sample point to determine the presence of wetland hydrology. Wetland hydrology indicators

provide evidence that the site has a *continuing* wetland hydrologic regime and that hydric soils and hydrophytic vegetation are not relicts of a past hydrologic regime. Lack of an indicator is not evidence for the absence of wetland hydrology; however, some indicators could yield a false-positive if observations are made immediately after a rain event. Therefore, it is important to take into account recent weather conditions prior to site observations; an understanding of normal seasonal and annual variations in rainfall, temperature, and other climatic conditions is essential in interpreting hydrology indicators.

Topographic position, stratigraphy, and soil permeability influence both the frequency and duration of inundation and soil saturation. Areas of lower elevation in a floodplain or marsh have more frequent periods of inundation and/or greater duration than most areas at higher elevations. Clayey soils absorb water more slowly than sandy or loamy soils and, therefore, have slower permeability and remain saturated much longer.

On highly disturbed or problematic sites, direct hydrological monitoring may be needed to determine whether wetland hydrology is present. The Corps standard for this includes requiring 14 or more consecutive days of flooding or ponding, or a water table 12 inches or less below the soil surface, during the growing season.

LCP Study Method

Using the LCP definition of a wetland, any areas which exhibited hydric soils or hydrophytic vegetation were considered to be LCP wetlands.

Unlike the Corps methodology, areas do not need to be dominated by hydrophytic vegetation to be considered a wetland under the LCP definition, as it states that a wetland is an area that can “support the growth of plants which are normally found to grow in water or wet ground.” Therefore, those areas which were observed as supporting hydrophytic vegetation (FACW or OBL species, to be consistent with the hydrophytic status of those plants listed in the LCP wetland definition), either through direct observation during field surveys or through aerial photograph analysis, were considered to be LCP wetland areas.

Hydric soils were determined using the Corps’ methodologies as described above. The presence of hydric soils was also based on the following additional wetland delineation guidance provided the by Commission for a project in nearby Half Moon Bay with similar problematic soils (cultivated mollisols) (Dixon 2003): (1) areas with redoximorphic features, a predominance of hydrophytic plant species and standard Corps indicators of wetland hydrology; (2) areas which are saturated in 50 percent or more of the upper 12 inches of the soil for seven days, with

redoximorphic features or a positive ferrous iron test³; or (3) ponding for seven consecutive days or more. Areas exhibiting these indicators were considered to be LCP wetland areas.

The use of the Commission guidance regarding hydric soils also helps to eliminate areas exhibiting “relict” hydric soils. Relict hydric soils are those that may exhibit hydric soil indicators but no longer exhibit contemporary or recent conditions of saturation and anaerobiosis (Corps 2007). The WMVCR Supplement states that, for those areas exhibiting hydric soil indicators, “if indicators of hydrophytic vegetation and wetland hydrology are present, then hydric soil indicators can be assumed to be contemporary”. Also, wetland hydrology indicators provide evidence that the site has a *continuing* wetland hydrologic regime and hydric soils and hydrophytic vegetation are not relicts of a past hydrologic regime (Corps 2007). This guidance is also consistent with the LCP wetland definition, which defines a wetland as “an area where the water table **is** at, near, or above the land surface...[emphasis added]”; this implies that current wetland hydrology conditions are necessary, whereas the NTCHS’s technical definition of hydric soils states that a hydric soil is a soil “that **formed** under conditions of saturation, flooding or ponding...[emphasis added]”, which by definition can also include relict hydric soils.

RESULTS

Corps Methodology

The majority of the study area has been recently disturbed by agricultural activities (plowing and planting with fava bean crop); therefore, many of the sample points exhibited “significantly disturbed” vegetation and soils; as such, “normal circumstances” were generally not considered to be present. Therefore, the methodology used to determine the potential wetland extent and boundary often relied on the “problematic” methods presented in the Corps’ WMVCR Supplement for hydric soils and/or vegetation.

The results of the data collected at the sample points are described below for (1) wetland areas, (2) the wetland edge, and (3) upland areas. The sample point locations and potentially jurisdictional wetland boundary are shown on Figures 2a and 2b (on the 2006 and 2004 aerial photographs, respectively). Specific data collected at each sample point is given on the Corps’ WMVCR Region Wetland Determination Data Forms in Appendix A. A summary of the sample point data as it relates to Corps wetlands is also given below in Table 1.

³ Using a solution of alpha-, alpha-dipyridyl.

⁵ Note: Sample points 13a and 14 are not located within the Study Area, but are immediately adjacent.

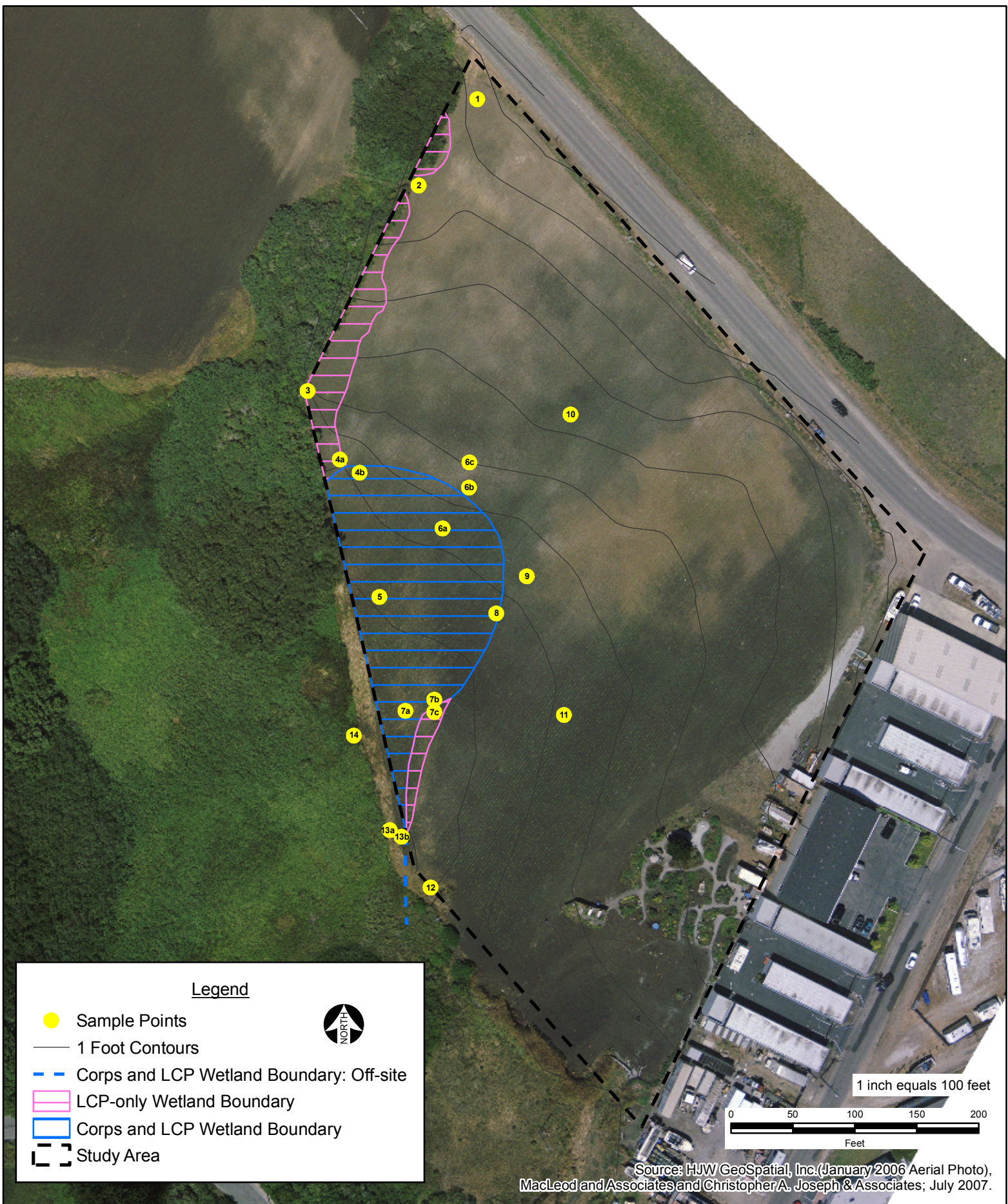
Table 1. Summary of data collected at sample points and preliminary Corps wetland determination*

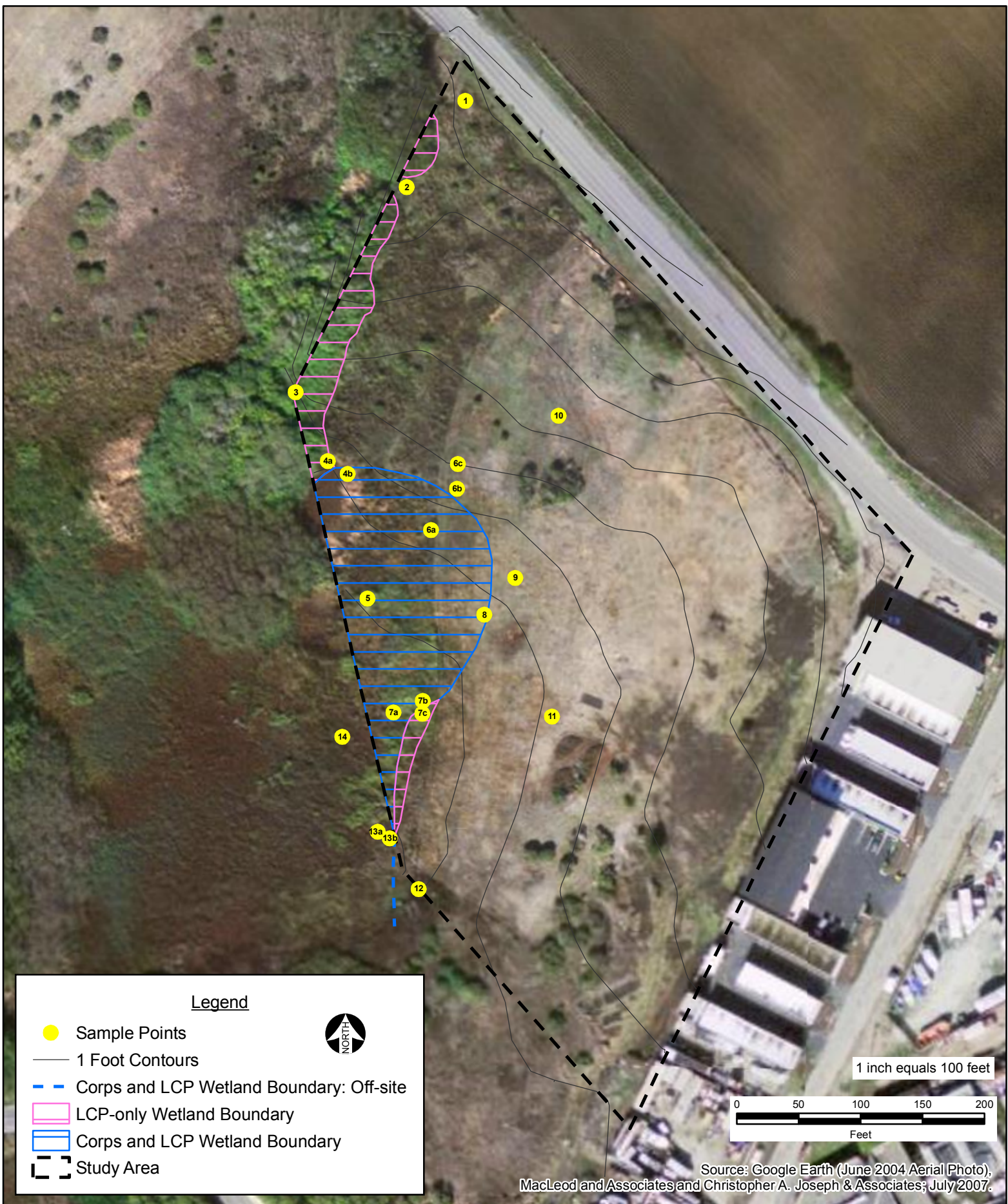
Sample Point	Hydrophytic Vegetation Indicator(s)	Hydric Soil Indicator(s)	Wetland Hydrology Indicator(s)	Within Potential Corps Wetland
1	No	<i>Yes</i>	No	No
2	No	<i>Yes</i>	No	No
3	Yes	<i>Yes</i>	No	No
4a	No	<i>Yes</i>	No	No
4b	Yes - P	Yes - P	Yes	Yes
5	Yes - P	Yes - P	Yes	Yes
6a	Yes - P	Yes - P	Yes	Yes
6b	No	No	Yes	No
6c	No	No	No	No
7a	Yes	Yes - P	Yes	Yes
7b	<i>Yes - P</i>	<i>Yes - P</i>	Yes	<i>Yes</i>
7c	<i>Yes - P</i>	No	No	No
8	<i>Yes - P</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
9	No	<i>Yes</i>	No	No
10	No	No	No	No
11	No	No	No	No
12	No	No	No	No
13a	Yes - P	Yes - P	Yes	Yes
13b	Yes	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
14	Yes	Yes - P	Yes	Yes

*Shaded cells are those with a Yes; P = using “problematic” methodology; *Italics* = indicator is marginal

Wetland Areas

Sample points 4b, 5, 6a, 7a, 13a and 14 are mapped within the potentially jurisdictional wetland area⁵. The hydrology, soil and vegetation data collected at these sample points is described below. Three additional sample points (7b, 8 and 13b) are also considered to be “wetland” sample points, but since they are mapped along the edge of the potentially jurisdictional wetland area, they are described separately in the section below titled “wetland edge.”





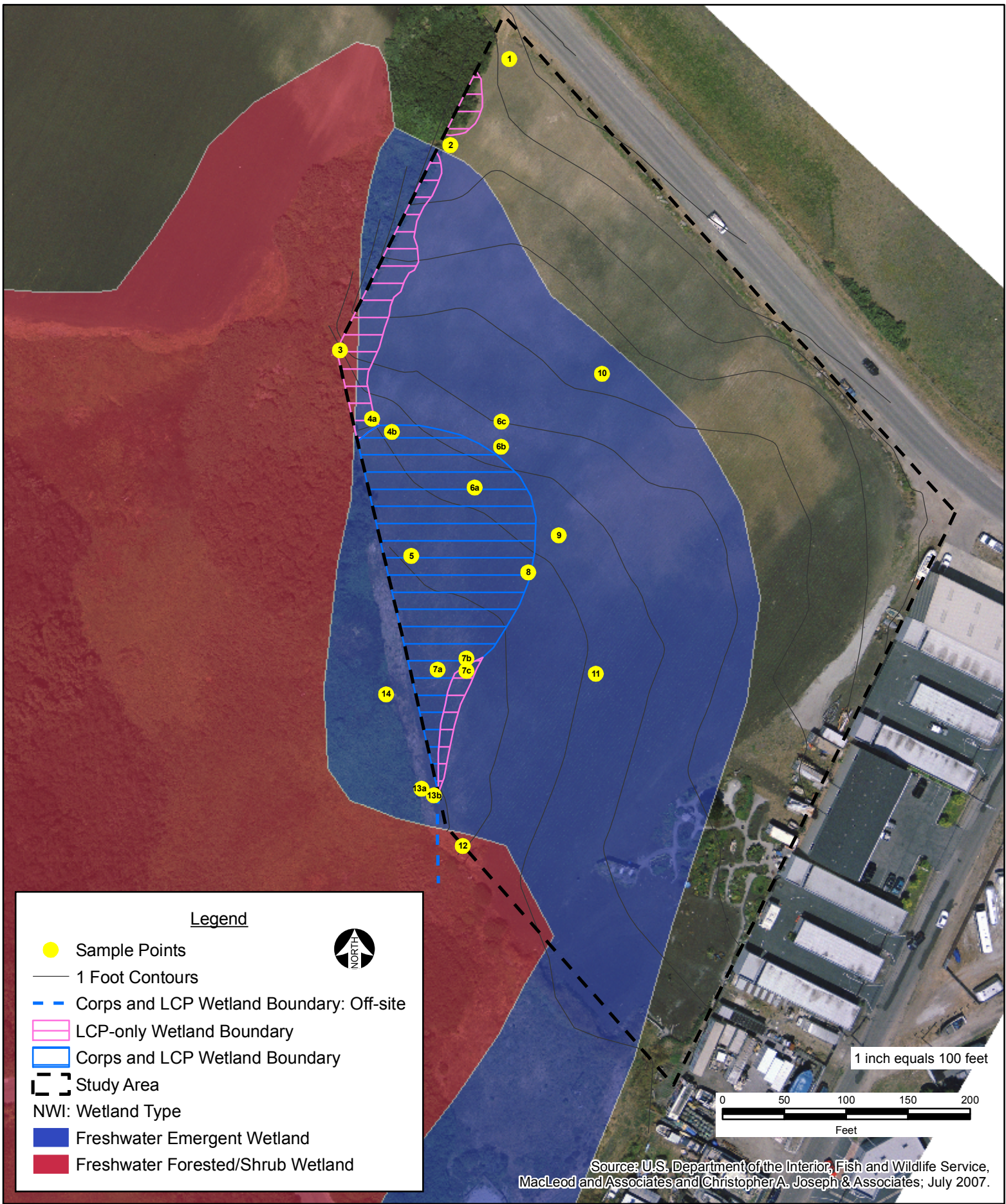
Vegetation

Since the majority of the sample points located within the potentially jurisdictional wetland area had been plowed and planted with agricultural fava beans (except 14 located within the existing marsh and 7a located within, but on the edge of, disked existing marsh) and are considered a “managed” plant community, no natural vegetation could be assessed to determine the presence of wetland vegetation. Therefore, the problematic hydrophytic vegetation methodology was used at most sample points.

Per the managed plant community procedure, sample points near the unmanaged marsh and with similar soils and wetland hydrology to the marsh, were determined to support hydrophytic vegetation. These wetland sample points are 5 and 13a. In addition, sample point 5 also exhibited scattered young individuals of non-agricultural hydrophytic plants common to the adjacent marsh, including horsetail fern (*Equisetum* sp., FACW), curly dock (*Rumex crispus*, FACW), water parsley (*Oenanthe sarmentosa*, OBL), and seep spring monkeyflower (*Mimulus guttatus*, OBL). Sample point 6a, while not immediately adjacent to the existing marsh and at a slightly higher elevation, also exhibited scattered individuals of young hydrophytic plants, including seep spring monkeyflower, iris-leaved rush (*Juncus xiphioides*, OBL), and slough sedge (*Carex obnupta*, OBL).

The next step in the managed plant community procedure is to consult other data sources, such as aerial photographs, NWI maps or other past observations. A 2004 aerial photograph was consulted to help determine the plant communities present prior to plowing and planting, which indicates that the vegetation at wetland sample points 4b, 5, 6a, 7a, and 13a (as well as wetland edge sample points 7b, 8 and 13b, and possibly upland points 4a and 7c) may have been marsh vegetation, as it appears similar to the vegetation pattern at sample point 14 and the remainder of the undisturbed marsh to the west (Figure 2b). In addition, NWI maps were consulted, but these maps show nearly the entire site as one of two types of wetlands and were therefore too broad to be useful in determining the exact location of former wetland plant communities (Figure 3).

The final step in the managed plant community procedure, if none of the previous steps can be used to determine the previous vegetation prior to disturbance, is to base the presence of hydrophytic vegetation on the presence of hydric soil and wetland hydrology indicators. Although hydrophytic vegetation at most of the wetland sample points could be determined using one or both of the previous steps in the procedure (4b, 5, 6a, and 13a), all of these also exhibited wetland hydrology and hydric soil indicators (using the problematic methodology). None of the wetland sample points were considered to have hydrophytic vegetation based solely on the presence of hydric soil and wetland hydrology indicators per the last step in the managed



plant community procedure; however, some of the wetland edge sample points did rely on this step, as discussed below.

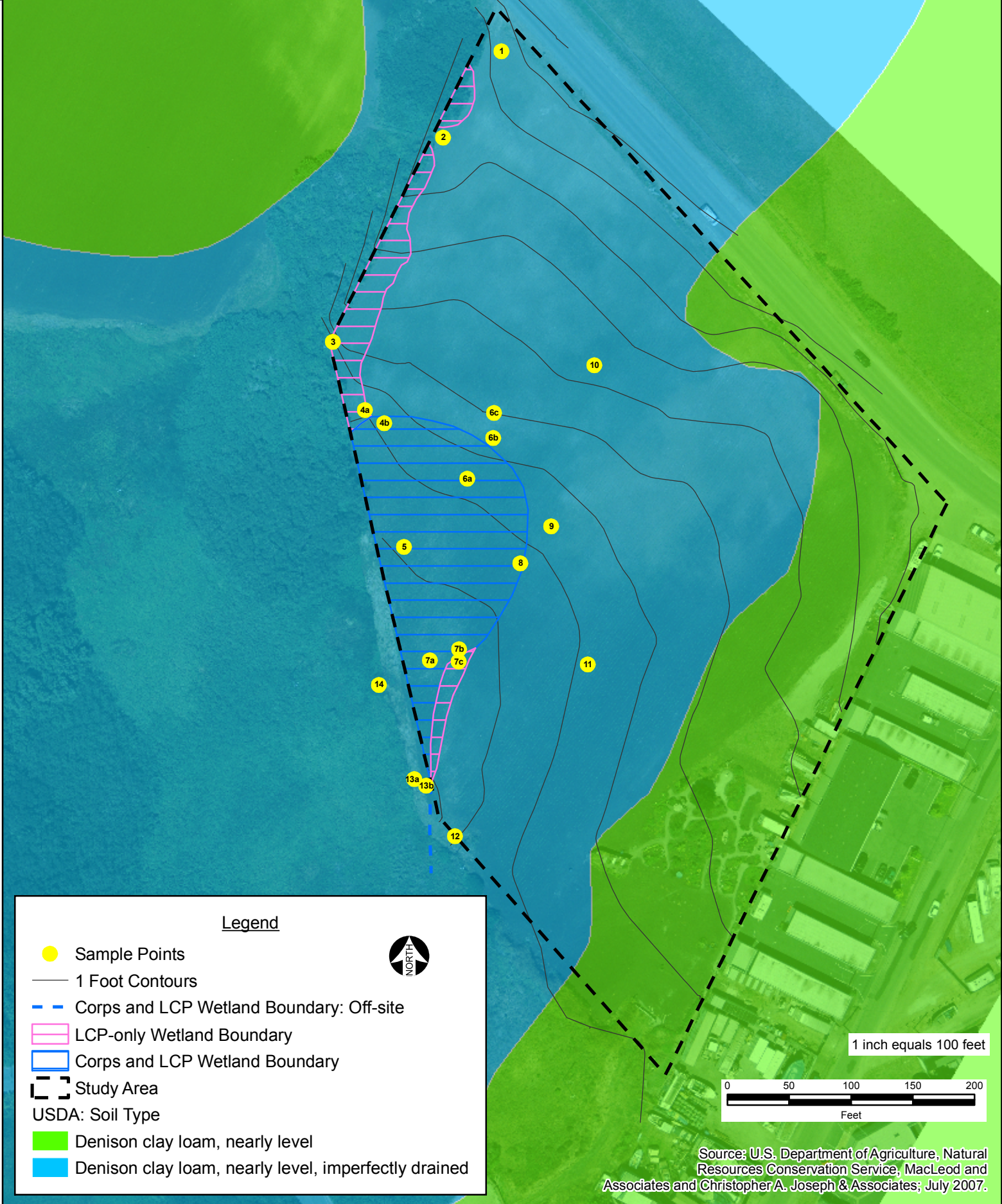
Soils

All of the sample points within the potentially jurisdictional wetland area exhibited low chroma (chroma 1) clay loam soils; however, these soils did not exhibit redoximorphic (“redox”) features such as oxidized root channels, rhizospheres, or reduced or depleted matrices or deposits. In some very low chroma soils, particularly mollisols, redox features may not be readily observable as they can be obscured by the dark matrix color, particularly for soils that are moist or saturated; if redox features were observed, these sample points may have met hydric soil indicator F6 – “redox dark surface”. It is also possible that a depleted matrix is present in the lower portions of the soil profile well below the depth excavated at these sample points; if so, they may have met hydric soil indicator A12 – “thick dark surface”.

However, since none of these normal hydric soil indicators were met, the problematic hydric soil methodology was followed. For those sample points that exhibited both wetland hydrology and hydrophytic vegetation indicators, the problematic hydric soil procedure was applied. For most of these sample points (except 7a and 14) no natural vegetation was present to use in determining the presence of hydrophytic vegetation per the problematic hydric soil methodology; therefore, the presence of hydrophytic vegetation was based on the problematic “managed plant community” procedure described above.

The first step in the problematic hydric soil procedure is to determine whether the sample point is located on an appropriate landscape position; all of the wetland sample points exhibited relatively level topography are located in appropriate landscape positions, either within depressions, at toe slopes (depositional features), adjacent to the existing marsh. The next step in the procedure is to determine whether the area is seasonally ponded, has a positive reaction to alpha-, alpha-dipyridyl, or will remain ponded or saturated for 14 or more consecutive days. All of the wetland sample points met at least one of these criteria. Sample points 4b, 5 and 6a were ponded during the site surveys, sample points 5 and 6a had a positive reaction to alpha-, alpha-dipyridyl, and all points were likely to remain ponded or saturated for at least 14 consecutive days (due to the level of ponding or saturation already observed 7 days after the previous rain event).

The soil type mapped over most of the study area is Denison clay loam, nearly level, imperfectly drained (USDA 2007) (Figure 4). This soil type includes a hydric soil component in depressions where the water table is at a depth of one foot or less during the growing season (USDA 2007).



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Figure 4: Soil Types Map
Big Wave Office Park and Wellness Center
County of San Mateo
July 2007

Given the location of the wetland sample points within a depression or toe slope and the observations of ponding or saturation as stated above, there is evidence to conclude that the soil within the potentially jurisdictional wetland is composed of the hydric soil inclusion. The other soil type mapped over the remainder of the study area along the southeastern border is Denison clay loam, nearly level; this soil type is not considered to be hydric or contain a hydric soil component or inclusion (USDA 2007).

Hydrology

Primary wetland hydrology indicators observed at all of the sample points within the potentially jurisdictional wetland area (4b, 5, 6a, 7a, 13a and 14) included direct observation of surface water (indicator A1), a high water table (A2), and/or saturation (A3); these indicators were observed on January 10 or 11, approximately one week after the last precipitation event (see site photographs in Appendix B). This is significant because although only one observation of a primary indicator is required to meet wetland hydrology, the fact that these primary indicators persisted one week following rainfall and were still ponded or showed soil saturation close to the soil surface indicated that this hydrologic condition was likely to persist for at least 14 to 18 consecutive days. This is especially true given the high clay content of the soils and the depositional nature of the landform/location at these sample points (toe slopes or depressions, relatively level topography; Appendix B).

Another primary indicator, algae matting (B4), was also observed on February 22, 2007 at sample points 6a and 7a (Appendix B). Sample point 14 also exhibited a secondary indicator by satisfying the FAC-neutral test.

Wetland Edge

Sample points 7b, 8 and 13b are also considered to be within the potentially jurisdictional wetland area, but since they are mapped along the edge of the wetland they are described separately to further highlight the rationale for the delineation of the wetland boundary⁷.

Vegetation

The vegetation at sample points 7b, 8 and 13b was also problematic due to agricultural plowing and planting; therefore presence of hydrophytic vegetation was determined per the problematic “managed plant community” methodology. Hydrophytic vegetation at sample points 7b and 13b was based on the presence of historic hydrophytic vegetation, as observed in the 2004 aerial photograph; sample point 13b was also located nearby the existing undisturbed marsh.

⁷ Note: Sample point 13b is not located within the Study Area, but is immediately adjacent.

Hydrophytic vegetation at sample point 8 was based on hydric soil and wetland hydrology indicators (although marginal); the former vegetation could not be determined in the 2004 aerial photograph and it was not located near the undisturbed marsh. Although these sample points are technically considered to exhibit hydrophytic vegetation indicators per the problematic methodology, unlike some of the wetland sample points described above (5, 6a, and 7a), none of these sample points exhibited any young individuals of hydrophytic plants; only planted fava beans and a germinating non-native grass, possibly wild oat (*Avena* sp., UPL) was observed at these sample points.

Soils

Sample point 8 exhibited approximately 2 percent distinct redox masses in the soil matrix, which when coupled with the low chroma matrix meets hydric soil indicator F6 – redox dark surface. The soils at sample points 7b and 13b were similar to those wetland sample points described above (4b, 5, 6a, 7a, 13a and 14), and were also considered to be hydric using problematic method; these sample points are located in appropriate landscape positions and are seasonally ponded and/or likely to remain saturated for 14 consecutive days.

Hydrology

Like the wetland sample points described above (4b, 5, 6a, 7a, 13a and 14), these other sample points exhibited primary wetland hydrology indicators. Sample point 7b exhibited a high water table and saturation, and samples point 8 and 13b exhibited saturation. However, these hydrology indicators were not as strong as those observed at the sample points within the wetland as described above. Sample point 7b is only slightly topographically higher than sample point 7a, but only exhibited a high water table at a depth of 10 inches one week after a rain event; however, it was saturated to the surface approximately one week after rain. Sample points 8 and 13b exhibited saturation at a depth of 10 inches one week after a rain event. This evidence indicates that while these sample points exhibit wetland hydrology indicators, they are considered to be somewhat marginal as compared to the hydrology at the wetland sample points and may indicate that these points are located along the edge of the potentially jurisdictional wetland area.

Upland Areas

The following describes the data collected at sample points determined to be in upland (“non-wetland”) areas considered to be outside of potential Corps jurisdiction: Sample points 1-4a, 6b, 6c, 7c, and 9-12.

Vegetation

Vegetation at most of the non-wetland sample points (4a, 6b, 6c, 7c, and 9-11) were similar to the wetland sample points as they had been plowed and planted with fava beans, but also supported germinating non-native grasses (possibly wild oat). Although these areas are potentially problematic because they are “managed” due to agricultural activities (i.e. no natural vegetation), since these sample points did not also exhibit wetland hydrology and hydric soil indicators, hydrophytic vegetation was determined to be absent (except at sample point 7c, which was determined to support historic wetland vegetation based on an analysis of the 2004 aerial photograph; however, this sample point did not exhibit wetland hydrology). Sample point 6b exhibited wetland hydrology indicators and if it exhibited hydric soil indicators it could be considered to have hydrophytic vegetation based on the problematic “managed plant community” procedure; however, this sample point was considered not to have hydric soil indicators using the problematic hydric soil procedure (described below).

Several non-wetland sample points (1, 2, and 12) were not in areas disturbed by plowing and agricultural planting; however, the plant community in these areas was dominated by upland plant species (see site photographs in Appendix B). Most of the plant species in these areas consisted of non-native species such as bristly ox-tongue (*Picris echioides*, FAC), cheatgrass (*Bromus tectorum*, UPL), sow thistle (*Sonchus oleraceus*, UPL), cape ivy (*Delairea odorata*, UPL) and possibly wild oat.

Sample point 3 was dominated by hydrophytic vegetation including California blackberry (*Rubus ursinus*, FACW) and poison hemlock (*Conium maculatum*, FACW); although hydric soil indicators were also present, this sample point did not exhibit wetland hydrology indicators and was therefore not considered to be within a wetland.

Soils

Soils at most of the non-wetland sample points (6c, 7c, and 10-12) were similar to the wetland sample points with regard to soil colors and textures, and the general lack of observed redox features. However, since these sample points lacked wetland hydrology, problematic hydric soil indicators were determined not to be present.

However, some of the non-wetland sample points exhibited hydric soil indicators. Sample points 1, 3, 4a, and 9 exhibited hydric soil indicator F6 – redox dark surface, as they exhibited a low chroma matrix with more than 2 percent distinct or prominent redox features. Sample point 2 exhibited hydric soil indicator A12 – thick dark surface, as it consisted of a low chroma matrix layer (color 7.5 YR 2.5/1) of at least 12 inches thick above a depleted matrix (5 YR 4/1 with 35 percent mottles with color of 7.5 YR 5/8). However, given the lack of wetland hydrology

indicators at these sample points and their relative landforms, topography and elevation, it is possible that these hydric soil indicators observed may be relict from past conditions prior to on-site and regional alterations to the hydrologic regime of the area.

Hydrology

No indicators of wetland hydrology were observed at sample points 1-4a, 6c, 7c, and 9-12. All of these sample points were generally located in areas of higher elevation than the wetland sample points described above and/or on relative topographic slopes; none of these sample points was located in a depositional landform (depression, toe slope).

LCP Methodology

Since the LCP definition of a wetland only requires the presence of either hydric soils or hydrophytic vegetation, the following sample points were determined to be within areas defined as a wetland by the LCP: 3, 4a, 4b, 5, 6a, 7a, 7b, 7c, 8, 13a, 13b and 14 (Figure 2a). All of the Corps wetland and wetland edge sample points are considered to be LCP wetland sample points; however, three additional sample points (3, 4a and 7c) are also considered to be within LCP wetland areas due to the current or historic presence of hydrophytic vegetation.

The results of the data collected at the sample points are described below for LCP wetland areas. The sample point locations and potentially jurisdictional wetland boundary are shown on Figures 2a and 2b (on the 2006 and 2004 aerial photographs, respectively). Specific data collected at each sample point is given on the Corps' WMVCR Region Wetland Determination Data Forms in Appendix A. A summary of the sample point data as it relates to LCP wetland criteria given by the Coastal Commission is also given below in Table 2.

Table 2. Summary of data collected at sample points and preliminary LCP wetland determination (based on Coastal Commission guidance)*

Sample Point	Wetland Vegetation	Hydric Soils ^a				Within Potential LCP Wetland
	Supports FACW/OBL Vegetation	Redoximorphic Features	Positive ferrous iron reaction	Saturated for 7 days	Ponded for 7 days	
1	No	Yes	N/A	No	No	No
2	No	Yes	N/A	No	No	No
3	Yes	Yes	N/A	No	No	Yes
4a	Yes - H	Yes	N/A	No	No	Yes
4b	Yes - H	No	N/A	Yes	Yes	Yes

Sample Point	Wetland Vegetation	Hydric Soils ^a				Within Potential LCP Wetland
	Supports FACW/OBL Vegetation	Redoximorphic Features	Positive ferrous iron reaction	Saturated for 7 days	Ponded for 7 days	
5	Yes	No	Yes	Yes	Yes	Yes
6a	Yes	No	Yes	Yes	No	Yes
6b	No	No	No	Yes	No	No
6c	No	No	N/A	No	No	No
7a	Yes	No	No	Yes	No	Yes
7b	Yes - H	No	N/A	No	No	Yes
7c	Yes - H	No	N/A	No	No	Yes
8	No	<i>Yes</i>	No	<i>Yes</i>	No	<i>Yes</i>
9	No	Yes	N/A	No	No	No
10	No	No	N/A	No	No	No
11	No	No	N/A	No	No	No
12	No	No	N/A	No	No	No
13a	Yes - H	No	N/A	Yes	No	Yes
13b	Yes - H	No	N/A	<i>Yes</i>	No	<i>Yes</i>
14	Yes	No	N/A	Yes	No	Yes

*Shaded cells are those with a Yes that contributes to the overall wetland determination; H = historic, based on aerial photograph analysis; *Italics = indicator is marginal or questionable*

^a Per the Commission guidance, redoximorphic features must be combined with a predominance of hydrophytic vegetation and wetland hydrology. Also, areas with soil saturation for 7 days must be also be combined with a positive ferrous iron test or redoximorphic features.

Vegetation

Most of the LCP wetland sample points were determined to be within an LCP-defined wetland area because they supported hydrophytic⁸ vegetation either currently (3, 5, 6a, 7a, and 14) or historically based on the 2004 aerial photograph (4a, 4b, 7b, 7c, 13a and 13b)(Figure 2b). Most of these sample points were also determined to have hydrophytic vegetation using the Corps' problematic "managed plant community" procedure; however, sample points 3, 7a and 14 were dominated by hydrophytic vegetation. Sample points 5, 6a, and 7a also supported scattered individuals of hydrophytic vegetation within the planted fava bean crop in plowed soils.

⁸ FACW and OBL species, as described in the Methodology section.

Soils

All of the sample points mentioned above in the LCP-defined wetland areas exhibited hydric soils as determined by the Corps' WMVCR Supplement methodology (except for 7c); see Table 1. Sample points 4b, 5, 6a, 7a, 7b, 13a and 14 were determined to have hydric soils using the problematic hydric soil methodology which relies on evidence of wetland hydrology and hydrophytic vegetation (if undisturbed), landform, slope and topography – see discussion above under Corps wetlands. Sample point 8 also exhibited hydric soil indicator, F6 – redox dark surface.

Other LCP-wetland sample points which were not mapped within Corps wetland areas (sample points 3, 4a, and 7c) exhibited hydric soil indicators and/or hydrophytic vegetation, but not wetland hydrology and were, therefore, not included in Corps wetland areas. However, since they exhibit hydric soil indicators and/or hydrophytic vegetation, they meet the definition of LCP-defined wetland areas. In addition sample points 3, and 4a exhibited hydric soil indicator F6 – redox dark surface; however, this indicator may be relict (i.e. formed during historic wetland conditions) as these sample points did not exhibit evidence of current wetland hydrology conditions.

In addition to the Corps methods, the presence of hydric soils was also determined using the Commission guidance (as described in the Methods section), which primarily relies on observations of wetland hydrology to assist in identifying LCP wetland areas. Per the guidance, the study area was surveyed on January 10-11, approximately one week following a rain event to determine the extent of ponded and saturated areas. During this survey, sample points 4b and 5 were ponded, and sample point 6a had saturated soils with a positive ferrous iron test (Table 2); therefore, they were considered to have hydric soils per the Commission guidance and are within an LCP-defined wetland area.

DISCUSSION

The potential Corps and LCP wetland boundaries were determined predominantly through the observation and interpretation of indicators during field surveys, per standard methodologies (including for “problematic” areas and using Commission guidance) as described in the Methods section. However, additional information sources were also compared to these results in an effort to fully understand the historic and current site conditions, and to provide additional support for the delineated extent of the Corps and LCP wetlands within the Study Area. These are discussed below.

National Wetlands Inventory Map

According to the NWI, the majority of the study area is considered to be wetlands (Figure 4). The predominant wetland type mapped by the NWI on the study area is Freshwater Emergent Wetland, while small areas along the western boundary are mapped as Freshwater Forested/Shrub Wetland. All of the Corps wetlands mapped on-site, and most of the LCP wetlands mapped on-site, occur within areas mapped by the NWI as wetland but occupy a much smaller area. This is likely due to the fact that NWI wetland maps are not highly accurate and are generally created from an analysis of high altitude aerial photographs (NWI 1007). In addition, it is possible that wetlands once covered most of the study area as mapped in the NWI, but disturbances on-site (from historic and current agricultural activities) and/or off-site (road and airport construction, drainage channelization) may have altered the hydrology of the study area such that the current wetland extent is now much smaller.

Local Coastal Program Map

Pillar Point Marsh is mapped as a wetland in the San Mateo LCP, Map 7.1. When this wetland boundary is overlaid with the study area boundary, it appears to overlap with a portion of the current Corps and LCP wetland areas (Figure 5). Although the Pillar Point Marsh boundary may be somewhat inaccurate, as it was digitized from a hard copy of LCP Map 7.1 which does not include any of the current parcel boundaries or a scale, it is clear that the marsh was mapped either immediately adjacent to or along the edge of the study area boundary in the location of the currently mapped Corps and LCP wetlands. Since marsh habitats rarely end in a discrete line, it is reasonable to conclude that wetland conditions (saturation, hydrophytic plants) may be present in areas adjacent to the Pillar Point Marsh boundary, which is consistent with the location of the currently mapped Corps and LCP wetland areas. Also, although the vegetation along this drainage may be considered riparian, it is clear that it was the intent of the County to include this drainage and its associated vegetation with the entire marsh system; therefore, any hydrophytic riparian vegetation associated with the drainage is considered to be within the LCP wetland area.



Legend

- Sample Points
- 1 Foot Contours
- Corps and LCP Wetland Boundary: Off-site
- LCP-only Wetland Boundary
- Corps and LCP Wetland Boundary
- Local Coastal Program Marsh Boundary
- Study Area

NORTH

1 inch equals 100 feet

0 50 100 150 200
Feet

Source: Environmental Services Agency, MacLeod and Associates and Christopher A. Joseph & Associates; July 2007.

1994 Corps Delineation Map

Per the County's request, the Corps performed a wetland delineation at Pillar Point Marsh on June 20, 1994; this delineation included the study area (Corps 1994). As shown on Figure 6, the 1994 wetland boundary overlaps the majority of the current Corps wetland area, as well as portions of the current LCP wetland areas, further supporting the extent and location of the currently mapped wetland areas. However, the southeastern portion of the 1994 wetland area extends further south and includes a narrow "arm" extending to the northeast to Airport Road. These areas were not mapped as current wetlands as they did not exhibit wetland hydrology indicators; it is possible that on-site and/or off-site activities since 1994, such as the recent agricultural activities, have altered the hydrology of the site resulting in an absence of observable hydrology indicators in these areas. Such a change in hydrology would be most likely to affect higher elevation locations such as these areas. The Corps acknowledges that the 1994 delineation was based on current site conditions at that time, and that a change in those conditions may also change the extent of their jurisdiction (Corps 1994).

Federal Emergency Management Agency Map

The Federal Emergency Management Agency (FEMA) produces maps which depict flood zones which are generally associated with rivers, oceans and other water bodies. The 100-year flood zone in the vicinity of the study area is shown on Figure 7. This flood zone occurs along the western edge of the study area and overlaps with portions of the current Corps and LCP wetland areas. Like the NWI maps, the FEMA flood zone maps are not accurate and are based predominantly on topography and regional modeling, this overlap does give additional evidence to support the location of the Corps and LCP wetlands currently mapped on-site.

Rainfall Data

Based on a preliminary review of precipitation data for the Half Moon Bay area during the site survey period, it appears that the precipitation was relatively normal for December 2006 but below normal for January 2007; overall the 2006-2007 rainy season was considered to be below normal for total precipitation (NOAA 2007, NRCS 2002). This information indicates that the wetland hydrology indicators observed during the January 10 and 11 site surveys (ponding and saturation) cannot be attributed to an unusually high rainfall season, but rather occurred during a normal or below normal rainfall season.



Legend

- Sample Points
- 1 Foot Contours
- - - Corps and LCP Wetland Boundary: Off-site
- ▭ LCP-only Wetland Boundary
- ▭ Corps and LCP Wetland Boundary
- ▭ 1994 Army Corps of Engineers Wetland Boundary
- Study Area



1 inch equals 100 feet

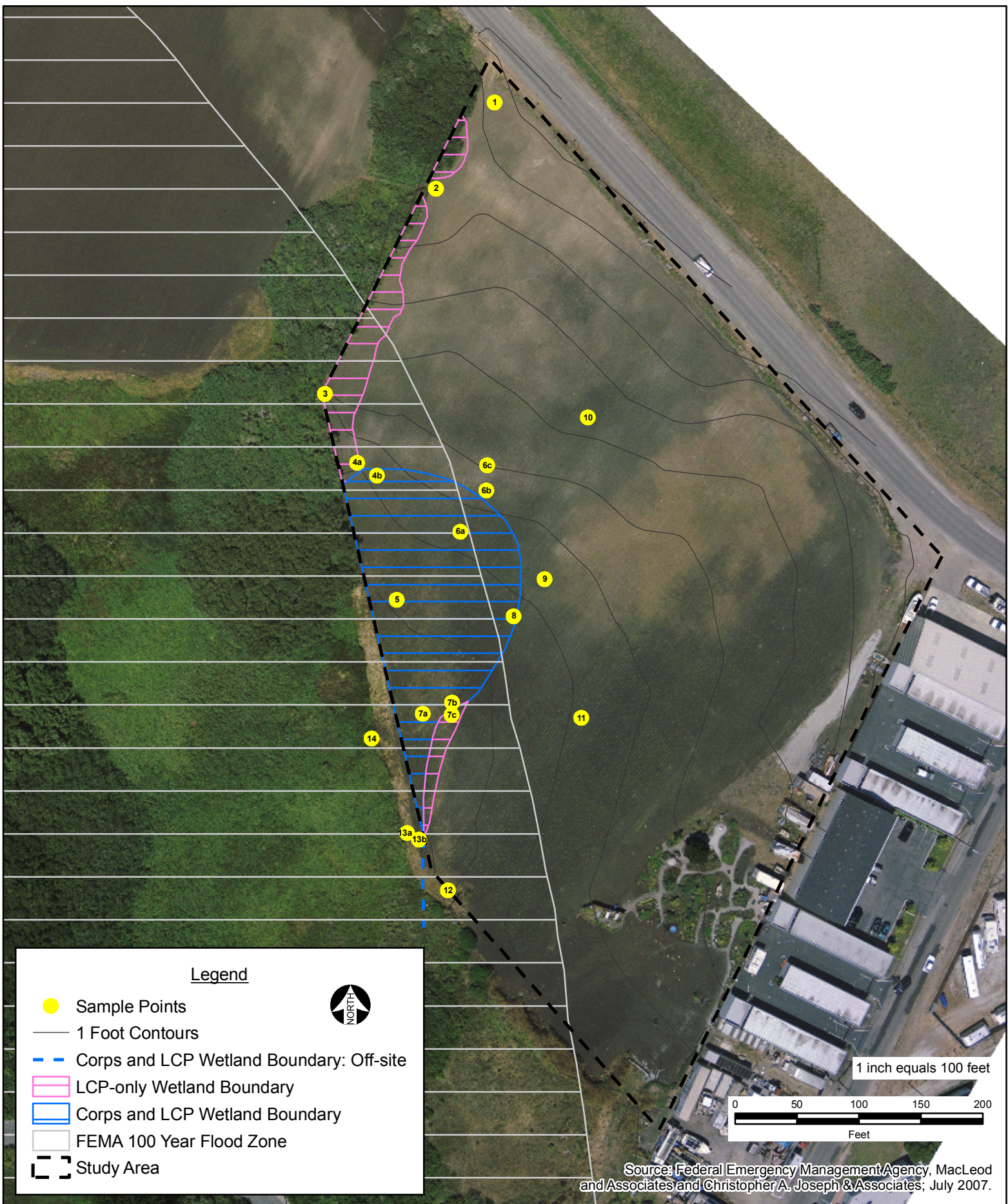


Source: Army Corps of Engineers, MacLeod and Associates and Christopher A. Joseph & Associates; July 2007.



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Figure 6: 1994 Army Corps of Engineers Wetland Map
Big Wave Office Park and Wellness Center
County of San Mateo
July 2007



CONCLUSION

Based on the wetland delineation study conducted on the Big Wave southern parcel study area, there are approximately 0.51 acre of wetlands potentially subject to regulation by the Corps under the CWA, and 0.66-acre of wetlands potentially subject to County regulation under the San Mateo County LCP. These results are considered to be preliminary until verified by these agencies and/or until any permits are issued by these agencies authorizing or exempting activities within or near these areas. Site development activities within or near these potentially regulated wetland areas will likely require a CWA permit (Nationwide Permit or Individual Permit) from the Corps and a Coastal Development Permit from San Mateo County.

In addition, these wetland areas may also be subject to regulation by the RWQCB through Section 401 of the CWA and the State Porter-Cologne Act. Although some of the willow riparian habitat along the western and northern borders of the study area (adjacent to the existing marsh and drainage) may have been previously removed for agricultural activities (as shown on Figures 2a and 2b), any remaining riparian habitat may also be subject to regulation by CDFG under Section 1600 of the Fish and Game Code.

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**Appendix A. Western Mountains, Valley and Coast Region
Wetland Determination Data Forms**

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 1/10/07
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 1
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 5
 Subregion (LRR): LRRC Lat: 122 d 29' 40.60" W Long: 37d 30' 22.70" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Only one of the three wetland criteria were present. Mapped as upland in 1994 Corps delineation.	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____		No	UPL	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
Total Cover: _____				
Sapling/Shrub Stratum				
1. _____		No	UPL	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
Total Cover: _____				
Herb Stratum				
1. <u>Unidentifiable grasses (Avena barbata ?)</u>	<u>30</u>	Yes	UPL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Picris echioides</u>	<u>15</u>	Yes	FAC	
3. <u>Conium maculatum</u>	<u><1</u>	No	FACW	
4. <u>Hypochaeris radicata</u>	<u><1</u>	No	UPL	
5. <u>Sonchus oleraceus</u>	<u><1</u>	No	UPL	
6. _____		No	UPL	
7. _____		No	UPL	
8. _____		No	UPL	
Total Cover: <u>48</u>				
Woody Vine Stratum				
1. _____		No	UPL	¹ Indicators of hydric soil and wetland hydrology must be present.
2. _____		No	UPL	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>52</u> % Cover of Biotic Crust _____				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Remarks: Hydrophytic vegetation not present.

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10 YR 2/1		10 YR 5/6	2-20	RM	M	clay loam	
11-14	10 YR 4/4		10 YR 5/8	>20	RM	M	clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 2 cm Muck (A10) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) | |

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

Soils fairly compacted at this location (near road, in area along creek where vehicles have driven). Soils were merely moist in upper six inches (last rain event was six days prior). Given landform and topography, the hydric soil indicators may be relict.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) (except NW coast) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Water-Stained Leaves (B9) (NW coast) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Frost-Heave Hummocks (D4) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped as upland in 1994 Corps delineation; old aerial photos show disturbance in 1943 (associated with road or airport?)

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 12/12/06
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 2
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 1
 Subregion (LRR): LRRC Lat: 122 d 29' 41.30" W Long: 37 d 30' 22.20" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Only one of the three wetland criteria were present.	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____		No	UPL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
Total Cover: _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum				
1. _____		No	UPL	
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
Total Cover: _____				
Herb Stratum				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Delawarea odorata</u>	40	Yes	UPL	
2. <u>Picris echioides</u>	25	Yes	FAC	
3. <u>Rubus ursinus</u>	10	No	FACW	
4. <u>Brassica nigra</u>	10	No	UPL	
5. <u>Cirsium vulgare</u>	1	No	UPL	
6. <u>Rumex crispus</u>	1	No	FACW	
7. <u>Aster chilensis</u>	5	No	FAC	
8. <u>Avena barbata (?)</u>	1	No	UPL	
Total Cover: <u>93</u>				
Woody Vine Stratum				¹ Indicators of hydric soil and wetland hydrology must be present.
1. _____		No	UPL	
2. _____		No	UPL	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>7</u> % Cover of Biotic Crust _____				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Hydrophytic vegetation not present.				

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	7.5 YR 2.5/1		none				clay loam	
14-15	5 YR 4/1		7.5 YR 5/8	>35	RM	M	clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input checked="" type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
 Soils fairly compacted at this location (near road, in area along creek where vehicles have driven). Given landform, topography, and lack of wetland hydrology, the hydric soil indicator may be relict.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (NW coast)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Frost-Heave Hummocks (D4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Water-Stained Leaves (B9) (except NW coast)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
 Appears to be upland in 1994 Corps delineation; old aerial photos show disturbance in 1943 (associated with road or airport?)

Remarks:
 No wetland hydrology despite close proximity to creek (located in area adjacent to creek banks) and recent rains (morning prior to survey). Earthworms observed in soil profile.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 1/10/07
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 3
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): floodplain (upper edge) Local relief (concave, convex, none): none Slope (%): 5
 Subregion (LRR): LRRC Lat: 122 d 29' 42.24" W Long: 37 d 30' 20.34" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: PSSCh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks: Only two of the three wetland criteria were present. Area may be affected by vehicle use on adjacent dirt road. Although site was previously mapped as wetland (1994), and is mapped as freshwater emergent wetland (NWI), it does not exhibit strong wetland hydrology indicators and is on a slight slope (i.e. not in a level area or depression).

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u>Salix lasiolepis</u>	<u>1</u>	<u>No</u>	<u>FACW</u>	
2. _____	_____	<u>No</u>	<u>UPL</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
3. _____	_____	<u>No</u>	<u>UPL</u>	
4. _____	_____	<u>No</u>	<u>UPL</u>	
Total Cover: <u>1</u>				
Sapling/Shrub Stratum				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. _____	_____	<u>No</u>	<u>UPL</u>	
2. _____	_____	<u>No</u>	<u>UPL</u>	
3. _____	_____	<u>No</u>	<u>UPL</u>	
4. _____	_____	<u>No</u>	<u>UPL</u>	
5. _____	_____	<u>No</u>	<u>UPL</u>	¹ Indicators of hydric soil and wetland hydrology must be present.
Total Cover: _____				
Herb Stratum				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. <u>Delawarea odorata</u>	<u>3</u>	<u>No</u>	<u>UPL</u>	
2. <u>Picris echioides</u>	<u>1</u>	<u>No</u>	<u>FAC</u>	Remarks: Hydrophytic vegetation present, but somewhat marginal as this area also supports upland vegetation. Area is adjacent to riparian habitat along creek.
3. <u>Rubus ursinus</u>	<u>65</u>	<u>Yes</u>	<u>FACW</u>	
4. <u>Avena barbata (?)</u>	<u>1</u>	<u>No</u>	<u>UPL</u>	
5. <u>Conium maculatum</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>	
6. <u>Rumex crispus</u>	<u>1</u>	<u>No</u>	<u>FACW</u>	
7. <u>Potentilla anserina ssp. pacifica</u>	<u>3</u>	<u>No</u>	<u>OBL</u>	
8. _____	_____	<u>No</u>	<u>UPL</u>	
Total Cover: <u>99</u>				
Woody Vine Stratum				
1. _____	_____	<u>No</u>	<u>UPL</u>	
2. _____	_____	<u>No</u>	<u>UPL</u>	
Total Cover: _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10 YR 2/1		10 YR 5/8	2-20	RM	M	clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> 2 cm Muck (A10)
	<input type="checkbox"/> Red Parent Material (TF2)
	<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	--

Remarks:
 Given the topography (not a depression or low-lying level area) and lack of wetland hydrology, the hydric soil indicators may be relict.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) (except NW coast) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Water-Stained Leaves (B9) (NW coast) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Frost-Heave Hummocks (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
 Mapped as wetland in 1994 Corps delineation.

Remarks:
 No wetland hydrology despite close proximity to creek (located in level area adjacent to creek banks). Last rain event was six days prior to sample point date. Area is topographically higher than adjacent dirt road. Soil is somewhat moist but not saturated in upper 12 inches (becomes saturated at 14 inches). Site reportedly irrigated in 2006.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 1/10/07
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 4a
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): floodplain (upper edge) Local relief (concave, convex, none): none Slope (%): 4
 Subregion (LRR): LRRC Lat: 122 d 29' 41.90" W Long: 37 d 30' 19.80" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Only one of the three wetland criteria were present. Managed plant community - has been disked and planted with fava beans. Difficult to determine former plant community using adjacent areas and other data. Lack of hydrophytic vegetation based on lack of wetland hydrology and hydric soil indicators.	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____		No	UPL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
Total Cover: _____				
Sapling/Shrub Stratum				
1. _____		No	UPL	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
Total Cover: _____				
Herb Stratum				
1. <u>Vicia faba</u>	5	No	UPL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Avena barbata (?)</u>	5	No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
6. _____		No	UPL	
7. _____		No	UPL	
8. _____		No	UPL	
Total Cover: <u>10</u>				
Woody Vine Stratum				
1. _____		No	UPL	¹ Indicators of hydric soil and wetland hydrology must be present.
2. _____		No	UPL	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>90</u> % Cover of Biotic Crust _____				
				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Remarks: Hydrophytic vegetation not present. Area in active agricultural use - has been disked and planted with fava beans. Difficult to determine former plant community; was within riparian habitat based on 2004 aerial photograph similar to Sample Point 3, but also adjacent to an area that appears to have been upland or marginal grassland/scrub.

SOIL

Sampling Point: 4a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10 YR 2/1		10 YR 5/8	2-20	RM	M	clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
Although technically mapped within the FEMA floodplain, it is located near the upper edge. Also, due to the relatively sloped topography and lack of "problematic hydric soil indicators", including wetland hydrology indicators, the hydric soil indicator may be relict.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (NW coast)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Frost-Heave Hummocks (D4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Water-Stained Leaves (B9) (except NW coast)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Mapped as wetland in 1994 Corps delineation.

Remarks:
No wetland hydrology. Area is on slight topographic slope toward low area. Soil is somewhat moist but not saturated in upper 12 inches. Last rain event was six days prior to sample point date.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 1/10/07
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 4b
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): floodplain (upper edge) Local relief (concave, convex, none): toe slope Slope (%): 4
 Subregion (LRR): LRRC Lat: 122 d 29' 41.70" W Long: 37 d 30' 19.70" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Managed plant community - has been disked and planted with fava beans. Due to lack of natural vegetation from farming, hydrophytic vegetation determined based on evidence of current wetland hydrology and hydric soil indicators (problematic); this combined with other recorded data indicates that this point is likely a wetland.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____		No	UPL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
Total Cover: _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum				
1. _____		No	UPL	
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
Total Cover: _____				
Herb Stratum				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Vicia faba</u>	<u>5</u>	No	UPL	
2. <u>Avena barbata (?)</u>	<u>5</u>	No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
6. _____		No	UPL	
7. _____		No	UPL	
8. _____		No	UPL	
Total Cover: <u>10</u>				
Woody Vine Stratum				¹ Indicators of hydric soil and wetland hydrology must be present.
1. _____		No	UPL	
2. _____		No	UPL	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>90</u> % Cover of Biotic Crust _____		Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks: Problematic hydrophytic vegetation. Area in active agricultural use - has been disked and planted with fava beans. Difficult to determine former plant community; was adjacent to riparian and marsh habitat in 2004 aerial photo in an area with a similar vegetation pattern as Sample Point 6a. Presence of wetland hydrology and hydric soil indicators (problematic) also used to determine hydrophytic vegetation.

SOIL

Sampling Point: 4b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10 YR 2/1		none				clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks: Problematic hydric soil. Dark chroma may obscure redox features. However, the location toward the base of a slight topographic slope (toe slope), the fact that it is seasonally ponded and is likely to remain saturated for 14 consecutive days, and the presence of distinct wetland hydrology indicators indicate that the soil is probably hydric.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (any one indicator is sufficient)</p> <p><input checked="" type="checkbox"/> Surface Water (A1)</p> <p><input checked="" type="checkbox"/> High Water Table (A2)</p> <p><input checked="" type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p>	<p>Secondary Indicators (2 or more required)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9) (NW coast)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> Shallow Aquitard (D3)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D4)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)</p>
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<p>Field Observations:</p> <p>Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>1</u></p> <p>Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>5</u></p> <p>Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u></p>	<p>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____</p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
 Mapped as wetland in 1994 Corps delineation.

Remarks: Area is toward base of slight topographic slope. Soils are ponded and saturated since last rain event six days prior to sample point date; this is notable in comparison with lack of any wetland hydrology at adjacent and slightly higher sample point 4a.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 2/22/07
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 5
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): level Slope (%): 1
 Subregion (LRR): LRRC Lat: 122 d 29' 41.48" W Long: 37 d 30' 18.71" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Managed plant community - disked & planted with fava beans. Due to lack of natural vegetation, hydrophytic vegetation determined by observed wetland plants, evidence of current wetland hydrology and hydric soil indicators (problematic); this combined with other recorded data indicates that this point is likely a wetland.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. _____		No	UPL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)																																
2. _____		No	UPL																																	
3. _____		No	UPL																																	
4. _____		No	UPL																																	
Total Cover: _____				Prevalence Index worksheet: <table style="width:100%; border: none;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>4</u></td> <td>x 1 =</td> <td align="center"><u>4</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>7</u></td> <td>x 2 =</td> <td align="center"><u>14</u></td> </tr> <tr> <td>FAC species</td> <td></td> <td>x 3 =</td> <td></td> </tr> <tr> <td>FACU species</td> <td></td> <td>x 4 =</td> <td></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>30</u></td> <td>x 5 =</td> <td align="center"><u>150</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>41</u></td> <td>(A)</td> <td align="center"><u>168</u></td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>4.1</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>4</u>	x 1 =	<u>4</u>	FACW species	<u>7</u>	x 2 =	<u>14</u>	FAC species		x 3 =		FACU species		x 4 =		UPL species	<u>30</u>	x 5 =	<u>150</u>	Column Totals:	<u>41</u>	(A)	<u>168</u>	Prevalence Index = B/A = <u>4.1</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>4</u>	x 1 =	<u>4</u>																																	
FACW species	<u>7</u>	x 2 =	<u>14</u>																																	
FAC species		x 3 =																																		
FACU species		x 4 =																																		
UPL species	<u>30</u>	x 5 =	<u>150</u>																																	
Column Totals:	<u>41</u>	(A)	<u>168</u>																																	
Prevalence Index = B/A = <u>4.1</u>																																				
Sapling/Shrub Stratum																																				
1. _____		No	UPL																																	
2. _____		No	UPL																																	
3. _____		No	UPL																																	
4. _____		No	UPL																																	
5. _____		No	UPL																																	
Total Cover: _____																																				
Herb Stratum																																				
1. <u>Vicia faba</u>	<u>15</u>	Yes	UPL																																	
2. <u>Unknown grass (Avena? Lolium?)</u>	<u>15</u>	Yes	UPL																																	
3. <u>Equisetum sp.</u>	<u>2</u>	No	FACW																																	
4. <u>Rumex crispus</u>	<u>5</u>	No	FACW																																	
5. <u>Oenanthe sarmentosa</u>	<u>3</u>	No	OBL																																	
6. <u>Mimulus guttatus</u>	<u>1</u>	No	OBL																																	
7. _____		No	UPL																																	
8. _____		No	UPL																																	
Total Cover: <u>41</u>																																				
Woody Vine Stratum																																				
1. _____		No	UPL																																	
2. _____		No	UPL																																	
Total Cover: _____																																				
% Bare Ground in Herb Stratum <u>59</u> % Cover of Biotic Crust _____																																				
Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																																				
¹ Indicators of hydric soil and wetland hydrology must be present.																																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																				

Remarks: Problematic hydrophytic vegetation. Area in active agricultural use. Appears to be located in marsh vegetation based on 2004 aerial photo, and individuals of FACW and OBL species are growing in area and it is adjacent to the undisturbed marsh; therefore, former plant community determined to be freshwater emergent marsh. Presence of wetland hydrology and hydric soil indicators (problematic) also used to determine hydrophytic vegetation.

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10 YR 2/1		none				clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input checked="" type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

Remarks:
Problematic hydric soil. Dark chroma may obscure redox features, but soils reacted positively to alpha, alpha dipyridyl. Site is level, in topographic low area, in a floodplain, at the fringe of a marsh, is seasonally ponded and is likely to remain saturated for 14 consecutive days. These factors indicate that the soil is hydric.

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (2 or more required)</u>
<u>Primary Indicators (any one indicator is sufficient)</u>	<input type="checkbox"/> Water-Stained Leaves (B9) (NW coast)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Frost-Heave Hummocks (D4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)

Field Observations:	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u>	
Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>	
Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Mapped as wetland in 1994 Corps delineation.

Remarks:
Area is in topographic low area adjacent to undisturbed marsh. Although ponded and saturated may be due to recent rain (earlier same morning), this area was also observed on 1/10 as inundated six days after a rain event.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 2/22/07
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 6a
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): floodplain (upper edge) Local relief (concave, convex, none): nearly level Slope (%): 3
 Subregion (LRR): LRRC Lat: 122 d 29' 40.85" W Long: 37 d 30' 19.27" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Managed plant community - disked & planted with fava beans. Due to lack of natural vegetation, hydrophytic vegetation determined by observed wetland plants, evidence of current wetland hydrology and hydric soil indicators (problematic); this combined with other recorded data indicates that this point is likely a wetland.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. _____		No	UPL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)																																
2. _____		No	UPL																																	
3. _____		No	UPL																																	
4. _____		No	UPL																																	
Total Cover: _____																																				
Sapling/Shrub Stratum																																				
1. _____		No	UPL	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>10</u></td> <td>x 1 =</td> <td align="center"><u>10</u></td> </tr> <tr> <td>FACW species</td> <td></td> <td>x 2 =</td> <td></td> </tr> <tr> <td>FAC species</td> <td></td> <td>x 3 =</td> <td></td> </tr> <tr> <td>FACU species</td> <td></td> <td>x 4 =</td> <td></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>30</u></td> <td>x 5 =</td> <td align="center"><u>150</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>40</u></td> <td align="center">(A)</td> <td align="center"><u>160</u></td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>4.0</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>10</u>	x 1 =	<u>10</u>	FACW species		x 2 =		FAC species		x 3 =		FACU species		x 4 =		UPL species	<u>30</u>	x 5 =	<u>150</u>	Column Totals:	<u>40</u>	(A)	<u>160</u>	Prevalence Index = B/A = <u>4.0</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>10</u>	x 1 =	<u>10</u>																																	
FACW species		x 2 =																																		
FAC species		x 3 =																																		
FACU species		x 4 =																																		
UPL species	<u>30</u>	x 5 =	<u>150</u>																																	
Column Totals:	<u>40</u>	(A)	<u>160</u>																																	
Prevalence Index = B/A = <u>4.0</u>																																				
2. _____		No	UPL																																	
3. _____		No	UPL																																	
4. _____		No	UPL																																	
5. _____		No	UPL																																	
Total Cover: _____																																				
Herb Stratum																																				
1. <u>Vicia faba</u>	<u>15</u>	Yes	UPL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																																
2. <u>Unknown grass (Avena? Lolium?)</u>	<u>15</u>	Yes	UPL																																	
3. <u>Mimulus cuttatus</u>	<u>5</u>	No	OBL																																	
4. <u>Juncus xiphioides</u>	<u>5</u>	No	OBL																																	
5. _____		No	UPL																																	
6. _____		No	UPL																																	
7. _____		No	UPL																																	
8. _____		No	UPL																																	
Total Cover: <u>40</u>																																				
Woody Vine Stratum																																				
1. _____		No	UPL	¹ Indicators of hydric soil and wetland hydrology must be present.																																
2. _____		No	UPL																																	
Total Cover: _____																																				
% Bare Ground in Herb Stratum <u>60</u>		% Cover of Biotic Crust _____																																		
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																				

Remarks: Problematic hydrophytic vegetation. Area in active agricultural use. Individuals of FACW and OBL species are growing in area similar to those observed in the adjacent undisturbed marsh and vegetation in 2004 aerial is similar to marsh vegetation; therefore, former plant community determined to be freshwater emergent marsh. Presence of wetland hydrology and hydric soil indicators (problematic) also used to determine hydrophytic vegetation.

SOIL

Sampling Point: 6a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10 YR 2/1		none				clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input checked="" type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
Problematic hydric soil. Dark chroma may obscure redox features, but soils reacted positively to alpha, alpha dipyriddy. Site is relatively level and in a floodplain, is seasonally ponded and likely to stay saturated for 14 consecutive days. These factors, and the observation of a high water table, indicate that the soil is hydric.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (NW coast)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Frost-Heave Hummocks (D4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Water-Stained Leaves (B9) (except NW coast)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u>	
Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>	
Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Mapped as wetland in 1994 Corps delineation.

Remarks:
Area is on slight topographic slope toward low-lying area. Although ponded and saturated may be due to recent rain (earlier same morning), this area was also observed on 1/10 as saturated six days after a rain event. Algae observed growing in ponded surface water.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 1/10/07
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 6b
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 4
 Subregion (LRR): LRRC Lat: 122 d 29' 40.60" W Long: 37 d 30' 19.60" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>Managed plant community - disked and planted with fava beans. Problematic hydrophytic vegetation and hydric soils are marginal/questionable; however, wetland hydrology is present. Therefore location is likely within a wetland but this point may be at the uppermost edge of the wetland.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____		No	UPL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
Total Cover: _____				
Sapling/Shrub Stratum				
1. _____		No	UPL	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
Total Cover: _____				
Herb Stratum				
1. <u>Vicia faba</u>	<u>5</u>	Yes	UPL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.
2. <u>Unknown grass (Avena?)</u>	<u>5</u>	Yes	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
6. _____		No	UPL	
7. _____		No	UPL	
8. _____		No	UPL	
Total Cover: <u>10</u>				
Woody Vine Stratum				
1. _____		No	UPL	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____		No	UPL	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>90</u> % Cover of Biotic Crust _____				

Remarks: Area in active agricultural use and has been disked and planted with fava beans, but unlike adjacent sample point 6a no individuals of hydrophytic species (OBL) were observed growing here or in topographically higher areas. Difficult to determine former plant community, but may be on upper marsh edge based on 2004 aerial photo. Problematic hydrophytic vegetation could not be determined based on lack of hydric soils.

SOIL

Sampling Point: 6b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10 YR 2/1		none				clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> 2 cm Muck (A10)
	<input type="checkbox"/> Red Parent Material (TF2)
	<input checked="" type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
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Remarks:
 Dark chroma may obscure redox features, but soils reacted negatively to alpha, alpha dipyridyl as compared to adjacent sample point 6a which reacted positively. Soil saturation and ponding observed here, but located on slope and not within floodplain. Therefore, not problematic hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input checked="" type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Water-Stained Leaves (B9) (NW coast) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Frost-Heave Hummocks (D4) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Water-Stained Leaves (B9) (except NW coast) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>8</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>2</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
 Mapped as upland in 1994 Corps delineation.

Remarks:
 Area is on slight topographic slope toward low-lying area. Algae observed growing in ponded surface water. Area was saturated six days after a rain event; however, given wetland hydrology conditions of adjacent sample points 6a and 6c, it appears that this sample point may be just beyond the uppermost edge of the wetland.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 1/10/07
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 6c
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): level Slope (%): 2
 Subregion (LRR): LRRC Lat: 122 d 29' 40.60" W Long: 37 d 30' 19.80" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>Managed plant community - disked and planted with fava beans. None of the three wetland criteria were present. Mapped as upland in 1994 Corps delineation.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____		No	UPL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
Total Cover: _____				
Sapling/Shrub Stratum				
1. _____		No	UPL	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
Total Cover: _____				
Herb Stratum				
1. <u>Vicia faba</u>	<u>5</u>	Yes	UPL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Unknown grass (Avena?)</u>	<u>5</u>	Yes	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
6. _____		No	UPL	
7. _____		No	UPL	
8. _____		No	UPL	
Total Cover: <u>10</u>				
Woody Vine Stratum				
1. _____		No	UPL	¹ Indicators of hydric soil and wetland hydrology must be present.
2. _____		No	UPL	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>90</u> % Cover of Biotic Crust _____				
				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Remarks: Area in active agricultural use and has been disked and planted with fava beans. Difficult to determine former plant community; based on 2004 aerial photograph, it appears to have been in upland grassland/scrub on the upper edge of marsh vegetation.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 2/22/07
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 7a
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): level Slope (%): 1
 Subregion (LRR): LRRC Lat: 122 d 29' 41.19" W Long: 37 d 30' 17.81" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Although somewhat disturbed by disking, hydrophytic vegetation is present; this combined with evidence of wetland hydrology, the location in relatively low area adjacent to undisturbed marsh, NWI wetland classification as freshwater emergent marsh and wetland determination in 1994 concludes that this point is a wetland.	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____		No	UPL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
Total Cover: _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum				
1. _____		No	UPL	
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
Total Cover: _____				
Herb Stratum				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Juncus balticus</u>	15	Yes	OBL	
2. <u>Unknown grass (Avena?)</u>	10	No	UPL	
3. <u>Juncus xiphioides</u>	15	Yes	OBL	
4. <u>Oenanthe sarmentosa</u>	5	No	OBL	
5. <u>Rumex crispus</u>	20	Yes	FACW	
6. <u>Carex obnupta</u>	10	No	OBL	
7. _____		No	UPL	
8. _____		No	UPL	
Total Cover: <u>75</u>				
Woody Vine Stratum				¹ Indicators of hydric soil and wetland hydrology must be present.
1. _____		No	UPL	
2. _____		No	UPL	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>25</u> % Cover of Biotic Crust _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: Sample point is on edge of disturbed (disked) vegetation where some natural marsh vegetation is still intact and undisturbed marsh vegetation is adjacent and west of sample point. Therefore, former plant community is determined to be freshwater emergent marsh.

SOIL

Sampling Point: 7a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10 YR 2/1		none				clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks: Problematic hydric soils. Dark chroma may obscure redox features, and soils reacted negatively to alpha, alpha dipyridyl. However, site is level in relatively topographic low area (toe slope) within a floodplain on the fringe of a marsh, is seasonally ponded and likely to stay saturated for 14 consecutive days. Therefore, soil is hydric.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (any one indicator is sufficient)</u></p> <p><input checked="" type="checkbox"/> Surface Water (A1)</p> <p><input checked="" type="checkbox"/> High Water Table (A2)</p> <p><input checked="" type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input checked="" type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Water-Stained Leaves (B9) (NW coast)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> Shallow Aquitard (D3)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D4)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)</p>
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<p>Field Observations:</p> <p>Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>2</u></p> <p>Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u></p> <p>Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u></p>	<p>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____</p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
 Mapped as wetland in 1994 Corps delineation.

Remarks: Area is in topographic low area adjacent to undisturbed marsh. Although ponded and saturated may be due to recent rain (earlier same morning), this area was also observed on 1/10 as saturated six days after a rain event. Algae observed growing on ponded water.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 1/11/07
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 7b
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): floodplain (upper edge) Local relief (concave, convex, none): level Slope (%): 1
 Subregion (LRR): LRRC Lat: 122 d 29' 40.90" W Long: 37 d 30' 17.90" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Managed plant community - disked and planted with fava beans. Problematic hydrophytic vegetation and hydric soils are marginal/questionable; however, wetland hydrology is present. Therefore location is likely within a wetland but this point may be at the uppermost edge of the wetland.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____		No	UPL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
Total Cover: _____				
Sapling/Shrub Stratum				
1. _____		No	UPL	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
Total Cover: _____				
Herb Stratum				
1. <u>Vicia faba</u>	<u>5</u>	Yes	UPL	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Unknown grass (Avena?)</u>	<u>5</u>	Yes	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
6. _____		No	UPL	
7. _____		No	UPL	
8. _____		No	UPL	
Total Cover: <u>10</u>				
Woody Vine Stratum				
1. _____		No	UPL	¹ Indicators of hydric soil and wetland hydrology must be present.
2. _____		No	UPL	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>90</u> % Cover of Biotic Crust _____				
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: Area in active agricultural use and has been disked and planted with fava beans, but unlike adjacent sample point 7a no individuals of hydrophytic species (OBL) were observed growing here or in topographically higher areas. In area with vegetation similar to that in the marsh based on 2004 aerial photo. Problematic hydrophytic vegetation also based on hydric soil and hydrology indicators.

SOIL

Sampling Point: 7b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10 YR 2/1		none				clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input checked="" type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
Problematic hydric soil. No redox features observed (although possibly obscured by dark chroma). Site is level in somewhat topographic low area in a floodplain (but on the upper edge), and is likely to stay saturated for 14 consecutive days. Therefore, the soil may be hydric but it may be on the uppermost edge of the wetland.

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (2 or more required)</u>
<u>Primary Indicators (any one indicator is sufficient)</u>	<input type="checkbox"/> Water-Stained Leaves (B9) (NW coast)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Frost-Heave Hummocks (D4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)

Field Observations:	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>10</u>	
Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped as wetland in 1994 Corps delineation.

Remarks:
Area is adjacent to and slightly higher than sample point 7a in a somewhat low-lying area, and exhibited a marginally high water table and saturation to the surface 7 days after a rain event; therefore, this point may be on the uppermost edge of the wetland.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 1/11/07
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 7c
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): floodplain (upper edge) Local relief (concave, convex, none): level Slope (%): 1
 Subregion (LRR): LRRC Lat: 122 d 29' 40.90" W Long: 37 d 30' 17.80" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>Managed plant community - disked and planted with fava beans. None of the three wetland criteria are present.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____		No	UPL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
Total Cover: _____				
Sapling/Shrub Stratum				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____		No	UPL	
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
Total Cover: _____				
Herb Stratum				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Vicia faba</u>	<u>5</u>	Yes	UPL	
2. <u>Unknown grass (Avena?)</u>	<u>5</u>	Yes	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
6. _____		No	UPL	
7. _____		No	UPL	
8. _____		No	UPL	
Total Cover: <u>10</u>				
Woody Vine Stratum				¹ Indicators of hydric soil and wetland hydrology must be present.
1. _____		No	UPL	
2. _____		No	UPL	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>90</u> % Cover of Biotic Crust _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: Area in active agricultural use and has been disked and planted with fava beans. Difficult to determine former plant community; however, based on 2004 aerial photograph, it appears to have been within or on edge of marsh vegetation.

SOIL

Sampling Point: 7c

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10 YR 2/1		none				clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)				
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)				
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)				

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
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Remarks:
 No redox features observed (although possibly obscured by dark chroma). Although level and mapped in a floodplain (near upper edge), the site is topographically higher than point 7b which exhibited marginal wetland hydrology; this point exhibits no wetland hydrology and therefore is not considered to have hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) (except NW coast) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9) (NW coast) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Frost-Heave Hummocks (D4) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
 Mapped as wetland in 1994 Corps delineation.

Remarks:
 Area exhibited no saturation or ponding 7 days after a rain event and is slightly above (topographically higher) than adjacent sample point 7b, which exhibited marginal wetland hydrology and was considered to be at the uppermost edge of the wetland.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 1/11/07
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 8
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): level Slope (%): 2
 Subregion (LRR): LRRC Lat: 122 d 29' 40.30" W Long: 37 d 30' 18.60" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Managed plant community - disked and planted with fava beans. Wetland hydrology was observed (though marginal), and hydric soil (also marginal), therefore technically has problematic hydrophytic vegetation; however, due to the marginal nature of the indicators, this point may on the edge of the wetland.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____		No	UPL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
Total Cover: _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum				
1. _____		No	UPL	
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
Total Cover: _____				
Herb Stratum				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Vicia faba</u>	<u>5</u>	Yes	UPL	
2. <u>Unknown grass (Avena?)</u>	<u>5</u>	Yes	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
6. _____		No	UPL	
7. _____		No	UPL	
8. _____		No	UPL	
Total Cover: <u>10</u>				
Woody Vine Stratum				¹ Indicators of hydric soil and wetland hydrology must be present.
1. _____		No	UPL	
2. _____		No	UPL	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>90</u> % Cover of Biotic Crust _____		Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks: Area in active agricultural use and has been disked and planted with fava beans. Difficult to determine former plant community; based on 2004 aerial photograph, it appears to have been within or on edge of grassland vegetation. No hydrophytic plants observed growing here (as compared to sample points 5 and 6a). Considered to have problematic hydrophytic vegetation indicator as hydric soil and hydrology are present, but both are marginal.

SOIL

Sampling Point: 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10 YR 2/1		10 YR 3/4	2	RM	M	clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
 Point is level but in topographic high area and exhibits marginal wetland hydrology (unlikely to remain saturated for 14 consecutive days). Although negative reaction to alpha, alpha-dipyridyl (2/22), it meets F6 indicator. Therefore, is considered a hydric soil, but it may be on the edge of the wetland.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)	<input type="checkbox"/> Water-Stained Leaves (B9) (NW coast)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Frost-Heave Hummocks (D4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Water-Stained Leaves (B9) (except NW coast)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): 12.5

Saturation Present? (includes capillary fringe) Yes No Depth (inches): 10

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
 Mapped as upland in 1994 Corps delineation.

Remarks:
 Area exhibited marginal wetland hydrology (saturation at 10 inches, water table at 12.5 inches) 7 days after a rain event, which is unlikely to persist for another 7+ days); therefore, this point may be just at the edge of the wetland.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 1/11/07
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 9
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): level Slope (%): 2
 Subregion (LRR): LRRC Lat: 122 d 29' 40.00" W Long: 37 d 30' 18.90" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>Managed plant community - disked and planted with fava beans. Only one of the three wetland criteria are present.</u>	

VEGETATION

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____		No	UPL	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
Total Cover: _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
<u>Sapling/Shrub Stratum</u>				
1. _____		No	UPL	
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
Total Cover: _____				
<u>Herb Stratum</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.
1. <u>Vicia faba</u>	5	Yes	UPL	
2. <u>Unknown grass (Avena?)</u>	5	Yes	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
6. _____		No	UPL	
7. _____		No	UPL	
8. _____		No	UPL	
Total Cover: <u>10</u>				
<u>Woody Vine Stratum</u>				
1. _____		No	UPL	
2. _____		No	UPL	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>90</u> % Cover of Biotic Crust _____				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Remarks: Area in active agricultural use and has been disked and planted with fava beans. Difficult to determine former plant community; based on 2004 aerial photograph, it appears to have been within grassland vegetation.

SOIL

Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10 YR 2/1	80	10 YR 3/3	20	RM	M	clay loam	
10-14	10 YR 2/1	50	10 YR 3/3	50	RM	M	clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
 Point is level in relatively topographic high area and does not exhibit wetland hydrology. Therefore, hydric soil indicator may be relict.

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (any one indicator is sufficient)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (NW coast)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water-Stained Leaves (B9) (NW coast)
	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> Frost-Heave Hummocks (D4)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
 Mapped as wetland in 1994 Corps delineation.

Remarks:
 Area did not exhibit wetland hydrology 7 days after a rain event; located on topographic high point.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 1/10/07
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 10
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): level Slope (%): 2
 Subregion (LRR): LRRC Lat: 122 d 29' 39.60" W Long: 37 d 30' 20.20" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>Managed plant community - disked and planted with fava beans. None of the three wetland criteria are present.</u>	

VEGETATION

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____		No	UPL	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
Total Cover: _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
<u>Sapling/Shrub Stratum</u>				
1. _____		No	UPL	
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
Total Cover: _____				
<u>Herb Stratum</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.
1. <u>Vicia faba</u>	5	Yes	UPL	
2. <u>Unknown grass (Avena?)</u>	5	Yes	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
6. _____		No	UPL	
7. _____		No	UPL	
8. _____		No	UPL	
Total Cover: <u>10</u>				
<u>Woody Vine Stratum</u>				
1. _____		No	UPL	
2. _____		No	UPL	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>90</u> % Cover of Biotic Crust _____				
Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				

Remarks: Area in active agricultural use and has been disked and planted with fava beans. Difficult to determine former plant community; based on 2004 aerial photograph, it appears to have been within grassland or scrub vegetation.

SOIL

Sampling Point: 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10 YR 2/1		none				clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Indicators for Problematic Hydric Soils³:

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

No redox features observed (although possibly obscured by dark chroma). Point is level but on topographic high point and does not exhibit wetland hydrology. Therefore, the soil is not considered to be hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (NW coast)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Frost-Heave Hummocks (D4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Water-Stained Leaves (B9) (except NW coast)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes _____ No Depth (inches): _____

Water Table Present? Yes _____ No Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No Depth (inches): _____

Wetland Hydrology Present? Yes _____ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped as wetland in 1994 Corps delineation.

Remarks:

Area did not exhibit wetland hydrology 7 days after a rain event; located on topographic high point.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 1/11/07
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 11
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): level Slope (%): 2
 Subregion (LRR): LRRC Lat: 122 d 29' 39.60" W Long: 37 d 30' 17.80" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>Managed plant community - disked and planted with fava beans. None of the three wetland criteria are present. Site mapped by Corps as upland in 1994, and is on edge of NWI mapping of freshwater emergent wetland.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____		No	UPL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
Total Cover: _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum				
1. _____		No	UPL	
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
Total Cover: _____				
Herb Stratum				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Vicia faba</u>	<u>5</u>	Yes	UPL	
2. <u>Unknown grass (Avena?)</u>	<u>5</u>	Yes	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
6. _____		No	UPL	
7. _____		No	UPL	
8. _____		No	UPL	
Total Cover: <u>10</u>				
Woody Vine Stratum				¹ Indicators of hydric soil and wetland hydrology must be present.
1. _____		No	UPL	
2. _____		No	UPL	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>90</u> % Cover of Biotic Crust _____				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Remarks: Area in active agricultural use and has been disked and planted with fava beans. Difficult to determine former plant community; based on 2004 aerial photograph, it appears to have been within grassland or scrub vegetation.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 1/11/07
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 12
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 4
 Subregion (LRR): LRRC Lat: 122 d 29' 40.90" W Long: 37 d 30' 16.40" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: PSSCh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: None of the three wetland criteria are present. Site mapped by Corps as upland in 1994 (although mapped by NWI as freshwater emergent wetland).	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____		No	UPL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
Total Cover: _____				
Sapling/Shrub Stratum				
1. _____		No	UPL	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
Total Cover: _____				
Herb Stratum				
1. <u>Achillea millefolium</u>	<u>5</u>	No	UPL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Picris echioides</u>	<u>40</u>	Yes	FAC	
3. <u>Conium maculatum</u>	<u>5</u>	No	FACW	
4. <u>Sonchus oleraceus</u>	<u>20</u>	Yes	UPL	
5. <u>Juncus bufonius</u>	<u>5</u>	No	FACW	
6. <u>Unidentifiable grass (Avena?)</u>	<u>5</u>	No	UPL	
7. _____		No	UPL	
8. _____		No	UPL	
Total Cover: <u>80</u>				
Woody Vine Stratum				
1. _____		No	UPL	¹ Indicators of hydric soil and wetland hydrology must be present.
2. _____		No	UPL	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>20</u> % Cover of Biotic Crust _____				
				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Remarks: Hydrophytic vegetation not present.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10 YR 2/1		none				clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/></p>
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Remarks:
 No redox features observed (although possibly obscured by dark chroma). Although mapped in FEMA floodplain, is on topographic slope in high area and does not exhibit wetland hydrology. Therefore, the soil is not considered to be hydric.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (any one indicator is sufficient)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Water-Stained Leaves (B9) (NW coast)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> Shallow Aquitard (D3)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D4)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)</p>
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<p>Field Observations:</p> <p>Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____</p> <p>Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____</p> <p>Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____</p>	<p>Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
 Mapped as upland in 1994 Corps delineation.

Remarks:
 Area did not exhibit wetland hydrology 7 days after a rain event; located at top of topographic slope.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 2/22/07
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 13a
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): level Slope (%): 0
 Subregion (LRR): LRRC Lat: 122 d 29' 41.32" W Long: 37 d 30' 16.85" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Managed plant community - disked and planted with fava beans. Evidence of wetland hydrology, location in low-lying area, adjacency to intact marsh vegetation, NWI wetland classification as freshwater emergent marsh and wetland determination in 1994 concludes that this point is a wetland.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. _____		No	UPL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)																																
2. _____		No	UPL																																	
3. _____		No	UPL																																	
4. _____		No	UPL																																	
Total Cover: _____				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td align="center">x 1 =</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>FACW species _____</td> <td align="center">x 2 =</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>FAC species _____</td> <td align="center">x 3 =</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>FACU species _____</td> <td align="center">x 4 =</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>UPL species _____</td> <td align="center">x 5 =</td> <td>_____</td> <td>_____</td> </tr> <tr> <td align="right" colspan="2">Column Totals: _____</td> <td align="center">(A)</td> <td align="center">(B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = _____</td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species _____	x 1 =	_____	_____	FACW species _____	x 2 =	_____	_____	FAC species _____	x 3 =	_____	_____	FACU species _____	x 4 =	_____	_____	UPL species _____	x 5 =	_____	_____	Column Totals: _____		(A)	(B)	Prevalence Index = B/A = _____			
Total % Cover of:		Multiply by:																																		
OBL species _____	x 1 =	_____	_____																																	
FACW species _____	x 2 =	_____	_____																																	
FAC species _____	x 3 =	_____	_____																																	
FACU species _____	x 4 =	_____	_____																																	
UPL species _____	x 5 =	_____	_____																																	
Column Totals: _____		(A)	(B)																																	
Prevalence Index = B/A = _____																																				
Sapling/Shrub Stratum																																				
1. _____		No	UPL																																	
2. _____		No	UPL																																	
3. _____		No	UPL																																	
4. _____		No	UPL																																	
5. _____		No	UPL																																	
Total Cover: _____																																				
Herb Stratum																																				
1. <u>Unidentifiable grass (Avena?)</u>	<u>20</u>	No	UPL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																																
2. <u>Vicia faba</u>	<u>20</u>	Yes	UPL																																	
3. _____		No	UPL																																	
4. _____		No	UPL																																	
5. _____		No	UPL																																	
6. _____		No	UPL																																	
7. _____		No	UPL																																	
8. _____		No	UPL																																	
Total Cover: <u>40</u>																																				
Woody Vine Stratum																																				
1. _____		No	UPL																																	
2. _____		No	UPL																																	
Total Cover: _____																																				
% Bare Ground in Herb Stratum <u>60</u> % Cover of Biotic Crust _____																																				

Remarks: Problematic hydrophytic vegetation present. Sample point is adjacent to, and at same topographic level, as the undisturbed marsh and exhibits marsh vegetation on the 2004 aerial photograph; therefore, the former plant community is presumed to be freshwater emergent marsh and hydrophytic. Also, hydric soil indicators (problematic) and wetland hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 1/11/07
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 13b
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): level Slope (%): 1
 Subregion (LRR): LRRC Lat: 122 d 29' 41.20" W Long: 37 d 30' 16.80" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Managed plant community - disked and compacted by vehicle use. Although marginal wetland hydrology was observed, it is likely due to soil compaction; point is likely on the uppermost edge of the wetland.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____		No	UPL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
Total Cover: _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum				
1. _____		No	UPL	
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
Total Cover: _____				
Herb Stratum				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Unidentifiable grass (Avena?)</u>	<u>75</u>	<u>Yes</u>	<u>UPL</u>	
2. <u>Picris echioides</u>	<u>1</u>	<u>No</u>	<u>FAC</u>	
3. <u>Bromus tectorum</u>	<u>20</u>	<u>Yes</u>	<u>UPL</u>	
4. _____		<u>No</u>	<u>UPL</u>	
5. _____		<u>No</u>	<u>UPL</u>	
6. _____		<u>No</u>	<u>UPL</u>	
7. _____		<u>No</u>	<u>UPL</u>	
8. _____		<u>No</u>	<u>UPL</u>	
Total Cover: <u>96</u>				
Woody Vine Stratum				¹ Indicators of hydric soil and wetland hydrology must be present.
1. _____		No	UPL	
2. _____		No	UPL	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>4</u> % Cover of Biotic Crust _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: Problematic hydrophytic vegetation present. Sample point is adjacent to the undisturbed marsh and exhibits marsh vegetation on the 2004 aerial photograph; therefore, the former plant community is presumed to be freshwater emergent marsh and hydrophytic. Also, hydric soil indicators (problematic) and wetland hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region (DRAFT)

Project/Site: Big Wave Office Park and Wellness Center City/County: San Mateo County Sampling Date: 1/11/07
 Applicant/Owner: Big Wave, LLC State: CA Sampling Point: 14
 Investigator(s): A. Jensen / S. Lucas (Chris Joseph & Assoc.) Section, Township, Range: Section 11, Township 5 S, Range 6 W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): level Slope (%): 1
 Subregion (LRR): LRRC Lat: 122 d 29' 41.70" W Long: 37 d 30' 17.60" N Datum: NAD 83
 Soil Map Unit Name: Denison clay loam, nearly level, imperfectly drained NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Located on edge of intact, undisturbed freshwater emergent wetland. All three wetland criteria are present.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____		No	UPL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
Total Cover: _____				
Sapling/Shrub Stratum				
1. _____		No	UPL	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____		No	UPL	
3. _____		No	UPL	
4. _____		No	UPL	
5. _____		No	UPL	
Total Cover: _____				
Herb Stratum				
1. <u>Unidentifiable grass (Avena?)</u>	<u>15</u>	<u>Yes</u>	<u>UPL</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Picris echioides</u>	<u>1</u>	<u>No</u>	<u>FAC</u>	
3. <u>Rumex crispus</u>	<u>10</u>	<u>No</u>	<u>FACW</u>	
4. <u>Rubus ursinus</u>	<u>15</u>	<u>No</u>	<u>FACW</u>	
5. <u>Juncus balticus</u>	<u>60</u>	<u>Yes</u>	<u>OBL</u>	
6. <u>Oenanthe sarmentosa</u>	<u>5</u>	<u>No</u>	<u>OBL</u>	
7. <u>Scirpus californicus</u>	<u>1</u>	<u>No</u>	<u>OBL</u>	
8. _____		<u>No</u>	<u>UPL</u>	
Total Cover: <u>112</u>				
Woody Vine Stratum				
1. _____		No	UPL	¹ Indicators of hydric soil and wetland hydrology must be present.
2. _____		No	UPL	
Total Cover: _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Remarks: <u>Hydrophytic vegetation present.</u>				

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10 YR 2/1		none				clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input checked="" type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
 Problematic hydric soil. No redox features observed (although possibly obscured by dark chroma). In some light, soil appeared to possibly be gley 1 (2.5/N). Location level in topographically low area at fringe of undisturbed marsh and is likely to stay saturated for 14 consecutive days. These factors indicate hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (any one indicator is sufficient)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (NW coast)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>10</u>	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>0</u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
 Mapped as wetland in 1994 Corps delineation.

Remarks:
 Area saturated with high water table seven days after a rain event. Located in topographically low area on edge of intact marsh habitat.

Appendix B. Site Photographs

Appendix B. Site Photographs



View of Study Area from northernmost point, facing southeast (12/12/06)



View of Study Area along Airport Road, facing southeast (12/12/06)

Appendix B. Site Photographs



View of the northern border along the drainage, facing southwest (1/10/07)



View of the adjacent, undisturbed marsh vegetation along the western border (1/11/07)

Appendix B. Site Photographs



View of the ponded conditions at sample point 5 one week after rain, facing west (1/10/07)



View of ponded/saturated conditions along the western boundary one week after rain (1/10/07)

Appendix B. Site Photographs



Evidence of scattered hydrophytic vegetation growing in plowed/planted area (2/22/07)



View of toe slope and depressional landforms along western boundary (2/22/07)

An Analysis of the Geographic Extent of Waters
of the United States, Including Wetlands, on the
Big Wave Property, San Mateo County,
California



March 14, 2008

Revised & Updated March 9, 2009

Prepared for:



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DISCLAIMER

WSP Environment and Energy has prepared this waters/wetlands delineation report for use by Big Wave Group. The results and conclusions of this report have been given final approval by the U.S. Army Corps of Engineers, San Francisco District. Approval by the California Coastal Commission is pending. The results and conclusions are based upon information provided by public domain information (e.g. U.S. Geological Survey 7.5' topographic quadrangles, the Natural Resources Conservation Service Soil Surveys, and air photographs from various sources), as well as on-site reconnaissance, data collection, and analyses by standard methods. They represent the best professional judgment of WSP Environmental Strategies. In this context, surveying conducted by Mr. Scott Holmes is assumed to be true and correct.

Lyndon C. Lee

Lyndon C. Lee, Ph.D.

9 March 2009

Date

*Principal Ecologist & Vice President
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EXECUTIVE SUMMARY

The Big Wave Group retained WSP Environment & Energy (WSP) for the purposes of delineating the location and geographic extent of waters of the U.S., including wetlands, and of California state coastal wetlands on the Big Wave Project Site, two adjacent and privately owned agricultural fields. The Big Wave Project Site is located along Airport Street in unincorporated San Mateo County, near the town of Princeton-by-the-Sea, California.

For the purpose of the federal Clean Water Act delineation, we used (1) the current federal definitions of “waters of the U.S., including wetlands (waters/wetlands)” (33 CFR 328.3(a)(1-8) and 328.3(b, c and e)) (Federal Register 1986); (2) technical criteria articulated in *1987 U.S. Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) (3) Regulatory Guidance Letters 82-2, 86-9 and 98-7 (U.S. Army Corps of Engineers 1982, 1986, 1990), and (4) technical criteria articulated in the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (ACOE 2006). For the purpose of the California Coastal wetlands delineation, we used the (1) current state definition of “wetlands” (Public Resources Code Division 20, Section 30000 *et seq.*) and (2) *Appendix A: Statewide Interpretive Guidelines for Wetlands and Other Wet Environmental Sensitive Habitat Areas*.

Our results show there is a total of 0.45 acres of wetlands of “other waters” (Type 3 waters of the U.S.) and 0.75 acres of California Coastal Wetlands (*i.e.*, one or more wetland parameters present) at the Big Wave Project Site. These waters/wetlands are found along the southern margin of the property, and along a minor component of a county-owned intermittent creek that separates the two agricultural parcels.

Three levels of government have jurisdiction over the waters/wetlands within the project area: the U.S. federal government, State of California, and San Mateo County. Written confirmation of the WSP jurisdictional determination required from the U.S. Army Corps of Engineers, San Francisco District, to confirm the geographic extent of waters of the U.S., including wetlands, presented in this report, was received on 5 June 2008. This report supersedes the delineation report by WSP submitted on 14 March 2008 and the addendum letter report submitted on 24 April 2008 to the Big Wave Group LLC.

I. INTRODUCTION & PROJECT BACKGROUND

Big Wave Group retained WSP Environment & Energy (WSP) for the purposes of delineating the location and geographic extent of waters of the U.S., including wetlands (hereafter referred to as waters/wetlands) and California coastal wetlands at the Big Wave Project Site (hereafter, Project Site). The following report is a summary of the WSP findings of fact and judgments concerning the federal and state waters/wetlands at the Project Site. Previous surveys at the Project Site include the following documents:

1. U.S. Army Corps of Engineers letter to M. Sam Herzberg, dated July 19, 1994,
2. San Mateo County, Local Coastal Program: Policies, 1998,
3. Rare plant and animal surveys for a biological impact report (WRA 2003a),
4. Wetland delineation conducted by Wetland Research Associates in 2001 updated in 2003 (WRA 2001, 2003b), and
5. Wetland Delineation Study conducted by Christopher A. Joseph & Associates in 2007,

The information offered in this report is organized to (1) introduce the project, project area, and delineation objectives, (2) explain the methodology used in the delineation, (3) provide technical results, and (4) discuss pertinent regulatory issues at the federal, state, and local levels of jurisdiction.

A. Big Wave Project Description

The Big Wave Project currently is designed as an economically and environmentally sustainable community whose primary purpose is to provide housing and employment for ultra-low income developmentally disabled adults (Big Wave LLC 2009). This will be accomplished through the construction of a Wellness Center, which will be integrated into the larger development of an urban farm, high technology office complex, and restored wetlands ecosystem. As envisioned by the Big Wave Partnership, this project is a model for integrating environmental protection into urban design. The housing portion will be operated as a cooperative with the Wellness Center residents owning shares of the residential development and the Big Wave businesses.

As background, the Big Wave Project is proposed by the non-profit Big Wave Group, Inc. and has been developed with the specific goal to provide affordable housing, food services, employment, recreation and educational services for the disabled adult population. Relevant project features include:

1. LEED platinum certification construction for all structures, for example, 225,000 sq. ft. four three-story, “green” buildings for high-tech office space;
2. All renewable power, for example, 600 kilowatts of solar power, 50 kilowatts of wind power, 5 kilowatt fuel cell, 5 million BTU/hr solar heating, and geothermal cooling;
3. More than 80 developmentally disabled jobs, with a potential to provide more than 700 future jobs (possibly employing 450 local residents);
4. 50 acres of sustainable organic farming, among other features; and,
5. Nine (9) acres of riverine wetland and riparian ecosystem restoration;

6. State-of-the-art water and wastewater resource and usage plan, including onsite water recycling for toilets and irrigation providing protection from groundwater overdraft, ground water filtration system that will recharge Pillar Point Marsh, and potentially, the construction of an on-site desalination plant.

1. Location and General Project Site Description

The Big Wave Project Site is located in unincorporated San Mateo County, adjacent to Princeton-by-the-Sea, California (Figure 1). It consists of two agricultural fields totaling 19.5 ac separated by a county-owned intermittent stream. 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.

Elevation at the Project Site ranges from 9.0 to 27.7 feet NGVD and the property generally slopes gently to the south and west. A small, intermittent, unnamed creek sometimes referred to as (Pillar Point Creek) separates the two agricultural fields that comprise the Project Site. This creek is part of San Mateo County's Pillar Point Marsh, which is one of several properties managed as the James Fitzgerald Marine Reserve. This unnamed creek drains directly to the Pacific Ocean, entering the Pacific Ocean via Pillar Point Marsh approximately 0.4 mi west of the mouth of Denniston Creek within the Pillar Point embayment.



Figure 1. The Project Site is located within the Pillar Point watershed along the Central Coast of California (Map Reference <http://cwp.resources.ca.gov>)

2. Climate and Growing Season

a. Climate

The Project Site has a mild Mediterranean 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). Clouds and fog are common during the evening and early morning hours, but typically clear during mid-day. Total average annual precipitation is 28 inches (NRCS 2007).



Figure 2. *Big Wave Project Site approximate location in San Mateo County, California. Adjacent feature is the Half Moon Bay Municipal Airport*

b. Growing Season

The Natural Resources Conservation Service (NRCS) currently defines the “growing season” as that part of the year when soil temperatures at 19.7 inches below the soil surface are higher than biologic zero (41°F or 5°C) (USDA Soil Conservation Service [NRCS] 1991). When soil temperature data are not available, current national guidance for delineation of waters/wetlands is to use the closest and best available weather station data to estimate the length of the growing season (U.S. Army Corps of Engineers [COE] 1992). As this quantitative determination requires instrumentation not usually available, growing season can be estimated by approximating the number of frost-free days. Current national guidance calls for use of a 28°F standard (COE 1992). Using this approach with data recorded in Half Moon Bay, California, the typical growing season is 365 days.

3. Landscape, Geology & Geomorphic Context

The Big Wave Project Site landscape lies within the Salinian (structural) block, west of the San Andreas and Pilarcitos faults, but effectively on/ adjacent to the San Gregorio Fault (Figure 3). Over lying a granitic basement is the Purisima Formation composed of sedimentary rocks from the Pliocene (Brady/LSA *et al.* 2002). The Purisima Formation is composed of highly fractured mudstones, siltstones and sandstones that typically are highly fractured in distinct beds.

According to Kennedy *et al.* (1981), the uplifted Half Moon Bay terrace upon which the Big Wave Project Site is situated reflects a higher sea level approximately 83,000 years ago. As discussed in Brady/LSA *et al.* (2002), this terrace is composed of a wave-cut platform overlain

by ocean-derived sands and alluvial deposits ranging between 20 and 65 feet thick. At Pillar Point Marsh, the Half Moon Bay terrace has been down-warped by tectonic activity and subsequently buried by more recent (Pleistocene and Holocene) alluvial and marsh deposits.

4. Soils

Soils within the Project Site are mapped by the NRCS as Denison clay loam on nearly level slopes (DcA) and Denison clay loam on nearly level slopes which are imperfectly drained (DdA) (NRCS 1961). Denison soils are classified as fine, smectitic, isomesic, Pachic, Argixerolls. These soils have formed on low terraces under grass vegetation from granitic alluvium. Denison clay loam soils occur on 0 to 2 percent slopes and the mapping unit is has approximately 1 percent hydric inclusions which typically are found in depressions. Denison clay loam soils are generally highly fertile.

5. Hydrology

The Project Site receives the majority of its hydrologic input via precipitation and surface water flowing from the north and east. The unnamed intermittent creek that separates the agricultural fields that comprise the Project Site flows directly to the Pacific Ocean. Wetland hydrology was determined to be present within the project area by evaluating direct and indirect indicators, consistent with the 1987 Manual protocols and current regulatory guidance. These protocols and guidance require soils to be saturated to the surface for at least 18.25 days during the growing season (i.e., 5% of the growing season) (COE 1992).



Figure 4. Big Wave Project Site approximate location in San Mateo County, California. Coast I Subdivisions Rancho Divisions of Land, Half Moon Bay County Map 1894 (See Appendix A).



Figure 3. Location of Big Wave Project Site relative to local earthquake faults. (Source: The San Andreas and San Gregorio Fault Systems in San Mateo County. <http://www.pubs.usgs.gov/of/2005/1127/chapter8.pdf>)

Examination of official San Mateo County maps from 1861, 1868, 1894, 1950, 1960, and 1988, show that this creek historically served as the main drainage for the Pillar Point Marsh watershed (Figure 4, see also Appendix A). Maps from 1906 and 1973 do not depict either this creek or Pillar Point Marsh, likely reflecting manipulation of site hydrology.

The project site lies within the boundaries of the Pillar Point Marsh Watershed (Figure 5). Total area of this drainage is approximately 785 acres, of which the Pillar Point Marsh occupies a combined area of roughly 66 acres (California Coastal Commission 2008). The marsh is divided into two distinct components - a salt to brackish water portion adjacent to the Pillar Point Harbor and a freshwater/willow riparian area, separated by the access road leading to the Pillar Point Military Reserve (Brady/LSA *et al.* 2002).

The hydrology of the Pillar Point Marsh drainage has been altered extensively by historic and current land use activities on the Half Moon Bay Terrace. Early topologic records of the marsh indicate that most of the area not dominated by standing/brackish water was in active cultivation (see 1866 map, Appendix A), which persisted in much of the watershed until construction of the Half Moon Bay Airport in 1943. Sometime between 1928 and 1931, the access road separating the marsh was put in place. By 1943, aerial images show that the fresh water component of the marsh had expanded eastward. It was also during this time that an extensive drainage system was erected in conjunction with the development of the airport to facilitate surface water run-off from the runways, fields, and other airport facilities. This system continues to function as a primary source of run-off flow and sedimentation into the Pillar Point Marsh today.

Within the airport property, runoff is consolidated into 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 the reach of an unnamed, intermittent tributary that bisects the project site. This tributary passes through two culverts under West Point Avenue, and connects with Pillar Point Marsh. The invert elevation of the culvert under West Point Avenue is approximately 2.5 feet high on the upstream end, causing water to back up into portions of the Project Site during rainy periods.



Figure 5. Local watershed map of Project Site landscape (Coastal Commission 2008).

Although the Pillar Point Marsh is significantly influenced by surface water input, the marsh has been more accurately described as a groundwater fed lowland (California Coastal Commission, 2008). Groundwater is the primary source feeding the freshwater wetland habitat of the marsh from 10 to 15 feet msl. Below this elevation, from 5 to 10 feet msl, saltwater marsh and brackish habitat persists. Surface flow during the rain season may also directly affect the brackish portion of the marsh as indicated by salinity sampling following rain events during December 1997 and January 2008. Results of this sampling indicated that outflow conditions sufficiently converted the saltwater marsh portion into a temporary freshwater system (Balance Hydrologics, cited in Brady/LSA *et al.* 2002).

B. Objectives

WSP was retained by the Big Wave Group to:

1. Delineate the geographic extent of waters/wetlands within the project area consistent with definitions provided in CFR 33 328.3 (a)(1-8), 328.3 (b, c, and e), and procedures detailed in the *1987 Manual* (Environmental Laboratory 1987) as implemented with pertinent regulatory guidance letters, memoranda, and public notices.
2. Delineate the geographic extent of coastal wetlands within the project area consistent with definitions provided in the Public Resources Code Division 20, California Coastal Act Section 30121, and *Appendix A: Statewide Interpretive Guidelines for Wetlands and Other Wet Environmental Sensitive Habitat Areas*.
3. Summarize the regulatory context of waters/wetlands within the project area, paying particular attention to current federal, state of California, and San Mateo County regulations and policies pertinent to development in or near waters/wetlands.

II. DELINEATION RATIONALE AND METHODS

A. Rationale for the Routine Determination of the Geographic Extent of Waters/Wetlands

1. Federal Wetlands

Based upon guidance provided in the *1987 Manual* (Environmental Laboratory 1987), in Regulatory Guidance Letters 82-2, 86-9, and 90-7, and in the *Arid West Regional Supplement* (ACOE 2006) wetlands that have been disturbed through natural and/or anthropogenic alterations of hydrology, soils, and/or vegetation do not necessarily exist under “normal circumstances.” Due to on-going agricultural activities over the majority of the Project Site, protocols for both “normal circumstances” (Routine On-site Determination Method) and “Atypical Situations” were selected to delineate waters/wetlands consistent with *1987 Manual*. Copies of the WSP delineation data sheets are included in Appendix B (*1987 Manual*) and Appendix C (*Arid West Regional Supplement*). Additional soil pit descriptions are provided in Appendix D. Site photographs are included in Appendix E.

2. State Wetlands

The California Public Code (14 CCR § 13577) (California Code of Regulations 2003) defines a wetland as an area that meets one or more of three wetland parameters, including wetland hydrology, hydric soils, and hydrophytic vegetation. Because the California Public Code does not contain guidance on the field determination of each of the parameters, the federal field determination protocols were used for wetland hydrology, hydric soils, and hydrophytic vegetation.

B. Delineation Methods

1. Office Methods

Prior to the field delineation, the WSP team reviewed the San Mateo County soil survey (NRCS 1961), NWI wetland map (USFWS), topographic maps (USGS 7.5” Montara Mountain quadrangle, 1980), available aerial photography (Google Earth), and previous delineation reports (WRA 2003b).

2. Field Methods

a. Delineation Team Members

The WSP team of Dr. Lyndon C. Lee, PWS; Dr. Peggy L. Fiedler, PWS; Kate Knox; and, Laura Garrison conducted field delineation on November 20, 2007. Additional observations were conducted on the morning of March 27, 2008. At that time, Drs. Lyndon C. Lee and Peggy L. Fiedler met with Mr. Scott Holmes, Big Wave Group, and Mr. Dan MacLeod, McLeod and Associates, at the Big Wave Project Site to discuss final site grades to be incorporated into the grading plan. WSP scientist Fiedler returned to the Project Site to conduct a delineation of one-

parameter wetlands in the south field on April 9, 2007. Resumes of the principal delineation team are included in Appendix F.

b. Delineation Approach

The extent of waters/wetlands were delineated using both the California Public Code (14 CCR § 13577) single parameter approach and federal (*1987 Manual*) multi-parameter approach. Federal field indicator criteria (*1987 Manual*) were used for all wetland parameters. The geographic extent of California and Federal waters/wetlands were congruent throughout the great majority of the Project Site, the hydrology parameter and/or soil parameter being the primary wetland indicators. However, the total geographic extent of waters/wetlands as mapped in this report included one very small area (<0.009 ac, 410 sq ft) that met only the California Code single parameter criteria (vegetation). This area is found the extreme west corner, where the soils and hydrology parameters were obscured by a man-made berm. The geographic extent in this extreme corner of the subject property was delineated along the drip-line of the native willows and then tied to the property boundary.

c. Sample Plot Locations

Vegetation, soils, and hydrology data were collected to characterize the Project Site. Nine soil pits were excavated and five vegetation plots sampled (Exhibit 1). Three soil pits (SP1-3) and two vegetation plots (VP4 and VP5) were located in the southeastern agricultural field. Six soil pits (SP4-9) and three vegetation plots (VP1, VP2 and VP3) were located in the larger northwestern agricultural field (Exhibit 1).

d. Hydrology

Wetland hydrology was determined by evaluating a variety of direct and indirect indicators, consistent with the *1987 Manual* (Environmental Laboratory 1987), current regulatory guidance (COE 3-92 Memorandum), and the *Arid West Regional Supplement* (ACOE 2006). Direct indicators, such as local knowledge of ponding, stream/lake gage data, flood predictions (*i.e.*, FEMA maps), and historic records pertaining to the study area can be used to satisfy the wetland hydrology parameter (Environmental Laboratory 1987).

The *Arid West Regional Supplement* (ACOE 2006) divides acceptable primary and secondary indicators of wetland hydrology into four groups:

- Group A:** Indicators are determined through direct observation (*e.g.*, presence of surface water, a high water table, and saturation)
- Group B:** Indicators of flooding or ponding (*e.g.*, water marks, drift deposits, surface soil cracks, *etc.*)
- Group C:** Indicators of recent saturation (*e.g.*, sulfidic odors, oxidized root channels along living roots, *etc.*)
- Group D:** Vegetation and soil features indicating wet conditions (*e.g.*, FAC-neutral test, shallow aquitard).

Wetland hydrology is considered to be present at a location if field observations indicate the area has a high probability of being periodically inundated or saturated to the soil surface for a

sufficient duration of the growing season to develop anaerobic conditions in the surface soil environment (*i.e.*, root zone) (Environmental Laboratory 1987). According to guidance in the *Arid West Regional Supplement* (ACOE 2006), if at least one primary indicator or at least two secondary indicators are present at a sample point, the wetland hydrology criterion is met.

e. Soils

The presence of hydric soils was determined consistent with criteria articulated in the *1987 Manual*, current regulatory guidance, and *Field Indicators of Hydric Soils in the United States, Version 6.0* (NRCS 2006). A hydric soil is defined as "...a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part" (USDA National Technical Committee for Hydric Soils (NTCHS) 1994). The determination of whether or not a soil is hydric is based on the fulfillment of at least one of four technical criteria (Federal Register 2002; Table 1). The technical criteria can be satisfied using a combination of published soils information and field indicators. Field indicators for determining whether a soil satisfies the hydric soil definition and the technical criteria for hydric soils are listed in the *Field Indicators of Hydric Soils in the United States* (NRCS 2006) and the *Arid West Regional Supplement* (ACEO 2006). Field indicators published in the above-referenced documents are intended to supersede guidance provided in the *1987 Manual*.

Soils were sampled throughout the site using a dutch auger. A backhoe was used at selected locations to observe the soil profile at greater depths (Appendix E, Photograph 1). As plowing has disturbed the upper 14 inches or more of soil, backhoe pits allowed observations of the soil profile to a depth of 30 inches or more. Soil colors were determined in the field using Munsell Soil Color Chart (Munsell 2000).

f. Vegetation

The presence of hydrophytic vegetation was determined using the criteria and procedures outlined in the *1987 Manual*. Dominant species in each of four strata (tree, sapling/shrub, herb, and woody vine), if present, were identified as the three most abundant species in each stratum. Species identifications and taxonomic nomenclature follow *The Jepson Manual* (Hickman 1993). Each species' indicator status was assigned using the *National List of Plant Species that Occur in Wetlands: California (Region 0)* (Reed 1988) (hereafter cited as *The National List*). A species indicator status refers to the relative frequency with which the species occurs in jurisdictional wetlands (Table 2).

The *Arid West Regional Supplement* (ACOE 2006) recommends that presence of dominant species is determined using the 50/20 rule. Dominant species are those species that individually or collectively cover more than 50% of the total vegetative cover within each stratum, in addition to those species that by themselves cover 20% or more of the total cover within each vegetation stratum. According to both the *1987 Manual* and the *Arid West Regional Supplement*, the hydrophytic vegetation parameter for wetlands is met when, under normal circumstances, more than 50% of the dominant species from each stratum are obligate wetland (OBL), facultative wetland (FACW), and/or facultative (FAC) species. The *1987 Manual* calls, in certain circumstances, for a plus (+) or a minus (-) sign to be included for the purpose of designating a higher or lower level of the indicator status. A FAC- indicator status is generally not considered to be an indicator of hydrophytic vegetation (*i.e.*, it is treated in the same way as facultative

upland (FACU), upland (UPL), and not listed (NL) status). However the *Arid West Regional Supplement* (ACOE 2006) no longer requires the use of these modifiers.

Table 1. Criteria for Hydric Soils of the United States (Federal Register 2002).

<p>Hydric soil criteria:</p> <ol style="list-style-type: none"> 1. All Histels except for Folistels, and Histosols except for Folistels, or 2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Aquisalids, Historthels, and Histoturbels great groups, and Cumulic or Pachic subgroups that: <ol style="list-style-type: none"> a. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or b. are poorly drained or very poorly drained and have either: <ol style="list-style-type: none"> (1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or (2) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or (3) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches, or 3. Soils that are frequently ponded for periods of long or very long duration during the growing season or, 4. Soils that are frequently flooded for periods of long or very long duration during the growing season.

Table 2. U.S. Fish & Wildlife Service Plant Indicator Status (Reed 1988).

Indicator Status	Definition
Obligate Wetland (OBL)	Occur almost always (estimated probability > 99%) under natural conditions in wetlands.
Facultative Wetland (FACW)	Usually occur in wetlands (estimated probability 67%-99%), but occasionally found in non-wetlands.
Facultative (FAC)	Equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).
Facultative Upland (FACU)	Usually occur in non-wetlands, but occasionally found in wetlands (1%-33%).
Obligate Upland (UPL)	Occur in wetlands in another region, but occur almost always (estimated probability > 99%) under natural conditions in non-wetlands in the region specified.
No Indicator Status (NI)	Insufficient information exists to assign an indicator status.
Not Listed (NL)	Not on the National List in any region.

III. Results

A. Previous Delineation of the Geographic Extent of Waters/Wetlands at the Big Wave Project Site

Three previous efforts within the last 15 years to determine the geographic extent of waters/wetlands protected by the federal Clean Water Act and by the California Public Resources Code, Division 20, Section 30000 et seq. (Coastal Act) are in the public record. The first was a delineation conducted by the Corps, San Francisco District, in 1994 (File Number 20375S20). The purpose of this delineation was to assist San Mateo County in the development of the County's Local Coastal Program (LCP) in compliance with the Coastal Act. The geographic extent of federal waters/wetlands in 1994 is depicted in Figure 6.

Boundaries of natural features change over time, however, and the Corps' determination of geographic extent is only valid for a short period of time, typically three to five years. The Corp's 1994 delineation (final determination) expired on July 19, 1997. Therefore, Wetlands Research Associates, Inc. (WRA) conducted a waters/wetlands delineation of the northwestern field for Big Wave LLC in 2001, which was updated in 2003 (WRA 2003). WRA did not document any waters/wetlands features on the Project Site that met the federal criteria for waters of the U.S., including wetlands, but did document 0.4 acres (19,236 sq ft) of one-parameter wetlands (predominately vegetation) that would be protected under San Mateo County's LCP by virtue of the Coastal Act. This one-parameter wetland was located in and adjacent to the southern property boundary.

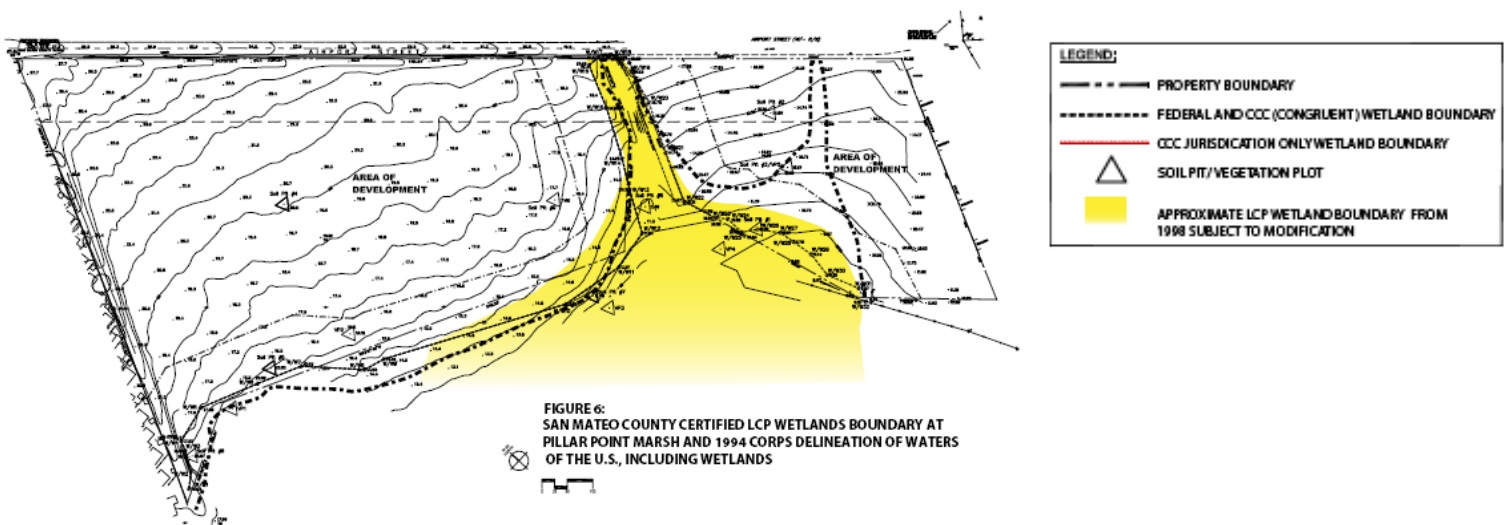


Figure 6. Approximate geographic extent of federal wetlands (yellow) overlain on current topography and 2007 delineation as accepted in the LCP wetland boundary, modified from the Corps of Engineers delineation in 1994 (File Number 20375S20) (Adapted from San Mateo County 1998.)

A final delineation effort for the southeastern field only was conducted by Christopher A. Joseph & Associates (CAJA) in January and February 2007. A report was submitted to San Mateo County 11 May 2007. CAJA documented 0.52 acres of waters/wetlands potentially under jurisdiction of the Corps, and 0.73 acres of wetlands potentially under jurisdiction under the Coastal Act as regulated by the San Mateo County Local Coastal Program. This delineation was not verified by the Corps of Engineers.

B. Results from 2007 Waters/Wetlands Delineation Investigation Conducted by WSP

A total of 0.46 acres of waters/wetlands occur under federal jurisdiction occur on the Project Site (Exhibit 1). This includes Type 3 waters of the U.S. throughout the majority of the Project Site. Additionally 0.75 acres (32,604 sq ft) of single (or great)-parameter wetlands conforming to the California Coastal Act Public Code are located along the extreme western corner of the property and along the southwestern border of the south field (Table 4).

1. 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 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 runs southwest under Airport Street. The 44" culverts form the headward-most extent of the reach of an unnamed, intermittent tributary that bisects the project site (Appendix E, Photograph 2). This tributary passes through two culverts under West Point Avenue, and connects with Pillar Point Marsh, a tidally influenced wetland. Pillar Point Marsh flows into Pillar Point Harbor, a navigable water in fact (Exhibit 1). The invert elevation of the culvert under West Point Avenue is approximately 2.5 feet high on the upstream end. It causes water to back water up into portions of the project site during rainy periods.

Field hydrology indicators were used to determine whether wetland hydrologic criteria were met on the Project Site. Personal communication with the landowner (Mr. Jeff Peck) confirmed ponding for long or very long durations in the southern portion of the southeastern field (near soil pit 1). Flooding and ponding were observed in the southwest portion of the southeastern field on a subsequent field visit on February 25, 2008 (Appendix E, Photograph 3). Observed field indicators included drainage patterns, saturated soil, observations of ponding, water marks, oxidized root channels in the upper 12 inches of the soil profile, and sediment deposits.

2. Soils

a. Soil Survey

Soils within the Project Site are mapped by the NRCS as Denison clay loam on nearly level slopes (DcA) and Denison clay loam on nearly level slopes which are imperfectly drained (DdA) (Figure 7, NRCS 1961). Denison soils are classified as fine, smectitic, isomesic, pachic, argixerolls. These soils have formed on low terraces under grass vegetation from granitic alluvium. Denison clay loam soils occur on 0 to 2 percent slopes. They have high water holding capacity and moderately slow to slow permeability. These soils are typically highly fertile.

Denison series mapped soils are composed of 1 percent hydric inclusions as depressions of unnamed soil type. Denison soils are not listed on the *San Mateo County Hydric Soils List* (NRCS 2001). However, the unnamed soil type depressions are listed as hydric under hydric soil criteria 2B3 (Table 2).

Figure 7. San Mateo County Soil Survey for Project Site (NRCS 1961).

Map Unit Symbol

DcA: Denison clay loam, nearly level

DdA: Denison clay loam, nearly level, imperfectly drained

EhE3: Elkhorn sandy loam, moderately steep and steep, severely eroded



b. Project Site Field Description

Virtually all of the soil on the Project Site has been plowed for decades. The ESR field team confirmed the presence of Denison clay loam soils across the project site. Denison clay loam soils are not classified as hydric soils unless they occur in depressions. Descriptions of the excavated soil pits (Plots SP1-SP9) can be found in Appendix D.

The Denison soils that occur on the Project Site are characterized by high organic matter content and low chroma matrix throughout their distribution including in upland settings. Dark matrix colors tend to mask classic field indicators of hydric conditions (*i.e.*, redox concentrations and depletions; oxidized rhizospheres; *etc.*). Therefore, other indicators must be combined with the matrix chroma to determine presence or absence of hydric soils. Hydric soils at the Project Site were characterized as having a low chroma matrix (10YR 2/1) in the upper part combined with a few distinct redox concentrations and/or oxidized rhizospheres with color of 10YR 5/6 in the upper 10 to 12 inches within the Ap horizon. The redox concentrations continue and increase in frequency with depth in the Bt1, Bt2 and C horizons. Hydric soils tended to be darker in the upper part of the soil profile and tended toward a gley color in the upper horizons (*e.g.*, Soil Pits 7 and 8) (Appendix E, Photograph 4). For example, the soil in the northwest end of the Project Site (Soil Pit 7) was determined to be hydric due to a low chroma matrix color to 21 inches in depth. This matrix color was darker than in adjacent upland soils and tended toward the gley colors (*e.g.*, Gley 1 2.5/1) with a depleted matrix below.

Observations from the local landowner indicated ponding occurs for long to very long durations on a portion of the field near the southeast corner of the property (Appendix E, Photograph 3). Therefore, in this area, soils were determined to be hydric based a combination of field indicators (*e.g.*, redox concentrations) and evidence for ponding for long to very long durations (Hydric Soil Criteria 3).

Upland soils at the Project Site had low chroma matrix (10YR 2/1) but lack any redoximorphic features (*e.g.*, redox concentrations or depletions, *etc.*) in the upper part of the soil profile. In upland soils, redox concentrations were observed at depths greater than 14 inches, but were not present higher in the profile (*i.e.*, less than 14" depth).

3. Vegetation

As discussed, the Project Site consists of two adjacent agricultural fields actively cultivated (Appendix E, Photograph 5). The Project Site at the time of the delineation effort had been recently cleared, plowed, and disked. Therefore, there was little to no remaining native vegetation or agricultural crop across the Project Site. In those areas where agricultural clearing had not occurred recently (*e.g.*, along the Airport Street verge and in very small, scattered patches within agricultural fields), non-native annual grasses and herbs occurred. Dominant species in these patches included wild oats (*Avena* spp.), bristly ox-tongue (*Picris echioides*), and common vetch (*Vicia sativa*). Along the off-property, intermittent tributary that separates the two fields as well as along the extreme southern edge of the property adjacent to Pillar Point Marsh, riverine and adjacent riparian/freshwater marsh wetland plant communities persist. Dominant species along the drainage included willows (*Salix lasiolepis*, *S. sitchensis*), California blackberry (*Rubus ursinus*), and poison hemlock (*Conium maculatum*) (Appendix E, Photograph 6). Dominant species along the southern edge of the property included slough sedge (*Carex obnupta*), soft rush (*Juncus effusus*), silverweed (*Potentilla anserina* var. *pacifica*), arroyo willow (*Salix lasiolepis*), and California blackberry (*Rubus ursinus*) (Appendix E, Photograph 7).

Overall, the vegetation on the proposed project site has been significantly altered and reflects a history of disturbance and agricultural cultivation. Table 3 provides a partial listing of the plant species observed during the field delineation.

Table 3. Partial Listing of Vascular Plant Species Observed on the Big Wave Project Site.

Stratum	Common Name	Scientific Name	WIS
Tree/Shrub			
	arroyo willow	<i>Salix lasiolepis</i>	FACW
	Sitka willow	<i>Salix sitchensis</i>	FACW
Shrub			
	Douglas' baccharis	<i>Baccharis douglasii</i>	OBL
	coyote brush	<i>Baccharis pilularis</i>	NL
	red osier dogwood	<i>Cornus sericea</i> ssp. <i>sericea</i>	FACW
Vine			
	cape ivy	<i>Delairea odorata</i>	NL
	passion flower	<i>Passiflora coerulea</i>	NL
	Passiflora cult. "Jamesonii"	<i>Passiflora</i> sp.	NL
	California blackberry	<i>Rubus ursinus</i>	FAC
Herb			
	Yarrow	<i>Achillea millefolia</i>	FACU
	scarlet pimpernel	<i>Anagallis arvensis</i>	FAC
	California aster	<i>Aster chilensis</i>	FAC
	slender wild oats	<i>Avena barbata</i>	NL
	wild oat	<i>Avena fatua</i>	NL
	Mediterranean linseed	<i>Bellardia trixago</i>	NL
	black mustard	<i>Brassica nigra</i>	NL
	Broccoli	<i>Brassica oleracea</i>	NL
	field mustard	<i>Brassica rapa</i>	NL
	Rescuegrass	<i>Bromus catharticus</i>	NL
	ripgut brome	<i>Bromus diandrus</i>	NI
	soft chess	<i>Bromus hordeaceus</i>	FACU
	morning glory	<i>Calystegia</i> sp.	NL
	shepherd's purse	<i>Capsella bursa-pastoris</i>	FAC
	milk maids	<i>Cardamine californica</i>	UPL
	Italian thistle	<i>Carduus pycnocephalus</i>	NL
	Harford's sedge	<i>Carex harfordii</i>	OBL
	slough sedge	<i>Carex obnupta</i>	OBL
	Monterey centaury	<i>Centaurium muehlenbergii</i>	FAC
	lamb's quarters	<i>Chenopodium album</i>	FAC
	bull thistle	<i>Cirsium vulgare</i>	FACU
	poison hemlock	<i>Conium maculatum</i>	FACW
	field bindweed	<i>Convolvulus arvensis</i>	NL
Herb (continued)			
	pampas grass	<i>Cortaderia</i> sp.	NL
	Cotoneaster	<i>Cotoneaster pannosa</i>	NL

umbrella sedge	<i>Cyperus eragrostis</i>	FACW
orchard grass	<i>Dactylis glomerata</i>	FACU
spikerush	<i>Eleocharis macrostachya</i>	OBL
panicled willow-herb	<i>Epilobium brachycarpum</i>	UPL
hairy willow-herb	<i>Epilobium ciliatum</i>	FACW
denseflower willowherb	<i>Epilobium densiflorum</i>	OBL
common horsetail	<i>Equisetum arvense</i>	FAC
giant horsetail	<i>Equisetum telmateia</i> ssp. <i>braunii</i>	OBL
Philadelphia fleabane	<i>Erigeron philadelphicus</i>	FAC
fennel	<i>Foeniculum arvense</i>	FACU
white ramping fumitory	<i>Fumaria capreolata</i>	NL
bedstraw	<i>Galium aparine</i>	FACU
cutleaf geranium	<i>Geranium dissectum</i>	NL
dove's foot geranium	<i>Geranium molle</i>	NL
common velvet grass	<i>Holcus lanatus</i>	FAC
Mediterranean barley	<i>Hordeum marinum</i> ssp. <i>gussonianum</i>	FAC
hairy cat's ear	<i>Hypochaeris radicata</i>	FACU
Leopold's rush	<i>Juncus acutus</i> ssp. <i>leopoldii</i>	FACW
toad rush	<i>Juncus bufonius</i>	FACW+
bog rush	<i>Juncus effusus</i>	OBL
salt rush	<i>Juncus lesueurii</i>	FACW
spreading rush	<i>Juncus patens</i>	FAC
iris-leaved rush	<i>Juncus xiphioides</i>	OBL
Cornish mallow	<i>Lavatera cretica</i>	NL
Italian rye-grass	<i>Lolium multiflorum</i>	FAC*
twinberry	<i>Lonicera involucrata</i>	FAC
floating water primrose	<i>Ludwigia peploides</i>	OBL
loosestrife	<i>Lythrum hyssopifolia</i>	FACW
bull mallow	<i>Malva nicaeensis</i>	NL
cheeseweed	<i>Malva parviflora</i>	NL
pineapple weed	<i>Matricaria matricarioides</i>	FACU
bur clover	<i>Medicago polymorpha</i>	NL
field mint	<i>Mentha arvensis</i>	FACW
pennyroyal	<i>Mentha pulegium</i>	OBL
water parsley	<i>Oenanthe sarmentosa</i>	OBL
Bermuda buttercup	<i>Oxalis pes-caprae</i>	NL
harding grass	<i>Phalaris aquatica</i>	FAC+
bristly ox-tongue	<i>Picris echioides</i>	FAC*
cut leaf plantain	<i>Plantago coronopus</i>	FAC
English plantain	<i>Plantago lanceolata</i>	FAC-
annual bluegrass	<i>Poa annua</i>	FACW-
swamp knotweed	<i>Polygonum amphibium</i> var. <i>emersum</i>	OBL
dotted smartweed	<i>Polygonum punctatum</i>	OBL
rabbit's-foot grass	<i>Polypogon monspeliensis</i>	FACW+
western sword fern	<i>Polystichum munitum</i>	FACU
Herb (continued)		
silverweed	<i>Potentilla anserina</i> ssp. <i>pacifica</i>	OBL
sticky cinquefoil	<i>Potentilla glandulosa</i> ssp. <i>glandulosa</i>	FAC

wild radish	<i>Raphanus sativa</i>	NI*
sheep sorrel	<i>Rumex acetosella</i>	FAC-
curly dock	<i>Rumex crispus</i>	FACW-
bitter dock	<i>Rumex obtusifolius</i>	FACW
willow leaved dock	<i>Rumex salicifolia</i>	OBL
pacific sanicle	<i>Sanicula crassicaulis</i>	NL
California bulrush	<i>Schoenoplectus californicus</i>	OBL
panicked bulrush	<i>Scirpus microcarpus</i>	OBL
California bee plant	<i>Scrophularia californica</i>	FAC
common groundsel	<i>Senecio vulgaris</i>	NI*
prickly sowthistle	<i>Sonchus asper</i>	FAC
common sow thistle	<i>Sonchus oleraceus</i>	NI*
corn spurrey	<i>Spergula arvensis</i>	NL
common dandelion	<i>Taraxacum officinale</i>	FACU
clover	<i>Trifolium sp.</i>	NL
nasturtium	<i>Tropaeolum majus</i>	NL
narrow-leaved cattail	<i>Typha angustifolia</i>	OBL
stinging nettle	<i>Urtica dioica</i>	FACW
common vetch	<i>Vicia sativa</i>	FACU
four seeded vetch	<i>Vicia tetrasperma</i>	NL
periwinkle	<i>Vinca major</i>	NL
brome fescue	<i>Vulpia bromoides</i>	FACW

IV. Geographic Extent of Waters/Wetlands

A. Geographic Extent of Waters of the U.S., Including Wetlands and Geographic Extent of California Coastal Commission Wetlands

A total of 0.46 acres of waters/wetlands occur under federal jurisdiction occur on the Project Site (Exhibit 1). This includes Type 3 waters of the U.S. throughout the majority of the Project Site. Additionally 0.75 acres (32,604 sq ft) of single (or great)-parameter wetlands conforming to the California Coastal Act Public Code are located along the extreme western corner of the property and along the southwestern border of the south field (Table 4).

Observations made during the March 27, 2008 site visit revealed that conditions in the southwestern field, while fallow, allowed for establishment of annual plant species throughout. Specifically, WSP scientists observed a prevalence of vegetation typically adapted for life in saturated soil conditions in a portion of the agricultural field. These annual plant species occurred generally to the south and upgradient of the geographic extent of documented wetland hydrology and hydric soils. WSP scientists informed the Big Wave Group that the California Coastal Commission's (CCC) hydrophytic vegetation parameter likely would be met beyond the bounds of the November 2007 delineated federal and state waters/wetlands line. Further, WSP scientists advised that a new CCC line in the southwestern field should be delineated based upon the current vegetation. Big Wave Group representatives agreed, and a preliminary CCC wetland line was mapped based upon the March 27th field observations. The line represents the approximate extent of CCC wetlands using the hydrophytic vegetation parameter where (native) wetland plant species were dominant. Wetland plant species, primarily non-native Eurasian weedy taxa were observed beyond (upgradient of) this coastal wetland line. However, given the pervasive atypical site conditions that have developed as a result of the long and continuous use of this site for agriculture, WSP staff cannot be certain whether the hydrophytic vegetation parameter would have been met beyond the March 27th CCC line. A complete description of this revision to the November 2007 delineation was submitted to the Big Wave Group on 24 April 2008 and is reproduced in Appendix G.

WSP determined there four (4) areas where the adjacent waters/wetlands overlap the property boundaries. The majority of the total wetland area occurs along the southern boundary of the property. The grand total waters/wetlands area under federal and state jurisdiction delineated is 0.46 ac (Table 4).

B. U.S. Army Corps of Engineers Final Determination of the Geographic Extent of Waters of the U.S., including Wetlands

On 1 May 2009, Corps staff performed a site visit accompanied by WSP scientists Fiedler and Knox. At that time, WSP oriented the Corps to the Project Site, answered questions about delineation methods and protocols used, walking the line delineation by WSP. A letter of determination accepting the WSP delineation as presented in this report was sent to the Big Wave LLC on 5 June 2008, and is included as Appendix H. The Big Wave Project is represented by Corps File Number 2008-00102S; the jurisdictional delineation will expire in five years (5 June 2013).

Table 4. Summary of Big Wave Project Site Waters/Wetlands Areas (refer to Exhibits 1 and 2 for exact location of each wetland area)

Location	Area (ft²)	Area (ac)
Wetland Area A Extent of Federal Jurisdiction	7,450	0.17
Wetland Area B Extent of Federal Jurisdiction	5,142	0.12
Wetland Area C Extent of Federal Jurisdiction	322	0.01
Wetland Area D Extent of Federal Jurisdiction	6,676	0.15
Total Federal Wetland Area	19,590	0.45
Wetland Area A': Additional extent of Wetland A with California Coastal Commission jurisdiction only	410	0.01
Wetland Area D': Additional extent of Wetland D with California Coastal Commission jurisdiction only	12,604	0.29
Total CCC Wetland Area	32,604	0.75

V. Regulatory Context

Three levels of government have jurisdiction over the wetlands within the project area. These include the State of California, the U.S. Federal government, and San Mateo County. A summary of each level of jurisdiction is presented below. However, it must be noted that the proposed project *will avoid all impacts to all waters/wetlands* (Exhibit 2). This avoidance measure includes the incorporation of a 100 ft buffer from the waters/wetlands boundary for any potential development that may occur in the future. The following list is provided to acknowledge the regulatory context should impacts to jurisdictional waters/wetlands be expected. The regulations discussed below are those necessary to ensure compliance with the San Mateo County Local Coastal Plan (LCP). These include California Environmental Quality Act (CEQA) and the Coastal Act regulations.

A. Federal Jurisdiction

1. Clean Water Act (CWA), Section 404

As reported above, the delineation and mapping of the geographic extent of Waters of the U.S., including Wetlands, shows that there are 20,037.60 ft² (0.46 acres) of waters/wetlands within the proposed project area. Section 404 of the CWA requires authorization from the Army Corps of Engineers, for the discharge of dredged or fill material into all waters of the United States, including wetlands. This delineation is conditional upon a field review and final jurisdictional determination by the Army Corps, San Francisco District. Recent decisions in the U.S. Supreme Court (i.e., Solid Waste Agency of Northern Cook County [SWANCC] v. United States Army Corps of Engineers (531 U.S. 159, 2001) January 9, 2001; Rapanos *et ux., et al.* v. United States, June 19, 2006) require a careful examination and documentation of the physical location(s) and hydrologic characteristics of waters/wetlands. Particular focus is given to surface hydrologic connections to “navigable waters in fact,” and/or adjacency and thus a significant nexus to interstate commerce.

Federal guidance for field delineation procedures that address the Rapanos decision has been offered by the Environmental Protection Agency and the Corps of Engineers in a joint memorandum issued June 5, 2007. The unnamed, intermittent creek flowing through the Project Site is hydrologically directly connected to Pillar Point Marsh. Pillar Point Marsh is a tidal water of the Pacific Ocean, a navigable water of the U.S. in fact. Wetlands adjacent to this unnamed, non-navigable creek are considered to be adjacent to a non-navigable tributary of a navigable water in fact. Therefore, the waters/wetlands on the Project Site are regulated by CWA §404.

2. Clean Water Act, Section 401

Section 401 of the CWA addresses water quality in the nation’s waters, including wetlands. The State of California administers §401. Please see B.1 and 2 below.

3. Clean Water Act, Section 402

Section 402 of the CWA addresses the discharge of pollutants from point sources into the Nation’s surface waters. The State of California administers §402. Please see B.3 below.

4. Endangered Species Act, Section 7 (U.S. Fish and Wildlife Services)

Projects that require a CWA §404 permit are obligated to show consistency with the provisions of §7 (or §10, depending on the applicant) of the federal Endangered Species Act of 1973. The purpose of the ESA is “. . . to provide a means whereby the ecosystems upon which endangered species and threatened species depend upon may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions as set forth in subsection (a) of this section.”

Section 7 requires interagency consultation to protect listed species. Under Section 7(a)(1) federal agencies are directed, in consultation with the Service, to use their resources to further the purposes of the act. Section 7(a)(2) precludes federal agencies from authorizing, funding, or carrying out any activities that are likely to jeopardize the continued existence of any listed species or result in the adverse modification of critical habitat. Section 7 of the Endangered Species Act of 1973 is administered by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service.

One federally protected species, California red legged frog (*Rana aurora draytonii*), has been documented near the Project Site (WRA 2003a). However, potential habitat for this species is limited to wetlands on the Project Site, and impacts to all wetlands areas will be avoided for the proposed project. In addition, the proposed project design incorporates a 100 ft buffer from the waters/wetlands boundary. The waters/wetlands buffer area totals 4.26 ac of the Project Site (Exhibit 2).

5. National Historic Preservation Act (NHPA), Section 106

For any projects that require a CWA §404 permit, applicants are obligated to show consistency with the provisions of §106 of the National Historic Preservation Act of 1966. Section 106 of NHPA granted legal status to historic preservation in Federal planning, decision-making, and project execution. Section 106 requires all Federal agencies to take into account the effects of their actions on historic properties, and provide a reasonable opportunity to comment on those actions and the manner in which Federal agencies are taking historic properties into account in their decisions (<http://www.achp.gov/overview.html>). Section 106 of the National Historic Preservation Act is administered by the State of California Historic Preservation Officer (See B.7 below).

B. California State

As described above, approximately 0.46 acres of waters/wetlands exist at the Project Site. These waters/wetlands will be regulated under California Coastal Act, CWA Section 401, 402, California Department of Fish & Game, and the State Historic Preservation Officer under the authority of the National Historic Preservation Act, among others. No wetlands will be impacted under the current plan for the proposed project.

1. California Coastal Act, Public Resources Code, Division 20, Section 30000 et seq.

A Coastal Development Permit is a document required by state law to permit construction of certain uses in a designated “Coastal Zone.” Coastal Development permits are required to ensure that areas designated as protected coastal land are protected and to ensure that the safety, health and welfare of surrounding neighborhoods and communities are upheld. Any and all projects constructed in the Coastal Zone that require “discretionary approval” will require a coastal permit, and discretionary approvals are considered to be those actions that require public review and approval by various bodies of the Coastal Commission (*e.g.*, Board of Supervisors, Zoning Administrator, and Planning Commission).

The San Mateo County Local Coastal Plan (LCP) provides guidance for determination of California Coastal wetlands. Under the San Mateo County LCP, the County designates wetlands as follows:

“The county will:

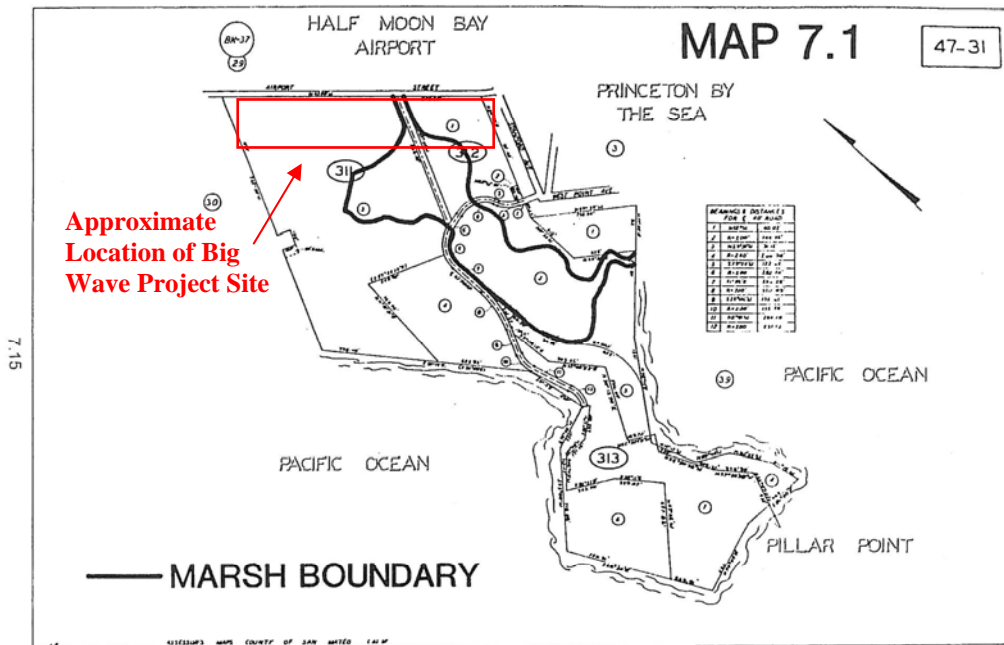
Define wetland as an area where the water table is at, near, or above the land surface long enough to bring about the formation of hydric soils or to support the growth of plants which normally are found to grow in water or wet ground. Such wetlands can include mudflats (barren of vegetation), marshes, and swamps. Such wetlands can be either fresh or saltwater, along streams (riparian), in tidally influenced areas (near the ocean and usually below extreme high water of spring tides), marginal to lakes, ponds, and manmade impoundments. Wetlands do not include areas which in normal rainfall years are permanently submerged (streams, lakes, ponds and impoundments), nor marine or estuarine areas below extreme low water of spring tides, nor vernal wet areas where the soils are not hydric.

In San Mateo County, wetlands typically contain the following plants: cordgrass, pickleweed, jaumea, frankenia, marsh mint, tule, bullrush, narrow-leaf cattail, broadleaf cattail, pacific silverweed, salt rush, and bog rush. To qualify, a wetland must contain at least a 50% cover of some combination of these plants, unless it is a mudflat.”

San Mateo County LCP 7.14 Definition of Wetland

Furthermore, the County has designated Pillar Point Marsh as a wetland requiring protection (Figure 8). Pillar Point Marsh is adjacent to the Project Site, and includes the unnamed intermittent tributary that bisects the property. Within the LCP, the County is authorized to “consider modifying the boundary of Pillar Point Marsh (as delineated on Map 7.1) if a report by a qualified professional, selected jointly by the County and the applicant, can demonstrate that land within the boundary does not meet the definition of a wetland.” WSP investigated the potential overlap of the Project Site with the Pillar Point Marsh designation, and determined that the proposed project will not impact the Pillar Point Marsh. As discussed previously, no wetlands will be impacted by the proposed project.

Figure 8. Location of Pillar Point Marsh in the vicinity of the Big Wave Project Site (Source: San Mateo County LCP 1998).



2. Clean Water Act (Water Quality Certification), Section 401

Section 401 of the CWA requires that federal agencies issuing licenses or permits for construction or other activities obtain a written certification that the activity will not cause or contribute to a violation of the state's water quality standards. After receiving the certification, the federal agency issuing the permit must include conditions in the permit to prevent the project from degrading water quality of a downstream state or tribe. The CWA's 401 certification requirement applies to many types of permits and is an important tool for states and tribes to control projects that might degrade state waters. Work involving discharges to waters/wetlands must be reviewed by the State of California Regional Water Quality Control Board in the context of the Clean Water Act 401 Water Quality Certification Program.

3. Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Act was enacted in 1969 under the California Water Code §§13000 et seq. Its purpose is “. . . to preserve, enhance and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations.” The Act established the State Water Resources Control Board and nine Regional Water Quality Control Boards as the principal state agencies with the responsibility for controlling water quality in California (see B.1. above). Under the Porter-Cologne Water Quality

Act, the State Board has the ultimate authority over State water rights and water quality policy; the nine regional boards oversee water quality on a day-to-day basis at the regional level by (1) determining beneficial uses of water for all bodies of water in their area; (2) establishing and enforcing water quality standards for both surface and groundwater; and (3) taking any and all actions needed to maintain the standards by controlling point and non-point sources of pollution.

4. Clean Water Act, Section 402

Work involving discharges to waters/wetlands must be reviewed by the State of California in the context of the Clean Water Act §402, which regulates discharges pollutants from point sources into surface waters under the National Pollutant Discharge Elimination System permit (NPDES) program. The NPDES program is implemented either by the U.S. Environmental Protection Agency, or in California, by the State Water Quality Control Board. The NPDES program requires those implementing projects involving discharges to waters/wetlands to have a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is reviewed by the Regional Water Quality Control Board and the city or county in which the project takes place. The San Francisco Bay Regional Water Quality Control Board is headquartered in Oakland.

5. Stream Bed Alteration – Section 1600 Series Permit

The California Department of Fish and Game administers §§1600-1607 of the Fish & Game Code. Sections 1600-1607 address any project that will “(1) divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake designated by the department [California Fish and Game] in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit, (2) use materials from the streambeds designated by the department, or (3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass in to any river, stream, or lake designated by the department” (Section 1601) (<http://www.dfg.ca.gov/1600/>). A 1600 series permit is required in any water or wetland with bed and bank features.

6. California Environmental Quality Act (CEQA)

The California Environmental Quality Act, made into law in 1970, requires state and local agencies to identify significant environmental impacts of their actions, and to avoid and mitigate those impacts where feasible (California Public Resource Code §§21000-21177). Depending upon the type and extent of the project, different level(s) of environmental analysis may be required, and make take the form of an Environmental Impact Report (EIR), Environmental Impact Statement (EIS), Negative Declaration (ND), or an Environmental Assessment (EA).

7. National Historic Preservation Act, Section 106

As part of the CWA §404 permit review process, the Corps is obliged to review records kept by the State Historic Preservation Officer (SHPO) to determine if the proposed project will (or is likely to) impact cultural resources. In addition, if cultural resources are encountered during any work that may occur at the Property, the appropriate state agencies must be contacted. State Historic Preservation Officers (SHPOs) administer the national historic preservation program at the State level, review National Register of Historic Places, nominate places, maintain data on

historic properties that have been identified but not yet nominated, and consult with Federal agencies during Section 106 review. SHPOs are designated by the governor of their respective State or territory (<http://www.achp.gov/shpo.html>).

C. Local Jurisdiction

1. San Mateo County

The Big Wave Project Site lies outside of the incorporated limits of Princeton-by-the-Sea and Half Moon Bay, therefore, San Mateo County has jurisdiction. Standard measures for building, grading and encroachment permits, including sediment and erosion control, will need to be followed to prevent inadvertent discharges to waters/wetlands.

a. Grading Permit

Monterey County Grading Inspection Division enforces provisions of Grading Ordinance No. 2535 and Erosion Control Ordinance No. 2806. The Grading Ordinance incorporates regulations from the California Building Code, which addresses standards for all grading construction. The ordinances were adopted to mitigate impacts associated with all kinds of earth movement and associated grading. A grading permit is required for most, but not all, earth-moving operations to avoid problems associated with sediment transport. An exemption for this permit can be obtained for agricultural purposes, such as cultivation and for leveling for crops. However, these activities cannot adversely affect any drainage or water feature.

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Appendix A

Historic Topography of Big Wave Project Site within the Pillar Point Watershed

**Appendix A:
Historic Maps of Pillar Point Harbor, San Mateo County, California**

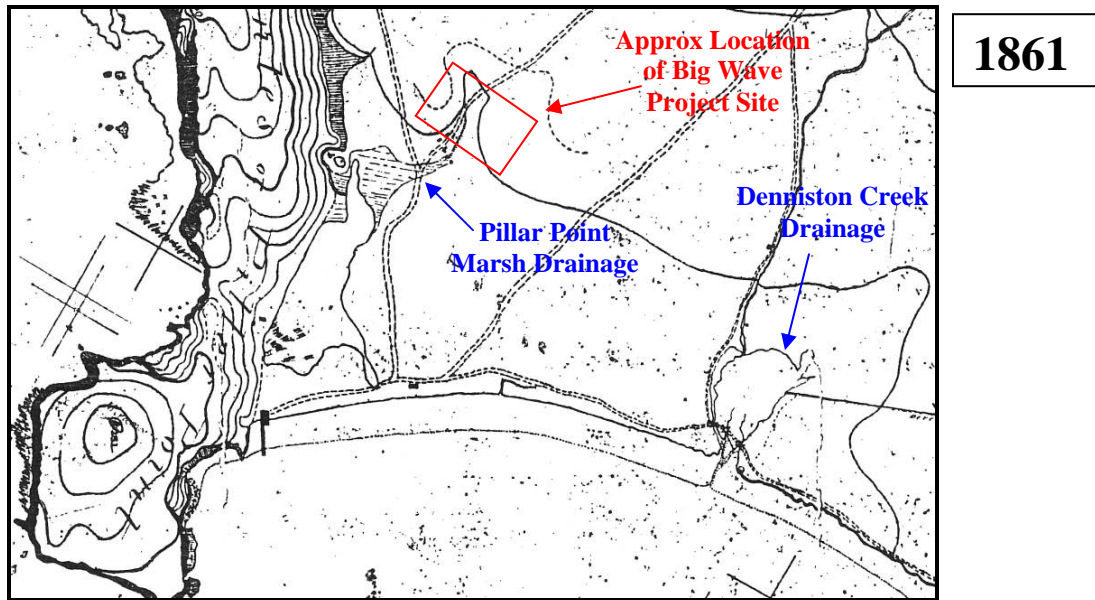


Figure A-1. 1861 Map of the Pillar Point Harbor Area. Note extensive fresh and estuarine wetlands in Pillar Point Marsh and Denniston Creek drainages. Pillar Point Marsh creek mouth is closed; Denniston Creek mouth is open. (Map Source: *Map of Part of the Coast of California in the Vicinity of Half Moon Bay*. U.S. Coast Survey. A.D. Bache Supt. 1861. Register 993. Scale 1:10,000).

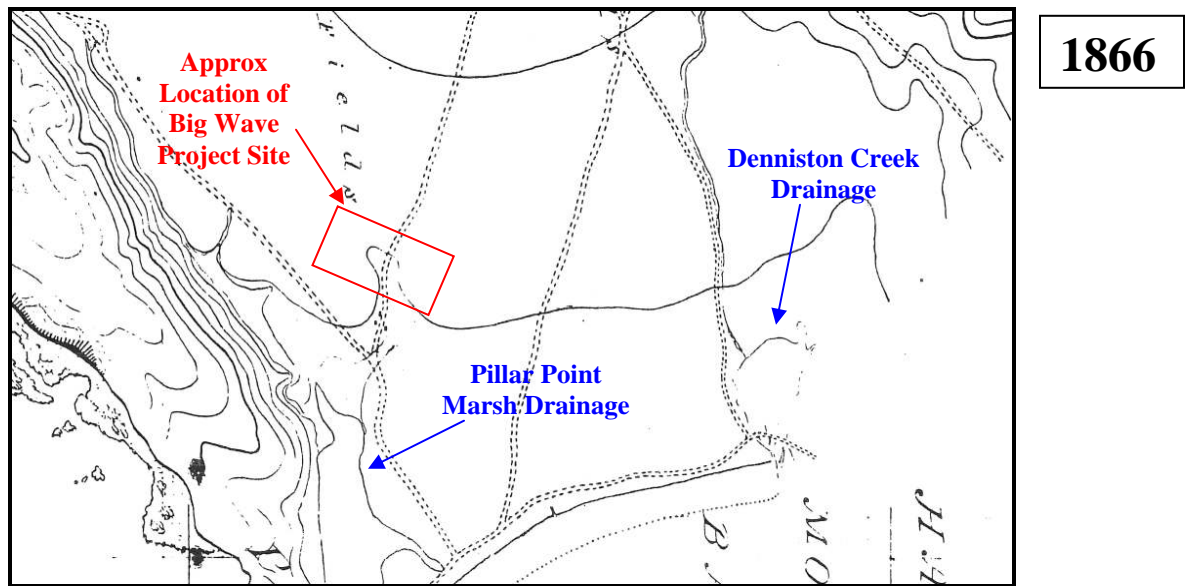


Figure A-2. 1866 Map of the Pillar Point Harbor Area. Extensive fresh and estuarine wetlands in Pillar Point Marsh and Denniston Creek drainages still persist. Pillar Point Marsh creek mouth is closed; Denniston Creek mouth is open. (Map Source: *Map of the Coast Between Pt. San Pedro and Pillar Pt.* U.S. Coast Survey. A.D. Bache Supt. Register 1019. Scale 1:10,000).



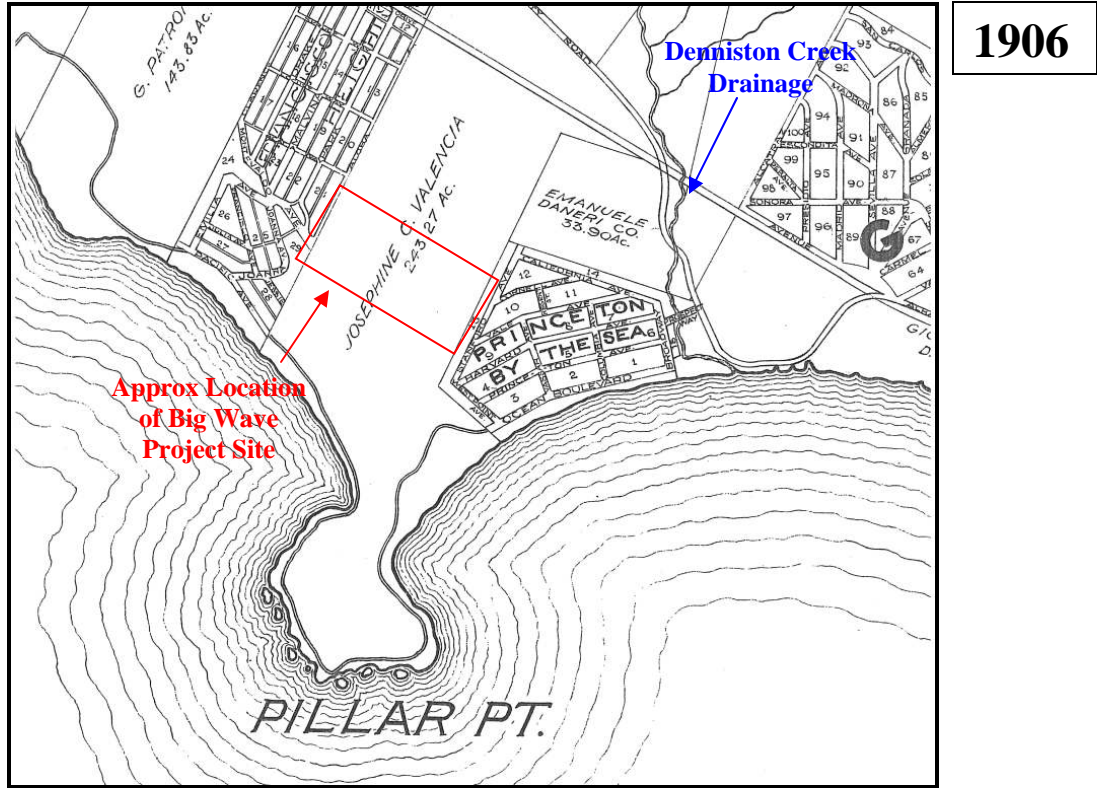


Figure A-5. 1906 Map of the Pillar Point Harbor Area. Pillar Point Marsh drainage not depicted, suggested extensive drainage and wetland loss. Denniston Creek drainage estuary is no longer depicted, mouth open. (Map Source: *Coral del Tierra. Half Moon Bay Feliz Ranch. 1906. Scale unknown*).

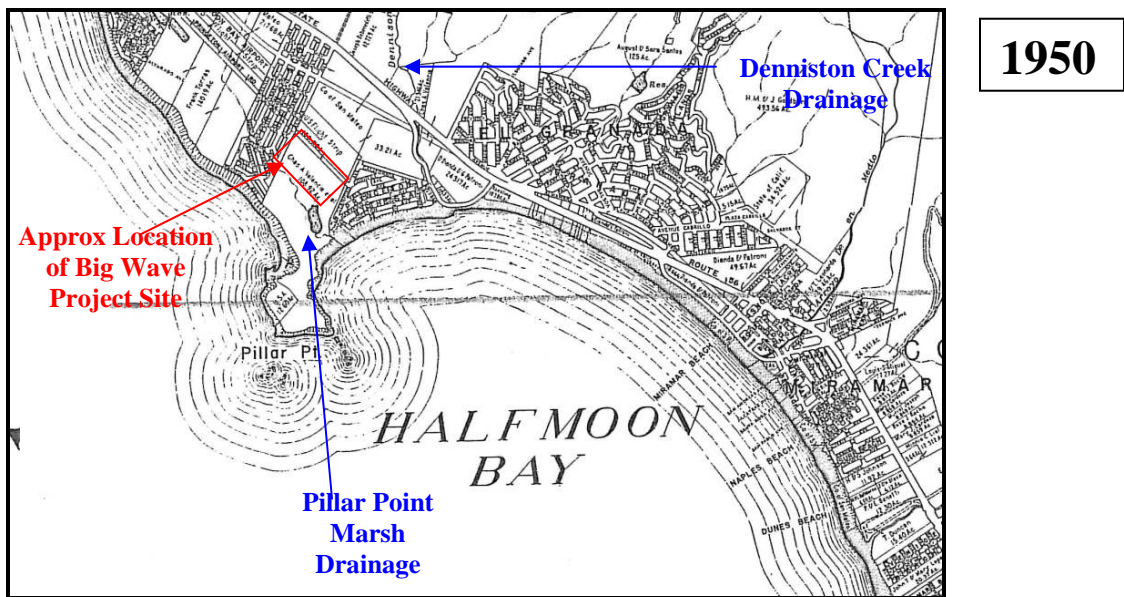
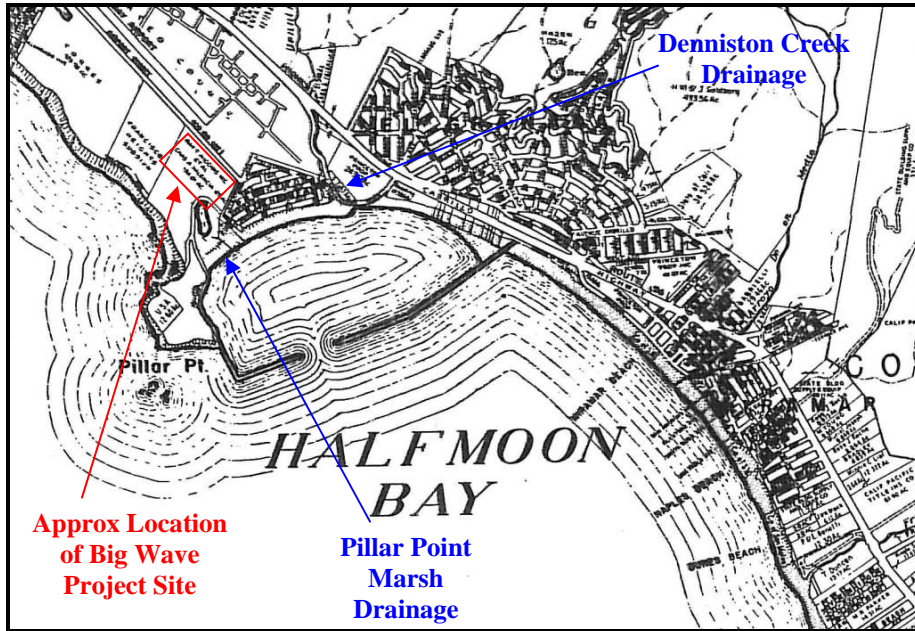


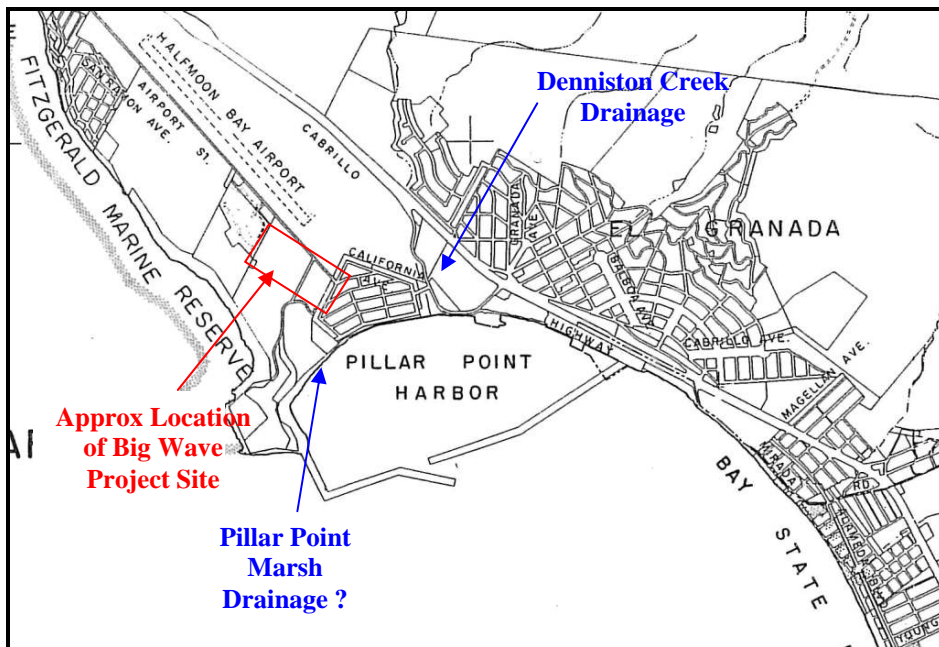
Figure A-6. 1950 Map of the Pillar Point Harbor Area. Pillar Point Marsh drainage now depicted, suggesting wetland gain. Denniston Creek drainage estuary clearly destroyed through urbanization. (Map Source: *Official Map of San Mateo County. June 1950. M.A. Grant, County Engineer & Road Commissioner. Scale 1" = 5,000 ft.*)





1960

Figure A-7. 1960 Map of the Pillar Point Harbor Area. Pillar Point Marsh drainage and wetland continues to be depicted. Denniston Creek drainage estuary evident. Pillar Point Harbor breakwater now in place (Map Source: *Official Map of San Mateo County, 1960*. Scale 1" = 2,500 ft).



1973



Figure A-8. 1973 Map of the Pillar Point Harbor Area. Pillar Point Marsh drainage and wetland again no longer are depicted. Denniston Creek drainage evident. (Map Source: *County of San Mateo County, State of California 1973*. S.H. Cantwell, Jr. Scale 1" = 5,000 ft).

1988

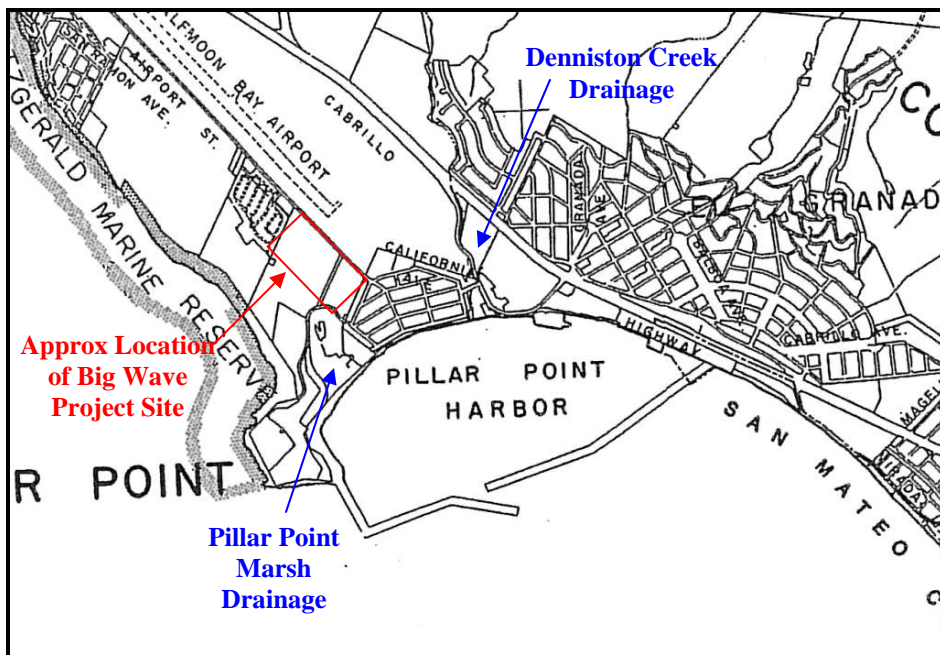


Figure A-9. 1988 Map of the Pillar Point Harbor Area. Pillar Point Marsh drainage and wetland again depicted again. Denniston Creek drainage evident. (Map Source: *County of San Mateo County, State of California 1988. R.L. Sans, Director of Public Works. Scale 1" = 5,000 ft.*)



Appendix B

Completed *1987 Manual* Data Forms

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Big Wave</u>	Date: <u>Nov 20, 2007</u>
Applicant/Owner: <u>Big Wave / Scott Holmes / Jeff Peck</u>	County: <u>San Mateo</u>
Investigator: <u>PLF / LMG / AKK / LCL</u>	State: <u>CA</u>
Do Normal Circumstances exist on the site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Community ID: <u>RZR Riparian</u>
Is the site significantly disturbed (Atypical Situation)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Transect ID: <u>RZR</u>
Is the area a potential Problem Area? (If needed, explain on reverse.) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Plot ID: <u>VP 1</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>100% Salix lasiolepis</u>	<u>T</u>	<u>FACW</u>	9. _____	_____	_____
2. <u>95% Rubus ursinus</u>	<u>V</u>	<u>FACW*</u>	10. _____	_____	_____
3. <u>95% Delairea odorata</u>	<u>V</u>	<u>NL (FACW?)</u>	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/3 = 66% are wetland plants according to list. according to BPJ, 3/3 = 100% are wetland plants

Remarks: Tree cover = canopy. No functioning herb layer.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> (in.) Depth to Free Water in Pit: <u>-</u> (in.) Depth to Saturated Soil: <u>-</u> (in.)	
Remarks: Plot located at edge of plowed area.	

SOILS

Map Unit Name (Series and Phase):		<u>Dda - Denison clay loam</u>		Drainage Class:	<u>somewhat poorly drained</u>
Taxonomy (Subgroup):		<u>Aquoll</u>		Field Observations	
				Confirm Mapped Type?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Profile Descriptions:	Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
	<u>0-9"</u>	<u>Ap</u>	<u>10YR2/1</u>		<u>Few, faint</u>	<u>Clay loam, weak angular blocky</u>
	<u>9-19"</u>	<u>Bt1</u>	<u>10YR2/1</u>	<u>10YR5/6</u>	<u>Few, distinct</u>	<u>Clay loam, weak angular blocky</u>
	<u>19-30"</u>	<u>Bt2</u>	<u>10YR2/1</u>	<u>10YR5/6</u>	<u>Many, distinct</u>	<u>Clay loam, weak angular blocky</u>
	<u>30"-</u>	<u>C</u>	<u>7.5YR3/1</u>	<u>10YR5/6</u>	<u>Few, distinct</u>	<u>Weak angular blocky, clay</u>
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: Hydric soil. Soil pit #6.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Check)	
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	(Check)
Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Big Wave</u>	Date: <u>Nov 20, 2007</u>
Applicant/Owner: <u>Big Wave / Scott Holmes / Jeff Peck</u>	County: <u>San Mateo</u>
Investigator: <u>PLF / LMG / AKK / LCL</u>	State: <u>CA</u>
Do Normal Circumstances exist on the site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Community ID: <u>RZR Riparian</u>
Is the site significantly disturbed (Atypical Situation)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Transect ID: <u>RZR</u>
Is the area a potential Problem Area? (If needed, explain on reverse.) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Plot ID: <u>VP 2</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>40% Phaseolus sp. cult. (cotyledons)</u>	<u>H</u>	<u>NL</u>	9. _____	_____	_____
2. <u>40% Pisum sp. cult (cotyledons)</u>	<u>H</u>	<u>NL</u>	10. _____	_____	_____
3. <u>5% Cirsium vulgare</u>	<u>H</u>	<u>FACU</u>	11. _____	_____	_____
4. <u>30% Rumex crispus</u>	<u>H</u>	<u>FACW-</u>	12. _____	_____	_____
5. <u>5% Unidentified seedling</u>	<u>H</u>	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0/2 = 0% wetland spp.

Remarks: Recently ploughed ag. field. Cover values relative, not absolute. Absolute veg. cover < 2%.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> (in.) Depth to Free Water in Pit: <u>-</u> (in.) Depth to Saturated Soil: <u>-</u> (in.)	
Remarks: Very well drained. No evidence for hydrology of a wetland.	

SOILS

Map Unit Name (Series and Phase):	<u>DcA - Denison clay loam</u>	Drainage Class:	<u>moderately well drained</u>
Taxonomy (Subgroup):	<u>Pachic Agrixerolls</u>	Field Observations Confirm Mapped Type?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-9"	Ap	10YR2/1	None	-	Clay loam, weak angular blocky
9-14"	Bt1	10YR2/1	None	-	Clay loam, weak angular blocky
14-19"	Bt2	10YR2/1	10YR5/6	Few, faint	Clay loam, weak angular blocky
19"-	C	7.5YR3.5/1	10YR5/6	Many, distinct	Silty clay, weak angular blocky

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
---	--

Remarks: Not a hydric soil. Soil pits #4 and #9.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Check)	(Check)
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this Sampling Point Within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Remarks Upland farmed area.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Big Wave</u>	Date: <u>Nov 20, 2007</u>
Applicant/Owner: <u>Big Wave / Scott Holmes / Jeff Peck</u>	County: <u>San Mateo</u>
Investigator: <u>PLF / LMG / AKK / LCL</u>	State: <u>CA</u>
Do Normal Circumstances exist on the site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Community ID: <u>RZR Riparian</u>
Is the site significantly disturbed (Atypical Situation)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Transect ID: <u>RZR</u>
Is the area a potential Problem Area? (If needed, explain on reverse.) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Plot ID: <u>VP 3</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>5% Asteraceae sp. (sterile)</u>	<u>S</u>		9. <u>15% Mentha arvensis</u>	<u>H</u>	<u>FACW</u>
2. <u>35% Carex obnupta</u>	<u>H</u>	<u>OBL</u>	10. <u>2% Rumex obtusifolius</u>	<u>H</u>	<u>FACW</u>
3. <u>30% Rubus ursinus</u>	<u>V</u>	<u>FACW</u>	11. <u>10% Schoenoplectus californicus</u>	<u>H</u>	<u>OBL</u>
4. <u>8% Picris echioides</u>	<u>H</u>	<u>FAC</u>	12. <u>1% Polystichum munitum</u>	<u>H</u>	<u>FACU</u>
5. <u>15% Potentilla anserina</u>	<u>H</u>	<u>OBL</u>	13. <u>2% Polygonum punctatum</u>	<u>H</u>	<u>OBL</u>
6. <u>8% Epilobium ciliatum</u>	<u>H</u>	<u>FACW</u>	14. <u>2% Urtica dioica</u>	<u>H</u>	<u>OBL</u>
7. <u>5% Achilleum millefolium</u>	<u>H</u>	<u>FACU</u>	15. <u>3% Cirsium vulgare</u>	<u>H</u>	<u>FACU</u>
8. <u>85% Juncus effusus</u>	<u>H</u>	<u>OBL</u>	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). >4/5 = >80%

Remarks:

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	
Remarks: Plot located at edge of plowed area.	

SOILS

Map Unit Name (Series and Phase):		<u>Dda - Denison clay loam, nearly level</u>		Drainage Class:	<u>imperfectly drained</u>
Taxonomy (Subgroup):		<u>Aquoll</u>		Field Observations	
				Confirm Mapped Type?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
<u>0-8"</u>	<u>Ap</u>	<u>10YR2/1</u>	<u>None</u>	<u>None</u>	<u>Clay loam, weak angular blocky</u>
<u>8-13"</u>	<u>Bt1</u>	<u>10YR2/1</u>	<u>None</u>	<u>None</u>	<u>Clay loam, weak angular blocky</u>
<u>13-21"</u>	<u>Bt2</u>	<u>10YR2/1</u>	<u>10YR5/6</u>	<u>Few, faint</u>	<u>Clay loam</u>
<u>21"-</u>	<u>C</u>	<u>10YR4/2</u>	<u>10YR5/6</u>	<u>Few, faint</u>	<u>Clay</u>

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: This is a hydric soil. Soil pit #7.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Check)	(Check)
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Big Wave</u>	Date: <u>Nov 20, 2007</u>
Applicant/Owner: <u>Big Wave / Scott Homes / Jeff Peck</u>	County: <u>San Mateo</u>
Investigator: <u>PLF / LMG / AKK / LCL</u>	State: <u>CA</u>
Do Normal Circumstances exist on the site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Community ID: <u>RZL Riparian</u>
Is the site significantly disturbed (Atypical Situation)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Transect ID: <u>RZL</u>
Is the area a potential Problem Area? (If needed, explain on reverse.) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Plot ID: <u>VP 4</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>33% Salix lasiolepis</u>	<u>T/S</u>	<u>FACW</u>	9. <u>10% Scirpus microcarpus</u>	<u>H</u>	<u>OBL</u>
2. <u>20% Rubus ursinus</u>	<u>V</u>	<u>FACW*</u>	10. _____	_____	_____
3. <u>5% Rumex crispus</u>	<u>H</u>	<u>FACW-</u>	11. _____	_____	_____
4. <u>33% Potentilla anserina</u>	<u>H</u>	<u>OBL</u>	12. _____	_____	_____
<u>30% Polygonum</u>	_____	_____	13. _____	_____	_____
5. <u>amphibium var. emersum</u>	<u>H</u>	<u>OBL</u>	14. _____	_____	_____
<u>25% Schoenoplectus</u>	_____	_____	15. _____	_____	_____
<u>californicus</u>	<u>H</u>	<u>OBL</u>	16. _____	_____	_____
6. _____	_____	_____			
7. <u>7% Urtica dioicca</u>	<u>H</u>	<u>OBL</u>			
8. <u>10% Aster chilensis</u>	<u>H</u>	<u>FAC</u>			

Percent of Dominant Species that are OBL, FACW or FAC
(excluding FAC-). 5/5 = 100% wetland plants

Remarks: 1/5 of plot is an agricultural field

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> (in.) Depth to Free Water in Pit: <u>-</u> (in.) Depth to Saturated Soil: <u>-</u> (in.)	
Remarks: Ped faces moist. Farmer notes this area ponds for a long time.	

SOILS

Map Unit Name (Series and Phase):		<u>DdA - Denison clay loam</u>		Drainage Class:	<u>somewhat poorly drained</u>
Taxonomy (Subgroup):		<u>Aquoll</u>		Field Observations	
				Confirm Mapped Type?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Profile Descriptions:	Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
	0-9"	Ap	10YR2/1	10YR5/6	few, distinct	angular, blocky, clay loam
	9-16"	Bt1	10YR2/1	10YR5/6	few, distinct	angular, blocky, clay loam
	16-28"	Bt2	10YR2/1	10YR5/6	many, distinct	angular, blocky, clay loam
	28"+	C	10YR3/2 some areas of gley 5/n	10YR5/6	many, prominent	strong, angular blocky, clay

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input checked="" type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input checked="" type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input checked="" type="checkbox"/> Other (Explain in Remarks)

Remarks: Landowner notes ponding for long or very long duration. Ped faces moist. This is a hydric soil. Soil pit #1.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Check)	(Check)
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Big Wave</u>	Date: <u>Nov 20, 2007</u>
Applicant/Owner: <u>Big Wave / Scott Holmes / Jeff Peck</u>	County: <u>San Mateo</u>
Investigator: <u>PLF / LMG / AKK / LCL</u>	State: <u>CA</u>
Do Normal Circumstances exist on the site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Community ID: <u>RZR Riparian</u>
Is the site significantly disturbed (Atypical Situation)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Transect ID: <u>RZR</u>
Is the area a potential Problem Area? (If needed, explain on reverse.) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Plot ID: <u>VP 5</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <1% Rumex salicifolia	H	OBL	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): _____

Remarks: No green veg except cotyledons. Previously cultivated pea and bean field, recently cleared.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ - _____ (in.) Depth to Free Water in Pit: _____ - _____ (in.) Depth to Saturated Soil: _____ - _____ (in.)	
Remarks: None.	

SOILS

Map Unit Name (Series and Phase):		<u>DdA - Denison clay loam</u>		Drainage Class:	<u>Somewhat poorly drained</u>
Taxonomy (Subgroup):		<u>Pachic Agrixerolls</u>		Field Observations	
				Confirm Mapped Type?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Profile Descriptions:	Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
	0-8"	Ap	10YR2/1	None	-	Clay loam, weak angular blocky
	8-15"	Bt1	10YR2/1	None	-	Loam, weak angular blocky
	15-27"	Bt2	10YR2/1	None	-	Loam, weak angular blocky
	27"-	C	7.5YR3/1	10YR5/4	Few, faint	Sandy clay loam, some charcoal.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: Lots of coarse granite throughout profile. Not a hydric soil. Associated with soil pits #2 and 3.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Check) Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	(Check) Is this Sampling Point Within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks: This is not located in a wetland.	

Appendix C

Completed Arid West Regional Supplement Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Big Wave City/County: San Mateo Sampling Date: 11-20-2007
 Applicant/Owner: Big Wave/Jeff Peck State: CA Sampling Point: VPI
 Investigator(s): PLF/MLCL/ARK/LMG Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): coastal plain Local relief (concave, convex, none): CONCAVE Slope (%): 2
 Subregion (LRR): A Lat: UTM 10S 4151200 N Long: UTM 10S 0544383E Datum: NAD83
 Soil Map Unit Name: Dca-Denison Clay loam NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation _____, Soil , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Salix lasiolepis</u>	<u>100</u>	<u>Yes</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66%</u> (A/B)
4. _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Total Cover: <u>100</u>				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: _____				
Woody Vine Stratum				
1. <u>Rubus ursinus</u>	<u>95</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Delonix odorata</u>	<u>95</u>	<u>Yes</u>	<u>OPL</u>	
Total Cover: <u>190</u>				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____				
Remarks: <u>Tree cover is canopy. No functioning herb layer</u>				

SOIL

Sampling Point: VPI

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

AP
Bt1
Bt2
C

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9"	10YR 2/1		10YR 5/6	0-2	C	M	Clay loam	Weak angular blocky
9-19"	10YR 2/1		10YR 5/6	0-2	C	M	Clay loam	" "
19-30"	10YR 2/1		10YR 5/6	0-20	C	M	Clay loam	" "
30"	7.5YR 3/1		10YR 5/6	0-2	C	M	Clay	" "

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 1 cm Muck (A9) (LRR C) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> 2 cm Muck (A10) (LRR B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) | <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) | <input checked="" type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | ³ Indicators of hydrophytic vegetation and wetland hydrology must be present. |

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Soil Pit #6. Hydric soil - Redox dark surface - weak hydric indicators. Denison clay loam is not hydric soil unless it occurs in depressions such as at this location. Dark matrix (10YR 2/1) of mollic aquisal masks redox features. Redox concentrations were observed throughout the profile, become distinct (10YR 5/6) at 9 inches.

HYDROLOGY Ped faces were moist beginning at 9 inches.

Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

Primary Indicators (any one indicator is sufficient)

- | | | |
|--|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Water Marks (B1) (Riverine) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) | <input type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Drift Deposits (B3) (Riverine) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | | <input type="checkbox"/> Shallow Aquitard (D3) |
| | | <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
Water Table Present? Yes No Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

None available

Remarks: Elevation is lower than other parts of field to east
Plot is located at edge of plowed area.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Big Wave / Jeff Peck City/County: San Mateo Sampling Date: 11-20-07
 Applicant/Owner: Big Wave / Jeff Peck State: CA Sampling Point: VP2
 Investigator(s): PLF/LCL/AKK/LMG Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): coastal plain Local relief (concave, convex, none): CONCAVE Slope (%): 2
 Subregion (LRR): A Lat: UTM 10S 41S1 261N Long: UTM 10S 0544459 Datum: NAD83
 Soil Map Unit Name: DdA - Denison clay loam NWI classification: U PL
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation , Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation _____, Soil , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>Upland Farmed area.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Total Cover: _____				
Sapling/Shrub Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Total Cover: _____				
Herb Stratum				
1. <u>Phaseolus sp cult. cotyledons</u>	<u><1%</u>	<u>Yes</u>	<u>UPL</u>	
2. <u>Pisum sp cult</u>	<u>0.05%</u>	<u>Yes</u>	<u>UPL</u>	
3. <u>Cirsium vulgare</u>	<u>0.01%</u>	<u>No</u>	<u>FACU</u>	
4. <u>Rumex crispus</u>	<u>0.04%</u>	<u>Yes</u>	<u>FACW</u>	
5. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present. Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: <u>0.15%</u>				
Woody Vine Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>798%</u>		% Cover of Biotic Crust _____		
Remarks: <u>Recently plowed ag. field Absolute veg cover is <2%.</u>				

SOIL

Sampling Point: VP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
AP 0-9"	10YR 2/1		None				Clay loam	Weak angular blocks
Bt1 9-14"	10YR 2/1		None				Clay loam	" "
Bt2 14-19"	10YR 2/1		10YR 5/6	0-2	C	M	Clay loam	" "
C 19"	7.5YR 3.5/1		10YR 5/6	2-20	C	M	Silty clay	" "

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 1 cm Muck (A9) (LRR C) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> 2 cm Muck (A10) (LRR B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) | <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | |

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: Soil pits 4 and 9. Not a hydric soil. Denison clay loam is not classified as a hydric soil unless it occurs in depressions. The low chroma of soil matrix (10YR 2/1) results from OM accumulation through formation under grassland vegetation.

HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

Primary Indicators (any one indicator is sufficient)

- | | | |
|--|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Water Marks (B1) (Riverine) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) | <input type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Drift Deposits (B3) (Riverine) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | | <input type="checkbox"/> Shallow Aquitard (D3) |
| | | <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

None available

Remarks:

Very well drained. No evidence for hydrology of a wetland.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Big Wave City/County: San Mateo Sampling Date: 11-20-07
 Applicant/Owner: Big Wave/Jeff Peck State: CA Sampling Point: VP-3
 Investigator(s): PLF/LCL/ARK/LMG Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR): A/C - Mod. terranean CA Lat: UTM 10S 415109A Long: UTM 0544544E Datum: NAD83
 Soil Map Unit Name: Oda - Denison clay loam, nearly level NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:	
Total Cover: _____				Total % Cover of:	Multiply by:
Sapling/Shrub Stratum				OBL species	x 1 = _____
1. _____	_____	_____	_____	FACW species	x 2 = _____
2. _____	_____	_____	_____	FAC species	x 3 = _____
3. _____	_____	_____	_____	FACU species	x 4 = _____
4. _____	_____	_____	_____	UPL species	x 5 = _____
5. _____	_____	_____	_____	Column Totals:	(A) _____ (B) _____
Total Cover: _____				Prevalence Index = B/A = _____	
Herb Stratum				Hydrophytic Vegetation Indicators:	
1. <u>Juncus effusus</u>	<u>85</u>	<u>Yes</u>	<u>OBL</u>	<u>X</u> Dominance Test is >50%	
2. <u>Carex obnupta</u>	<u>35</u>	<u>Yes</u>	<u>OBL</u>	____ Prevalence Index is ≤3.0 ¹	
3. <u>Potentilla anserina</u>	<u>15</u>	<u>No</u>	<u>OBL</u>	____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. <u>Mentha arvensis</u>	<u>15</u>	<u>No</u>	<u>FACW</u>	____ Problematic Hydrophytic Vegetation ¹ (Explain)	
5. <u>Suaeda californica</u>	<u>10</u>	<u>No</u>	<u>OBL</u>	____	
6. <u>Epilobium ciliatum</u>	<u>8</u>	<u>No</u>	<u>FACW</u>	____	
7. <u>Picris echioides</u>	<u>8</u>	<u>No</u>	<u>FAC</u>	____	
8. <u>Achillea millefolium</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	____	
Total Cover: <u>181%</u>				Indicators of hydric soil and wetland hydrology must be present.	
Woody Vine Stratum				Hydrophytic Vegetation Present?	
1. <u>Rubus ursinus</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>	Yes <u>X</u> No _____	
2. _____	_____	_____	_____	____	
Total Cover: <u>30</u>				____	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				____	

Remarks: Other herbaceous spp. observed include (all <5% cover) *Cirsium vulgare*, *Rumex obtusifolius*, *Polygonum punctatum*, *Urtica dioica*, *Polystichum muricatum*, and *Asteraceae* sp (sterile)

SOIL

Sampling Point: VP3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8"	10YR2/1						Clay loam	Weak angular blocky, moist
8-13"	10YR2/1						Clay loam	" "
13-21"	10YR2/1		10YR5/6	0-2	C	M	Clay loam	border clear + distinct
21"-	10YR4/2		10YR5/6	0-2	C	M	Clay	Weak angular blocky

AP
BE1
BE2
C

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			³ Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____
 Hydric Soil Present? Yes No

Remarks: Soil pit #7. This is a hydric soil with weak hydric indicators. The dark matrix is gleyed (more blue than in other locations). Denison clay loam is not classified as hydric unless in depressions as at this location. Distinct redox concentrations were observed at 13". The dark matrix (10YR2/1) of mollisquisol masks redox

HYDROLOGY Features. Ped faces were moist from the surface.

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)	
Primary Indicators (any one indicator is sufficient)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input checked="" type="checkbox"/> Drift Deposits (B3) (Riverine)	
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:
 Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes No Depth (inches): _____
 (includes capillary fringe)
 Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Plot located at edge of plowed area. Communication with farmer and landowner indicate ponding at this location. Saturation and ponding observed on subsequent site visit (Feb 25, 2007)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Big Wave City/County: _____ Sampling Date: 11-20-2007
 Applicant/Owner: Big Wave / Jeff Peck State: _____ Sampling Point: VP4
 Investigator(s): PIF/LCL/AKL/LMG Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR): A/C - Mediterranean Ct Lat: UTM 10S 4151044M Long: UTM 10S 0544646E Datum: NAD 83
 Soil Map Unit Name: Dd, Denison clay loam NWI classification: PSS
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Hydic Soil Present? Yes <u>X</u> No _____	Welland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
---	---	--	--

Remarks:
This point is in a wetland

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Salix lasiolepis</u>	<u>33</u>	<u>Yes</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Total Cover: _____				
<u>Sapling/Shrub Stratum</u>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
<u>Herb Stratum</u>				
1. <u>Potentilla anserina</u>	<u>33</u>	<u>Yes</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Polygonum amphibium var. cernuum</u>	<u>30</u>	<u>Yes</u>	<u>DBL</u>	
3. <u>Schrenoplectis californicus</u>	<u>25</u>	<u>Yes</u>	<u>OBL</u>	
4. <u>Aster chilensis</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
5. <u>Urtica diocra</u>	<u>7</u>	<u>No</u>	<u>OBL</u>	
6. <u>Rumex crispus</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
7. <u>Scirpus microcarpus</u>	<u>10</u>	<u>No</u>	<u>OBL</u>	
8. _____	_____	_____	_____	
Total Cover: <u>120%</u>				
<u>Woody Vine Stratum</u>				
1. <u>Rubus ursinus</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>	¹ Indicators of hydric soil and wetland hydrology must be present.
2. _____	_____	_____	_____	
Total Cover: <u>20</u>				
% Bare Ground in Herb Stratum <u>20%</u> % Cover of Biotic Crust _____				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				

Remarks:
aproximately 1/5 of plot is in plowed field.

SOIL

Sampling Point: VP 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9"	10YR 2/1		10YR 5/6	0-2	C	M	clay loam	Angular blocky
9-16"	10YR 2/1		10YR 5/6	0-2	C	M	clay loam	" "
16-28"	10YR 2/1		10YR 5/6	2-20	C	M	clay loam	" "
28"+	10YR 3/2*		10YR 5/6	2-20	C	M	clay	Strong angular blocky

Ap
Bt1
Bt2
C

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input checked="" type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: * in C horizon some areas of gley s/m. Soil pit #1. Hydric soil which exhibits weak hydric indicators. Denison clay loam is not classified as hydric unless it occurs in depressions as at this location. Gleyed and low chroma colors were observed. Redox conc. and moist red faces throughout profile.

HYDROLOGY *Landowner notes pending for long to very long duration*

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (S9) →
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): _____

Saturation Present? Yes No Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: *Farmer notes this area ponds for along time. Few oxidized rhizospheres were observed. This point is located in a low area w/in the landscape.*

during a later visit

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Big Wave City/County: _____ Sampling Date: 11-20-2007
 Applicant/Owner: Big Wave / Jeff Peck State: _____ Sampling Point: VPS
 Investigator(s): PLF / LCL / AKK / LM6 Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): coastal plain Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): A/C - Mediterranean Lat: UTM 10S 4151261N Long: UTM 10S 0544459 Datum: NAD83
 Soil Map Unit Name: Dd - DeWisen clay loam NWI classification: LxPI
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation _____, Soil , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <p align="center"><u>This point is not located in a wetland.</u></p>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Total Cover: _____				
Sapling/Shrub Stratum				
1. _____	<u>4</u>	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: _____				
Herb Stratum				
1. <u>Rumex salicifolia</u>	<u>41</u>	<u>Yes</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: _____				
Woody Vine Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>>99%</u> % Cover of Biotic Crust _____		Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>		

Remarks:
No green vegetation except cotyledons. Disturbed. Previously cultivated pea and bean field, recently cleared/plowed.

SOIL

Sampling Point: VPS

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8"	10YR2/1						clay loam	weak angular blocky
8-15"	10YR2/1						loam	" "
15-27"	10YR2/1						loam	" "
27"-	7.5YR3/1		10YR5/4	0-2	C	M	Sandy clay loam	Some charcoal

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: Soil pit 3. Lots of coarse granite throughout profile. Not a hydric soil. Darker clay loam is not classified as a hydric soil unless it occurs in depressions. The dark matrix (10YR2/1) results from OM accumulation under grassland veg.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
<u>Primary Indicators (any one indicator is sufficient)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Biotic Crust (B12)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Elevation is higher than soil pit 1. Ponding not observed here on Feb 25, 2008. Farmer says this area does not remain saturated to long to very long durations.

Appendix D

Soil Pit Descriptions

Soil Pit Number	Location (UTM; Datum NAD 83)	Horizon	Depth	Structure	Texture	Matrix Color	Redoximorphic features	Notes	Hydric Determination
1	10S 0544646 4151044 ± 14'	Ap	0-9"	Angular blocky.	Clay loam.	10YR 2/1	Few redox 10YR 5/6.	Many clean single grain granitic pieces Ped faces moist.	Hydric soil. Farmer says it ponds long time and note evidence of ponding. 1% unnamed depression within DdA (Denison clay loam). Near VP4
		Bt1	9-16"	Angular blocky.	Clay loam	10YR 2/1	Few faint redox concentrations at 10YR 5/6. And oxidized rhizospheres.	Textural pickup. Lesivage – fines strip and mobilize down.	
		Bt2	16-28"	Angular blocky.	Clay loam.	10YR 2/1	At boundary many distinct 10YR 5/6.	Few granitic pieces – not coated.	
		C	28"-	Strong angular blocky.	Clay.	10YR 3/2. Some areas with gley 5/n matrix.	Many prominent redox concentrations	Many granitic flecks. Basement below mollic epidon has depleted matrix.	
2	10S 0544701 4151089 ± 13'	Ap	0-8"	Weak angular blocky.	Clay loam.	10YR 2/1	None. Clean granite.	At depth, fines increase with plowing. Many coarse granitic single grains.	No evidence of ponding or saturation to surface. Not hydric. Confirm DdA not a depression.
		Bt1	8-15"	Weak angular blocky.	Loam.	10YR 2/1	None.	Silt increases	
		Bt2	15-27"	Weak angular blocky.	Loam.	10YR 2/1	None.	More sand/granite.	
		C	27"-	Weak angular blocky.	Sandy clay loam.	7.5YR 3/1	Few faint concentrations 10YR 5/4	Charcoal. Lots of coarse granite and sand.	

Appendix D-1

Soil Pit Number	Location (UTM; Datum NAD 83)	Horizon	Depth	Structure	Texture	Matrix Color	Redoximorphic features	Notes	Hydric Determination
3	10S 0544768 4151059 ± 9'	Ap	0-9"	Weak angular blocky.	Clay loam.	10YR 2/1	None.	No evidence of ponding or saturation. Few granite, clean.	Not hydric soil, no redox. Mixing of 10YR 3/2 matrix. Near VP5
		Bt1	9-12"	Angular blocky.	Clay loam.	10YR 2/1	None.	Increase in fines.	
		Bt2	12-17"	Angular blocky.	Clay loam.	10YR 2/1	None.	Heavier clay	
		C	17"-	Angular blocky.	Sandy clay loam.	7.5YR 4/1	None.	Lots of sand and coarse granite.	
4	10S 0544459 4151261 ± 14'	Ap	0-9"	Weak angular blocky.	Clay loam.	10YR 2/1	None.		Not hydric, not ponded/saturated to the surface. Historically ripped to C depth, 18" plow, 14" disk. Associated with VP2.
		Bt1	9-14"	Weak angular blocky.	Clay loam.	10YR 2/1	None.	Granite clean.	
		Bt2	14-19"	Weak angular blocky.	Clay loam.	10YR 2/1	Few faint redox concentrations.	Granite clean.	
		C	19"-	Weak angular blocky.	Silty clay.	7.5YR 3/1	Many distinct 10YR 5/6	Many granite grains.	

Soil Pit Number	Location (UTM; Datum NAD 83)	Horizon	Depth	Structure	Texture	Matrix Color	Redoximorphic features	Notes	Hydric Determination
5	10S 0544383 4151200 ± 15'	Ap	0-8"	Angular blocky	Clay loam.	10YR 2/1	None	Moist. Clean granite/roots.	Not hydric unless ponded or saturated to surface for long or very long durations. This is a localized low spot.
		Bt1	8-12"	Angular blocky.	Clay loam.	10YR 2/1 (bluer)	None	Clean granite/roots.	
		Bt2	12-16"	Angular blocky.	Silty clay.	10YR 2/1	None		
		C	16"-	Angular Blocky	Silty clay.	Depleted matrix 7.5 YR 3/1	Many distinct redox concentrations 10YR 5/6.	Some coarse granite.	
6	10S 0544317 4151199	Ap	0-9"	Weak angular blocky.	Clay loam.	10YR 2/1	Few faint redox concentrations.	Clean granite/roots.	Hydric. Not plowed in area in years. May brush it every year. Near VP1.
		Bt1	9-19"	Weak angular blocky.	Clay loam.	10YR 2/1	Few distinct concentrations 10YR 5/6.	Clean granite/roots. Ped faces moist.	
		Bt2	19-30"	Angular blocky.	Clay loam.	10YR 2/1	Many distinct 10YR 5/6.	Clean granite/few fine roots.	
		C	30"-	Angular blocky.	Clay.	7.5 YR 3/1	Few distinct redox concentrations 10YR 5/6.	Peds moist. Granite clean. Many coarse granite pieces.	

Soil Pit Number	Location (UTM; Datum NAD 83)	Horizon	Depth	Structure	Texture	Matrix Color	Redoximorphic features	Notes	Hydric Determination
7	10S 0544544 4151090	Ap	0-8"	Weak angular blocky.	Clay loam.	10YR 2/1	None..	Moist. Many fine roots – clean.	Hydric soil. Soil dark, relatively undisturbed, high organic matter, moist. Darker than soil pit 5 with more blue. Aquoll – saturated long/very long duration. Near VP3.
		Bt1	8-13"	Weak angular blocky.	Clay loam.	10YR 2/1	None.	Some clean granite pieces.	
		Bt2	13-21"	Angular blocky	Clay loam.	10YR 2/1	Few faint concentrations 10YR 5/6.	Much more clay. Roots clean, More granite.	
		C	21"-	Angular blocky	Clay.	10YR 4/2	Few faint concentrations 10YR 5/6.	Many granite pieces. Roots clean.	
8	10S 0544606 4151100	Ap	0-9"	Weak angular blocky.	Clay loam.	10YR 2/1	Few distinct oxidized rhizospheres.	Clean granite pieces and many clean fine roots.	Hydric soil. Vegetation and hydrology – topography.
		Bt1	9-16"	Angular blocky.	Clay loam.	10YR 2/1	None.	Clean roots.	
		B2t	16-24"	Angular blocky.	Clay loam	10 YR 2/1	Many faint concentrations 10YR 5/6	Clean granite, few clean roots. Clay increasing	
		C	24"-	Angular blocky.	Clay.	Gley 1 2.5/1	Common faint redox concentrations 10YR 5/6	Many coarse granite pieces clean.	

Soil Pit Number	Location (UTM; Datum NAD 83)	Horizon	Depth	Structure	Texture	Matrix Color	Redoximorphic features	Notes	Hydric Determination
9	10S 0544578 4151143 ± 15'	Ap	0-9"	Weak angular blocky.	Clay loam.	10YR 2/1	None	Clean granite and roots.	Very well drained. Very well mixed to ~20". Not hydric.
		Bt1	9-17"	Weak angular blocky.	Clay loam.	10YR 2/1	None	High bulk density. Clean granite and roots.	
		Bt2	17-22"	Weak angular blocky.	Sandy clay loam.	10YR 2/1	Few faint redox 10YR 5/6.	Little clean granite.	
		C	22"-	Angular blocky.	Sandy clay loam.	7.5YR 2.5/1	Many prominent redox concentrations 10YR 5/6	Clean granite and quartz, no roots.	

Appendix E

Site Photographs

Photograph 1. Backhoe pit at the Big Wave Project Site. Backhoe pits facilitate the observation of soil profiles at greater depths.



Photograph 2. Twin concrete culverts (44" diameter) under Airport Road at the eastern perimeter of the Big Wave Project Site. Large culverts carry storm water runoff under Airport Street to the Big Wave Project Site.



Photograph 3. Ponded water along the southeastern perimeter of the Big Wave Project Site. The extent of ponding aligned closely with the delineated wetland boundary as delineated on 25 February 2008. Wooden stakes across the center of the photograph represent the delineated waters/wetlands boundary.



Photograph 4. Dark color (10YR 2/1) of hydric soils found at the Project Site.



Photograph 5. Southeastern agricultural field at the Big Wave Project Site. Both fields presently are in the production of agricultural crops.



Photograph 6. Dominant plant species along an unnamed tributary of Pillar Point Marsh. These wetland plants line San Mateo County's riparian zone that separate the two agricultural fields of the Big Wave Project Site



Photograph 7. Dominant plant species along the southern edge of the property. These wetland plant species are representative of the freshwater emergent vegetation of the adjacent San Mateo County Pillar Point Marsh/Fitzgerald Marine Reserve complex.



Appendix F

**WSP Environment & Energy Ecosystem Science and
Restoration Services Technical Team**

Lyndon C. Lee, Ph. D., PWS

Principal Ecologist and Vice President
WSP Environment & Energy LLC
2324 Eastlake Avenue East, Suite 505
Seattle, WA 98102
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I. EDUCATION

Ph.D. (April 1983) - College of Forest Resources, University of Washington, Seattle, Washington. *Majors:* Ecosystem Ecology, Wetland Science. Attended from 1980 - 1983.

M.Sc. (March, 1979) - School of Forestry, University of Montana, Missoula, Montana. *Majors:* Forest Ecology, Silviculture. Attended from 1975 - 1977.

B.S. (December, 1974) - School of Forestry, University of Montana, Missoula, MT. *Majors:* Forest Ecology/Silviculture, Botany.

Attended from 1971 - 1974, Tufts University, Medford, Massachusetts. *Major:* Botany. Attended from 1969 - 1971.

II. SUMMARY OF PROFESSIONAL EMPLOYMENT

A. Applied Science & Management

Principal Ecologist & Vice President, Ecosystem Science & Restoration Services, WSP Environment & Energy, Strategies, Seattle, Washington (February 2007 – Present)

Principal Ecologist and Senior Consultant, Ecosystem Science & Restoration Services, Entrix, Inc., Seattle, Washington (March 2006 – February 2007)

Principal Ecologist & Vice President, Ecosystem Science & Restoration Services, BBL/Arcadis, Seattle, Washington (June 2004 – January 2006)

President and Principle Scientist, L.C. Lee & Associates, Inc. and Director, National Wetland Science Training Cooperative. Independent private consultant specializing in wetland and river science, ecosystem restoration, and regulatory assistance and training. L.C. Lee & Associates, Inc. was a nationally based environmental consulting firm with offices in Seattle, WA. And Alameda (Bay Area), California. Dr. Lee's emphasis within the company is on applied science including (a) design and construction of waters/wetlands and forested ecosystem restorations, (b) assessment of impacts to waters/wetlands, (c) management of the movement and fate of contaminants in waters/wetland ecosystems, and (d) training of

environmental professionals. Lee is a national waters/wetlands regulatory expert. In this capacity, his emphasis has always been on the application of science to federal, state, and local regulatory programs that focus on protection of aquatic ecosystems. For the past fourteen years, Lee has worked as a national technical team member and leader on several complicated and/or controversial technology development, restoration and/or Clean Water Act enforcement projects throughout the U.S. and abroad (February 1989 – June 2004).

Senior Wetland Ecologist, Office Of Wetlands Protection, U.S. Environmental Protection Agency, Washington, DC & **Assistant Research Ecologist**, Savannah River Ecology Laboratory, Institute of Ecology, University of Georgia. This appointment was a 3-year Cooperative Agreement between the University of Georgia's Savannah River Ecology Laboratory and the EPA Headquarters Office of Wetlands Protection. Dr. Lee functioned as the Senior Wetland Scientist responsible for: (a) National Technical Oversight and Assistance of EPA Regional Wetlands Protection Programs, (b) National Training Programs In Wetland and Ecosystem Sciences and the U.S. Clean Water Act, (c) National Office Of Wetlands Protection Liaison to the Superfund and RCRA programs, and (d) Headquarters EPA - University Research Liaison (May 1986 - February 1989).

Research Manager, Division of Wetlands Ecology, Savannah River Ecology Laboratory (SREL), Institute of Ecology, University of Georgia, Aiken, South Carolina. Dr. Lee served as the supervisor of 11 Ph.D. Staff, 20 Technicians and the \$3,500,000/year Wetlands Research Program based at the U.S. Department Of Energy Savannah River Nuclear Facility and National Environmental Research Park. Program focus was on (a) assessment and monitoring of the effects of weapons grade radionuclide production on waters/wetland ecosystems, (b) management of the fate, transport and removal of radionuclide, heavy metal, and complex organic contaminants in waters/wetlands, and (c) restoration of degraded waters/wetland ecosystems (Dr. R. R. Sharitz, Supervisor) (June 1984 - June 1986).

Research Associate, College of Forest Resources, University of Washington, Seattle, WA. Lee completed doctoral research on wetland and river ecosystems throughout the Pacific Northwest, including Alaska. Study design and direction, grant and contract development and management, employee and field-crew supervision, laboratory and data analyses, dissertation preparation, delivery, and publication of peer reviewed articles (Drs. C. C. Grier and T. M. Hinckley, Co-Chairmen) (January 1980 - June 1983).

Principal Habitat Ecologist, Interagency Grizzly Team, Inter-agency Grizzly Team, Border Grizzly Project. This appointment was with the Montana Forest and Conservation Experiment Station and Cooperative Wildlife Studies Unit, University of Montana, Missoula, MT. Lee developed, conducted and supervised research on the definition, description, classification, protection and restoration of grizzly bear and grey wolf habitats throughout the northern Rocky Mountains, southeastern British Columbia, and northern Mexico. Responsibilities included research project design, planning, and direction, grant proposal preparation & funding, employee, student and field crew supervision in very remote areas, laboratory and data analyses, report development and publication, wildlife habitat impact assessment, and mitigation consultation (Drs. C. J. Jonkel and R. Ream, Directors) (January, 1978 - January 1980).

Research Assistant, School of Forestry, University of Montana, Missoula, Montana. Completed Master's study on riparian/wetland ecosystems in mid-montane and high elevation habitats throughout western Montana (December 1975 - June 1977).

Forestry Technician, U.S. Forest Service, Intermountain Forest and Range Experiment Station, Missoula, Montana. Wind River Range, near Dubois, Wyoming and Coram Experimental Forest, Hungry Horse, Montana. (June - November 1975).

Project Technician, Silvicultural Harvest Practices Demonstration Area, Lubrecht Experimental Forest, School of Forestry, University of Montana, Missoula, MT. (June - September 1973).

Research Technician, Lubrecht Ecosystems Project, School of Forestry, University of Montana, Missoula, Montana. Lee worked as a survey crew member (June - September 1972).

B. Academic

Assistant Research Ecologist, Division of Wetlands/Ecology, Savannah River Ecology Laboratory, Institute of Ecology, University of Georgia, Aiken, South Carolina. Created and administered a Cooperative Agreement with the Office of Wetlands Protection, US Environmental Protection Agency (EPA), Washington, DC to serve as the Senior Scientist in the EPA Headquarters Office of Wetlands Protection. Lee also provided national EPA Programs with Training & Regional Technical Assistance. During the course of this appointment, Lee served on two doctoral Committees, two master's committees. He also supervised one AAAS Science and Engineering Fellow, one EPA Senior Fellow, and three interns (May 1986 - February 1989).

Adjunct Assistant Professor, Department of Biology, George Mason University, Fairfax, Virginia (March 1987 - December 1990).

Adjunct Assistant Professor, Department of Biology, University of South Carolina, Columbia, South Carolina (December 1987 - February 1989).

Assistant Research Ecologist, Institute of Ecology, Savannah River Ecology Laboratory, University of Georgia. Postdoctoral (2), graduate (2) and undergraduate (1) student supervision in wetlands and ecosystems ecology at the Savannah River Ecology Laboratory, Aiken, South Carolina (June 1984 - May 1986).

Teaching Assistant, College of Forest Resources, University of Washington, Seattle, Washington (Silviculture, Plant Physiology) (January 1980 - January 1982).

Principal Instructor, Forest Habitat Classification & Silvicultural Management Short Course Series, MacMillan Bloedel Ltd., Woodlands Services, Nanaimo, British Columbia, Canada. Developed and delivered training for MacMillan Bloedel technical and field staff on forest site classification and "best management practices" throughout Vancouver Island and south coast British Columbia, Canada (June - September 1981).

Teaching Assistant, Montana Forest and Conservation Experiment Station & U.S. Forest Service. Restructured the Montana Forest Habitat Type course curriculum, and authored *A Training Manual for Montana Forest Habitat Types* (January 1976 - June 1978).

Teaching Assistant, School of Forestry, University of Montana, Missoula, Montana (Forest Ecology, Silviculture, Soil Chemistry, Dendrology, Forest Ecosystem Classification) (January 1975 – June 1977).

Instructor, Montana Forest Habitat Type Short Courses. Conducted and administered cooperative continuing education in forest habitat type classification and timber management for forest and range specialists from federal and state agencies, universities, corporations and small private entities from throughout the Rocky Mountains (Month of June, 1975 – 1979).

III. SELECTED PROJECT EXPERIENCE

A. Completed Ecosystem Restoration Projects

Presidio Trust/National Park Service, San Francisco California. Plan and design the restoration of Dragonfly Creek, a perennial creek that is a tributary to San Francisco Bay within the San Francisco Presidio, Golden Gate National Recreation Area (2004 – 2005).

Stanford University, Palo Alto, California. Plan, design, permit, and construct a series of waters/wetlands in the Stanford Academic Reserve. Feature habitat for the California Tiger Salamander (*Ambystoma californiense*) (2003 – 2005).

U.S. Department Of Justice, Washington, D.C. Borden Ranch. Developed plans/recommendations for remediation of non-compliance activities in agricultural waters/wetlands (2001).

Natural Resources Conservation Service and Headwaters Ranch Cooperative, Quilcene, Washington: Andrews Creek Restoration (2000 – Present).

University of Washington-Bothell/ Cascadia Community College Co-located Campus, Bothell, Washing-ton. Environmental assessment, planning, permitting, mitigation design, construction supervision, native plant nursery development and operation, and monitoring of the 58 acre stream ecosystem restoration in North Creek (1994 to 2004).



City Of Pacifica, California

San Pedro Creek Restoration. Flood Control/ Steelhead and California red-legged frog habitat restoration) (1990 – 2004).

Calera Creek Restoration: Pacifica Wastewater Treatment Plant. Environmental planning, permitting, grant procurement, mitigation design, endangered species issues, stream design, stream native plant propagation, construction supervision, and compliance monitoring of a 18- acre riparian waters/wetlands restoration on California's north-central coast (1989-2004).



Milagra Creek Restoration: Flood control (1996 - 1997)

Upper Calera Creek: Riverine restoration in association with new police station (2000 – 2004).

Capistrano Bridge: Rebuilt fish passage / riparian restoration (2001 – 2004).

Boeing Company, Seattle, Washington. Longacres Park Waters/Wetlands and Aquatic Gardens (1990-1995).

City of New York, New York. Restoration Advisor/Peer Review for waters/wetlands restorationa projects (1993).

City of Portland, Oregon: Ramsey Lake Stormwater Treatment Wetlands at the Willamette Columbia River confluence (1995-1998).

Washington State Department of Corrections, Monroe, Washington. Restoration of forested slope wetlands (1999 – 2002).

Washington State Department of Corrections, Olympia and Aberdeen, Washington. Restoration of a tidally influenced reach of Newskah Creek, Tributary to Gray's Harbor, Washington (1998 – 2004).

Robert Cole Property. Tidal marsh restoration in Puget Sound, Anderson Island, Washington (1996 – 2002).

University of Washington -Bothell/Cascadia Community College Co-located Campus, Bothell, Washington. North Creek Riparian Ecosystem Restoration (1995 – 2004).

Shell Oil Company, Anacortes Refinery Clean Fuels Project, Anacortes, Washington. Permitting, mitigation design, construction supervision, and monitoring of a 16-acre restoration adjacent to Padilla Bay, a national estuarine reserve (1993-2001).



Shell Oil Company/ Tesoro, March Point Refinery, Anacortes, Washington. Slope and riparian waters/wetland restoration in a tributary to the Padilla Bay national Estuarine Reserve (1992 – 2001).

International Paper, Ticonderoga, New York. Main Wastewater Pipeline Replacement Project. Emergency response, environmental assessment, planning, permitting, mitigation design, restoration construction, monitoring of a 63-acre waters/wetland ecosystem adjacent to Lake Champlain (1992 -2000).

Shell Oil Company, Sewaren, New Jersey. Tidal marsh restoration in a tributary to the Arthur Kill/New York Harbor (1990-1992).

Boeing Company, Seattle Washington Customer Services Training Center. Master planning, land acquisition, design, permitting, and construction of the Longacres Corporate Park waters/wetlands, Boeing Customer Service Training Center (1990-1995).

National Arboretum, Washington, D.C. Restoration Advisor/Peer Review National Aquatic Gardens – Anacostia River Restoration (1989-1991).

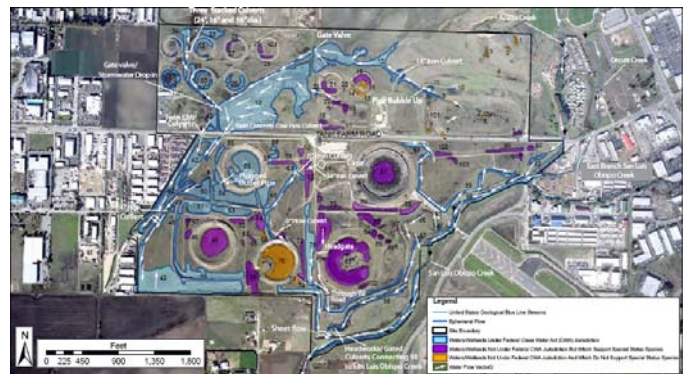
U.S. Department Of Energy/University Of Georgia, Savannah River Plant, Aiken, South Carolina, “L- Reactor” Lake waters/wetlands (1984-1986).

Shurgard Storage, Seattle, Washington. Richards Creek Restoration (1983-1986).

B. Selected Currently Active Ecosystem Restoration Projects

Big Wave Project, Half Moon Bay, California. Environmental assessment, planning, permitting, waters/wetlands design to date; design and develop native plant nursery, permit and construction 7-acre landscape restoration pending (2008 – Present).

Chevron EMC, San Luis Obispo, California. San Luis Obispo Tank Farm Remediation and Landscape Restoration, San Luis Obispo, CA. Environmental assessment, planning, permitting, landscape mitigation design to date; design and develop native plant nursery, permit and construction 130-acre landscape restoration pending (2008 - Present).



City of Mount Vernon, Washington. Kulshan Creek, (2006 – present).

Lobisser Property (George & Nancy), Bainbridge Island, Washington. (2006 – present).

Elma Horse Ranch, Washington. (2006 – present).

Hill Betti, Washington. (2006 – present).

C. Expert Witness Work and Testimony

Expert Witness Division, US Environmental Protection Agency, San Francisco. Provide expert services / technical team leadership in the matter of US v. Greka Oil.

Expert Witness Division, US Department of Justice, Denver, CO. Provide expert services / technical team leadership to the Department of Justice in the matter of US v. Alaska Department of Transportation, near Homer, Alaska (Outcome: pending). (2007 - present).

Expert Witness Division, US Department of Justice, Denver, CO. Provide expert services / technical team leadership to the Department of Justice in the matter of U.S. v. Abeldgaard *et al.*, near Homer, Alaska (Court #: A01-378 CV(RRB). Outcome: Pending. (2002 - present).

Expert Witness Division, US Department of Justice, Washington, DC – Expert witness and technical team leader for the U.S. Department of Justice in the matter of Adams Brothers Farming, Inc. v. County of Santa Barbara, *et al.* (Case No. 10074522). Outcome: Trial bifurcated, won jurisdictional issues in 9th Circuit District Court, appeal pending). (2000 - 2005)

King County, Washington. Griffin v. Anderson. Outcome: arbitrated settlement (2000 – 2001).

Parviz Mohandessi in Mohandessi v. State of Washington, Dept. of Ecology and City of Sammamish. Outcome: WA State Coastal Commission ordered revision of State Determination(s) of Ordinary High Water mark on Lake Sammamish, Washington (2001).

Expert Witness Division, US Department of Justice, Washington, D.C. Provided expert services to Department of Justice and US Environmental Protection Agency, Region IX in the matter of Borden Ranch Partnership vs. U.S. Army Corps of Engineers and U.S. Environmental Protection Agency. Outcome: Won in U.S. District Court, 9th Circuit Court of Appeals, and U.S. Supreme Court (1997 – 2000).

Washington State Attorney General. Expert testimony in State vs. 180th Associates, *et al.* Outcome: Settled in favor of Washington State (1993).

Land and Natural Resources Division, US Department Of Justice, Washington, DC. Served as the US Department Of Justice, US Army Corps, and US Environmental Protection Agency, wetlands expert in the matter of Russo Development Corporation vs. Reilly (Civil No. 87-3916 (HLS)(D.N.J.) (1990).

Land and Natural Resources Division, US Department Of Justice, Washington, DC. Served as the U.S. Department of Justice, U.S. Army Corps and U.S. EPA wetlands expert in the matter of United States Of America vs. F. Wayne McLeskey, Jr. (Civil Action No. 89-54-N). (Jury Trial). (Outcome: Settled in favor of the U.S. prior to jury deliberation) (1989).

Land and Natural Resources Division, U.S. Department Of Justice, Washington, DC. Served as the US Department of Justice wetlands expert in the matter of Bayou Marcus Livestock & Agricultural Co. vs. US Environmental Protection Agency and US Army Corps of Engineers [(No. 88-30275-WEA (N.D. Florida)]. Outcome: Won on summary judgment) (1989).

C. Waters/Wetlands Ecosystem Functional Assessment Models, Methodologies, and Guidebook Development Programs and Publications

WSP Environment & Energy. 2007. *Operational Field Draft Guidebook to Assessment of Riverine, Slope and Depressional Waters/Wetlands Functions at the Chevron Tank Farm, San Luis Obispo, California*. Consultant's report developed for Padre Associates for use by Chevron EMC at San Luis Obispo Tank Farm. November 2007. (L. C. Lee, principal author).

Entrix, Inc. 2006. *Operational Field Draft Guidebook to Assessment of Estuarine Fringe Waters/Wetlands Functions at Shell Pond, Pittsburg, California*. Consultant's report developed for Pacific Gas & Electric Company (L. C. Lee, principal author).

National Wetland Science Training Cooperative. 2004. *Guidebook to Hydrogeomorphic Functional Assessment of Riverine Waters/Wetlands in the Santa Margarita Watershed*. Peer Review Draft, (1977). Operational Draft, (2004). In cooperation with U.S. EPA, Region IX, California Coastal Conservancy, California Regional Water Quality Control Board (San Diego). (L. C. Lee, principal author).

Lee, L. C., Fiedler, P.L., Stewart, S.R., Curry, R.R., Partridge, D.J., Mason, J.A., Inlander, E.M., Almy, R.B., Aston, D.L., Spencer, M.E. 2001. *Draft Guidebook for Reference Based Assessment of the Functions of Riverine Waters/Wetlands Ecosystems in the South Coast Region of Santa Barbara County, California*. In cooperation with Santa Barbara County Water Agency, Santa Barbara, CA and U.S. EPA Region IX.

Brinson, M. M., R. D. Smith, D. F. Whigham, L. C. Lee, R. D. Rheinhardt, W. L. Nutter. 1998. Progress in development of the hydrogeomorphic approach for assessing the functioning of wetlands. Pages 383- 406, in A. J. McComb and J. A. Davis, editors, *Wetlands for the Future*. Gleneagles Publishing, Adelaide, Australia.

Lee, L. C., M.L. Butterwick, J.L. Cassin, R.A. Leidy, J.A. Mason, M.C. Rains, L.E. Shaw, E.G. White. 1997. *Draft Guidebook for Assessment of the Functions of Waters of the U.S., Including Wetlands, on the Borden Ranch, Sacramento and San Joaquin Counties, California*. Seattle, Washington. In cooperation with U.S. Department of Justice and US EPA Region IX.

National Wetland Science Training Cooperative. 1997. *Guidebook for the Hydrogeomorphic Assessment of Temporary and Seasonal Prairie Pothole Wetlands*. Operational Draft. In cooperation with Natural Resource Conservation Service Wetlands Institute, Wash. DC. (L. C. Lee, principal author).

National Wetland Science Training Cooperative. 1996. *Draft Guidebook for the Application of HGM Functional Assessments in Precipitation-Driven Wetlands in Interior Alaska*. In cooperation with State of Alaska, Department of Environmental Conservation and U.S. EPA Region X. (L. C. Lee, principal author).

- National Wetland Science Training Cooperative. 1996. *Draft Regional Guidebook to Functional Assessments in Riverine Wetlands and Slope Wetlands in Southeast Alaska*. In cooperation with the State of Alaska, Department of Environmental Conservation, US EPA Region X, Natural Resources Conservation Service. (L. C. Lee, principal author).
- National Wetland Science Training Cooperative. 1996. *Draft Guidebook to Functional Assessments in 3rd and 4th Order Riverine Waters/Wetlands of the Central California Coast*. In cooperation with California Coastal Commission, U.S. EPA Region IX and City of Pacifica, California. (L. C. Lee, principal author).
- National Wetland Science Training Cooperative. 1995. *Draft Guidebook for Functional Assessment of Depressional Wetlands in the Pacific Northwest/Puget Sound Lowlands Region*. (L. C. Lee, principal author).
- Brinson, M.M., F.R. Hauer, L.C. Lee, W.L. Nutter, R.D. Rheinhardt, R.D. Smith and D. Whigham. 1995. *Guidebook for Application of Hydrogeomorphic Assessments to Riverine Wetlands*. Technical Report TR-WRP-DE-11, Waterways Experiment Station, Army Corps of Engineers, Vicksburg, Mississippi. (L. C. Lee, principal author).
- National Wetland Science Training Cooperative. 1995. *Draft Guidebook for Functional Assessment of Depressional Wetlands in the Mid-Atlantic Coastal Plain*. Natural Resource Conservation Service, Wetlands Institute. (L. C. Lee, principal author).
- National Wetland Science Training Cooperative. 1995. *Draft Guidebook for Functional Assessment of Riverine Wetlands in the Inner Coastal Plain of Chesapeake Bay*. Natural Resource Conservation Service, Wetlands Institute. (L. C. Lee, principal author).
- Brinson, M. M., W. Kruczynski, L. C. Lee, W. L. Nutter, R. D. Smith, and D. F. Whigham. 1994. *Developing an approach for assessing the functions of wetlands*. Pages 615-624, in W. J. Mitsch, editor, *Global Wetlands: Old World and New*. Elsevier Science B.V., Amsterdam.
- Olsen, E. A. and L. C. Lee. 1992. *The use of hydrogeomorphic and vegetation data in differentiating functions among forested wetlands*. Prepared for Riverine Functional Assessment Group and R. Daniel Smith, Wetlands Section, Waterways Experiment Station, U.S. Army Corps Of Engineers, Vicksburg, Mississippi.

IV. HONORARIES, AWARDS, FELLOWSHIPS, PROFESSIONAL ORGANIZATIONS

- Honoraries.** Xi Sigma Pi, Forestry Honorary (inducted 1976).
Sigma Xi, National Research Honorary (inducted 1983).

Academic Fellowships:

R.D. Merrill Fellowship, College of Forest Resources, University of Washington, Seattle, Washington (1983).

Graduate School Tuition Scholarship, University of Washington, Seattle, Washington (1983).

Northwest Scientific Association Research Fellowship (1983).

J.H. Bloedel Forestry Research Graduate Scholarship, College of Forest Resources, University of Washington, Seattle, WA (1982).

Professional Organizations:

Ecological Society of America (since 1978)

American Association for The Advancement Of Science (since 1978)

Northwest Scientific Association (1979 - 1995)

Society Of American Foresters (1983 - 1995)

Society of Wetland Scientists (1984 - Present)

a. Bulletin Editor (1985 - 1991)

b. National Scientific Program Chairman (1987 & 1988)

c. Scientific Program Committee Member (1986, 1987, 1988, 1989, 1990)

d. Awarded lifetime membership (1998)

e. Professional Wetland Scientist Certification (1995): Registration #000385 Association of State Wetland Managers (1984 - 1989)

f. Science Advisory Board of Association of State Wetland Managers (1985 - 1989)

Project Awards:

U.S. Environmental Protection Agency, Region IX. “Outstanding Environmental Achievement, Earth Day 2000”. (Calera Creek Restoration) (2000).

Assemblyman Lou Papan, State Senator Jackie Speirer, Congressman Tom Lantos, Congresswoman Anna Eshoo, and State Senator Byron Sher. Commendation from: San Mateo County Board of Supervisors (Calera Creek Restoration) (2000).

California Legislature Assembly Resolution #3110 – Congratulating the City of Pacifica for success of Calera Creek Water Recycling Facility (Calera Creek Restoration) (2000).

Construction Excellence Award (Team Member with Mortenson and Active Construction), University of Washington-Bothell / Cascadia Community College Co-located Campus – North Creek Restoration (1998).

Team of the Year, Project Management Institute, Puget Sound Chapter Project, Boeing Longacres Park (1995).

V. PUBLICATIONS, PRESENTED PAPERS, WORKSHOPS AND SYMPOSIA

A. Refereed Journal Articles

Gosselink, J. G., G. P. Shaffer, L. C. Lee, D. M. Burdick, D. L. Childers, N. C. Liebowitz, S. C. Hamilton, R. Boumans, D. Cushman, S. Fields, M. Koch, and J. M. Visser. 1990. Can we manage cumulative impacts? Landscape conservation in a forested wetland watershed. *Bioscience*.

Shaffer, G. P., D. M. Burdick, J. G. Gosselink, and L. C. Lee. 1989. A cumulative impact management plan for the Tensas Basin, Louisiana. *Wetlands Ecology and Management*.

Day, F. P., P. Megonigal, and L. C. Lee. 1989. Cypress root decomposition in experimental wetland mesocosms. *Wetlands* 9(2):263-282.

Leitch J. A., T. Golz, and L. C. Lee. 1988. Profile of Society of Wetland Scientists Membership, 1986. *Bulletin of the Society of Wetland Scientists* 5:6-8.

Lee, L. C. and J. G. Gosselink. 1988. Cumulative impact assessment in bottomland hardwood forests: linking scientific assessments with regulatory alternatives. *Environmental Management* 12(5):591 - 602.

Cooper, D. J. and L. C. Lee. 1987. Rocky Mountain wetlands: ecosystems in transition. National Wetlands Technical Council and the Environmental Law Institute. *National Wetlands Newsletter* 9:2-6.

Wolf, R. B., L. C. Lee, and R. R. Sharitz. 1986. Wetland creation and restoration in the United States from 1970 to 1985: an annotated bibliography. *Wetlands* 6:1-88.

Lee, L. C., T. M. Hinckley, and M. L. Scott. 1985. Plant water status relationships among major floodplain sites of the Flathead River, Montana. *Wetlands* 5:15-34.

Scott, M. L., R. R. Sharitz, and L. C. Lee. 1985. Disturbance in a cypress-tupelo wetland: an interaction between thermal loading and hydrology. *Wetlands* 5:53-68.

Lee, L. C. and C. J. Jonkel. 1981. Grizzlies and wetlands. *Western Wildlands* 7(4):26-30.

B. Books, Book Chapters & Theses

Mitsch, W. J., P. L. Fiedler, L. C. Lee and S. R. Stewart. 2001. Wetlands. *McGraw Hill Encyclopedia of Science and Technology*, 9th Edition. McGraw Hill, New York, NY.

Brinson, M. M., R. D. Smith, D. F. Whigham, L. C. Lee, R. D. Rheinart, and W. L. Nutter. 1998. Progress in development of the hydrogeomorphic approach for assessing the functioning of wetlands. Pages 383-406, in A. J. McComb and J. A. Davis, editors. *Wetlands for the Future*. Gleneagles Publishing, Adelaide, Australia.

- Brinson, M. M., W. Kruczynski, **L. C. Lee**, W. L. Nutter, R. D. Smith, and D. F. Whigham. 1994. *Developing an approach for assessing the functions of wetlands*. Pages 615-624 in W.J. Mitsch, editor. *Global Wetlands: Old World and New*. Elsevier Science B.V., Amsterdam.
- Gosselink, J. G., **L. C. Lee**, and T.A. Muir, editors. 1990. *Ecological Processes and Cumulative Impacts - Illustrated by Bottomland Hardwood Wetland Ecosystems*. Lewis Publishers, Chelsea, Michigan. 708 pp.
- Sharitz, R. R. R. L. Schneider, and **L. C. Lee**. 1990. Composition and regeneration of a disturbed floodplain wetland in South Carolina. Pages 195-218, in J. G. Gosselink, L. C. Lee, and T.A. Muir, editors. *Ecological Processes and Cumulative Impacts - Illustrated by Bottomland Hardwood Wetland Ecosystems*. Lewis Publishers, Chelsea, Michigan.
- Gosselink, J. G., M. M. Brinson, **L. C. Lee**, and G. T. Auble. 1990. Human activities and ecological processes in bottomland hardwood ecosystems: the report of the ecosystem workgroup. Pages 549-598, in J. G. Gosselink, L. C. Lee, and T.A. Muir, editors. *Ecological Processes and Cumulative Impacts - Illustrated by Bottomland Hardwood Wetland Ecosystems*. Lewis Publishers, Chelsea, Michigan.
- Gosselink, J. G., **L. C. Lee** and T. A. Muir. 1990. The regulation and management of bottomland hardwood forest wetlands: implications of the EPA-sponsored workshops. Pages 638-671, in J. G. Gosselink, L. C. Lee, and T.A. Muir, editors. *Ecological Processes and Cumulative Impacts - Illustrated by Bottomland Hardwood Wetland Ecosystems*. Lewis Publishers, Chelsea, Michigan.
- Gosselink, J. G. and **L. C. Lee**. 1989. Cumulative impact assessment in bottomland hardwood forests. *Wetlands* Volume 9, Special Issue. Society of Wetland Scientists, Wilmington, N.C. 174 pp.
- Lee, L. C.** 1983. The floodplain and wetland vegetation of two Pacific Northwest river ecosystems. Ph.D. Dissertation, College of Forest Resources, University of Washington, Seattle, WA. 268 pp.
- Lee, L. C.** 1979. A study of plant associations in upland riparian habitats in western Montana.. Master's Thesis, School of Forestry, University of Montana, Missoula, MT. 250 pp.

C. Published Reports and Proceedings

- Fiedler, P. L., **L. C. Lee** and S. D. Hopper. 2007. Gnammas as rare wetlands in the Southwest Australian Floristic Region. In "Proceedings of the MEDECOS XI 2007 Conference, 2-5, September, Perth, Australia." Eds. D. Rokich, G. Wardell-Johnson, C. Yates, J. Stevens, K. Dixon, R. McLelland, and G. Moss, pp. 85-86. Kings Park and Botanic Garden, Perth, Australia.

- Brinson, M. M., F. R. Hauer, **L. C. Lee**, W. L. Nutter, R. D. Rheinhardt, R. D. Smith and D. Whigham. 1995. *Guidebook for Application of Hydrogeomorphic Assessments to Riverine Wetlands*. Technical Report TR-WRP-DE-11, Waterways Experiment Station, U.S. Army Corps of Engineers, Vicksburg, Mississippi.
- Lee, L. C.** and F. E. Gross. 1989. Restoration, creation, and management of wetland and riparian ecosystems in the American West: a summary and synthesis of the symposium. Pages 201 - 219, K. M. Mutz, D. J. Cooper, M. L. Scott, and L. K. Miller, editors. *Proceedings of the Symposium on Restoration, Creation, and Management of Wetland and Riparian Ecosystems In The American West*. Rocky Mountain Chapter of the Society of Wetland Scientists, Denver, Colorado.
- Gosselink, J. G., G. P. Shaffer, **L. C. Lee**, D. M. Burdick, D. L. Childers, N. Taylor, S. C. Hamilton, R. Boumans, D. Cushman, S. Fields, M. Koch, and J. M. Visser. 1989. *Cumulative Impact Assessment and Management in a Forested Wetland Watershed in the Mississippi River Floodplain*. Marine Sciences Department And Coastal Ecology Institute (LSU-CEI-89-02), Center For Wetland Resources, Louisiana State University, Baton Rouge, LA. 131 pp.
- Lee, L. C.**, R. R. Johnson, and T. A. Muir. 1989. Riparian ecosystems as essential habitat for raptors in the American West. Pages 15-26, in B. G. Pendleton, C. E. Ruibal, D. L. Krahe, K. Steenhof, M. N. Kochert, and M. N. LeFranc, editors. 1989. *Proceedings of the Western Raptor Management Symposium and Workshop*. Institute For Wildlife Research, National Wildlife Federation, Scientific and Technical Series No. 12. Washington, D.C. 320 pp. National Wildlife Federation Raptor Management Symposium Series, Washington, D.C.
- Lee, L. C.** 1989. Mitigation for wetland loss: how much is appropriate? Pages 189-195 in N. A. Robinson, editor. 1989. *Proceedings of a Conference on the Preparation and Review of Environmental Impact Statements*, November 1987. President's Council On Environmental Quality and the Environmental Law Section of the New York State Bar Association. West Point, New York.
- Brinson, M. M. and **L. C. Lee**. 1989. In-kind mitigation for wetland loss: statement of ecological issues and evaluation of examples. Pages 1069 – 1085, R. R. Sharitz and J. W. Gibbons, editors. *Freshwater Wetlands and Wildlife*. Proceedings of a symposium held at Charleston, South Carolina, March 24-27, 1986. U.S. Department Of Energy Office of Health & Environmental Research, Washington, D.C.
- Magistro, J. L. and **L. C. Lee**. 1988. Association of Superfund sites with wetlands. Pages 136 – 140, in J. A. Kusler, S. Daly, and G. Brooks, editors. 1988. *Proceedings of the National Wetlands Symposium*, Urban Wetlands, Oakland, CA. Association of State Wetland Managers, Berne, New York.
- Muir, T. A., **L. C. Lee**, and S. Sarason. 1987. The Environmental Protection Agency's initiative on bottomland hardwood ecosystems: a status report. Pages 27-31, K. M. Mutz and L. C. Lee, editors. 1987. *Wetland and Riparian Ecosystems of the American West*. Proceedings of the eighth annual meeting of the Society of Wetland Scientists. Society of Wetland Scientists - Western Chapter. Denver, Colorado.

- Mutz, K. M. and **L. C. Lee**, editors. 1987. *Wetland and Riparian Ecosystems of the American West*. Proceedings of the eighth annual meeting of the Society of Wetland Scientists. Society of Wetland Scientists - Western Chapter. Denver, Colorado. 349 pp.
- McCort, W. D., **L. C. Lee**, and G. R. Wein. 1987. Mitigating for large-scale wetland loss: a realistic endeavor? Pages 359-367, in J. A. Kusler, M.L. Quammen, and G. Brooks. 1987. Proceedings of the National Wetland Symposium On Mitigation Of Impacts And Losses, October 8-10, 1986, New Orleans, Louisiana. Association of State Wetland Managers, Berne, New York.
- Gosselink, J. G. and **L. C. Lee**. 1987. Cumulative impact assessment principles. Pages 196-203, in J. A. Kusler, M. L. Quammen, and G. Brooks, editors. 1987. Proceedings of the National Wetland Symposium on Mitigation Of Impacts And Losses, October 8-10, 1986, New Orleans, Louisiana. Association of State Wetland Managers, Berne, New York.
- Sharitz, R. R. and **L. C. Lee**. 1985. Recovery processes in Southeastern riverine wetlands, in R. R. Johnson, C.D. Ziebell, D.R. Patton, P.F. Folliott, and R.H. Hamre, editors. 1985. *Riparian Ecosystems and Their Management: Reconciling Conflicting Uses*. Proceedings of the First North American Riparian Conference. USDA Gen. Tech. Rpt. RM-120:499-501.
- Sharitz, R. R. and **L. C. Lee**. 1985. Limits on regeneration processes in Southeastern riverine wetlands. In, Johnson, R. R., C. D. Ziebell, D. R. Patton, P. F. Folliott, and R. H. Hamre, editors. *Riparian Ecosystems and Their Management: Reconciling Conflicting Uses*. Proceedings of the First North American Riparian Conference. USDA Forest Service Gen. Tech. Rpt. RM-120: 139-143.
- Chapman, R., **L. C. Lee**, R. O. Teskey, and T. M. Hinckley. 1982. Impact of water level changes on woody riparian and wetland communities, Vol. X - index and addendum to Volumes I - VIII. U.S. Fish and Wildlife Service Office of Biological Services FWS/OBS-82/23. USDI, Washington, D.C. 111 pp.
- Lee, L. C.** and T. M. Hinckley. 1982. Impact of water level changes on woody riparian and wetland communities, Vol. IX - Alaska. U.S. Fish and Wildlife Service Office of Biological Services FWS/OBS -82/23. U.S.D.I., Washington, D.C. 213 pp.
- Lee, L. C.** and R. D. Pfister. 1978. *A Training Manual for Montana Forest Habitat Types*. Montana Forest and Conservation Experiment Station, University of Montana, Missoula, MT. 142 pp.

D. Selected Oral Presentations Of Technical Papers, Invited Seminars, and Posters

- Fiedler, P. L., **L. C. Lee** and S. D. Hopper. 2007. Gnammas as rare wetlands in the Southwest Australian Floristic Region. MEDECOS XI 2007 Conference, 2-5, September, Perth,
- L. C. Lee**, P. L. Fiedler, J. Gage, M. Keever, A. E. Launer, and S. Anderson. 2003. Restoration of breeding habitat for the California tiger salamander (*Ambystoma californiense*) on

- Stanford University lands - I. Design & implementation. Poster presented for the State of the Estuary, Challenges and Changes, 2003. October 21-23, 2003, Oakland, California.
- S. Anderson, A. E. Launer, P. Oliveira, **L. C. Lee**, P. L. Fiedler, J. Gage, and M. Keever. 2003. Restoration of breeding habitat for the California tiger salamander (*Ambystoma californiense*) on Stanford University lands - II. Performance criteria and assessment. Poster presented for the State of the Estuary, Challenges and Changes, 2003. October 21-23, 2003, Oakland, California
- Lee, L. C.** and D. M. Spada. 2002. Working Buffer: Enhancement and Restoration as Compensatory Mitigation in a Chronically Degraded Wetland. Annual meeting of the Society of Wetland Scientists. June 2-7, 2002., Lake Placid, New York.
- Fiedler, P. L., **L. C. Lee**, and S. Holmes. 1999. Continuity in urban stream restoration. Meeting of the Association of State Wetland Managers, October 25-27, 1999, Annapolis, Maryland.
- Cassin, J., Fiedler, P. L., and **L. C. Lee**. 1999. The importance of weeds control in wetland restoration. Meeting of the Association of State Wetland Managers, October 25-27, 1999, Annapolis, Maryland.
- Fiedler, P. L., L. C. Ellis, **L. C. Lee**, and M. C. Rains. 1997. Development of a monitoring plan for restored riverine waters/wetlands along the central California coast using HGM wetland functional assessment: The Calera Creek Project. Meeting of the Association of State Wetland Managers, March 10-13, 1997, Annapolis, Maryland.
- Ellis, L. R., **L. C. Lee**, P. L. Fiedler, and M. C. Rains. 1995. Use of the hydrogeomorphic approach to assess wetland functions and design restoration of riparian wetlands along the central California coast. 1995 Annual Meeting, Society for Ecological Restoration, September 14-18. Seattle, Washington.
- Lee, L. C.** 1989. Approaches For Impact Assessment In Jurisdictional Wetlands: The American Experience. Invited paper at the European Community Workshop On Wetland Functions and Values. April 27-30, 1989, University of Exeter, United Kingdom.
- Lee, L. C.** and J. G. Gosselink. 1988. Cumulative impact assessment in bottomland hardwood forests of the Southeastern U.S. Third International Wetlands Symposium, September 18 - 23, 1988, Rennes, France (Published Abstract).
- Gosselink, J. G. and **L. C. Lee**. 1988. Cumulative impact assessment in bottomlands of the Tensas River basin, Louisiana. Third International Wetlands Symposium, September 18 - 23, Rennes, France. (Published Abstract).
- Megonigal, J. P., W. H. Patrick, S. P. Faulkner, W. B. Parker, R. R. Sharitz, and **L. C. Lee**. 1988. Relationships among vegetation, soils and hydrology as they relate to wetland delineation. 9th Annual Meeting of the Society of Wetland Scientists, May 31 - June 3, 1988, Washington, DC (Published Abstract).

- Smith, R. D. and **L. C. Lee**. 1988. Effects of assessment area boundary selection on functional ratings of the Wetland Evaluation Technique: how to drive WET wild. 9th Annual Meeting of the Society of Wetland Scientists, May 31 - June 3, 1988, Washington, DC (Published Abstract). Burdick, D. M., G. P. Shaffer, J. G. Gosselink, and L. C. Lee. 1988. Planning for cumulative impact management using landscape pattern and principles of conservation biology. International Association of Landscape Ecologists, March 16-19, 1988, Albuquerque, NM. (Published Abstract).
- Magistro, J. L. and **L. C. Lee**. 1988. Association of wetlands with Superfund sites: a pilot study. 9th Annual Meeting of the Society of Wetland Scientists, May 31 - June 3, 1988, Washington, D.C. (Published Abstract).
- Gosselink, J. G., **L. C. Lee**, R. Boumans, D. Burdick, D. Cjilders, D. Cushman, S. Fields, S. Hamilton, M. Koch, G. Shaffer, N. Taylor, and J. Visser. 1988. Cumulative impact assessment and management in bottomlands of the Tensas basin, Louisiana. 9th Annual Meeting of the Society of Wetland Scientists, May 31 - June 3, 1988, Washington, DC. (Published Abstract).
- Muir, T. A., **L. C. Lee**, and S. Sarason. 1987. The EPA initiative on bottomland hardwood ecosystems: a status report. 9th Annual Meeting of the Society of Wetland Scientists, May 26-29, 1987, Seattle, WA. (Published Abstract).
- Megonigal, J. P., W. H. Patrick, S. P. Faulkner, R. R. Sharitz, and **L. C. Lee**. 1987. Wetland boundary delineation in the southeast using vegetation, soils, hydrology, soil aeration/reduction-oxidation status. 9th Annual Meeting of the Society of Wetland Scientists, May 26-29, 1987, Seattle, WA. (Published Abstract).
- Lee, L. C.** 1987. Scoping wetland mitigation projects: where to begin, when to stop, and what to expect. National Wildlife Federation Symposium on "Preserving Our Wetland Heritage", October 4-7, 1987, Washington, D.C.
- Lee, L. C.** 1987. Riparian ecosystems as essential habitat for raptors in the American West. Paper presented to the National Wildlife Federation and the Idaho Chapter of the Wildlife Society, Western Raptor Management Symposium, October 26-28, 1987, Boise, ID.
- Lee, L. C.** 1987. Mitigation for wetland loss: how much is appropriate? President's Council On Environmental Quality, National Symposium On The Preparation And Review Of Environmental Impact Statements, November 3-4, 1987, West Point, NY.
- Lee, L. C.** 1986-1987. Cumulative impacts in bottomland hardwood forests: linking scientific assessments with regulatory approaches. A series of six seminars given by invitation at Indiana University, Western Illinois University, Smithsonian Environmental Research Laboratory, University of Vermont, George Mason University, US EPA Region IV (Atlanta) 2nd Annual Wetlands Meeting,
- Brinson, M. M. and **L. C. Lee**. 1986. In-kind mitigation for wetland loss. Savannah River

Ecology Laboratory's Ninth Symposium: Freshwater Wetlands and Wildlife, March 24-27, 1986, Charleston, SC. (Published Abstract).

- Lee, L. C.** and T. A. Muir. 1986. Wetland forestry in the American West: approaches for silviculture in intricate ecosystem mosaics. International Symposium for Wetland Ecology and Management, U.S. Forest Service, Charleston, SC.
- Lee, L. C.** and M. M. Brinson. 1986. Scientific perspectives on mitigation for wetland loss. Plenary address presented to the Association of State Wetland Managers National Symposium On Wetlands Mitigation, October 8-10, 1986, New Orleans, LA.
- Gosselink, J. G. and **L. C. Lee**. 1986. Cumulative impact assessment principles. Association of State Wetland Managers National Symposium On Wetlands Mitigation, October 8-10, 1986, New Orleans, LA.
- McCort, W. D., **L. C. Lee**, and G. R. Wein. 1986. Mitigating for large-scale wetland loss: a realistic endeavor? Association of State Wetland Managers National Symposium On Wetlands Mitigation, October 8-10, 1986, New Orleans, LA.
- Lee, L. C.** 1986. Measurement of moisture gradients in floodplain wetland ecosystems of the Pacific Northwest. Moisture Gradient Workshop, Wetland Ecology Group, National Ecology Research Center, U.S. Fish and Wildlife Service, Ft. Collins, CO.
- Lee, L. C.** 1986. The floodplain and wetland vegetation of two Pacific Northwest river ecosystems. Invited seminar to the Center For Wetlands, University of Florida, Gainesville, FL.
- Lee, L. C.** 1985. Environmental effects of the L-Reactor restart at the Savannah River Plant, South Carolina. Invited paper, January 30, 1985 meeting of the South Carolina Chapter of the Wildlife Society, Columbia, South Carolina.
- Sharitz, R. R. and **L. C. Lee**. 1985. Limits on regeneration processes in Southeastern riverine wetlands. First North American Riparian Conference: "Riparian Ecosystems And Their Management", April 16-18, 1985, Tucson, Arizona (Published Abstract).
- Sharitz, R. R. and **L. C. Lee**. 1985. Recovery processes in Southeastern riverine wetlands. First North American Riparian Conference: "Riparian Ecosystems And Their Management", April 16-18, 1985, Tucson, Arizona (Published Abstract).
- Lee, L. C.**, M. L. Scott, and T. M. Hinckley. 1985. Plant water status relationships among major floodplain sites of the Flathead River, Montana. 6th Annual Meeting of the Society of Wetland Scientists, July 29 - August 2, 1985, Durham, New Hampshire (Published Abstract).
- Scott, M. L. and **L. C. Lee**. 1985. Biomass and production dynamics along a disturbance gradient in a cypress-tupelo forested wetland. 6th Annual Meeting of the Society of Wetland Scientists, July 29 - August 2, 1985, Durham, NH. (Published Abstract).

- Sharitz, R. R., Schneider, R. L., and **L. C. Lee**. 1984. Composition and regeneration of a disturbed floodplain wetland in South Carolina. US Environmental Protection Agency Bottomland Hardwood Ecosystem Characterization Workshop, December 3-7, 1984, St. Francisville, Louisiana.
- Lee, L. C.** 1984. Floodplain and wetland vegetation in western Montana. Invited Seminar to the Montana Forest and Conservation Experiment Station, University of Montana, Missoula, Montana.
- Lee, L. C.** 1984. Floodplain and wetland plant communities of the North Fork Flathead River, Montana. Northwest Scientific Association 57th Annual Meeting, March 21-24, 1984, Missoula, Montana (Published Abstract).
- Lee, L. C.** 1984. The floodplain and wetland vegetation of two Pacific Northwest river ecosystems. Society of Wetland Scientists 5th Annual Meeting, San Francisco, California (Published Abstract).
- Lee, L. C.** 1984. Water balance and leaf area relationships in floodplain plant communities in two Pacific Northwest river ecosystems. Annual Meeting of the Ecological Society of America, Ft. Collins, Colorado (Published Abstract).
- Lee, L. C., C. C. Grier, and T. M. Hinckley.** 1983. Water balance and leaf area relationships in floodplain plant communities of two Pacific Northwest river ecosystems. Paper presented at the Northwest Scientific Association 56th Annual Meeting, March 24-26, Olympia, WA. (Published Abstract/Best Student Paper award).
- Lee, L. C.** 1983. Definition, classification, and description of riparian wetlands in the Pacific Northwest. Invited seminar to the School of Landscape Architecture, University of Washington, Seattle, Washington.
- Lee, L. C.** 1981 - 1984. Nine formal oral and written declarations and testimonies before hearings of the King and Snohomish County Building and Development Divisions regarding assessment of impacts of proposed or existing developments in wetland or riparian habitats.
- Lee, L. C.** 1981. Gradient modeling of riparian and wetland vegetation. Invited paper presented to the Annual Meeting of the Association of American Geographers, Los Angeles, California (Published Abstract).
- Jonkel, C. J., **L. C. Lee**, P. Zaeger, C. W. Servheen, and R. Mace. 1981. Grizzly bear - livestock competition in riparian ecosystems. Paper presented at the Coeur d'Alene Regional Wildlife Symposium, Coeur d'Alene, Idaho (published abstract).
- Lee, L. C.** 1980. The role of low elevation wetlands in the ecology of free ranging grizzly bears in Montana. Invited seminar presented to the Pacific Northwest Forest and Range Experiment Station, USDA Forest Service, Corvallis, Oregon.
- Lee, L. C.** 1980. Plant associations in montane riparian habitats in western Montana. Invited

seminar presented to the Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, Corvallis, Oregon.

E. Manuscripts in Press/Preparation

Hardwick, K., P. L. Fiedler, **L. C. Lee**, B. M. Pavlik, R. Hobbs, et al. Defining the Role of Botanic Gardens in the Science and Practice of Ecological Restoration. To be submitted to *Conservation Biology*, February 2009.

Hopper, S.D, **P. L. Fiedler** and **L. C. Lee**. Classification and ecosystem functions of gnammas (rock pools) on granite landscapes.

VI. SELELCTED WORKSHOPS AND SYMPOSIA ATTENDED BY INVITATION

Lorman Education Services. "SEPA." Seattle, Washington. 2007.

Lorman Education Services. "SEPA." Tacoma, Washington. 2007.

Law Seminars International. "Successful Permitting Strategies." Seattle, Washington. 1999.

Institute for Wetland Science and Public Policy: The Association of State Wetland Managers, Inc. "*Wetlands '99*" (Plenary Speaker) Annapolis, Maryland. 1999.

Wetlands Biological Assessment and Criteria Development Workshop. Association of State Wetland Managers. Boulder, Colorado. 1996.

Alaska Association of Environmental Professionals Eighth Annual Meeting. Anchorage, Alaska. 1996.

Living Waters Symposium, Bass Anglers Sportsman's Society, Montgomery, Alabama. 1990.

Wet Environments: RCRA Subtitle D Monitoring Guidance. Office of Research and Development, U.S. Environmental Protection Agency Systems Laboratory. Tallahassee, Florida. April 17-19, 1989.

Restoration, Creation, and Management Of Wetland And Riparian Ecosystems in the American West. Lakewood, Colorado. (Plenary Speaker). November 14 - 15, 1988.

Cumulative Impacts Workshop. Wetlands Ecology Program, U.S. Environmental Protection Agency Environmental Research Laboratory, Corvallis, Oregon. 1987.

Restoration Of Bottomland Hardwood Wetlands. Division of Wetlands Ecology, Savannah River Ecology Laboratory, Aiken, South Carolina. 1987.

National Wetlands Technical Council Great Basin.Desert and Montane Wetlands Workshop, Logan, Utah. ("Food Chain Support/Habitat" Workgroup Chairman). February 27-28, 1986.

Moisture Gradient Workshop. Wetland Ecology Group, National Ecology Research Center, U.S. Fish and Wildlife Service, Ft. Collins, Colorado. 1986.

National Wetlands Technical Council Pacific Region Workgroup, San Francisco, California. ("Food Chain Support" workgroup Chairman). April 14-16, 1985.

US Environmental Protection Agency "Bottomland Hardwood Ecosystem Characterization Workshops". St Francisville, Louisiana (December 3-7, 1984), Lake Lanier, Georgia (July 15-19, 1985), and Savannah, Georgia (January 13-17, 1986: Cumulative Impacts Workgroup Chairman). 1984, 1985, and 1986.

VII. ORGANIZATION OF PROFESSIONAL MEETINGS, TRAINING PROGRAMS AND SYMPOSIA

A. Meetings and Symposia

Session Chairman, "*Global Habitat Assessment.*" MEDECOS XI: The International Mediterranean Ecosystems Conference, Perth, Australia. September 2 - 5, 2007.

Panel Organizer & Moderator, "*No Net Loss: Approaches for Implementing Policies To Sustain Wetland Area And/Or Function.*" Society of Wetland Scientists Tenth Annual Meeting, Orlando, Florida. May 30 - June 3, 1989.

Meeting Co-Coordinator, *Pocosins and Associated Wetlands Of The Carolina Coastal Plain.* Workshop Organized for US Environmental Protection Agency Region IV, Atlanta, Georgia and Duke University Center for Wetlands. 1989.

Scientific Program Chairman, "*The Chesapeake and Its Landscape: Perspectives On The Science, Management, and Protection Of Freshwater and Estuarine Wetlands*" - the Society of Wetland Scientists 9th Annual Meeting. Washington, DC. Responsible for development and organization of all aspects of the SWS scientific for the 9th Annual Meeting. May 31 - June 3, 1988.

Session Chairman, "*Assessment and Management Of Contaminants In Wetland Ecosystems.*" Technical Session held at the 9th Annual Meeting of the Society of Wetland Scientists, Washington, DC. May 31 - June 3, 1988.

Session Chairman, "*Management of Contaminants in Saturated Media.*" Technical Session held at the Annual Meeting of the Association of State Wetland Managers, Oakland, California. June 26 - 29, 1988.

Scientific Program Chairman, "*Wetland and Riparian Ecosystems of the American West.*" The Society of Wetland Scientists 8th Annual Meeting, Seattle, Washington. Responsible for development and organization of all aspects of the SWS scientific program for the 8th Annual Meeting. May 26 - 29, 1986.

Scientific Program Committee Manager, National Symposium, *Freshwater Wetlands And Wildlife: Perspectives On Natural, Managed, and Degraded Ecosystems*. University of Georgia Savannah River Ecology Laboratory, Ninth Symposium, Charleston, South Carolina. Responsible with Dr. R. R. Sharitz for (a) organization of all wetland technical sessions, (b) selection and coordination of plenary speakers, and (c) leadership of Freshwater Wetlands field trip. March 24 - 27, 1986.

Session Chairman "*Approaches For Mitigation Of Forestry Impacts To Wetlands*", Technical Session held at the National Symposium On Wetlands Mitigation, Association of State Wetland Managers, New Orleans, Louisiana. October 8 - 10, 1986.

B. Training Programs

Courses taught through Elkhorn Slough National Estuarine Research Reserve Coastal Training Program – Director and Lead Instructor. 2008 - Present.

April 2008: *Jurisdictional Delineation of Waters of the U.S., Including Wetlands On the California Coast: Legal and Ecological Protocols For Diverse and Changing Landscapes*. Elkhorn Slough, California.

November 2008: *Jurisdictional Delineation of Waters of the U.S., Including Wetlands On the California Coast: Legal and Ecological Protocols For Diverse and Changing Landscapes*. Elkhorn Slough, California.

Courses taught through National Wetland Science Training Cooperative (under L.C. Lee & Associates, Inc.) – Director and Lead Instructor. 1989 - 2004.

April 1989: *Jurisdictional Delineation of Wetlands in the Southeastern US*. Mobile, Alabama.

May 1989: *Jurisdictional Delineation of Wetlands in the Mid-Atlantic States*. New Brunswick, New Jersey.

July 1989: *Best Management Approaches for Silviculture in Non-Tidal Wetlands Of Maryland*. Salisbury, Maryland. Taught in cooperation with the Maryland Department Of Natural Resources, Maryland Forest, Park & Wildlife Service, and Society of American Foresters.

August - November 1989: *Jurisdictional Delineation Of Wetlands in the Chesapeake Bay Region* (Seven 1-week courses offered in cooperation with US EPA Region III, the US Army Corps of Engineers, US Fish And Wildlife Service, and US Soil Conservation Service - Federal Ad Hoc Wetlands Group - Chesapeake Bay Program) - Harrisburg, PA; State College PA; Pittsburgh, PA; Annapolis, MD; Easton, MD; Laurel, MD; Richmond, VA.

May 1990. *Jurisdictional Delineation of Wetlands in The Mid-Atlantic States*. Annapolis, Maryland.

May 1990. *Jurisdictional Delineation of Wetlands in Pennsylvania*. State College, Pennsylvania.

June 1990. *Jurisdictional Delineation of Wetlands in the Pacific Northwest*. Seattle, Washington.

August 1990. *Jurisdictional Delineation of Wetlands in the Southeastern United States*. Charlotte, NC.

August 1990. *Jurisdictional Delineation of Wetlands in the American West*. Reno, Nevada.

May 1991. *Jurisdictional Delineation of Wetlands in the Pacific Northwest*. Seattle, Washington.

November 1991. *Jurisdictional Delineation of Wetlands in the Pacific Northwest*. Course taught for King County Building and Land Development), Seattle, Washington.

October 1991. *Restoration and Construction of Wetlands for Storm Water Management in the Pacific Northwest*. Seattle, Washington.

February 1992. Beyond WET: *Functional Assessment of Wetlands in the Southeastern US*. Course taught in cooperation with US EPA, Region IV. Atlanta, Georgia.

April 1992. *An Overview of Jurisdictional Delineation of Waters of the U.S., Including Wetlands on National Forests*. Course taught for the US Forest Service National Hydrology Workshop, Phoenix, Arizona.

June 1992. *Jurisdictional Delineation of Wetlands in the State of Minnesota*. Course taught in cooperation with the State of Minnesota and U.S, EPA Region V. Minneapolis, MN.

July 1992. *Jurisdictional Delineation of Wetlands in the State of Minnesota*. Course taught in cooperation with the State of Minnesota and U.S, EPA Region V. Bemidji, MN.

July 1992. *Jurisdictional Delineation of Wetlands in the State of Minnesota*. Course taught in cooperation with the State of Minnesota and U.S, EPA Region V), Alexandria, MN.

February 1993. *Jurisdictional Delineation of Wetlands in American Samoa*. Course taught in cooperation with the Government of Samoa and EPA Region IX. Pago Pago, American Samoa.

March 1993. *Jurisdictional Delineation of Wetlands in the American West*. Course taught in cooperation with American Fisheries Society. San Francisco, CA.

August 1993. *Advanced Jurisdictional Delineation of Wetlands in Michigan*. Course taught in cooperation with Michigan Department of Natural Resources and Michigan State University and US EPA, Region V. Kellogg Biological Station, Michigan.

August 1994. *Jurisdictional Delineation of Wetlands in Guam*. Course taught in cooperation with EPA Region IX. Guam and Republic of Palau.

October 1994. *The Hydrogeomorphic Approach to Functional Assessment of Wetlands in the Mid-Atlantic States, Annapolis, Maryland*. Course taught in cooperation with US EPA, Region III and the Smithsonian Environmental Research Laboratory.

November 1994. *The Hydrogeomorphic Approach to Functional Assessment of Wetlands in the Santa Margarita Watershed, San Diego, California*. Course taught in cooperation with US EPA, Region IX.

July 1995. *Jurisdictional Delineation of Wetlands in the Caribbean, San Juan, Puerto Rico*. Course taught in cooperation with US EPA Region II and Puerto Rico Department of Natural Resources. San Juan, Puerto Rico

August 1995. *The Hydrogeomorphic Approach to Functional Assessment of Wetlands in the Pacific Northwest*. Course taught in cooperation with Natural Resource Conservation Service Wetlands Institute. Seattle, Washington.

September 1995. *The Hydrogeomorphic Approach to Functional Assessment of Wetlands in the Mid-Atlantic States*. Course taught in cooperation with the Natural Resource Conservation Service Wetlands Institute. Annapolis, Maryland.

April 1996. *The Hydrogeomorphic Approach to Functional Assessment of Wetlands of the Central California Coast*. Course taught in cooperation with Natural Resource Conservation Service Wetlands Institute. San Francisco, California.

May 1996. *The Hydrogeomorphic Approach to Functional Assessment of Wetlands in Alaska*. Course taught in cooperation with the State of Alaska Department of Environmental Conservation and US EPA, Region X. Fairbanks, Alaska.

March 1997. *The Hydrogeomorphic Approach to Functional Assessment of Wetlands in the Kenai River Watershed*. Course taught in cooperation with the State of Alaska Department of Environmental Conservation and US EPA, Region X. Soldotna, Alaska.

May 1997. *The Hydrogeomorphic Approach to Functional Assessment of Wetlands in the Prairie Pothole Region*. Course taught in cooperation with the Natural Resource Conservation Service, Wetlands Institute, Washington, DC. Jamestown, North Dakota.

May 1999. *The Hydrogeomorphic Approach to Functional Assessment of Wetlands in Interior Alaska*. Course taught in cooperation with the State of Alaska Department of Environmental Conservation and US EPA, Region X.

December 2001. *The Hydrogeomorphic Approach to Functional Assessment of Riverine Waters/Wetlands in the South Coast Region of Santa Barbara County, California*. Course taught in cooperation with Santa Barbara County Flood Control & Water Conservation District, Santa Barbara County Water Agency and US EPA, Region IX. Santa Barbara, California

Program director and lead instructor for the U.S. Environmental Protection Agency Headquarters Office of Wetlands Protection, "National Wetlands Training Program". National 1-week field-based training courses offered by the Office of Wetlands Protection, U.S. Environmental Protection Agency, Washington, D.C. 1987 – 1989.

June 1987. *Jurisdictional Delineation of Wetlands and Riparian Ecosystems in the American West*. Reno, Nevada.

July 1987. *Functional Assessment of Bottomland Hardwood Ecosystems in the Southeastern United States: Introduction to the "Bottomland Hardwood Wetland Evaluation Technique" and "Cumulative Impact Assessment in Bottomland Hardwood Forests."* Charleston, South Carolina.

October 1987. *Jurisdictional Delineation of Wetlands in the Southeastern United States*. University of Georgia Marine Institute, Sapelo Island, Georgia.

November 1987. *Functional Assessment of Wetland and Riparian Ecosystems in the American West*. Ft. Collins, Colorado.

March 1988. *Jurisdictional Delineation of Wetland and Riparian Ecosystems in the Southwestern United States*. Tucson, Arizona.

May 1988. *Jurisdictional Delineation of Wetlands in the State of New Jersey*. East Hanover, New Jersey.

June 1988. *Jurisdictional Delineation of Wetlands in the Mid-Atlantic States*. New Brunswick, New Jersey. (Private Sector Only)

August 1988. *Jurisdictional Delineation of Wetlands in the State Of Virginia*. Virginia Institute of Marine Science, Gloucester Point, Virginia.

August 1988. *Functional Assessment of Wetlands in the Southeastern US: The National And Bottomland Hardwood Wetland Evaluation Techniques*. Galveston, Texas.

September 1988. *Jurisdictional Delineation of Wetlands in the North-Central US*. Kellogg Biological Station, Hickory Corners, Michigan.

October 1988. *Best Management Approaches for Silviculture in Southeastern Forested Wetlands*. Savannah, Georgia.

October 1988. *Cumulative Impact Assessment in Southeastern Wetland Ecosystems: The Pearl River*. Slidell, Louisiana.



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I. EDUCATION

Ph.D., June 1985, Department of Forestry & Conservation, University of California, Berkeley, Wildland Resource Science (Plant Evolutionary Ecology)

M.S., December 1980, Department of Forestry & Conservation, University of California, Berkeley, Wildland Resource Science (Plant Ecology)

B.A., *cum laude*, June 1976, Radcliffe College, Harvard University, Anthropology (Ethnobotany) (Departmental honors *magna cum laude*; Senior thesis “Materia Narcotica of the Aztec Empire”)

Additional Graduate Training

1. Organization for Tropical Studies, Tropical Biology 79-1. Multiple field sites, Costa Rica (1979)
2. Organization for Tropical Studies, RIAS award, Monteverde, Costa Rica (1980)
3. East-West Center, Tropical Agro-Ecosystems Workshop/Seminar (April 1981)
4. *Plants of the Tropics*, Harvard University, Fairchild Tropical Gardens, Coral Gables, Florida (Summer 1977)

II. PROFESSIONAL CERTIFICATION

Professional Wetland Scientist #16371 (Society of Wetland Scientists)

III. PROFESSIONAL EXPERIENCE

A. Environmental Consulting

Senior Botanist / Conservation Ecologist, Co-Director, Ecosystem Science & Restoration, WSP Environment & Energy, LLC (February 2007 – Present).

Senior Botanist/Conservation Ecologist in a large, publicly-traded engineering and environmental consulting firm specializing in the construction, environmental regulatory assistance for environmentally innovative projects. Company services include due diligence, energy consulting, natural resource damage assessments, ecosystem restoration (emphasis on wetlands restoration), endangered species protection, and expert testimony. Technical responsibilities include the co-direction of the Ecosystem Science & Natural Resources Management Services group for the entire company, in addition to routine wetland delineations, waters/wetlands functional assessment, teaching, site assessments, rare plant surveys, data analysis/synthesis, and wildlands restoration design, construction oversight, and monitoring. Management responsibilities include marketing, staff hiring/firing, project management, and budget development and oversight.

Senior Botanist / Conservation Biologist, Entrix, Inc. (February 2005 - Present).

Senior Scientist/Senior Associate in a medium-sized, private consulting firm specializing in regulatory assistance and training, ecosystem restoration (emphasis on wetlands restoration), endangered species protection, natural resource damage assessment, and expert testimony. Technical responsibilities include routine wetland delineations, waters/wetlands functional assessment, teaching, site assessments, rare plant surveys, data analysis/synthesis, and wildlands restoration design, construction oversight, and monitoring. Management responsibilities include marketing, staff hiring/firing, project management, and budget development and oversight.

Senior Scientist II / Associate, Blasland Bouck & Lee, Inc. (BBL) (June 2004 – January 2006).

Senior Scientist/Senior Associate in a large, employee-owned, private consulting firm specializing in toxic substance remediation and clean-up, ecosystem restoration (emphasis on wetlands restoration), ecological and human health risk assessment, endangered species protection, regulatory assistance and training. BBL has a national client base primarily with large corporations, including a significant number of Fortune 500 companies. Technical responsibilities include routine wetland delineations, site assessments, rare plant surveys, data analysis/synthesis, and wildlands restoration design, construction oversight, and monitoring. Management responsibilities include marketing, staff hiring/firing, project management, and budget development and oversight.

Senior Scientist/Senior Associate, L.C. Lee & Associates, Inc. (LCLA) (March 2000 - Present). **Manager, Bay Area Office of L.C. Lee & Associates, Inc.** (March 2000 – June 2004).

Senior Scientist/Senior Associate in an independent private consulting firm specializing in wetland science, endangered species protection, regulatory assistance and training. LCLA has a national client base including federal agencies, state and local governments, large corporations, architectural firms, law firms, and individual land owners. Projects included routine wetland delineations, site assessments, rare plant surveys, expert testimony, and mitigation/ restoration design, construction oversight, and monitoring. Management responsibilities include marketing, staff hiring/firing, project management, data analysis, and budget development and oversight.

Member, National Wetland Science Training Cooperative, Division of L.C. Lee & Associates, Inc. (1989 - Present). Field Instructor, Botany. Jurisdictional Delineation of Wetland Ecosystems of the United States. National Wetland Science Training Cooperative (L.C.Lee & Associates, Inc., Seattle, Washington.) Courses held in Reno, Nevada (August 1990); Seattle, Washington (May 1991); Tiburon, California (March 1993); and Kalamazoo, Michigan (August 1993). Also participated in hydrogeomorphic assessment course in Santa Barbara, California (December 2000).

Associate Plant Ecologist (Part Time), L.C. Lee & Associates, Inc. (September 1989 - February 2000) Served as botanist for projects as described under L.C. Lee & Associates, Inc. and National Wetland Science Training Cooperative.

Associate, Huffman & Associates (January 1987 - June 1989). Served as botanist for routine delineations, report preparation and production. National client base included developers, federal agencies, and private individuals. Developed and participated in jurisdictional delineation courses offered by the U.S. Environmental Protection Agency.

Independent Environmental Consultant, June 1985 - January 1987). Independent consultant specializing in rare plant and endangered species protection and regulatory assistance.

1. Selected Ecosystem Restoration Project Experience

Big Wave Project, Half Moon Bay, California. Environmental assessment, planning, permitting, waters/wetlands design to date; design and develop native plant nursery, permit and construction 7-acre landscape restoration pending (2008 – Present).

Chevron EMC, San Luis Obispo, California. San Luis Obispo Tank Farm Remediation and Landscape Restoration, San Luis Obispo, CA. Environmental assessment, planning, permitting, landscape mitigation design to date; design and develop native plant nursery, permit and construction 130-acre landscape restoration pending (2008 - Present).

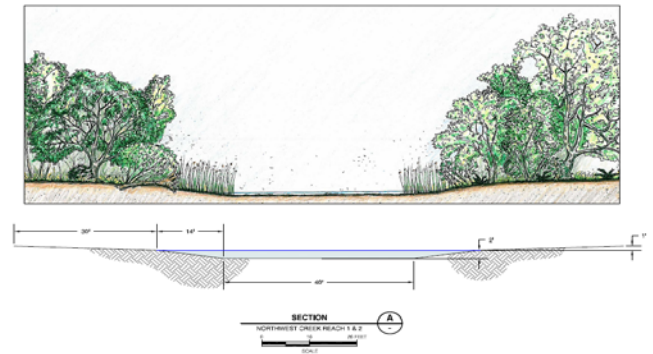
Presidio Trust/National Park Service, San Francisco California. Environmental planning and design for the restoration of Dragonfly Creek, a perennial creek that is a tributary to San Francisco Bay within the San Francisco Presidio, Golden Gate National Recreation Area (2004 – 2005).

Stanford University, Palo Alto, California. Environmental planning, permitting, design and construction of a series of waters/wetlands in the Stanford Academic Reserve. Feature habitat for the California Tiger Salamander (*Ambystoma californiense*) (2003 – 2005).

University of Washington-Bothell/ Cascadia Community College Co-located Campus, Bothell, Washington. Assisted in native plant nursery development and operation in North Creek (1994 to 2004).

City Of Pacifica, California

San Pedro Creek Restoration. Flood Control/ Steelhead and California red-legged frog habitat restoration. Project developed with U.S. Army Corps of Engineers. Environmental planning, permitting, grant procurement, mitigation design, endangered species issues, stream design, stream native plant propagation, construction supervision, and compliance monitoring of a 10-acre riverine



waters/wetlands restoration (1989-2004).

Calera Creek Restoration: Pacifica Wastewater Treatment Plant. Environmental planning, permitting, grant procurement, mitigation design, endangered species issues, stream design, stream native plant propagation, construction supervision, and compliance monitoring of a 18-acre riparian waters/wetlands restoration (1989-2004).



Project Awards:

U.S. Environmental Protection Agency, Region IX. “Outstanding Environmental Achievement, Earth Day 2000”. (Calera Creek Restoration) (2000).

Assemblyman Lou Papan, State Senator Jackie Speirer, Congressman Tom Lantos, Congresswoman Anna Eshoo, and State Senator Byron Sher. Commendation from: San Mateo County Board of Supervisors (Calera Creek Restoration) (2000).

California Legislature Assembly Resolution #3110 – Congratulating the City of Pacifica for success of Calera Creek Water Recycling Facility (Calera Creek Restoration) (2000).

Milagra Creek Restoration: Emergency flood control restoration design and planting oversight (1996 - 1997).

Upper Calera Creek: Environmental planning, restoration design, and planting oversight for riverine restoration in association with construction of new police station (2000 – 2004).

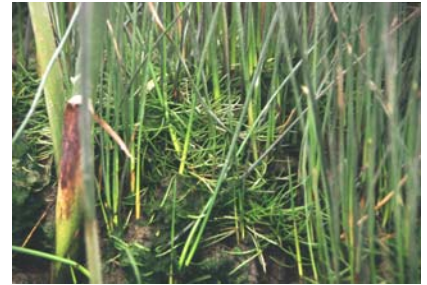
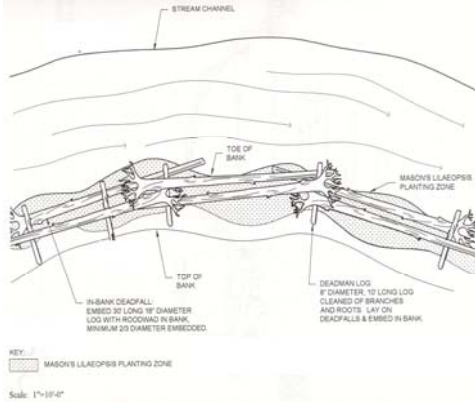
Capistrano Bridge: Rebuilt fish passage involved environmental planning, permitting, grant procurement, mitigation design, endangered species issues, stream design, riparian restoration (2001 – 2004).

International Paper, Ticonderoga, New York. Main Wastewater Pipeline Replacement Project. Assisted in monitoring of a 63-acre waters/wetland ecosystem adjacent to Lake Champlain (1992 -2000).



2. Selected Rare Plant Project Experience

Napa River/Napa Creek Flood Protection Project., Napa, California. Design and conduct yearly monitoring for three rare plants of conservation concern along the lower Napa River ecosystem. Project also included the design of a mitigation-related constructed log jam habitat restoration for Mason's lilaepsis (*Lilaeopsis masonii*). (2001 – Present).



Zone 7, Alameda Flood Control Rare Plant Habitat Projection Project. Springtown Wetlands, Livermore, California. Design and led pollination and plant-animal interaction study of the Palmate bird's beak (*Cordylanthus palmatus*) to ensure protection of pollinators



during maintenance activity. Study resulted in the discover of a new species of native bee (*Panurginus* sp. nov.).

Rush Ranch Suisun Thistle Population Status & Mapping. Habitat Projection Project. Fairfield, California. Study involved locating, mapping, estimating population size, and establishing permanent monitoring transects for the Suisun thistle to provide baseline information and management recommendations.



B. Academic - Teaching

[San Francisco State University, Biology Department](#)

Professor (5/1997 to 8/2000)

Associate Professor (8/1993-5/1997)

Assistant Professor/Foundation Professor for Conservation Biology (8/1989-7/1993)

California State Lottery Fund Visiting Professorship (1988)

Lecturer/Distinguished Visiting Lecturer (8/1985-7/1989)

Responsibilities included teaching courses at majors and non-majors undergraduate and graduate level in biology, ecology, conservation biology, and evolution. Developed new courses and seminars in conservation biology for new graduate program. Courses taught included Introductory Biology (majors/team-taught) I (cellular, molecular & genetics); Introduction Biology II (majors/team-taught) (ecology & evolution); Introductory Botany (non-majors); Introduction to Conservation Biology; Advanced Conservation Biology; Organismal Evolution;

Plant Ecology; Systematic Biology (team-taught) and, various graduate seminars, including Population Modeling in Conservation Biology, Ethnobotany, Women in Conservation Science, The Ecology & Physiology of Psychoactive Plants & Animals (team-taught), and several conservation biology guest lecture series.

Director, Graduate Program in Conservation Biology (8/1989-8/2000).

Responsibilities included the development of a new graduate program in conservation biology, including the creation and teaching of new courses, recruitment of graduate students, mentoring conservation biology majors, and recruitment of faculty and curriculum development for the graduate program.

Master's Students

Michael Lee Golden. 1992. *The Distribution and Ecology of Lilaeopsis masonii*, A California Native Rare Plant.

Randy K. Zebell. 1993. Thesis entitled *Systematic Evaluation of Three Species of Calochortus (Liliaceae): C. venustus, C. simulans, and C. argillosus*.

Norman Gershenz. 1994. *Center for Ecosystem Survival*. Non-profit conservation organization.

Nikolina Yonkow. 1996. Thesis entitled *The Comparative Reproductive Biology of Polemonium eximium and Polemonium charataceum (Polemoniaceae)*.

Barbara E. Knapp. 1996. Thesis entitled *Natural History and Population Dynamics of Calochortus westonii*.

Victoria Case Ferrari. 1997. Thesis entitled *Phylogenetic Analysis of Ocean Bacterioplankton Using PCR-Denaturing Gradient Gel Electrophoresis*.

Heather Graham Davis. 1998. Thesis entitled *Allee Effects in Blennosperma bakeri*.

Leslie Saul-Gershenz. 2000. *Parasitoid-Host Interactions Between Meloe franciscanus (Meloidae) and Habropoda pallida (Anthophoridae)*.

Served on Graduate Committee for

K. Stacy Giles. 1990. *The Systematics of the Genus Eurhynchium (Brachytheciaceae: Bryopsida) In Western North America*.

Gale Rankin. 1991. *The Peripheral Halophyte Community in a San Francisco Bay Salt Marsh*

Lisa Beth Wayne. 1995. *Recruitment Response to Salinity in Grindelia stricta var. angustifolia: A Potential Indicator Species*.

University of California, Berkeley, Department of Landscape Architecture

Visiting Lecturer (Fall 1986).

Served as sabbatical replacement for Professor J. R. McBride teaching an undergraduate course in plant ecology to undergraduate students of landscape architecture.

University of California, Berkeley, Department of Forestry

Teaching Assistant/Associate (Spring 1979 - December 1984).

Assisted in the preparation and teaching undergraduate laboratory exercises for courses in Dendrology, Ecosystem Ecology, and Physiological Plant Ecology.

C. *Academic - Research*

San Francisco State University, Biology Department

Unified Classification of Vernal Pools and Related Wetland Ecosystems (1998-2000). U.S.

Environmental Protection Agency and California Department of Fish & Game grants for the development of a hydrogeomorphic classification of vernal pools and related wetland ecosystems.

Classification and Description of Wetlands of the Central and Southern California Coast and Coastal Watersheds (1991-1994) U.S. Environmental Protection Agency and California grants for the development of a hydrogeomorphic classification of wetland ecosystems, based on an expanded U.S. Fish & Wildlife Service classification (Cowardin *et al.* 1979).

Restoration and Recovery of Mason's lilaeopsis (*Lilaeopsis masonii*). Shell Oil Spill Litigation Settlement (1992 - 1995). Conducted with graduate students an Estuary-wide study of the distribution and ecology of the state-listed rare plant, Mason's Lilaeopsis (*Lilaeopsis masonii*).

Molecular genetics of Peck's Mariposa Lily (*Calochortus longebarbatus* var. *peckii*). (1993 - 1994). Conducted with graduate students an analysis of the genetic structure of the triploid species of *Calochortus* from the Ochoco National Forest, Prineville Oregon, and compared with its diploid sister taxon, *C. l.* var. *longebarbatus*. Research focused on the ITS2/25S boundary of the genome.

Demography of the Greenhorn Mariposa Lily, *Calochortus westonii*, in the Sequoia National Forest. (1991 - 1996). Conducted with graduate student a five year demographic analysis of the Greenhorn mariposa lily using transition matrix modeling.

Mitigation-Related Transportation, Relocation and Reintroduction Projects Involving Endangered and Threatened and Rare Plant Species in California. (1990 - 1991). Conducted a state-wide survey of the efficacy and overall success of mitigation-related projects for state-listed rare plant species.

East-West Center, Environment and Policy Institute, Honolulu, Hawaii

Research Associate (Spring 1980). Activities included attendance at a month long field and lecture course in tropical agroecosystems. Developed garden programs to optimize program goals for small gardens and tropical markets.

University of California, Berkeley, Department of Forestry

Research Assistant. Vegetation History of Muir Woods National Monument (1978-79). Responsibilities included working as a team to interpret aerial photograph, ground truth and field verify a vegetation map. Also provided assistance in report writing and production.

Harvard University

Research Assistant (1976-1977)

Assisted in the study of the population biology in the field of three species of *Viola* (Violaceae) in New England. Punkatasset Woods, Concord, MA and Gray Herbarium, Harvard University. Professors Otto T. Solbring and Robert Cook, co-principal directors. Tasks included field work,

microelectrophoretic genetic analysis, and publication assistance (library research, copy editing, graphic support).

Research Assistant (July 1975- August 1977)

Assisted in the taxonomic review of the genus *Erythroxyllaceae* (Erythroxyllaceae). Tasks included general herbarium and office work, technical editing, and cytological studies. Botanical Museum Dr. Timothy C. Plowman, principal investigator.

Office/Research Assistant (July 1975- June 1976)

General office and herbarium work. Botanical Museum. Professor Richard Evans Schultes, supervisor.

IV. FELLOWSHIPS, HONORS, AND AWARDS

Fulbright Senior Scholars Program Research/Teaching Fellowship. (August - December 1998). Collaborative work with S.D. Hopper, Kings Park and Botanic Garden, 1998. Population Dynamics of the Kangaroo Paws *Anigozanthos manglesii* D. Don, *A. humilis* Lindl., and Their Hybrids (Haemodoraceae).

Larry Heckard Fellowship (Sabbatical leave fellowship 1995-96). Jepson Herbarium, University of California, Berkeley. Conducted research on the phylogeny of Mariposa lilies (*Calochortus*, Section *Mariposa*).

Nominee, Pew Fellow in Conservation and the Environment (1995)

Fellow, California Academy of Science (Inducted 1992)

Sigma Xi (Inducted 1992)

Xi Sigma Pi (National Forestry Honor Society; UC Berkeley, Inducted 1979)

V. GRANTS & CONTRACTS AWARDED

San Francisco State University

Environmental Protection Agency Grant, Development of Unified Classification for Vernal Pool Ecosystems (SFSU 1998-1999)

Natural Heritage Division, California Department of Fish and Game, Unified Classification of Vernal Pools and Related Wetlands (SFSU 1998-1999)

Shell Oil Spill Litigation Settlement Restoration and Recovery of Mason's *Lilaeopsis* (*Lilaeopsis masonii*) (SFSU 1992-1995)

U.S. Forest Service Cost-Share Grant (Ochoco National Forest): Molecular Genetics of *Calochortus longebarbatus* var. *peckii* (SFSU 1993-1994)

Affirmative Action Professional Development Award (SFSU 1991)

U.S. Environmental Protection Agency, Near Coastal Waters Program: Wetlands of the Central and Southern California Coast and Coastal Watersheds: A Methodology for the Description and Classification (Wayne R. Ferren, Jr., Principal Investigator) (SFSU 1991-1994)

U.S. Forest Service Cost-Share Grant (Sequoia National Forest): Long-term Demography of *Calochortus westonii* (SFSU 1991-1996)

California Department of Fish and Game Endangered Species Tax Check-off Grant: Status of *Lilaeopsis masonii*, A California Rare Plant Species (SFSU 1989-1991)

California Department of Fish and Game Endangered Species Tax Check-off Grant: Review of Efficacy of Mitigation for State-Listed Rare Plant Species (SFSU 1989-1991)

University of California, Berkeley

Elvenia J. Slossen Fellowship, UC Berkeley (1981-1984)

Dept. of Forestry & Resource Management UC Berkeley graduate research grant (1980)

Center for Latin American Studies, UC Berkeley travel grant (1979)

Graduate Division UC Berkeley travel grant (1979)

VI. PUBLICATIONS

A. *Refereed Journal Articles*

Guerrant, E.O., Jr. and **P.L. Fiedler**. 1981. Flower defenses against nectar pilferage by ants. *Biotropica* 13: 25-33. (Reproductive Botany Supplement).

Fiedler, P.L. 1984. Preliminary observations on the structure of a neotropical cryptogam community. *Brenesia* 22: 247-268.

Leidy, R.A. and **P.L. Fiedler**. 1985. Human disturbance and patterns of fish species diversity in the San Francisco Bay Drainage. *Biological Conservation* 33: 247-268.

Fiedler, P.L. 1985. Heavy metal accumulation and the nature of edaphic endemism in the genus *Calochortus* (Liliaceae). *American Journal of Botany* 72: 1712-1718.

Fiedler, P.L. 1986. Concepts of rarity in vascular plant species, with special reference to the genus *Calochortus* Pursh (Liliaceae). *Taxon* 35: 502-518.

Fiedler, P.L. 1987. Life history and population dynamics of rare and common mariposa lilies (*Calochortus*: Liliaceae). *Journal of Ecology* 75: 977-995.

Fiedler, P.L. and R.A. Leidy. 1987. Plant communities of the Ring Mountain Preserve, Tiburon, California. *Madroño* 34: 173-196.

Zebell, R.K. and **P.L. Fiedler**. 1992. A new combination in *Calochortus* (Liliaceae). *Madroño* 39(4): 1991-1992.

Aplet, G.H., R.D. Laven, and **P.L. Fiedler**. 1992. The relevance of conservation biology to natural resource management. *Conservation Biology* 6: 298-300.

Leidy, R.A., **P.L. Fiedler**, and E.R. Micheli. 1992. Is wetter better? *BioScience* 42: 58-61, 65.

Fiedler, P.L., R.A. Leidy, R.D. Laven, N. Gershenz, and L. Sahl. 1993. The contemporary paradigm in ecology and its implications for preserving endangered species. *Endangered Species UPDATE* 10: 7-12. (Solicited manuscript for 1993 Special Issue, Vol. 10, Nos. 3-4).

Fiedler, P.L. and R.K. Zebell. 1995. Two new combinations in *Calochortus clavatus* (Liliaceae). *Madroño* 42(3): 406.

Fiedler, P.L. 1995. Rarity in the California flora: new thoughts on old ideas. Special edition for the dedication of the Jepson Herbarium, University of California, Berkeley. June 2-4, 1994. *Madroño* 42(2): 60-85.

- Ferren, W.R. Jr., **P.L. Fiedler**, and R.A. Leidy. 1996. Wetlands of California, Part I: History of wetland habitat classification. *Madroño* 43(1) Supplement: 105-124.
- Ferren, W.R. Jr., **P.L. Fiedler**, R.A. Leidy, K. D. Lafferty, and L. A. K. Mertes. 1996. Wetlands of California, Part II: Classification and description of wetlands of the central and southern California coast and coastal watersheds. *Madroño* 43(1) Supplement:125-182.
- Ferren, W.R. Jr., **P.L. Fiedler**, R.A. Leidy, K. D. Lafferty, and L. A. K. Mertes. 1996. Wetlands of California, Part III: Key to and catalogue of wetlands of the central and southern California coast and coastal watersheds. *Madroño* 43(1) Supplement:183-233.
- Fiedler, P.L.**, M.E. Keever, B.J. Grewell, and D.J. Partridge. 2007. Rare plants in the Golden Gate Estuary (California): the relationship between scale and understanding. *Australian Journal of Botany* 55: 206-220.
- Leidy, R.A. and **P.L. Fiedler**. 2008. Medawar's medicine: the local-global prescription for conservation action. *Pacific Conservation Biology* 14: 1-4.

B. Taxonomic Treatments

- Fiedler, P.L.** and B.D. Ness. 1993. *Calochortus*. Treatment of the genus for the *Jepson Manual: Higher Plants of California*. J. Hickman, editor. University of California Press, Berkeley.
- Fiedler, P.L.** 2002. *Calochortus*. Treatment of the genus for the *Jepson Desert Manual*. B.G. Baldwin, *et al.*, editors. University of California Press, Berkeley, CA.
- Fiedler, P.L.** and R.K. Zebell. 2002. *Calochortus*. Treatment of the genus for the *Flora of North America*, Pp. 119-141 in Vol. 26. Published by Oxford University Press for the Missouri Botanical Garden, J. Zaruchi, convening editor. New York, NY.
- Fiedler, P.L.** 2010 (In press). *Calochortus*. Treatment of the genus for the *Jepson Manual: Higher Plants of California*. J. Hickman, editor. University of California Press, Berkeley.

C. Books & Theses

- Fiedler, P.L.** 1976. *Materia narcotica* of the Aztec empire. B.A. thesis, Department of Anthropology, Radcliffe College, Harvard University (awarded *magna cum laude*).
- Fiedler, P.L.** 1985. *An Investigation Into the Nature of Rarity in the genus Calochortus Pursh (Liliaceae)*. Ph.D. thesis, Department of Forestry & Resource Management, University of California, Berkeley.
- Fiedler, P.L.** and S.K. Jain, editors. 1992. *Conservation Biology: The Theory and Practice of Nature Conservation, Preservation, and Management*. Chapman and Hall, New York. xxix + 507 pp.
- Fiedler, P.L.** 1996. *Rare Lilies of California*. Illustrated by Catherine M. Watters. California Native Plant Society, Sacramento, California.
- Fiedler, P.L.** and P.M. Kareiva, editors. 1998. *Conservation Biology: Conservation for the Coming Decade*. 2nd edition. Chapman & Hall, New York. xx + 533 pp.

D. *Refereed Book & Symposia Chapters*

- Fiedler, P.L.** and J.J. Ahouse. 1992. Hierarchies of cause: Toward an understanding of rarity in vascular plant species. Pp. 23-47, *In* P.L. Fiedler and S.K. Jain, editors. *Conservation Biology: The Theory and Practice of Nature Conservation, Preservation, and Management*. Chapman and Hall, New York.
- Pickett, S.T.A., V.T. Parker, and **P.L. Fiedler**. 1992. The new paradigm in ecology: Implications for conservation biology above the species level. Pp. 65-88, *In* P.L. Fiedler and S.K. Jain, editors. *Conservation Biology: The Theory and Practice of Nature Conservation, Preservation, and Management*. Chapman and Hall, New York.
- Fiedler, P.L.** 1992. Population viability analysis and the design of nature reserves: An overview. Symposium volume of the Natural Areas Association, 17th Annual Meeting, 1990.
- Fiedler, P.L.** 1992. A cladistic test of the adaptation hypothesis for serpentine endemism. Pp. 421-434, *In* A.J.M. Baker, J. Procter, and R.D. Reeves, editors. *The Vegetation of Ultramafic (Serpentine) Soils*. Symposium volume for the First International Conference on Serpentine Ecology, Davis, California, 1991. Intercept Ltd., Andover, UK.
- Fiedler, P.L.** 1993. Habitat fragmentation and its demographic consequences: Overview and recommendations. Pp. 74-83, *In* O.T. Sandlund and P.J. Schei, editors. Proceedings of the Norway/UNEP Expert Conference on Biodiversity. May 24-28, 1993, Trondheim, Norway.
- Fiedler, P.L.** 1994. Rarity in vascular plants. Pp. 2-3, *In* M. Skinner and B. Pavlik, editors *Inventory of Rare and Endangered Plants of California*. California Native Plant Society Special Publication No.1, 5th edition. Sacramento, California.
- Fiedler, P.L.** and R.D. Laven. 1996. Site selection considerations in rare plant introductions. Pp. 157-169, *In* D. Falk, C. Millar, and P. Olwell, editors. *Restoring Diversity: Reintroducing Endangered Plants to the Landscape*.
- Skinner, M. and **P. Fiedler**. 1997. Plants under siege: habitat loss by man's activities. Pp. 12-16, *In*, P.A. Faber, editor. *California's Wild Gardens*. California Native Plant Society, Sacramento, CA.
- Fiedler, P.L.**, P.S. White, and R.A. Leidy. 1997. The paradigm shift in ecology and its relevance to conservation biology. Pp. 145-160, *In* S.T.A. Pickett and R.S. Ostfeld, editors. *The Ecological Basis of Conservation: Heterogeneity, Ecosystems, and Biodiversity*. Chapman & Hall, New York.
- Fiedler, P.L.**, B. Knapp, and N. Fredericks. 1998. Rare plant demography: Lessons from the Mariposa Lilies (*Calochortus*: Liliaceae). Pp. 28-48, *In* P.L. Fiedler and P. Kareiva, editors. *Conservation Biology: Conservation for the Coming Decade*. 2nd edition. Chapman & Hall, New York.
- Fiedler, P.L.** 2001. Restoration. *McGraw Hill Encyclopedia of Science and Technology*, 9th Edition. McGraw Hill, New York, NY.
- Mitsch, W.J., **P.L. Fiedler**, L.C. Lee & S.R. Stewart. 2001. Wetlands. *McGraw Hill Encyclopedia of Science and Technology*, 9th Edition. McGraw Hill, New York, NY.
- Fiedler, P.L.** 2001. Rarity in Vascular Plants. Pp. 2-4, *In*, D.P. Tibor, convening editor, *Inventory of Rare and Endangered Plants of California*. California Native Plant Society Special Publication No.1, 6th edition. Sacramento, California.

- Fiedler, P.L.** 2001. Bibliography for Biology and Conservation of Rare Plants. Pp. 7-11, *In*, D.P. Tibor, convening editor, *Inventory of Rare and Endangered Plants of California*. California Native Plant Society Special Publication No.1, 6th edition. Sacramento, California.
- Guerrant, E.O. and **P.L. Fiedler**. 2004. Accounting for sample decline during ex situ storage and reintroduction. Pp. 365-384, *In*, E.O. Guerrant, K. Havens, and M. Maunder, editors. *Ex Situ Conservation. Supporting Species Survival in the Wild*. Island Press, Washington, D.C.
- Guerrant, E.O., **P.L. Fiedler**, K. Havens, and M. Maunder. 2004. Appendix 1. Revised genetic sampling guidelines for conservation collections of rare and endangered species. Pp. 419-442, *In*, E.O. Guerrant, K. Havens, and M. Maunder, editors. *Ex Situ Conservation. Supporting Species Survival in the Wild*. Island Press, Washington, D.C.
- Fiedler, P.L.**, M. Groom, and contributing authors. 2005. Restoration of Damaged Ecosystems and Endangered Populations. Chapter 15 (pp. 553-590) in M. Groom, G. Meffe & R. Carroll, editors. *Principles of Conservation Biology*, 3rd edition. Sinauer Associates, Inc., Sunderland, MA.
- Fiedler, P.L.**, L.C. Lee, and S.D. Hopper. 2007. Gnammas as rare wetlands in the Southwestern Australian Floristic Region. P. 85 in D. Rockich, *et al.*, editors, The International Mediterranean Ecosystems Conference, Perth, Western Australia, Australia Conference Proceedings.
- Fiedler P.L.** 2008. Preface. *Life on the Rocks*. Nikulinsky, P. and S. D. Hopper. Fremantle Arts Press, Fremantle, Australia.

E. Book Reviews

- Fiedler, P.L.** 1994. Review of *Flora of North America North of Mexico. Volume I*. Madroño 41(2):151-153.
- Fiedler, P.L.** Review of Strike, S.S. 1995. *Ethnobotany of the California Indians, Vols. 1 and 2*. Madroño 42(1): 88-89.
- Fiedler, P.L.** 2000. Plants and Human Affairs in North America. Review of D. Moermann, *Native American Ethnobotany*. 1998. *Journal of Conservation Biology* 14:589.
- Fiedler, P.L.** 2005. Light and Time. Review of J. Burchfield, *Primal Images. 100 Lumen Prints of Amazonia Flora*. *Journal of Conservation Biology* 19(2): 585-586.

F. Popular and Newspaper Articles

- Fiedler, P.L.** 1991. Whither the Dugong? *Inside Magazine*. Op ed article for the San Francisco State University Alumni Magazine, March/April, 1991.
- Fiedler, P.L.** 1991. Species threatened around the globe. *San Francisco Chronicle*, February 22, 1991, p.A25.
- Fiedler, P.L.** 1996. *Calochortus*. Weekly Encyclopedia Division, Publication Division, Asahi Simbun Press, Tokyo, Japan.

G. Published Abstracts/Presented Papers/Presented Posters

- Fiedler, P.L.** 1984. Biological aspects of rarity in the genus *Calochortus* Pursh (Liliaceae). *American Journal of Botany* 71: 77.

- Fiedler, P.L.** 1984. Demographic patterns of rare and common *Calochorti* Pursh (Liliaceae). Bulletin of the Ecological Society 65: 146.
- Fiedler, P.L.** 1986. Taxonomic considerations for rare plant species. California Conference on Rare and Endangered Plant Species. Sacramento, California.
- Fiedler, P.L.** 1988. Affinity analysis of landscape level diversity as an assessment tool in wetland creation and restoration science. Society of Wetland Scientists Ninth Annual Meeting, Washington, D.C.
- Fiedler, P.L.** 1991. Population viability analysis and the design of nature reserves: An overview. Natural Areas Association, 17th Annual Meeting Symposium Volume, Concord, CA., 1990.
- Ferren, W.R. and **P.L. Fiedler.** 1992. Rare and threatened wetlands of coastal central and southern California. Southern California Academy of Sciences Annual Meeting, May 1-2, 1992, Occidental, California.
- Fiedler, P.L.,** R.D. Laven, and M. Vasey. 1994. Conservation implications of differences between rare and common species. Invited symposium entitled: The Biology of Rarity: Causes and Consequences of Rare-Common Differences. 1994 Annual Meeting, 7-11 August, 1994. Knoxville, Tennessee.
- Zebell, R.K., C. Orrego, and **P.L. Fiedler.** 1994. DNA sequence data for two rare western North American plants confirm their disparate times of origin. Poster presented at the AAAS, Pacific Division, 75th Annual Meeting, San Francisco. June 19-23, 1994.
- Ellis, L.R., L.C. Lee, **P.L. Fiedler,** and M.C. Rains. 1995. Use of the hydrogeomorphic approach to assess wetland functions and design restoration of riparian wetlands along the central California coast. 1995 Annual Meeting, Society for Ecological Restoration, September 14-18. Seattle, Washington.
- Fiedler, P.L.,** L.C. Ellis, L.C. Lee, and M.C. Rains. 1997. Development of a monitoring plan for restored riverine waters/wetlands along the central California coast using HGM wetland functional assessment: The Calera Creek Project. Meeting of the Association of State Wetland Managers, March 10-13, 1997, Annapolis, Maryland.
- Fiedler, P.L.,** L.C. Lee, and S. Holmes. 1999. Continuity in urban stream restoration. Meeting of the Association of State Wetland Managers, October 25-27, 1999, Annapolis, Maryland.
- Cassin, J., **Fiedler, P.L.,** and L.C. Lee. 1999. The importance of weeds control in wetland restoration. Meeting of the Association of State Wetland Managers, October 25-27, 1999, Annapolis, Maryland.
- P.L. Fiedler,** D. Partridge, M. Keever, E. Inlander. 2003. Geographic distribution and population parameters of the endangered Suisun thistle (*Cirsium hydrophilum* var. *hydrophilum*) (Asteraceae) at Rush Ranch. Poster presented for the State of the Estuary, Challenges and Changes, 2003. October 21-23, 2003.
- D. Partridge, **P.L. Fiedler,** & M. Keever. 2003. Restoration design for a metapopulation, *Lilaeopsis masonii*, in the Lower Napa River Ecosystem. Poster presented for the State of the Estuary, Challenges and Changes, 2003. October 21-23, 2003.
- L.C. Lee, **P.L. Fiedler,** J. Gage, M. Keever, A.E. Launer, and S. Anderson. 2003. Restoration of breeding habitat for the California tiger salamander (*Ambystoma californiense*) on Stanford University lands - I. Design & implementation. Poster presented for the State of the Estuary, Challenges and Changes, 2003. October 21-23, 2003.

- S. Anderson, A.E. Launer, P. Oliveira, L.C. Lee, **P.L. Fiedler**, J. Gage, and M. Kever. 2003. Restoration of breeding habitat for the California tiger salamander (*Ambystoma californiense*) on Stanford University lands - II. Performance criteria and assessment. 2003. Restoration design for a metapopulation, *Lilaeopsis masonii*, in the Lower Napa River Ecosystem. Poster presented for the State of the Estuary, Challenges and Changes, 2003. October 21-23, 2003.
- Saul-Gershenz, L., **P.L. Fiedler**, M., Barlow, and D. Rokich. 2004. Pollinator assemblage of the endangered plant *Cordylanthus palmatus* at Springtown Wetlands Reserve, Livermore, California. *Expanding the Ark: The Emerging Science and Practice of Invertebrate Conservation Symposium*. Poster presented at the American Museum of Natural History Center for Biodiversity and Conservation. March, 2004.
- Fiedler, P.L.**, Knox, A.K., and Crumb, E. 2009. Back to the Future: Rare Plant Protection in the Golden Gate Estuary. California Native Plant Society (CNPS) Conference, Sacramento, California. Conservation Conference: Strategies and Solutions. Invited lecture for special session *The Science and Synergy of Restoring Rare Plant Populations*. Lecture to be entitled "Back to the Future: Rare Plant Protection in the Golden Gate Estuary." Sacramento, CA. January 17-19, 2009.

H. *Unpublished Technical Reports*

- Fiedler, P.L.** 1984. Recommendations for the management of *Calochortus striatus* Parish (Liliaceae) on the Kern River Preserve. The Nature Conservancy, San Francisco, California.
- Fiedler, P.L.** 1985. Rare and invasive plants on the Ring Mountain Preserve, and recommendations for their management. The Nature Conservancy, San Francisco, California.
- Fiedler, P.L.** 1985. Ecological survey of the proposed Jawbone Ridge Research Natural Area. U.S. Forest Service, Pacific Southwest Experiment Station, Berkeley, California.
- Fiedler, P.L.** 1986. The California Rare Plant Monitoring Methodology: Development and Demonstration. Department of Engineering Research, Pacific Gas and Electric Company, San Ramon, California.
- Fiedler, P.L.**, N.W. Carnal and R.A. Leidy. 1986. Ecological survey of the proposed Green Island Lakes Research Natural Area. U.S. Forest Service, Pacific Southwest Experiment Station, Berkeley, California.
- Fiedler, P.L.** and R.A. Leidy. 1987. Ecological survey of the proposed Antelope Creek Lakes Research Natural Area. U.S. Forest Service, Pacific Southwest Experiment Station, Berkeley, California.
- M. Golden and **P.L. Fiedler**. 1991. Final Report of the Habitat for *Lilaeopsis masonii* (Umbelliferae), A California State-Listed Rare Plant Species. Report submitted June 3, 1991, to the Endangered Plant Program, Natural Heritage Division, California Department of Fish and Game. 72 pp. + Appendices A - E.
- Fiedler, P.L.** 1991. Final Report. Mitigation-Related Transplantation, Relocation, and Reintroduction Projects of Endangered, Threatened, and Rare Plant Species in California. Report submitted June 14, 1991, to the Endangered Plant Program, Natural Heritage Division, California Department of Fish and Game. 82 pp. + Appendices A - C.
- Fiedler, P.L.** and R.K. Zebell. 1993. Final Report. Restoration and Recovery of Mason's *Lilaeopsis*. Phase I. Report submitted October 28, 1993, to the Shell Oil Litigation

Settlement Trustee Committee and the Endangered Plant Program, Natural Heritage Division, California Department of Fish and Game. 47 pp. + Appendix A.

Ferren, W.R., Jr., **P.L. Fiedler** and R.A. Leidy. 1995. Wetlands in the Central and Southern California Coast and Coastal Watersheds: A Methodology for the Description and Classification. Final report submitted to the U.S. Environmental Protection Agency, 6 February 1995. 900+ pp.

Ferrari, V.C., R. Zebell, and **P.L. Fiedler**. 1996. Final Report. Molecular Genetics of *Calochortus longebarbatus*. Report submitted 10 June 1996 to the U.S. Forest Service, Ochoco National Forest, Prineville, Oregon. 13 pp.

Zebell, R.K. and **P.L. Fiedler**. 1996. Final Report. Restoration and Recovery of Mason's Lilaeopsis. Phase II. Report submitted April 11, 1996 to the Shell Oil Litigation Settlement Trustee Committee and the Endangered Plant Program, Natural Heritage Division, California Department of Fish and Game. 50 pp.

Lee, L. C., **P.L. Fiedler**, S. R. Stewart, R. R. Curry, D. J. Partridge, J. A., Mason, E. M. Inlander, R. B. Almy, D. L. Aston, and M. E. Spencer. 2001. *Draft Guidebook for Reference Based Assessment of the Functions of Riverine Waters/Wetlands Ecosystems in the South Coast Region of Santa Barbara County, California*. In cooperation with Santa Barbara County Water Agency, Santa Barbara, CA and U.S. EPA Region IX.

National Wetland Science Training Cooperative. 2004. *Guidebook to Hydrogeomorphic Functional Assessment of Riverine Waters/Wetlands in the Santa Margarita Watershed*. Peer Review Draft, (1977). Operational Draft, (2004). In cooperation with U.S. EPA, Region IX, California Coastal Conservancy, California Regional Water Quality Control Board (San Diego). (**P.L. Fiedler**, contributing author).

Entrix, Inc. 2006. *Operational Field Draft Guidebook to Assessment of Estuarine Fringe Waters/Wetlands Functions at Shell Pond, Pittsburg, California*. Consultant's report developed for Pacific Gas & Electric Company (**P.L. Fiedler**, principal author).

WSP Environment & Energy. 2007. *Operational Field Draft Guidebook to Assessment of Riverine, Slope and Depressional Waters/Wetlands Functions at the Chevron Tank Farm, San Luis Obispo, California*. Consultant's report developed for Padre Associates for use by Chevron EMC at San Luis Obispo Tank Farm. November 2007. (**P.L. Fiedler**, principal author).

I. Manuscripts in Preparation

Hardwick, K., **P.L. Fiedler**, L.C. Lee, B. Pavlik, R. Hobbs, Stephen D. Hopper, *et al.* Defining the Role of Botanic Gardens in the Science and Practice of Ecological Restoration. To be submitted to *Conservation Biology*, February 2009.

Hopper, S.D., **P.L. Fiedler** and L.C. Lee. Classification and ecosystem functions of gnammas (rock pools) on granite landscapes.

VII. SELECTED INVITED LECTURES/WORKSHOPS

1988:

San Francisco State University Graduate Seminar Series on Conservation Biology, Spring 1988. Lecture entitled "Hierarchies of Cause and Consequence: "Toward an Understanding of Rarity in Vascular Plant Species."

1989:

Colorado State University Life Sciences Colloquium. Colloquium entitled "The Nature of Adaptation in Rare Plant Endemics, With Examples From the California Flora."

Hayward State University Department of Biology Seminar Series on Current Topics in Biology. Lecture entitled "Evolutionary Patterns of Rarity in Vascular Plant Species."

California Academy of Sciences, Fellows Scientific Day, Spring 1989. Keynote Address entitled "Strategies for Preserving Biodiversity."

1991:

Keynote Address. U.S. Forest Service of Washington and Oregon Sensitive Plant Workshop. Hood River, Oregon. Lecture entitled "The Hazards of Applying Population Viability Theory in Rare Plant Management."

First International Conference on Serpentine Ecology, Davis, California. Lecture entitled "A Cladistic Test of the Adaptation Hypothesis for Serpentine Endemism."

1993:

Bing Seminar Series in Population and Conservation Biology, Stanford. Lecture entitled "The 'Flux of Nature' Paradigm and its Role in Wetland Protection."

"Restoring Diversity: Is Reintroduction an Option for Endangered Plants?" Symposium sponsored by the Center for Plant Conservation, St. Louis. Lecture entitled "Site Selection Considerations in Rare Plant Introduction Efforts."

Country of Norway/United Nations Environmental Programme (UNEP) Expert Conference on Biodiversity. Trondheim, Norway. Lecture entitled: "Habitat Fragmentation and its demographic Consequences."

University of Trondheim, Norway. Lecture entitled "Habitat Fragmentation and its demographic Consequences."

Biology Colloquium, Sonoma State University. Lecture entitled "The Nature of Adaptation for Serpentine Endemism in the Genus *Calochortus* (Mariposa Lilies)."

1994:

University of California Jepson Herbarium Dedication Symposium, "The Future of California Floristics and Systematics: Research, Education and Conservation." Plenary session lecture entitled "New Thoughts on Old Ideas: Rarity in the California Floristic Province." University of California, Berkeley.

Ecological Society of America Symposium, "The Biology of Rarity: Causes and Consequences of Rare-Common Differences." Lecture entitled "Conservation Implications of Differences between Rare and Common Species." 1994 Annual Meeting. Knoxville, Tennessee.

Colorado State University Student Chapter of the Society for Conservation Biology, Guest Lecture on Rare-Common Differences in Vascular Plants. LECTURED ENTITLED "Rarity in Space and Time." Ft. Collins, CO.

Portland State University Biology Colloquium. LECTURED ENTITLED "Rarity in Vascular Plant Species: An Update." Portland, Oregon.

1995:

Cary Conference, Institute of Ecosystem Studies. "Linking Ecology and Conservation: Patchiness, Productivity and Biodiversity." Lecture entitled "The Paradigm Shift in Ecology and

Its Relevance to Conservation Biology.” May 1995, New York Botanical Garden, Millbrook, New York.

Fourth International Botanical Gardens Conservation Congress, Perth, Australia. “Reaching Out - Botanic Gardens and Conservation into the 21st Century.” Two lectures co-authored with Dr. Bruce Pavlik: Botanic Gardens and Rare Plant Conservation I: Two Outsiders’s Retrospective (Pavlik and Fiedler), and II: Two Outsiders’ Prospective (Fiedler and Pavlik). September 25-29, 1995.

1997:

Colorado State University Student Chapter of the Society for Conservation Biology. LECTURED ENTITLED “What do we really know about the demography of rare plants?” Fort Collins, Colorado.

Cox Arboretum. Lecture entitled: “The Biology of Rarity as Illustrated by Lilies of California.” Dayton, Ohio.

University of California, Berkeley, Botanic Garden. Lecture entitled: “Rare Lilies of California.” Berkeley, CA.

1998:

Stanford University, Restoration Ecology graduate seminar series. Lecture entitled: “Calera Creek: A Case Study of Riverine Ecosystem Restoration.” Stanford, CA.

Conservation and Land Management, Wildlife Research Center, Wanneroo, West Australia. Lecture entitled: “The ‘Essentials’ of Rare Plant Protection.”

U.S. Forest Service, Region V, Conference on the importance of population biology in the management of sensitive plant species. Sacramento, California.

University of California, Berkeley, Department of Environmental Science, Policy and Management Wildlife Seminar Series. Lecture entitled: “Restoration of riverine ecosystems along California’s central coast.” Berkeley, CA.

1999:

Center for Plant Conservation/Chicago Botanic Garden Symposium on *Ex Situ Conservation: Strategies for Survival*. Lecture entitled: “How can the Genetic Guidelines for Seed Collection be Improved?” (Given by coauthor E.O. Guerrant). Chicago, IL.

2000:

Chicago Botanic Garden Symposium Series, *Rare Plant Biology*. Lecture entitled: “Rare Plant Demography – Recent Updates” (September 2000) Chicago, IL.

2004:

Workshop on Bid for ARC Centre of Excellence for Plant Conservation, University of Western Australia, Nedlands, WA. Developed strategy for proposal to establish research center for plant conservation at UWA. September 11, 2004.

2005:

Advances in Plant Conservation Biology, Flora Conservation Symposium, Conservation and Land Management, Perth, Western Australia. Lecture entitled: “Rare Plants in the Golden Gate Estuary (California): The Relationship between Scale and Understanding.” (October 2005).

2006:

Department of Biology, Santa Clara University, San Jose, CA. Lecture entitled: “Lessons from the Field: Restoration Ecology in 2006.”

Association of State Wetland Managers Traverse City MI. Lecture entitled: “Cut & Git: Waters/Wetlands Restoration in the Third Forest of the Pacific Northwest” (authors L.C. Lee L.C., P.L. Fiedler, and K. Fetherston).

2008:

WEBS (Women Evolving in Biological Sciences) second annual symposium. Pack Forest Conference Center, University of Washington. October 19-22, 2008.

2009:

California Native Plant Society 2009 Conservation Conference: Strategies and Solutions. Invited lecture for special session *The Science and Synergy of Restoring Rare Plant Populations*. Lecture to be entitled “Back to the Future: Rare Plant Protection in the Golden Gate Estuary.” Sacramento, CA. January 17-19, 2009.

VIII. PROFESSIONAL AFFILIATIONS (current)

Association of State Wetland Managers (2009 – present)

California Botanical Society, 1977 - present

Society for Conservation Biology, 1987 – present

Society for Ecological Restoration, 2005 – present

Society of Wetland Scientists, 2005 – present

Sigma Xi, 1989 – present

IX. SELECTED RELATED PROFESSIONAL ACTIVITIES

A. Professional Societies -- Service

California Botanical Society, President, 1993-1994; First Vice Present, 1987-88; Board Member, 1995-1997

Member, California Native Plant Society Rare Plant Scientific Advisory Committee, 1990-1993.

Chair, Environment and Public Policy Committee, American Society for Plant Taxonomists, 1996-1998.

B. Professional Societies -- Editorial Positions

Associate Editor for Book Reviews, Society for Conservation Biology (1999 - present)

Ad Hoc Assigning Editor, Society for Conservation Biology (1997 - present)

Associate Editor, *Biological Conservation* (1992 - 1995)

Editorial Board Member, *Biological Conservation* (1995 - 1998)

Ad hoc manuscript reviewer for *American Journal of Botany*, *Biological Conservation*, *Canadian Journal of Botany*, *Conservation Biology*, *International Journal of Plant Sciences*, *Madroño*, and *Wetlands Ecology and Management* (1982 – present).

C. *Short Courses & Workshops Taught*

1990. ***Jurisdictional Delineation of Wetland Ecosystems of the United States.*** Reno, Nevada. National Wetland Science Training Cooperative (L.C.Lee & Associates, Inc., Seattle, Washington.) (August 1990).

1991. ***Jurisdictional Delineation of Wetland Ecosystems of the United States. Seattle, Washington.*** National Wetland Science Training Cooperative (L.C.Lee & Associates, Inc., Seattle, Washington.) (May 1991).

1993. ***Jurisdictional Delineation of Wetland Ecosystems of the United States.*** Tiburon, California. National Wetland Science Training Cooperative (L.C.Lee & Associates, Inc., Seattle, Washington.) (March 1993).

1993. ***Jurisdictional Delineation of Wetland Ecosystems of the United States.*** Kalamazoo, Michigan. (August 1993) National Wetland Science Training Cooperative (L.C.Lee & Associates, Inc., Seattle, Washington.)

1996. ***Calochortus.*** The University of California, Berkeley, Jepson Herbarium Weekend Workshop. Taught with support from R. K. Zebell and J. Saintz. (May 18-19, 1996).

1997. ***Wetlands of Central & Southern California.*** The University of California, Berkeley, Jepson Herbarium Weekend Workshop. Co-taught with from W. R. Ferren, Jr. at the Hastings Natural History Reserve, Carmel, California.

2005. ***Growing Wetlands – Advances in Wetland Conservation and Restoration Workshop,*** Botanic Garden & Parks Authority, Bold Park, Perth, Western Australia. Co-taught with L. C. Lee (BBL/Arcadis) (November 7 – 9, 2005).

2007a. ***Jurisdictional Delineation of Waters of the U.S., Including Wetlands On the California Coast: Legal and Ecological Protocols For Diverse and Changing Landscapes.*** Elkhorn Slough National Estuarine Research Reserve, Elkhorn Slough, California. Co-taught with Professor R. Curry, Drs. A. Harley, G. Hayes, and L.C. Lee. Ecosystem Science & Restoration Services Group, WSP Environment & Energy. (April 2007)

2007b. ***Jurisdictional Delineation of Waters of the U.S., Including Wetlands On the California Coast: Legal and Ecological Protocols For Diverse and Changing Landscapes.*** Elkhorn Slough National Estuarine Research Reserve, Elkhorn Slough, California. Co-taught with Professor R. Curry, Drs. A. Harley, G. Hayes, and L.C. Lee. Ecosystem Science & Restoration Services Group, WSP Environment & Energy. (November 2007)

D. *External PhD Committees*

1996. PhD Dissertation Outside Reviewer. Will Edwards. *Range size and rarity in plant lineages.* School of Biological Sciences, Macquarie University, New South Wales, Australia. Professor Mark Westoby, major advisor.

2002. PhD Dissertation Outside Examiner. Michael T. Miller. *Demographic perspectives on the rarity and persistence of two mariposa lilies (Calochortus) from southern British Columbia.* University of Victoria, British Columbia. Professor Geraldine Allen, major advisor.

2007. PhD Dissertation Outside Reviewer for Aleida Helen Willams. *An Ecophysiological Comparison of Rare Ironstone Endemics and their Common Congeners.* University of Western Australia, Faculty of Natural & Agricultural Sciences, School of Plant Biology, Nedlands, Australia. Professors Hans Lambers & Pieter Poot, major advisors.

E. External Colleague Promotion Committees

1996. Dr. Eric Menges, Promotion to Rank of Senior Research Biologist, Archbold Biological Station, Lake Placid, Florida. November 1996.
2001. Dr. David Coates, Promotion of Dr. David J. Coates to Level 8, Western Australian Public Service, Conservation and Land Management, Western Australia. November 2001
2008. Dr. Brenda Grewell, Tenure at the U.S.D.A. Agricultural Research Service, Weed Science Program, University of California, Davis. Summer 2008.

F. Miscellaneous Service & Affiliations

- Member, Executive Council, Center for Ecosystem Survival, San Francisco (1994-present)
- Member, IUCN/SSC (International Union for the Conservation of Nature/Species Survival Commission) Reintroduction Specialist Group (1995 - 2000)
- Member, Visiting Advisory Committee, ILAP (National initiative to improve mathematics curricula in undergraduate education). Lt. Col. Robert West, Ph.D., West Point Naval Academy, principal. (1996 - 1999; resigned)
- Research Associate, University Herbaria, University of California, Berkeley (1995-2000)
- Member, San Francisco Bay Habitat Goals Specialist Group (Plants), San Francisco Estuary Institute (1996-1998)
- Independent reviewer, U.S. Dept of Interior, Species at Risk Program project proposals (February 1997).
- Independent reviewer, Canon National Parks Science Scholars proposals (July 1998).
- Juror. *Florilegium Project*, Filoli (National Historic Trust Site), Woodside, California. (2003 – present)
- Member, Workshop on Bid for ARC Centre of Excellence for Plant Conservation, Perth, Western Australia (September 2004).
- Member, Independent Science Advisors, Bay-Delta Conservation Plan, October, 2008

X. EXPERT TESTIMONY

1987-88. Expert witness for the U.S. Justice Department, wetland jurisdictional litigation. Leslie Salt Co. v. United States (N.D. Calif. No. C-85-8615-CAL); United States v. Leslie Salt Co. (N.D. Calif. No. C-86-4187-CAL).

2002-2003. Expert witness for the U.S. Justice Department, wetland jurisdictional litigation. United States v. Abeldgaard et al., United States District Court, District of Alaska, Court # A01-378 CV(RRB).



Curriculum Vitae

A. Kate Knox, M.S., WPIT

WETLAND/RIPARIAN ECOLOGIST

ECOSYSTEM SCIENCE AND RESTORATION SERVICES

SUMMARY

Ms. Kate Knox came to WSP Environment & Energy with a well-rounded background in the natural sciences. She combines a strong academic background with hands-on experience in design, permitting, and implementation of ecological restoration projects. Her particular areas of expertise include wetland delineations, botany and plant identification, assessment of biogeochemical and physical processes relating to water quality, and assessment of ecosystem processes to quantify wetland functioning. She has particular interest and experience in developing best management plans to integrate environmental sustainability with business and agriculture.

KEY PROJECTS AND ACHIEVEMENTS

- Regulatory assistance: Aid public and private clients in compliance with regulatory requirements including 1) Permitting restoration and development activities, 2) Complying with notices of violations, and 3) Outlining stormwater management plans.
- Wetland delineation: Conducted team field efforts to determine the extent of waters/wetlands across more than 1200 acres on a variety of sites. Instrumental in production of final reports for regulatory agencies. Completed assessments of biological resources and ecological functions within the study sites.
- Ecological Restoration: Collaborated in production of wetland, upland, and riverine restoration designs at sites in San Luis Obispo and Half Moon Bay, California; near Lemolo Lake, Oregon; and in Mount Vernon and Elma, Washington.
- Ecosystem Processes: Developed protocols for assessing ecosystem functioning in riverine, slope, and depressional wetlands using the Hydrogeomorphic approach for two sites in Washington and one site in California
- Water Quality: Designed and conducted a biogeochemical analysis to assess benefits that wetlands provide to water quality in an agricultural landscape. Performed laboratory analysis to quantify concentrations of nutrients, sediments and pathogens in more than 1,000 water samples. Established excellent working relationships with resource managers and irrigation operators.

EDUCATION

- B.A.** Biology and Environmental Studies, 2002
Washington University in St. Louis, Missouri
- M.S.** Ecology, 2006
University of California; Davis



PROFESSIONAL CREDENTIALS

- WPIT (Wetland Professional in Training) Certification
- HAZWOPER Certified
- First Aid/CPR
- Certified Sediment and Erosion Control Lead (CESL)
- Specialized training on hydric soil processes and on ecology of tropical rainforests (Quito Tropical Ecology Program, Ecology of Ecuador's Tropical Ecosystems; Boston University, Ecuador)

SELECTED PRESENTATIONS AND PUBLICATIONS

PEER-REVIEWED, PUBLISHED PAPERS

Knox, A.K., R.A. Dahlgren, K.W. Tate. 2008. Efficacy of natural flow through wetlands to retain nutrient, sediment and microbial pollutant loads from agricultural runoff. *Journal of Environmental Quality* 37:1837–1846.

Knox, A.K., K.W. Tate, R.A. Dahlgren, E.R. Atwill. 2007. Wetland filters, irrigation and grazing management can reduce *E. coli* concentrations in pasture runoff. *California Agriculture*. Oct-Dec 61(4):159-165.

Leal, M., A.K. Knox, and J.B. Losos. 2002. Lack of convergence in aquatic *Anolis* lizards. *Evolution* 56(4) 785-791.

Knox, A.K., J.B. Losos, and C.J. Schneider. 2001. Adaptive radiation versus intraspecific differentiation: morphological variation in Caribbean *Anolis* lizards. *Journal of Evolutionary Biology* 14: 904-909.

PEER-REVIEWED, PUBLISHED ABSTRACTS

Knox, A. K, R.A. Dahlgren, and K.W. Tate. October 2006. Wetlands remove pollutants from irrigation tailwaters. Poster Presentation. CALFED conference, Sacramento, CA.

Knox, A.K., R.A. Dahlgren, and K.W. Tate. Feb. 13, 2006. Efficacy of wetlands to enhance water quality from rangeland runoff. Oral presentation. Society for Range Management (SRM) conference, Vancouver, B.C.

Fiedler, P.L., A.K. Knox, E.K. Crumb. Back to the Future: Rare Plant Protection in the Golden Gate Estuary. Oral presentation. California Native Plant Society Conservation Conference: Strategies and Solutions. Sacramento, CA 17-19, 2009.

Appendix G

**Letter Addendum by WSP submitted to
Big Wave Group (April 24, 2008)
(Figures omitted)**



April 24, 2008

Mr. Scott Holmes
Mr. Jeff Peck
Big Wave Group
1333 Jones Street, Suite 307
San Francisco, CA 94109

Re: Letter Addendum to the Report: *Geographic Extent of Waters of the U.S., Including Wetlands, at the Big Wave Project Site, Half Moon Bay, California*, Submitted March 14, 2008

Dear Mr. Holmes and Mr. Peck:

We are writing to describe revisions to our March 17, 2008 report on the geographic extent of waters of the U.S., including wetlands (waters/wetlands) and California Coastal Act wetlands at the Big Wave Project Site (Project Site) in Half Moon Bay, California. This letter addendum is prompted because WSP Environment & Energy (WSP) scientists observed wetland vegetation growing beyond the geographic extent of federal waters/wetlands delineated on November 20, 2007.

Background

On the morning of March 27, Drs. Lyndon C. Lee and Peggy L. Fiedler met with Mr. Scott Holmes, Big Wave Group, and Mr. Dan MacLeod, McLeod and Associates, at the Big Wave Project Site in unincorporated San Mateo County, adjacent to Princeton-by-the-Sea, California (Figure 1, Attachment A). Specifically, the project team met on the southwestern field, one of two agricultural fields separated by a county-owned intermittent stream that constitute the Project Site. Additional details can be found in the March 17^h delineation report¹. The purpose of the field meeting was to discuss final site grades to be incorporated into the grading plan.

Observations made during the March 27th meeting revealed that conditions in the southwestern field, while fallow, allowed for establishment of annual plant species throughout. Specifically, Drs. Lee and Fiedler walked the southwestern field with Holmes and MacLeod, and observed a prevalence of vegetation typically adapted for life in saturated soil conditions in a portion of the agricultural field. These annual plant species occurred generally to the south and upgradient of the geographic extent of documented wetland hydrology and hydric soils. Dominant plant species observed included *Conium maculatum* (FACW), *Juncus bufonius* (FACW*), *Limnanthes macounii* (Not listed), *Mimulus guttatus* (OBL), *Picris echioides* (FAC*), *Spergula arvensis* (Not listed), and *Vulpia bromoides* (FACW). Native species (i.e., *M. guttatus*, *J. bufonius*) were more common closer to the wetter portions of the site, that is, nearer to the Nov 2007 delineation boundary. Non-native species (including radish (*Raphanus sativus*) [NI*], black mustard

¹ WSP. 2008. An Analysis of the Geographic Extent of Waters of the United States, Including Wetlands, on the Big Wave Property, San Mateo County, California. *Consultant's report. 23 pp. + appendices*

(*Brassica nigra*) [NL], and curly dock (*Rumex crispus*) [FACW-]) were more commonly observed toward the drier margins of the field.

WSP scientists informed the Big Wave Group that the California Coastal Commission's (CCC) hydrophytic vegetation parameter likely would be met beyond the bounds of the November 2007 delineated federal and state waters/wetlands line. Further, WSP scientists advised that a new CCC line in the southwestern field should be delineated based upon the current vegetation. Big Wave Group representatives agreed, and a preliminary CCC wetland line was mapped based upon the March 27th field observations (Exhibit 1A, Attachment A). The line represents the approximate extent of CCC wetlands using the hydrophytic vegetation parameter where (native) wetland plant species were dominant. Wetland plant species, primarily non-native Eurasian weedy taxa were observed beyond (upgradient of) this coastal wetland line. However, given the pervasive atypical site conditions that have developed as a result of the long and continuous use of this site for agriculture, WSP staff cannot be certain whether the hydrophytic vegetation parameter would have been met beyond the March 27th CCC line.

WSP scientist Fiedler returned to the Project Site to delineate the CCC wetlands on April 9, 2007. However, the agricultural field had been prepared for spring planting. Specifically, the site had been ploughed and disked. Virtually all of the annual vegetation observed on March 27, 2008 was ploughed under and only desiccated plant fragments were present. Nevertheless, Exhibit 1A (Attachment A) represents the revised approximate extent of wetlands as protected by the California Coastal Act on the Big Wave Project Site. Approximately 12,604 sq ft/0.29 acres of additional coastal (CCC) wetlands are found on the Project Site, for a total of 32,180 sq ft/0.74 acres. This additional area and extent of CCC wetlands conforms closely to that delineated by Christopher A. Joseph & Associates (2007)² Total federal wetland area stands at 19,590 sq ft (0.45 ac). Additional details of the extent of federal jurisdiction can be found in the March 14, 2008 report.

As you know, we are working with various members of the Big Wave Project team to revise the project foot print to avoid all jurisdictional waters/wetlands, including any impacts to the 100 ft buffer zone, as required by the San Mateo County LCP. Constraints to the project are depicted in Exhibit 2A (Attachment A), which illustrates the 100 foot buffer around the existing waters/wetlands resources. Current plans for the buffer include a comprehensive ecosystem restoration as well as a no-build zone that typically exceeds 100 foot, with a range of 110 – 150 foot set back more common (Exhibit 3, Attachment A). If you have any questions regarding our observations or conclusions, please do not hesitate to contact either one of us.

Kind regards,

Lyndon

Lyndon C. Lee, Ph.D., PWS
Principal Ecologist & Vice President
Ecosystem Science & Natural Resources
Management

Peggy

Peggy L. Fiedler, Ph.D., PWS
Senior Botanist/Conservation Ecologist

² Christopher A. Joseph & Associates. 2007. *Wetland Delineation. Big Wave Office Park and Wellness Center – Southern Parcel. San Mateo County, California.* Consultant's report. 28 pp. + appendices.

Appendix H

**June 5, 2008 Determination Letter from Regulatory
Section, U.S. Army Corps of Engineers,
San Francisco District**



DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94103-1398

Regulatory Division

JUN 05 2008

SUBJECT: File Number 2008-00102S

Big Wave LLC
Attn: Mr. Jeff Peck,
53 Bluxome
San Francisco, California 94107

Big Wave LLC
Attn: Scott Holmes,
635 Railroad Ave.,
Half Moon Bay, California 94019

Dear Mr. Peck and Mr. Holms:

This letter is written in response to your submittal of March 19, 2008, requesting confirmation of the extent of Corps of Engineers' jurisdiction at the Big Wave Project site located along Airport Street in unincorporated San Mateo County, near the Town of Princeton-by-the-Sea, California (APNs: 047-312-030 and 047-311-060).

Enclosed is a map showing the extent and location of Corps of Engineers' jurisdiction. We have based this jurisdictional delineation on the current conditions on the site as verified during a site visit performed by our staff on May 1, 2008. A change in those conditions may also change the extent of our jurisdiction. This jurisdictional delineation will expire in five years from the date of this letter. However, if there has been a change in circumstances that affects the extent of Corps jurisdiction, a revision may be completed before that date.

There are jurisdictional Waters of the United States on your site and a permit *may* be required for your project. Application for Corps authorization should be made to this office using the application form available at <http://www.spn.usacc.army.mil/regulatory/index.html>. To avoid delays it is essential that you enter the file number at the top of this letter into Item No. 1 of the application. The application must include plans showing the location, extent and character of the proposed activity, prepared in accordance with the requirements. You should note, in planning your project, that upon receipt of a properly completed application and plans, it may be necessary to advertise the proposed work by issuing a Public Notice for a period of 30 days.

- 2 -

You are advised that the Corps has established an Administrative Appeal Process, as described in 33 C.F.R. Part 331 (65 Fed. Reg. 16,486; March 28, 2000), and outlined in the enclosed flowchart and "Notification of Administrative Appeal Options, Process, and Request for Appeal" form (NAO-RFA). If you do not intend to accept the approved jurisdictional determination, you may elect to provide new information to the District Engineer for reconsideration or submit a completed NAO-RFA form to the Division Engineer to initiate the appeal process. You will relinquish all rights to appeal, unless the Corps receives new information or a completed NAO-RFA form within sixty (60) days of the date of the NAO-RFA.

Should you have any questions regarding this matter, please call Paula Gill of our Regulatory Division at 415-503-6776. Please address all correspondence to the Regulatory Division and refer to the File Number at the head of this letter. If you would like to provide comments on our permit review process, please complete the Customer Survey Form available online at <http://per2.nwp.usace.army.mil/survey.html>.

Sincerely,



Jane M. Hicks
Chief, Regulatory Division

Enclosures

Copy Furnished:

WSP; Ecosystem Science and Natural Resource Management; Attn: Ms. Peggy Fielder, 160 Franklin St., Suite 300, Oakland California 94607

CA RWQCB, Oakland, CA

CA SWRCB, Sacramento, CA

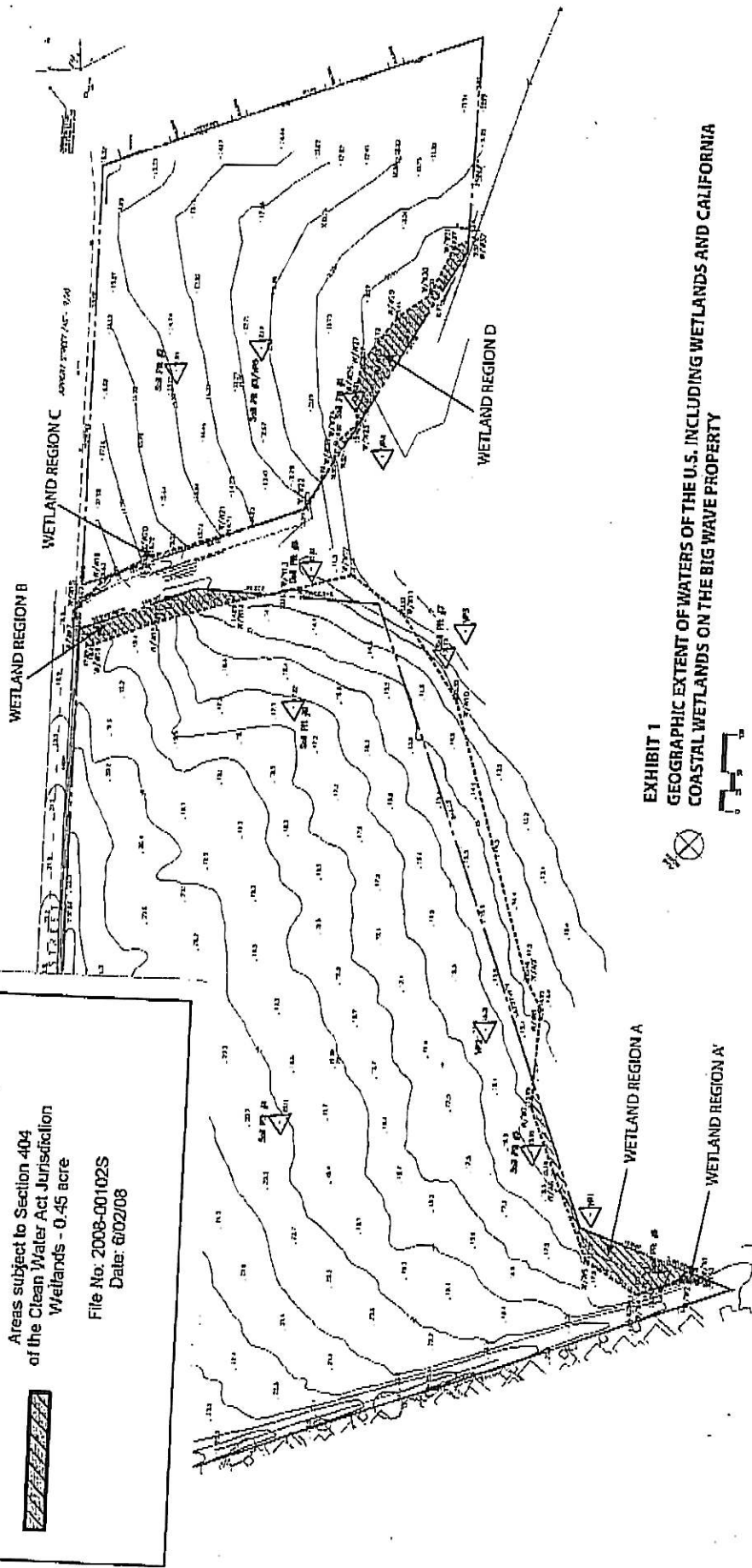


EXHIBIT 1
GEOGRAPHIC EXTENT OF WATERS OF THE U.S., INCLUDING WETLANDS AND CALIFORNIA
COASTAL WETLANDS ON THE BIG WAVE PROPERTY



LEGEND:

- PROPERTY BOUNDARY
- WETLAND BOUNDARY
- ▲ SOIL PFT/VEGETATION PLOT
- ▨ FEDERAL AND STATE (CCO) WATERS / WETLANDS
- ▩ STATE (CCO) WATERS / WETLANDS

- WATERS / WETLANDS NOTES:**
1. WATERS / WETLANDS WERE DELINEATED ON NOVEMBER 20, 2007
 2. "WATERS OF THE U.S." WERE DELINEATED CONSISTENT WITH DEFINITIONS PROVIDED AT 33 CFR 328.3 (b) (1), (2), (3), (4), (5), (6), (7), (8), (9), (10), (11), (12), (13), (14), (15), (16), (17), (18), (19), (20), (21), (22), (23), (24), (25), (26), (27), (28), (29), (30), (31), (32), (33), (34), (35), (36), (37), (38), (39), (40), (41), (42), (43), (44), (45), (46), (47), (48), (49), (50), (51), (52), (53), (54), (55), (56), (57), (58), (59), (60), (61), (62), (63), (64), (65), (66), (67), (68), (69), (70), (71), (72), (73), (74), (75), (76), (77), (78), (79), (80), (81), (82), (83), (84), (85), (86), (87), (88), (89), (90), (91), (92), (93), (94), (95), (96), (97), (98), (99), (100).
 3. WETLANDS WERE DELINEATED CONSISTENT WITH (A) DEFINITIONS PROVIDED AT 33 CFR 328.3 (b) AND (B) PROTOCOLS ARTICULATED IN THE 1997 U.S. ARMY CORPS OF ENGINEERS WETLAND Delineation MANUAL (ENVIRONMENTAL LABORATORY 1997) AND THE ARID WEST REGIONAL SUPPLEMENT (JULY 2006).
 4. COASTAL WETLANDS WERE DELINEATED CONSISTENT WITH (A) DEFINITIONS PROVIDED IN THE PUBLIC RESOURCES CODE, DIVISION 20 CALIFORNIA COASTAL ACT SECTION 20123 AND (B) APPLICABLE STATE AND FEDERAL REGULATIONS AND GUIDELINES FOR WETLANDS AND OTHER WETLAND-RELATED ACTIVITIES.
 5. LOCATIONS OF WETLAND VEGETATION PLOTS ARE APPROXIMATE.

US Army Corps of Engineers
 Big Wave Project
 Half Moon Bay,
 San Mateo County, California
 (APNs: 047-312-030 and 047-311-069)

Areas subject to Section 404
 of the Clean Water Act Jurisdiction
 Wetlands - 0.45 acre

File No: 2008-00102S
 Date: 6/02/08

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Big Wave, LLC

File Number: 2008-00102S

Date: 5/30/08

Attached is:

	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	See Section below
	FINAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PERMIT DENIAL	B
x	APPROVED JURISDICTIONAL DETERMINATION	C
	PRELIMINARY JURISDICTIONAL DETERMINATION	D
		E

SECTION I: The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://usace.army.mil/let/functions/ew/cecwo/rep/or/CorpsRegulationsandCEPRPart3a>.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the District Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the District Engineer. Your objections must be received by the District Engineer within 60 days of the date of this Notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the District Engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the District Engineer will send you a final proffered permit for your reconsideration, as indicated in Section B below.

B: FINAL PROFFERED PERMIT: You may accept or decline/appeal the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the District Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the Division Engineer. This form must be received by the Division Engineer within 60 days of the date of this Notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the Division Engineer. This form must be received by the Division Engineer within 60 days of the date of this Notice.

D: APPROVED JURISDICTIONAL DETERMINATION (JD): You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this Notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the Division Engineer. This form must be received by the Division Engineer within 60 days of the date of this Notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION (JD): You do not need to respond to the Corps regarding the preliminary JD. The preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps District for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION I - REQUEST FOR APPEAL OF OBJECTIONS TO AN INITIAL PROFFERED PERMIT OR FINAL PROFFERED PERMIT - PERMIT/DENIAL OF JURISDICTIONAL DETERMINATION

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record; the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the Review Officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION

If you have questions regarding this decision and/or the appeal process you may contact:

Jane Hicks, Regulatory Division Chief
U.S. Army Corps of Engineers, San Francisco District
1455 Market Street, San Francisco, CA 94103-1398

Tel.: (415)503-6771 Fax: (415) 503-6690

If you only have questions regarding the appeal process you may also contact:

Thomas Cavanaugh, Appeal Review Officer
U.S. Army Corps of Engineers, South Pacific Division
1455 Market Street, San Francisco, CA 94103-1399

Tel.: (415)503-6574 Fax: (415) 503-6647

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of Appellant or Agent

Date: _____

Telephone Number: _____

Administrative Appeal Process for Approved Jurisdictional Determinations

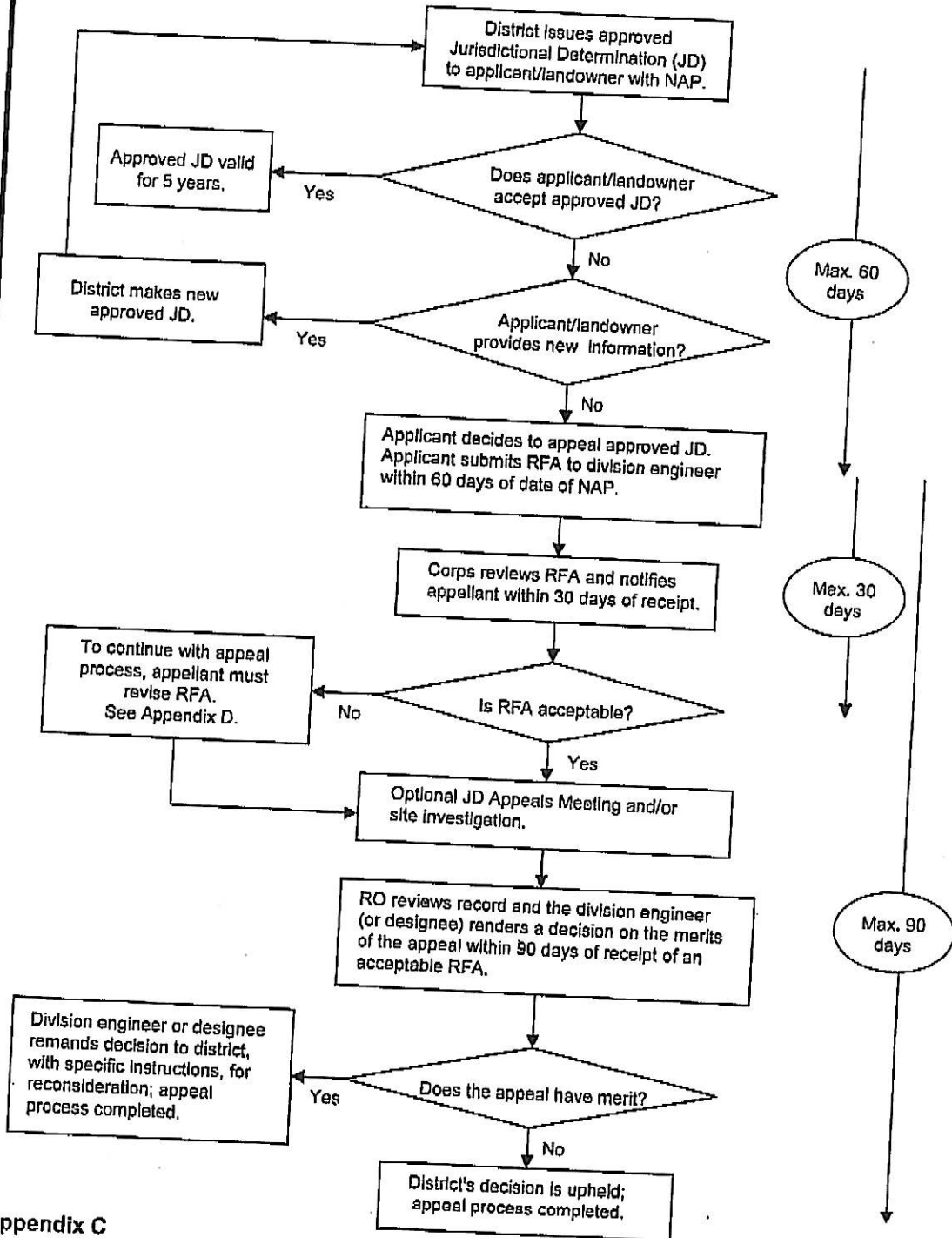
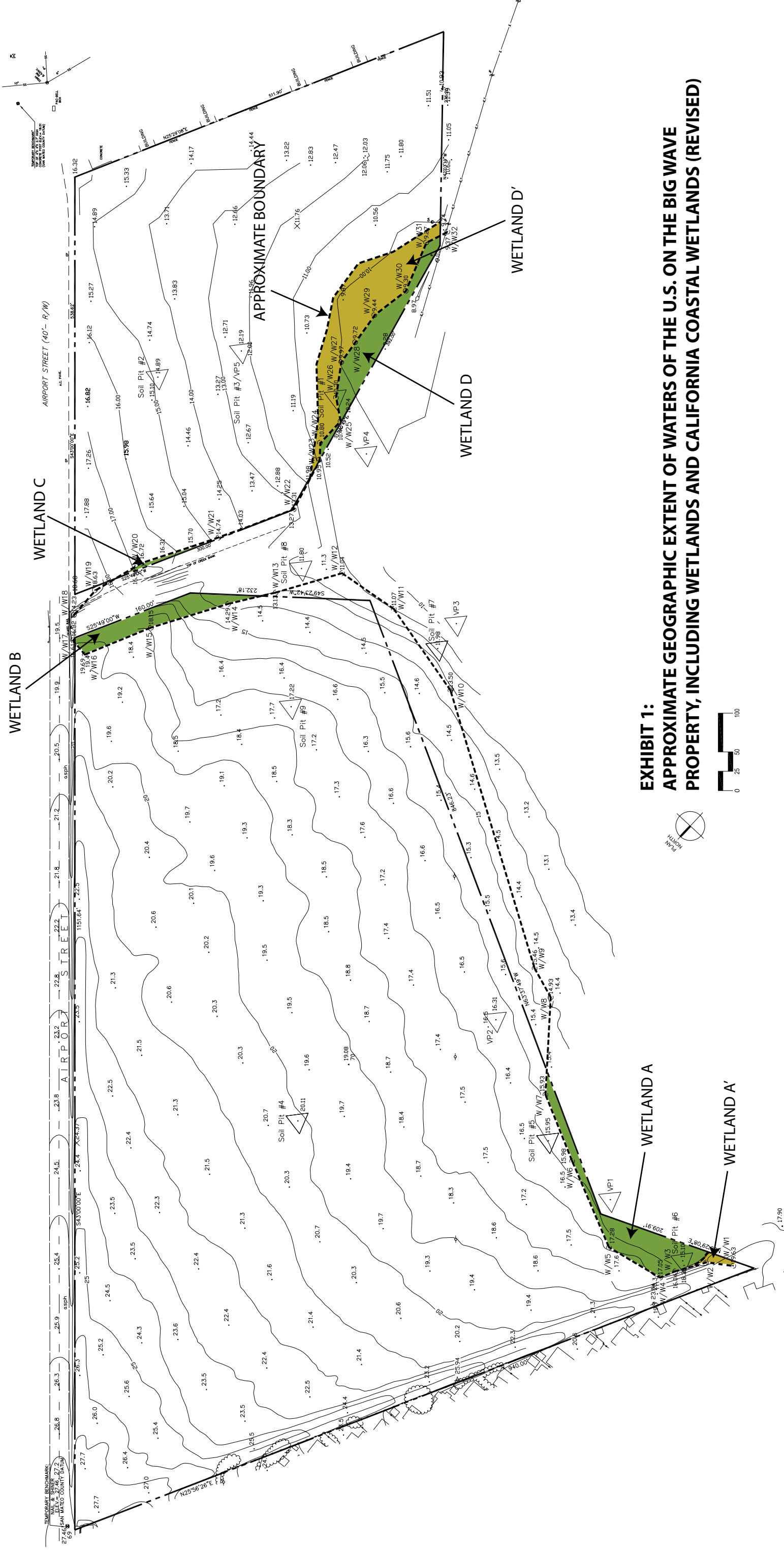
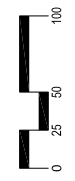


Exhibit 1

Approximate Geographic Extent of Waters of the U.S. on the Big Wave Property, Including Wetlands and California Coastal Wetlands



**EXHIBIT 1:
APPROXIMATE GEOGRAPHIC EXTENT OF WATERS OF THE U.S. ON THE BIG WAVE
PROPERTY, INCLUDING WETLANDS AND CALIFORNIA COASTAL WETLANDS (REVISED)**



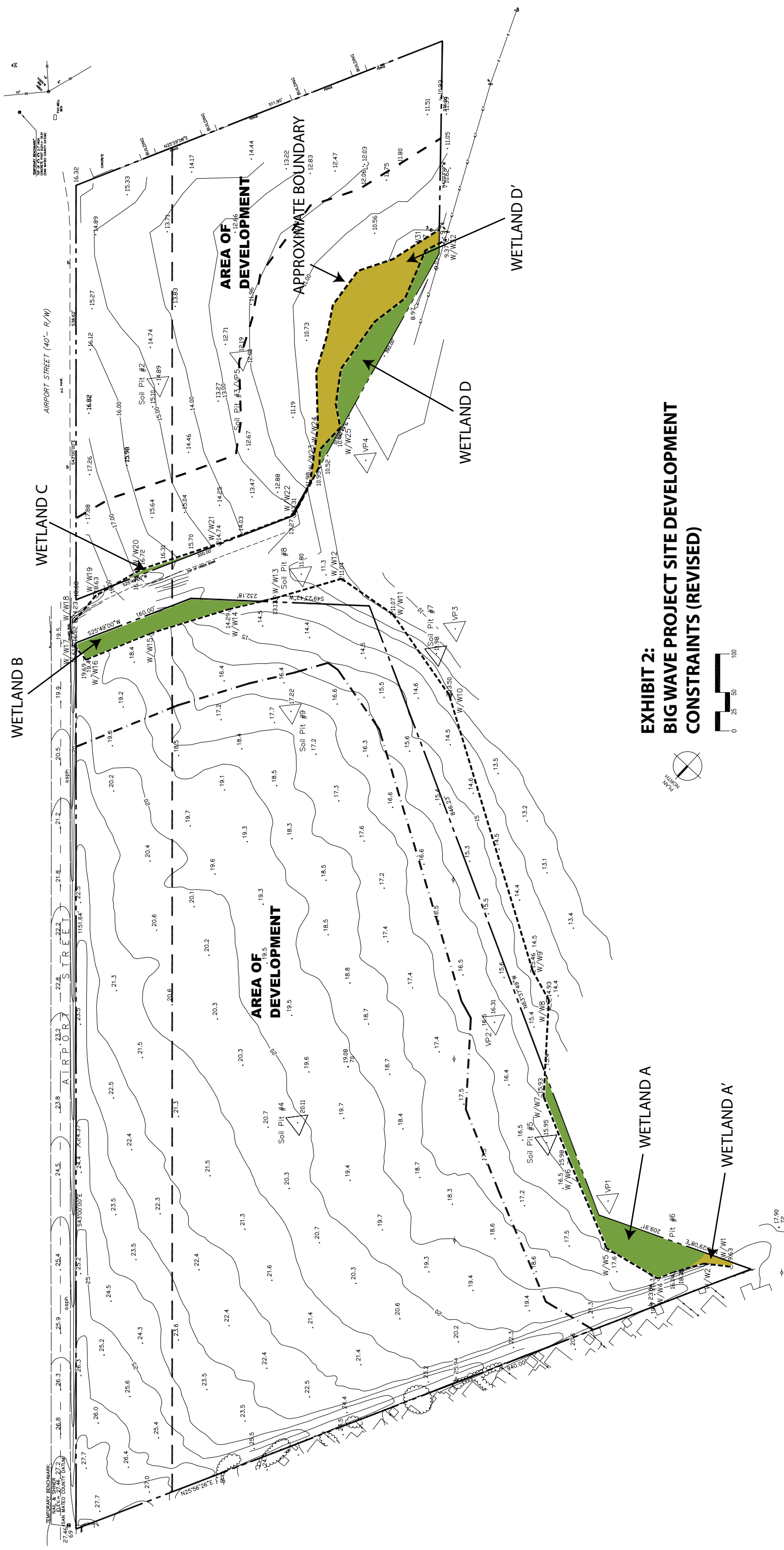
LEGEND:	
	PROPERTY BOUNDARY
	WETLAND BOUNDARY
	SOIL PIT/VEGETATION PLOT
	FEDERAL AND STATE (CCC) WATERS / WETLANDS
	STATE (CCC) WATERS / WETLANDS

- WATERS / WETLANDS NOTES:**
1. WATERS / WETLANDS WERE DELINEATED ON NOVEMBER 20, 2007
 2. "WATERS OF THE U.S." WERE DELINEATED CONSISTENT WITH DEFINITIONS PROVIDED AT 33 CFR 328.3 (a) (1-8).
 3. WETLANDS WERE DELINEATED CONSISTENT WITH (A) DEFINITIONS PROVIDED AT 33 CFR 328.3 (b) AND (B) PROTOCOLS ARTICULATED IN THE 1987 U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (ENVIRONMENTAL LABORATORY 1987) AND THE ARID WEST REGIONAL SUPPLEMENT (COE 2006).
 4. COASTAL WETLANDS WERE DELINEATED CONSISTENT WITH (A) DEFINITIONS PROVIDED IN THE PUBLIC RESOURCES CODE DIVISION 20 CALIFORNIA COASTAL ACT SECTION 20121 AND (B) APPENDIX A: STATEWIDE INTERPRETIVE GUIDELINES FOR WETLANDS AND OTHER WET ENVIRONMENTAL SENSITIVE HABITAT AREAS.
 5. LOCATIONS OF WETLAND VEGETATION PLOTS ARE APPROXIMATE.

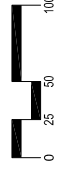


Exhibit 2

Big Wave Project Site Development Constraints



**EXHIBIT 2:
BIG WAVE PROJECT SITE DEVELOPMENT
CONSTRAINTS (REVISED)**



LEGEND:

	PROPERTY BOUNDARY
	WETLAND BOUNDARY
	100'-0" BUFFER
	SOIL PIT / VEGETATION PLOT
	RUNWAY EXTENSION FOOTPRINT
	FEDERAL AND STATE (CCC) WATERS / WETLANDS
	STATE (CCC) WATERS / WETLANDS



**Biological Resources of the Proposed Big Wave
Wellness Center and Office Park Project Site,
San Mateo County, California**



**August 5, 2008
Revised February 23, 2009**

Prepared for:



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DISCLAIMER

WSP Environment & Energy has prepared this biological resources report for use by Big Wave LLC. The results and conclusions are based upon information provided by public domain information (e.g., U.S. Geological Survey 7.5' topographic quadrangles, the Natural Resources Conservation Service Soil Surveys, the California Natural Diversity Database (CNDDB), and air photographs from various sources), as well as on-site reconnaissance, data collection, and analyses by standard methods. They represent the best professional judgment of WSP Environment & Energy.

Lyndon C. Lee

Lyndon C. Lee, Ph.D.
*Principal Ecologist & Vice President
Ecosystem Science & Restoration Services
WSP Environment & Energy*

23 February 2009

Date

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- Appendix C** Special status animal species recorded by the California Department of Fish and Game in the California Natural Diversity Database (Half Moon Bay, San Mateo, Montara Mountain, San Francisco South, and Woodside)
- Appendix D** Partial listing of plants observed on and adjacent to the Big Wave Project Site
- Appendix E** Special Status Species Observed with a 2-mile Radius of the Project Site
- Appendix F** Site Plan for Big Wave Project Site

EXECUTIVE SUMMARY

WSP Environment & Energy (WSP) was retained by Big Wave LLC to assess existing biological resources on the Big Wave Wellness Center and Office Park Project Site (Project Site) near Princeton-by-the-Sea, California. The Project Site is located between Airport Street on the eastern boundary and the Pillar Point Marsh to the south in unincorporated San Mateo County, near the town of Princeton-by-the-Sea, California.

This biological resources report includes a (1) brief description of physical characteristics of the Project Site, (2) description of the Big Wave Project (Project), particular as it relates to the Project Site's biological and physical resources, (2) description of the biological resources present, including the vertebrate and vascular plant species known to exist at or utilize the Project Site, (3) discussion of species of conservation concern that may exist at the Project Site, (4) discussion of potential impacts as a result of project implementation, and a (5) summary of the regulatory context for the protection and management of the Big Wave Project Site's biological resources.

The Big Wave Project Site consists of two adjacent and privately owned agricultural fields that are farmed annually totaling 19.5 ac. These adjacent fields are separated by a county-owned intermittent stream that is drains to the James Fitzgerald Marine Reserve. A total of 19,590 sq ft (0.45 ac) of jurisdictional waters/wetlands occur on the Project Site. This includes 0.45 ac of Type 3 waters of the U.S., which occur in four regions where wetlands on adjacent property overlap the property boundary. A total of 32,180 sq ft (0.74 ac) of single-parameter (hydrophytic vegetation) wetlands conforming to the California Coastal Act Public Code also occurs on the property.

Rare plant surveys were conducted on November 11, 2007 and February 28, 2008. No rare plants were observed on the Project Site. 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 now and in the future on the Project Site due to lack of suitable habitat and current agricultural activities. No impacts to rare plant species are expected from the proposed project.

WSP conducted reconnaissance-level field surveys for special status animals on February 28, 2008. The WSP field team observed 29 wildlife species on the property. No rare, threatened or endangered species were observed on the Project Site. One species on the watch list of the California Department of Fish and Game, the sharp-shinned hawk, was observed flying over the Project Site. 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. However, these species are not expected to occur now and in the future on the Project Site due to lack of suitable habitat and current agricultural activities. No impacts to special status animal species are expected from the proposed project.

I. INTRODUCTION & PROJECT DESCRIPTION

WSP Environment & Energy (WSP) was retained by Big Wave LLC to assess biological resources on the Big Wave Wellness Center and Office Park Project Site (Project Site) near Princeton-by-the-Sea, California. This biological resources report includes a (1) brief description of physical characteristics of the Project Site, (2) description of the Big Wave Project (Project), particular as it relates to the Project Site's biological and physical resources, (2) description of the biological resources present, including the vertebrate and vascular plant species known to exist at or utilize the Project Site, (3) discussion of species of conservation concern that may exist at the Project Site, (4) discussion of potential impacts as a result of project implementation, and a (5) summary of the regulatory context for the protection and management of the Big Wave Project Site's biological resources.

The Big Wave Project currently is designed as an economically and environmentally sustainable community whose primary purpose is to provide housing and employment for ultra-low income developmentally disabled adults (Big Wave LLC 2009). This will be accomplished through the construction of a Wellness Center, which will be integrated into the larger development of an urban farm, high technology office complex, and restored wetlands ecosystem. As envisioned by the Big Wave Partnership, this project is a model for integrating environmental protection into urban design. The housing portion will be operated as a cooperative with the Wellness Center residents owning shares of the residential development and the Big Wave businesses.

As background, the Big Wave Project is proposed by the non-profit Big Wave Group, Inc. and has been developed with the specific goal to provide affordable housing, food services, employment, recreation and educational services for the disabled adult population. Relevant project features include:

1. LEED platinum certification construction for all structures, for example, 225,000 sq. ft. four three-story, "green" buildings for high-tech office space;
2. All renewable power, for example, 600 kilowatts of solar power, 50 kilowatts of wind power, 5 kilowatt fuel cell, 5 million BTU/hr solar heating, and geothermal cooling;
3. More than 80 developmentally disabled jobs, with a potential to provide more than 700 future jobs (possibly employing 450 local residents);
4. 50 acres of sustainable organic farming, among other features; and,
5. Nine (9) acres of riverine wetland and riparian ecosystem restoration;
6. State-of-the-art water and wastewater resource and usage plan, including onsite water recycling for toilets and irrigation providing protection from groundwater overdraft, ground water filtration system that will recharge Pillar Point Marsh, and potentially, the construction of an on-site desalination plant.

An additional feature, while still optional, is the construction of an on-site desalination plant, discussed more fully in the following section.

A. Environmental Project Features

1. Water and Wastewater Resource and Reuse

The Big Wave proponents propose to annex to the Central Coast Water District (CCWD) to work collaboratively in the supply and management of the Project's water resources. Specifically, the Project will (1) generate on-site water and (2) provide water recycling for the majority of the wastewater. Water generated onsite will include the Big Wave Well for irrigation, cooling, and for domestic supply during above normal rainfall years. During drought years, the Big Wave Project will conserve water by reducing agricultural irrigation and domestic use and by sending the majority of the recycled water to the infiltration drain fields. These two activities will serve to insure that the ground water recharge is always greater than the ground water pumping. In future extreme water shortages, the Project will desalinate seawater by modifying the well water micro filtration system, discussed below. During normal years, the amount pumped equals to the amount used for agricultural irrigation. Details are found in *Facilities Plan: Draft #2* (Big Wave LLC 2009).

For well water treatment, the Project proposes to use two 10,000 gallon-per-day AMPAC Reverse Osmosis (RO) systems followed by Trojan Ultraviolet light disinfection, a system that offers complete treatment redundancy. All well water will be recycled with these systems and used throughout the buildings and irrigation. Wastewater (both black and grey) will be treated in a Membrane Reactor Plant (MBR) constructed by *Enviroquip*, which has been certified by the Regional Water Quality Control Board and the State Health Department to meet the requirements of Title 22 for unrestricted reuse of recycled water. The Big Wave Group proposes to treat black and grey water as both are treated the same under the Title 22 regulations.

The local benefits of recycled water are

1. Protection of the Half Moon Bay aquifer from overdrafting,
2. Protection of Pilarcitos Creek,
3. Less costly than conventional water treatment,
4. Continuation of farming without aquifer overdraft, and
5. Higher and safer quality of drinking water.

2. Ground Water Infiltration System

The proposed ground water infiltration system is designed to infiltrate an average of 12,000 gallons of water per day of rainwater, or 85% of the first flush and approximately 85% of the total rainfall during a normal year. This approach insures adequate ground water recharge and compliance with the San Mateo County Water Pollution Prevention Program. Key features of the ground water infiltration system include the permeable concrete parking lots and walkways and the rainwater gardens (see *Facilities Plan: Draft #2* [Big Wave Group LLC 2009]). The concrete can pass approximate 3" inches of rain per hour (500,000 gallons per hour), and is supported by crushed rock with a porosity also of 3" inches of rain per hour. Storage volume of the concrete and rock is approximately 800,000, thus holding excess water during intense rain and allowing water to spread uniformly over the surface soil.

Rainwater gardens that are part of the riparian and waters/wetland ecosystem restoration allow for the infiltration of 50% of the roof runoff. The permeable parking lot will infiltrate 85% of the annual rainfall.

3. Proposed Desalination System

The proposed desalination system is a membrane filtration system with slow sand filters for pretreatment and ultraviolet light disinfection. Desalination will only be used in dire water rationing and emergencies. When in place, desalination will utilize the existing salt water intake on the Princeton pier, where two 2" inch pipes will be installed underground through Princeton-by-the-Sea and then in west shoulder of Airport Street. The lines will enter the Project Site at Airport Street, and attached to the desalination unit located in one of the Storage Maintenance rooms on the first floor of the Wellness Center. The intake flow is estimated to be 20 gallons per minute (gpm) and the return flow will be 10 gpm, with intake salt content at approximately 36,000 ppm and return content (brine) at 50,000 ppm. Intake and return flows are comparatively so small that there are estimated to be no significant impacts associated with the intake or discharge. Further, the Big Wave desalination system is identical to the desalination system being studied by Camp Dresser McGee, Inc. (CDG) biologists for the Santa Cruz Desalination system (Holmes, personal communication with CDM 2008, 2009), and is the considerably smaller than the system that was recently permitted by the Coastal Commission for the Cannery Row Marketplace development in Monterey. This system as designed calls for an 8" intake pipe, and 6" discharge pipe, the latter returning brine into the Monterey Bay National Marine Sanctuary (CCC Application number 3-08-013, Ocean View Plaza). The Big Wave Project will be discharging in Pillar Point Harbor, a coastal environment outside the designated "Area of Biological Significance" (California Coastal Commission 2008). Further details are found in the *Facilities Plan: Draft #2* (Big Wave LLC 2009).

4. Waters/Wetlands Ecosystem Restoration

WSP developed a wetlands restoration plan for the riparian/wetland ecosystem and buffer that lies within the project area. This restoration design includes a suite of activities that would increase waters/wetlands ecosystem functions including the development of a native, diverse, and aesthetically pleasing landscape. Best management practices for storm water treatment are included in the restoration and are designed to incorporate retention/detention microdepressions (rain gardens) and swales planted with native species.

In keeping with the overall plan for the Project Site, 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. Further details can be found in WSP (2008c).

B. Background

1. Location and General Project Site Description

The Big Wave Project Site is located in unincorporated San Mateo County, adjacent to Princeton-by-the-Sea, California (Figure 1). It consists of two agricultural fields totaling 19.5 ac separated by a county-owned intermittent stream. 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.

Elevation at the Project Site ranges from 9.0 to 27.7 feet NGVD and the property generally slopes gently to the south and west. A small, intermittent, unnamed creek sometimes referred to as (Pillar Point Creek) separates the two agricultural fields that comprise the Project Site. This creek is part of San Mateo County's Pillar Point Marsh, which is one of several properties managed as the James Fitzgerald Marine Reserve. This unnamed creek drains directly to the Pacific Ocean, entering the Pacific Ocean via Pillar Point Marsh approximately 0.4 mi west of the mouth of Denniston Creek within the Pillar Point embayment.

2. Climate

The Project Site has a mild Mediterranean 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). Clouds and fog are common during the evening and early morning hours, but typically clear during mid-day. Total average annual precipitation is 28 inches (NRCS 2007).

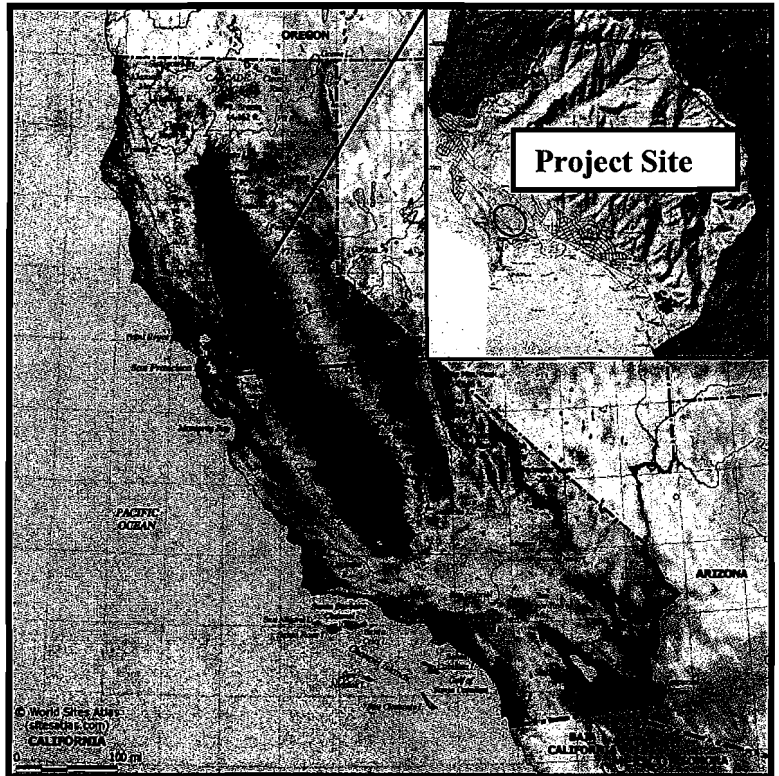


Figure 1. The Project Site is located within the Pillar Point watershed along the Central Coast of California (Map Reference <http://cwp.resources.ca.gov>)



Figure 2. *Big Wave Project Site approximate location in San Mateo County, California. Adjacent feature is the Half Moon Bay Municipal Airport*

3. Landscape, Geology & Geomorphic Context

The Big Wave Project Site landscape lies within the Salinian (structural) block, west of the San Andreas and Pilarcitos faults, but effectively on/adjacent to the San Gregorio Fault (Figure 3). Over lying a granitic basement is the Purisima Formation composed of sedimentary rocks from the Pliocene (Brady/LSA *et al.* 2002). The Purisima Formation is composed of highly fractured mudstones, siltstones and sandstones that typically are highly fractured in distinct beds.

According to Kennedy *et al.* (1981), the uplifted Half Moon Bay terrace upon which the Big Wave Project Site is situated reflects a higher sea level approximately 83,000 years ago. As discussed in Brady/LSA *et al.* (2002), this terrace is composed of a wave-cut platform overlain by ocean-derived sands and alluvial deposits ranging between 20 and 65 feet thick.

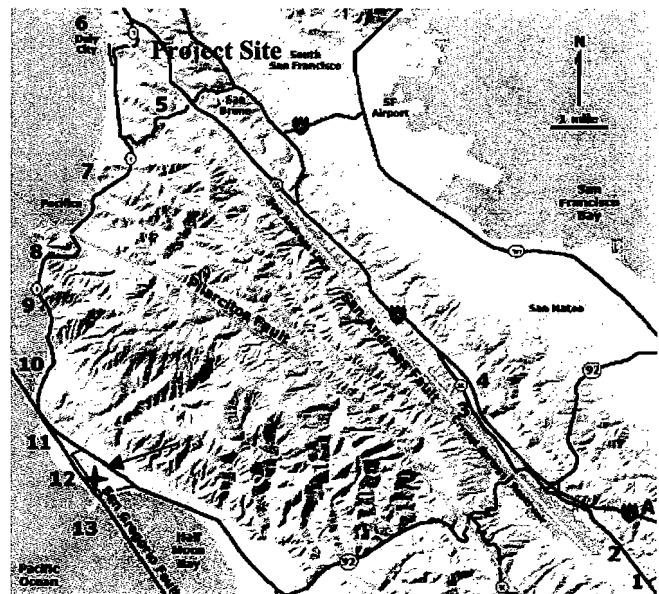


Figure 3. Location of Big Wave Project Site relative to local earthquake faults. (Source: *The San Andreas and San Gregorio Fault Systems in San Mateo County*. <http://www.pubs.usgs.gov/of/2005/1127/chapter8.pdf>)

At Pillar Point Marsh, the Half Moon Bay terrace has been down-warped by tectonic activity and subsequently buried by more recent (Pleistocene and Holocene) alluvial and marsh deposits.

4. *Hydrology*

Examination of official San Mateo County maps from 1861, 1868, 1894, 1950, 1960, and 1988, show that this creek historically served as the main drainage for the Pillar Point Marsh watershed (Figure 4, see also Appendix A). Maps from 1906 and 1973 do not depict either this creek or Pillar Point Marsh, likely reflecting manipulation of site hydrology.

The project site lies within the boundaries of the Pillar Point Marsh Watershed (Figure 5). Total area of this drainage is approximately 785 acres, of which the Pillar Point Marsh occupies a combined area of roughly 66 acres (California Coastal Commission 2008). The marsh is divided into two distinct components - a salt to brackish water portion adjacent to the Pillar Point Harbor and a freshwater/willow riparian area, separated by the access road leading to the Pillar Point Military Reserve (Brady/LSA *et al.* 2002).

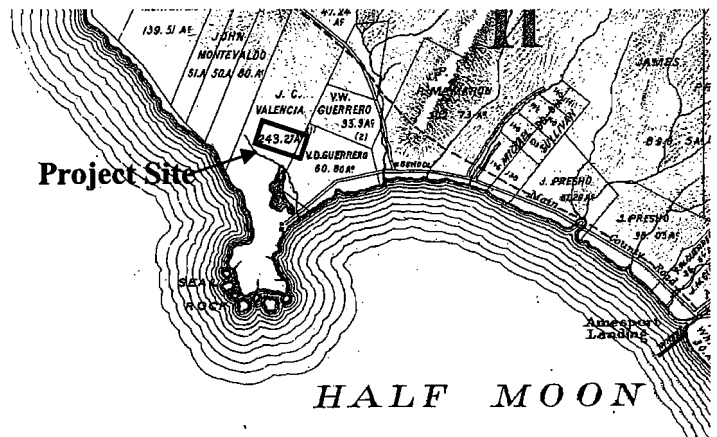


Figure 4. *Big Wave Project Site approximate location in San Mateo County, California. Coast I Subdivisions Rancho Divisions of Land, Half Moon Bay County Map 1894 (See Appendix A).*

The hydrology of the Pillar Point Marsh drainage has been altered extensively by historic and current land use activities on the Half Moon Bay Terrace. Early topologic records of the marsh indicate that most of the area not dominated by standing/brackish water was in active cultivation (see 1866 map, Appendix A), which persisted in much of the watershed until construction of the Half Moon Bay Airport in 1943. Sometime between 1928 and 1931, the access road separating the marsh was put in place. By 1943, aerial images show that the fresh water component of the marsh had expanded eastward. It was also during this time that an extensive drainage system was erected in conjunction with the development of the airport to facilitate surface water run-off from the runways, fields, and other airport facilities. This system continues to function as a primary source of run-off flow and sedimentation into the Pillar Point Marsh today.

Within the airport property, runoff is consolidated into 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 the reach of an unnamed, intermittent tributary that bisects the project site. This tributary passes through two culverts under West Point Avenue, and connects with Pillar Point Marsh. The invert elevation of the culvert under West Point Avenue is approximately 2.5 feet high on the upstream end, causing water to back up into portions of the Project Site during rainy periods.

Although the Pillar Point Marsh is significantly influenced by surface water input, the marsh has been more accurately described as a groundwater fed lowland (California Coastal Commission, 2008). Groundwater is the primary source feeding the freshwater wetland habitat of the marsh from 10 to 15 feet msl. Below this elevation, from 5 to 10 feet msl, saltwater marsh and brackish habitat persists. Surface flow during the rain season may also directly affect the brackish portion of the marsh as indicated by salinity sampling following rain events during December 1997 and January 2008. Results of this sampling indicated that outflow conditions sufficiently converted the saltwater marsh portion into a temporary freshwater system (Balance Hydrologics, cited in Brady/LSA *et al.* 2002).

5. Soils

Soils within the Project Site are mapped by the NRCS as Denison clay loam on nearly level slopes (DcA) and Denison clay loam on nearly level slopes which are imperfectly drained (DdA) (NRCS 1961). Denison soils are classified as fine, smectitic, isomesic, Pachic, Argixerolls. These soils have formed on low terraces under grass vegetation from granitic alluvium. Denison clay loam soils occur on 0 to 2 percent slopes and the mapping unit is has approximately 1 percent hydric inclusions which typically are found in depressions. Denison clay loam soils are generally highly fertile.

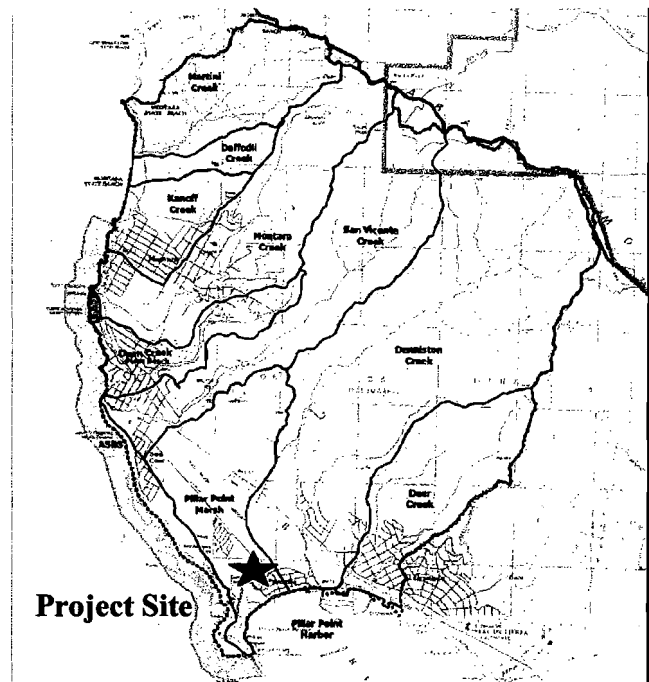


Figure 4. Local watershed map of Project Site landscape (Coastal Commission 2008).

B. Objectives

For this report, WSP was retained by Big Wave Group LLC to:

1. Conduct a thorough database and literature review to determine the biological resources known or expected to occur on the project site,
2. Survey for flora of conservation concern,
3. Develop a native plant list suitable for planting for restoration and landscaping on the property,
4. Survey for resident and migratory fauna, including species of conservation concern,
5. Evaluate potential impacts to the biology resources of the Project Site as a result of the project implementation, and
6. Place species within the context of federal, California State, and San Mateo County local regulations and policies relevant to proposed development activities.

II. METHODS

A. Office Methods and Background Review

WSP reviewed the previous biological resource report conducted by WRA for the Project Site (WRA 2003a, 2003b) to inform the preparation of this document. WSP also reviewed related documents, including the *Draft and Final Environmental Impact Reports for the Fitzgerald Marine Reserve Master Plan* (Thomas Reid Associates 2003, 2004), *Fitzgerald Marine Reserve Master Plan* (Brady/LSA et al. 2002), and the *Nonpoint Source Watershed Assessment: James Fitzgerald Marine Reserve Critical Coastal Area* (California Coastal Commission 2008). Database searches for known occurrences of special status species were conducted for the 7.5 minute USGS quadrangle for the Project Site, Montara Mountain, and across the five adjacent USGS quadrangles: Woodside, San Francisco South, San Mateo, Hunters Point, and Half Moon Bay (CNDDDB 2008). Appendices B and C provide a list of special status species with a potential to occur at or near the project site.

B. Field Methods

A WSP field team consisting of Dr. Lyndon C. Lee, Dr. Peggy L. Fiedler, Laura Garrison and Kate Knox, delineated the geographic extent of waters of the United States, including wetlands at the Big Wave Project Site on November 20, 2007. Results of the delineation are presented under separate cover (WSP 2008).

On February 25, 2008, WSP scientists Knox and Garrison visited the Project Site to assess additional biological resources that occur, or have the potential to occur within, or to utilize the project site. Reconnaissance-level wildlife surveys were conducted in the early morning hours (from approximately 6:30 AM to 10AM). This survey involved traversing existing habitats by standing for brief periods at locations with a broad view and walking slowly through the more densely vegetated areas. Species were recorded as present if 1) they were observed, 2) species-specific vocalizations were heard, or 3) diagnostic field signs were found (e.g., scat, tracks, and pellets). Binoculars were used to assist with the visual survey. General observations on the suitability of cover types for various species of conservation concern also were recorded.

The site was traversed on foot to determine if existing conditions provide suitable habitat for any special status plant or wildlife species. A listing of all vascular plant species observed was developed during both days of the field effort. Any species not immediately identifiable was collected, placed in Ziplock™ plastic bags and returned to the office for later identification. Plants were keyed using a variety of floras, including Hickman (1993), Beidleman and Kozloff (2003), and appropriate volumes of the *Flora of North America* (FNA Committee 2002). Nomenclature follows Hickman (1993).

Potential for a species to occur on the project site was determined by considering whether existing conditions on the project site provide suitable habitat for listed special status species. Potential for species to occur was ranked according to a) Not Present, b) Low Potential to Occur,

c) Moderate Potential to Occur, d) Likely to Occur, or e) Present (*i.e.*, observed). Criteria for each of these classifications are described in Table 1.

Table 1. Classification Rationale for Determining Presence/Absence of Species on the Big Wave Project Site

Category	Criteria
<i>Not Present</i>	No suitable habitat occurs on the project site. The species has no likelihood for utilizing any portion of the site due to lack of habitat requirements.
<i>Low Potential to Occur</i>	The majority of the habitat on the project site is unsuitable or of very poor quality for the species. Required habitat components are not present on the site.
<i>Moderate Potential to Occur</i>	Some of the required habitat components are available on the site, but the site lacks some critical habitat components required by the species.
<i>Likely to Occur</i>	Habitat components are available on the site, but no record of the species utilizing the project site exists.
<i>Present</i>	Species was observed or is otherwise known to occur on the Project Site

III. RESULTS

A. Review of Previous Reports

During a previous field assessment conducted on January 17, 2003, seventeen (17) wildlife species were observed on the property (WRA 2003a). Most of the species observed in 2003 were common residents or winter visitors in the San Francisco Bay Area. However, two of these species, the white-tailed kite (*Elanus leucurus*), and the northern harrier (*Circus cyaneus*), were determined to be special status species. No special status plant species were observed on the property during the two surveys conducted in 2003.

In 2003, potential breeding habitat for the California red-legged frog (*Rana aurora draytonii*) was observed in Pillar Point Marsh “in close proximity” to the Project Site. WRA (2003a) identified the unnamed creek that drains into Pillar Point Marsh and its associated wetlands (see Figure 3) as potential dispersal corridors and foraging habitat. WRA concluded that “potential upland dispersal habitat occurs within the southern portion of the [Big Wave] Property.”

B. 2008 Observations

1. Waters/Wetlands

A total of 0.45 acres of “other waters” (Type 3 waters of the U.S.) under federal jurisdiction occur on the Project Site (Figure 5). This includes Type 3 waters of the U.S. that occur in four regions across the Project Site. An additional 0.29 ac (12,604 sq ft) of single-parameter (vegetation) wetlands conforming to the California Coastal Act Public Code occurs on the Project Site, for a total of California Coastal wetland acreage of 0.74 ac (32,180 sq ft). This additional acreage of one parameter wetlands is located in the western portion of the southwestern parcel and along the extreme western corner of the property. Wetland delineation results are discussed in detail in the delineation report (WSP 2008a) and addendum (WSP 2008b).

2. Aquatic Habitats

The Project Site currently consists exclusively of two adjacent agricultural fields. As discussed in the immediately preceding text, less than one half acre of Type 3 waters (wetlands) under federal jurisdiction occur, and 0.74 ac of wetlands protected by the California Coastal Act occur. While aquatic habitats exist in the nearby Pillar Point Marsh, none are present on the Project Site.

3. Botanical

a. Plant Communities

The Project Site currently consists of two adjacent agricultural fields that are part of a larger ongoing and continuous farming operation. Due to disking activities at the end of the Fall 2008,

little to no remaining native vegetation remained over the great majority of the Project Site. (This continues to be the case, as verified in a January 2009 site visit.) In those areas where normal farming activities had not occurred recently (e.g., along the Airport Street verge and in very small, scattered patches within the agricultural fields), non-native annual grasses and herbs occurred. Dominant species included wild oats (*Avena* spp.), bristly oxtongue (*Picris echioides*), and common vetch (*Vicia sativa*). Along the unnamed intermittent tributary that bisects the property within the Pillar Point watershed, as well as along the southern edge of the property adjacent to Pillar Point Marsh, riparian and seasonal freshwater wetland plant communities persist. Dominant species along the unnamed drainage included willows (*Salix lasiolepis*, *S. sitchensis*), California blackberry (*Rubus ursinus*), and poison hemlock (*Conium maculatum*) (Appendix C; Photograph 5). Dominant species along the southern edge of the property included slough sedge (*Carex obnupta*), soft rush (*Juncus effusus*), silverweed (*Potentilla anserina* var. *pacifica*), arroyo willow (*Salix lasiolepis*), and California blackberry (*Rubus ursinus*).

Overall, the vegetation on the proposed project site has been significantly altered and reflects a history of disturbance and agricultural cultivation. Appendix D provides a partial listing of the plant species observed during the field delineation and subsequent biological resources assessment.

b. Special Status Species

No special status plant species were observed during rare plant surveys conducted on the site. Special status species recorded as occurring within a two mile radius of the Project Site are presented in Appendix F and described in the text below. A list of all special status plant species recorded by the California Department of Fish and Game in the California Natural Diversity Databases in the five USGS quad sheets surrounding the Project Site (Half Moon Bay, San Mateo, Montara Mountain, San Francisco South, and Woodside) is presented in Appendix E.

Astragalus pycnostachyus var. *pycnostachyus* is a CNPS List 1B species that grows in mesic coastal dunes, coastal salt marshes, and streamsides. The species was recorded as occurring at an unspecified location at Pillar Point Marsh in 1902, but was not found in a rare plant survey conducted in 2004. Suitable habitat for this plant is not present on the Project Site, and no impacts to this species are expected as a result of the proposed development.

Potentilla hickmanii is a federal and state endangered and CNPS List 1B species. It is known from only two occurrences: Moss Beach (from which it is presumed extirpated) and near Devil's Slide, northwestern San Mateo County. Suitable habitat for this plant is not present on the Project Site, and no impacts to this species are expected as a result of the proposed development.

Leptosiphon croceus and *Leptosiphon rosaceus* are CNPS List 1B species that grow in coastal bluff scrub. *Leptosiphon croceus* is known from one occurrence near Moss Beach, and was recorded near Pt. San Pedro in 1903, but is presumed extirpated. *Leptosiphon rosaceus* was recorded near Pacifica in 1999. Suitable habitat for these plants is not present on the Project Site, and no impacts to these species are expected as a result of the proposed development.

4. Zoological

During the February 25, 2008 field effort, 29 animal species were observed or detected on or closely adjacent to the project site (Table 2). One species on the watch list of the California Department of Fish and Game, the sharp-shinned hawk, was observed flying over the property. No other special status species were observed. All bird species names follow Sibley (2000).

Special status species that have been recorded previously on or near the Project Site are described in the text following. A list of all special status animal species recorded by the California Department of Fish and Game in the California Natural Diversity Database in the five USGS quad sheets surrounding the Project Site (Half Moon Bay, San Mateo, Montara Mountain, San Francisco South, and Woodside) is presented in Appendix C. Special status species recorded as occurring within a two mile radius of the Project Site are presented in Appendix E.

Rana aurora draytonii (California red legged frog) is a federally threatened species. California red-legged frogs, including one adult and one sub-adult, were observed in the wetland near West Point Road on May 7, 1999. The California red legged frog inhabits lowlands or foothills that have a permanent source of deepwater habitat with 11-20 weeks of permanent water, dense shrubby or emergent riparian vegetation, and access to estivation habitat. The Project Site, a pair of continuously cropped agricultural fields, contains no suitable breeding, foraging, or escape habitat for the California red-legged frog, and provides little to no cover. Therefore, it is very unlikely that frogs are present on the site. However, the site is adjacent to wetlands that are contiguous with Pillar Point Marsh, where California red-legged frogs have been observed in the past. Therefore, the project site is potentially within the dispersal capabilities of the red-legged frog. This protected species is discussed in greater detail in Section IV.

Geothlypis trichas sinuosa (saltmarsh common yellowthroat) is a California Department of Fish and Game Species of Special Concern. Three breeding pairs were observed in a 1985 survey in Princeton Marsh, near the Project Site. Individuals or breeding pairs also were observed in 1988, 1989, and 1990, but not subsequently (CNDDDB). During the February 25, 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. However, a positive identification of the saltmarsh common yellowthroat was not possible, because other common yellowthroat subspecies (*G. t. arizela* and *G. t. occidentalis*) also occur in the Bay Area during winter and migration periods (Evens *et al.* 1997).

Accipiter striatus (sharp-shinned hawk) was observed flying over the Project Site. *Accipiter striatus* is on the watch list of the California Department of Fish and Game due to threats to nesting sites. *Ardea herodias* (great blue heron) was observed in the southwestern field on the Project Site. Great blue herons are a California Department of Forestry and Fire Protection "sensitive species." The Board of Forestry classifies as "sensitive species" those species that warrant special protection during timber operations.

In a biological resource assessment conducted in 2003, WRA observed two special status species - the white-tailed kite (*Elanus leucurus*) and the northern harrier (*Circus cyaneus*). The white-tailed kite forages in open stages of many habitat types, and nests in shrubs and trees adjacent to

grasslands. The northern harrier inhabits coastal salt- and freshwater marshes. It nests and forages in grasslands, usually nesting in shrubby vegetation on the marsh edge. These species are likely to occur on or adjacent to the Project Site.

Table 2. List of animal species observed on and adjacent to the Big Wave Project Site on February 25, 2008.

COMMON NAME	SCIENTIFIC NAME	OBSERVATION
Birds		
American crow	<i>Corvus brachyrhynchos</i>	Flying overhead
American kestrel	<i>Falco sparverius</i>	Perched on wire above field
Anna's hummingbird	<i>Calypte anna</i>	Foraging in adjacent willows
Black phoebe	<i>Sayornis nigricans</i>	Foraging in adjacent willows
Brewer's blackbird	<i>Euphagus cyanocephalus</i>	Perched on wire above field
Bushtit	<i>Psaltiriparus minimus</i>	Foraging in willows
Common yellowthroat	<i>Geothlypis trichas</i>	Foraging in adjacent willows
European starling	<i>Sturnus vulgaris</i>	Perched on wire above field
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>	Foraging in willows and field
Great blue heron	<i>Ardea herodias</i>	In field
Gull	<i>Larus sp.</i>	Flying overhead
House finch	<i>Carpodacus mexicanus</i>	Foraging in willows
House sparrow	<i>Passer domesticus</i>	Foraging in willows
Hutton's vireo	<i>Vireo huttoni</i>	Foraging in adjacent willows
Killdeer	<i>Charadrius vociferus</i>	In field
Mallard	<i>Anas platyrhynchos</i>	Flying overhead
Mourning dove	<i>Zenaida macroura</i>	Perched in adjacent willows
Purple finch	<i>Carpodacus pupureus</i>	Foraging in willows
Red-tailed hawk	<i>Buteo jamaicensis</i>	Flying overhead
Red-winged blackbird	<i>Agelaius phoeniceus</i>	Foraging/singing in adjacent willows
Ruby-crowned kinglet	<i>Regulus calendula</i>	Foraging in adjacent willows
Savannah sparrow	<i>Passercuus sandwichensis</i>	Foraging in willows
Sharp-shinned hawk	<i>Accipiter striatus</i>	Flying overhead
Song sparrow	<i>Melospiza melodia</i>	Foraging in adjacent willows
White crowned sparrow	<i>Zonotrichia leucophrys</i>	Foraging in willows/field
Mammals		
Coyote	<i>Canis latrans</i>	In field
Opossum	<i>Didelphis virginiana</i>	Tracks in mud
Raccoon	<i>Procyon lotor</i>	Tracks in mud
Amphibians		
Pacific treefrog	<i>Hyla regilla</i>	Heard calls

IV. POTENTIAL IMPACTS AND ASSOCIATED MITIGATION FOR SPECIAL STATUS SPECIES AND SENSITIVE HABITATS

For the purposes of this analysis, impacts were assessed based on a proposed project that includes development of the two upland fields and restoration of a 100-foot buffer around all waters/wetlands on the property. The development is assumed to include both residential and commercial space, as described in Part I. Waters/wetlands ecosystem restoration is assumed to include planting a native forest and scrub-shrub mosaic throughout the waters/wetlands buffer.

A. Wetlands

No direct impacts to wetlands will occur from the proposed project. A 100 foot set-back (buffer) required by the San Mateo County LCP for most commercial projects is indicated on site plan in Appendix F. Under the proposed alternative, this buffer will be restored to a native riparian forest.

B. Botanical

No special status plant species were observed during rare plant surveys on the Project Site. Therefore, no direct or indirect impacts are expected to occur to plant species of conservation concern.

C. Zoological

No direct impacts to or takings of special status species are expected to result from the proposed project. No sensitive wetland, freshwater, or terrestrial habitat is found at the Project Site. In-shore marine habitat is potentially impacted with the intake and return lines of the desalination plant, if this option is chosen, and discussed below.

Mitigation measures proposed for the near-shore environment (Big Wave 2009) with respect to the issue of salt water intake if the on-site desalination plant is chosen include the construction of the intake screen designed for low velocity so as not to trap small fish. It will also have a sufficient opening so as not to clog with algal growth. Mitigation measures for the brine include a discharge at a lower level than the intake in the same location, particularly in light of the tidal action of the harbor (700,000 gpm), resulting in undetectable/unmeasurable impacts. Additionally, the brine will be returned at a peak increase of 1.5 pounds of salt per minute, into a background salt concentration of 210,000 pounds of salt per minute tidal flow. This increase in salinity is calculated to be an increase of less than 0.0007% of background concentration, effectively resulting in an unmeasurable change in the Pillar Point Harbor waters.

Because the project has the potential to indirectly impact special status species, each species with a moderate potential to occur on the project site is addressed separately in detail below.

1. Allen's hummingbird (*Selasphorus sasin*)

Allen's hummingbird breeds in coastal lowlands along the Central Coast of California. It prefers coastal scrub shrub to discontinuously forested habitats. Allen's hummingbird is included on the Watch List for the Audubon Society, United States Bird Conservation Watch List, and World Conservation Union Species of Least Concern List (Department of Fish and Game 2008).

The proposed project may enhance potential habitat suitable for Allen's hummingbird through the restoration of the wetland and its buffer. However, urban development leading to increased human presence may have a detrimental effect on the habitat potential in the uplands. Existing plowed fields currently do not provide suitable habitat for the Allen's Hummingbird. Considering all these issues, no impacts to this species are expected to result from the proposed project.

2. American peregrine falcon (*Falco peregrinus anatum*)

The proposed project may have a beneficial impact to American peregrine falcon. The American peregrine falcon lives near wetlands, lakes, rivers, or other water with cliffs, dunes, banks, or human structures. The proposed project will increase vertical structure in the project area through proposed forest and scrub-shrub riparian restoration, providing perches from which to hunt, and potential nesting sites. No detrimental impacts to this species are expected to result from the proposed project.

3. California red-legged frog (*Rana aurora draytonii*)

a. Habitat requirements

The California red-legged frog is the largest native ranid in the western United States. It is distinguished by its red abdomen and underside hind legs, dark facial color, whitish jaw stripe, and dark dorsal spots and irregularly shaped marks. The California red-legged frog has rougher skin, smaller eyes, and shorter limbs than the northern red-legged frog (*Rana aurora aurora*) (Stebbins 1985), and the two species have different geographic ranges. The California red-legged frog ranges from Point Reyes National Seashore (Marin County, California) southward to northwest Baja California, Mexico, and inland to Redding (Shasta County, California) (Jennings and Hayes 1985, Stebbins 1985). The northern red-legged frog ranges from Vancouver Island, British Columbia (Canada) to Del Norte County (California) to the south (Stebbins 1985). Red-legged frogs found in the areas between the ranges of these two subspecies exhibit intergraded characteristics. Significant morphological and behavioral differences exist between the two subspecies, indicating that they may be two species in secondary contact (50 CFR Part 17 RIN 1018-AC 34).

The California red-legged frog has been eliminated from approximately 70% of its historic range by habitat loss, overharvesting, and predation by introduced species (Wright and Wright 1949, Jennings *et al.* 1992). The current known range of the California red-legged frog is restricted to the central California coast (from northern Marin County to southern Ventura County and inland

as far as eastern Sonoma County and western Los Angeles County) (50 CFR Part 17 RIN 1018-AC 34).

Common habitats of the California red-legged frog include stream borders, moist woods, forest clearings, and grasslands (Stebbins 1985). This species of frog is a “sit-and-wait” predator, feeding on insects, mammals, and other amphibians along shorelines. It requires both a permanent water source and structurally complex vegetation. This vegetation is necessary to support populations of insect prey as well as to create a mosaic of sun and shade along the shore, which aids in the frog’s camouflage (McGinnis 1995). Invertebrates are the most common food source of adult frogs, although larger individuals also prey on vertebrates such as the Pacific tree frog (*Hyla regilla*) and the California mouse (*Peromyscus californicus*) (Hayes and Tennant 1985).

The California red-legged frog’s breeding period lasts one to two weeks, and occurs between January and April (Stebbins 1985). Egg masses of 2,000 to 5,000 eggs are attached to emergent vegetation during or shortly after large rainfall events in late winter or early spring (Jennings *et al.* 1992, Hayes and Miyamoto 1984). Larvae emerge from the egg mass one to two weeks later and consume algae until they metamorphose into terrestrial adults after 3.5 to 7 months (Jennings 1988, Jennings and Hayes 1985). Sexual maturity occurs at 3 to 4 years of age and frogs can live up to 10 years (Jennings *et al.* 1992, Jennings and Hayes 1985).

A more complete description of the biology and habitat requirements of the California red-legged frog is available in the *Final Rule* listing of the California red-legged frog as threatened (50 CFR Part 17 RIN 1018-AC 34), and in the *Draft Recovery Plan for the California red-legged frog (Rana aurora draytonii)* (USFWS 2000).

The California red-legged frog requires both permanent water and complex vegetation structure to complete its life cycle, as described above. The Project Site includes no areas of permanent water. As an on-going and continuous agricultural operation, the site supports structural complexity of vegetation only at the interface of the property with the adjacent wetlands, and in remnant pockets of exotic upland vegetation near power line poles where plowing and disking are not practicable. Thus, suitable habitat for the frog is not present on the Project Site.

The proposed development project is not expected to have detrimental impacts to potential frog habitat. In the long term, it is WSP’s best professional judgment that the project will have beneficial effects on the California red-legged frog. Implementation of the riparian restoration design for the wetland buffer will result in increased functioning of native plant species and increased habitat structure, which in turn will result in a higher level of ecosystem functioning than exists within the currently degraded plant community.

b. Mitigation measures

Measures will be taken to avoid all potential impacts to frogs. While habitat for the California red-legged frog is lacking and frogs have not been observed on the Project Site, it is assumed to be within the frog’s dispersal capabilities. Therefore, the following measures will avoid, minimize, and mitigate for potential impacts to the frog as a result of the site development.

Sediment and erosion control protocols, such as straw bales, mirifi fencing toed below ground, daily inspect of barrier fencing, and worker sensitivity training will be implemented and/or maintained throughout the life of the project. Suitable frog habitat in wetlands adjacent to the Project Site will not be affected by construction or subsequent use of the Project Site.

4. San Francisco garter snake (*Thamnophis sirtalis tetrataenia*)

Thamnophis sirtalis tetrataenia (San Francisco garter snake) is a federally endangered species. The snake utilizes habitat in the vicinity of freshwater marshes, ponds and slow-moving streams in San Mateo County and extreme northern Santa Cruz County. It prefers dense cover and water depths of at least one foot (CNDDDB); ideal habitat includes adjacent upland habitat that provides areas for sunning, feeding, and cover. No snakes have been observed on or near the Project Site, and suitable habitat does not occur at the site. The closest known population at Denniston Creek declined to zero individuals (extirpation) by 1977 and has remained at that level since (WRA 2003). No impacts to this species are expected as a result of the proposed development.

5. Great blue heron (*Ardea herodias*)

The Great Blue Heron is listed on the California Department of Forestry and Fire Protection as a sensitive species because rookery sites must be protected during timber operations (California Department of Fish and Game 2008). The great blue heron is a wading bird that preys on fish, amphibians, and small mammals in shallow waters and grass fields. It nests in large shoreline trees in large colonies (rookeries). Great blue herons are common residents in the San Francisco Bay Area; however, rookery sites are not present on the Project Site. The agricultural fields do not provide foraging habitat, but the existing adjacent wetland, buffer, and nearby intermittent stream potentially do. The riparian restoration in the wetland buffer that is part of the proposed project may improve foraging habitat for *Ardea herodias*. No impacts to this species are expected as a result of the proposed development.

6. Long-eared owl (*Asio otus*)

The long eared owl inhabits riparian bottomlands of tall willows and cottonwoods, and live oak riparian forests paralleling stream courses. The long eared owl is listed by the California Department of Fish and Game as a Species of Special Concern. It requires adjacent open land for hunting mice and the presence of abandoned crow, hawk, or magpie nests for breeding. Habitat will improve in the existing adjacent wetland and buffer due to proposed waters/wetlands ecosystem restoration. However, development in agricultural fields will decrease potential foraging habitat and increase human presence. No significant detrimental impacts are expected from the proposed project.

7. Northern harrier (*Circus cyaneus*)

In 2003, WRA observed a northern harrier on the property, however none were observed during the 2008 survey. The northern harrier inhabits coastal salt- and freshwater marshes. It nests on the ground in dense (shrub) vegetation at the marsh edge; it forages in relatively more open grasslands. The proposed project may improve nesting and foraging habitat in the existing adjacent wetland and restored riparian buffer, but will not improve upland habitat functioning.

Suitable habitat for nesting may be present in the wetlands south of the property but not on the Project Site itself. No significant impacts are expected from development of the property, as the Project Site provides low functioning to non-existent nesting habitat and disturbance created by the airport and adjacent road.

8. Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*)

The saltmarsh common yellowthroat inhabits salt- and freshwater marshes with thick willow or grass cover down to water's edge. The saltmarsh common yellowthroat may be impacted positively by the proposed project as a result of the restoration of the riparian buffer. Conversely, no detrimental impacts to this species are expected due to the proposed project as no suitable breeding and foraging habitat exists within the area that will be impacted by the development.

9. Western pond turtle (*Actinemys marmorata*)

The western pond turtle is listed as a species of special concern by the California Department of Fish and Game. The western pond turtle has the potential to inhabit the intermittent stream adjacent to the Project Site, or other nearby pools, and use the existing adjacent wetland or restored riparian buffer for egg laying and basking. The proposed development will occur in agricultural uplands not likely used by the western pond turtle. The existing adjacent wetland and riparian buffer restoration will improve habitat that could be used by the turtle.

10. White-tailed kite (*Elanus leucurus*)

The white-tailed kite is listed as a fully protected species by the California Department of Fish and Game. The white-tailed kite forages in open habitats such as meadows, grasslands, or marshes, and nests and perches in nearby trees. The proposed project will improve foraging habitat in the existing adjacent wetland and restored riparian buffer, but may decrease habitat functioning in the upland area. Due to the close proximity of the airport and adjacent roads, nesting habitat on the project site is poor.

11. Sharp shinned hawk (*Accipiter striatus*)

Sharp-shinned hawk was observed flying over the Project Site in the 2008 survey. It is on the watch list of the California Department of Fish and Game due to threats to nesting sites. No suitable nesting habitat is present on the Project Site, and no impacts to this species are expected as a result of the proposed development.

V. REGULATORY CONTEXT

Special status plant and animal species are protected foremost under the federal Endangered Species Act (ESA) and the California Endangered Species Act. Special status plant species may be listed by the California Native Plant Society (CNPS) as rare, threatened, or endangered in California.

A. Federal Regulations

1. Federal Endangered Species Act

The federal Endangered Species Act of 1973 (ESA) designates and provides for protection of threatened and endangered plants and animals and their critical habitat. The purpose of the ESA is “. . . to provide a means whereby the ecosystems upon which endangered species and threatened species depend upon may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions...”. Federal listed species are addressed through two pathways in consultation with the U.S. Fish and Wildlife Service (USFWS): (1) Section 10 “Incidental Take Permit”, and (2) Section 7 “Consultation” (for projects with a federal nexus).

Section 10(a) includes situations where a non-federal government entity (with no “federal nexus”) will “take” or harm species protected under the ESA. A Section 10(a) Endangered Species Incidental Take Permit may be necessary when the “taking” or harming of a species is incidental to the lawful operation of a project.

Projects that have a federal nexus (*e.g.*, that are performed with federal funds, by a federal agency, or that require a CWA §404 permit) are obligated to show consistency with the provisions of §7. Section 7 requires interagency consultation to protect listed species. Under Section 7(a)(1) federal agencies are directed in consultation with the Service, to use their resources to further the purposes of the act. Section 7(a)(2) precludes federal agencies from authorizing, funding, or carrying out any activities that are likely to jeopardize the continued existence of any listed species or result in the adverse modification of critical habitat. Section 7 of the Endangered Species Act of 1973 is administered by the USFWS and the National Marine Fisheries Service. In the Section 7 process, the USFWS ultimately issues a final Biological Opinion on whether the project will affect the federally listed species.

2. Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the Fish and Game Code.

Enforcement of the Act is carried out by USFWS law enforcement officials, while California Fish and Game (CDFG) Codes are enforced by CDFG game wardens.

3. Federal Clean Water Act

Section 404 of the CWA requires authorization from the U.S. Army Corps of Engineers (COE) for the discharge of dredged or fill material into all waters of the U. S., including wetlands. The definition of waters of the United States includes wetland areas “that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3 7b) .There are approximately 0.46 acres of waters/wetlands under federal jurisdiction within the Big Wave Wellness Center and Office Park Project Site (WSP 2008). However, no wetlands will be impacted under the current plan for the proposed project.

Recent decisions in the U.S. Supreme Court (*i.e.*, Solid Waste Agency of Northern Cook County [SWANCC] v. United States Army Corps of Engineers (531 U.S. 159, 2001) January 9, 2001; Rapanos *et ux., et al.* v. United States, June 19, 2006) require a careful examination and documentation of the physical location(s) and hydrologic characteristics of waters/wetlands. Particular focus is given to surface hydrologic connections to “*navigable waters in fact*,” and thus a significant nexus to interstate commerce.

B. California State

1. California Endangered Species Act

Sections 2050 through 2085 of the Fish and Game Code detail the protection available for California’s rare, threatened and endangered species. 2080 of the Fish and Game Code prohibits “take” of any species that the commission determines to be an endangered species or a threatened species. Take is defined in §86 of the Fish and Game Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” CESA allows for take incidental to otherwise lawful development projects.

2. California Environmental Quality Act

The California Environmental Quality Act, made into law in 1970, requires state and local agencies to identify significant environmental impacts of their actions, and to avoid and mitigate those impacts where feasible (California Public Resource Code §§21000-21177). Depending upon the type and extent of the project, different level(s) of environmental analysis may be required, and make take the form of an Environmental Impact Report (EIR), Environmental Impact Statement (EIS), Negative Declaration (ND), or an Environmental Assessment (EA).

Under CEQA, a reduction in numbers of a rare or endangered species is considered a significant effect (Section 15065 “Mandatory Findings of Significance”).For the purposes of CEQA, special status species generally include:

- a. Species listed, proposed for listing, or candidate for listing as threatened or endangered under the federal ESA (listed wildlife under 50 CFR 17.11; listed plants under 50 CFR 17.11 or 17.12; candidates listed under 67 FR 40658; various notices in the Federal Register for proposed species);
- b. Species listed or proposed for listing by the State of California as threatened or endangered under the California ESA (California Code of Regulations, Title 14, Section 670.2 or 670.5);
- c. Fish and wildlife species listed by the CDFG as species of concern;
- d. Species protected by the Migratory Bird Treaty Act (MBTA) (U.S.C. 703-712; CH. 128; July 13, 1918; 40 Stat. 755, as amended);
- e. Plant species and populations designated as State Endangered, Threatened, and Rare through authority of the Native Plant Protection Act of 1977 (Fish and Game Code Section 1900 *et seq.*)
- f. Other species that meet the definitions of rare or endangered under the California Environmental Quality Act (Section 15380). Section 15380 of CEQA ("Endangered, Rare, or Threatened Species") allows consideration of unlisted, sensitive species as rare, threatened or endangered under CEQA if the species meets criteria for listing but is not currently listed. For example, unlisted plant species which are included on the California Native Plant Society's Lists 1A, 1B, and 2 would typically be considered under CEQA.

3. California Streambed Alteration Notification/Agreement

The California Department of Fish and Game administers §§1600-1607 of the Fish & Game Code. Sections 1600-1607 address any project that will "(1) divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake designated by the department [California Fish and Game] in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit, (2) use materials from the streambeds designated by the department, or (3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass in to any river, stream, or lake designated by the department" (Section 1601). A1600 series permit is required in any water or wetland with bed and bank features. The CDFG reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources.

4. California Fish and Game Code

Four sections (Sections 3511, 4700, 5050, and 5515) of the Fish and Game Code list 37 fully protected species. These statutes: (1) prohibit take or possession "at any time" of the species listed in the statute, with few exceptions, (2) state that "no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to "take" the species, and (3) state that no previously issued permits or licenses for take of the species "shall have any force or effect" for authorizing take or possession. CDFG cannot issue permits or licenses that authorize the "take" of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species.

Section 3513 of the California Fish and Game Code prohibits any take or possession of birds that are designated by the Migratory Bird Treaty Act (MBTA). Section 3503 which prohibits the

taking, possession, or needless destruction of the nest or eggs of any bird. Section 3503.5 prohibits the incidental take of unlisted raptors (the orders Falconiformes or Strigiformes) or the destruction of their nests or eggs.

5. Native Plant Protection Act

The California Department of Fish and Game administers §§1900-1913 of the Fish & Game code (Native Plant Protection Act of 1977). Sections 1900-1913 allow the state game commission to designate, preserve, protect, and enhance rare and endangered rare plant species, and to notify land owners of the presence of such species. Section 1907 also allows the commission to regulate the “taking, possession, propagation, transportation, exportation, importation, or sale of any endangered or rare native plants.” Section 1908 further directs that “. . . [n]o person shall import into this state, or take, possess, or sell within this state, except as incident to the possession or sale of the real property on which the plant is growing, any native plant, or any part or product thereof, that the commission determines to be an endangered native plant or rare native plant”.

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APPENDIX A

**Half Moon Bay, Pillar Point Region
Historical Topographic Maps**

**Appendix A:
Historic Maps of Pillar Point Harbor, San Mateo County, California**

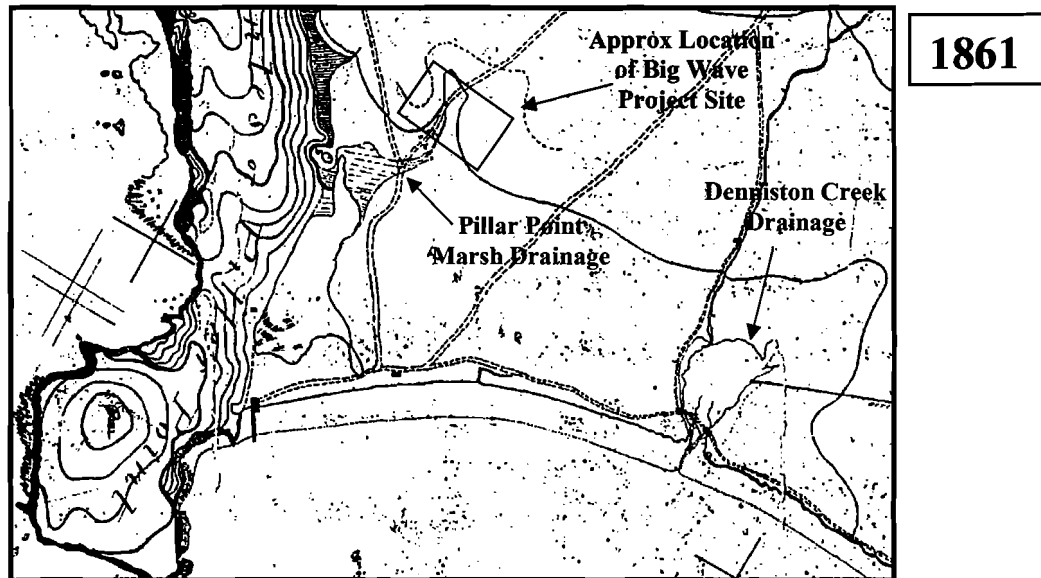


Figure A-1. 1861 Map of the Pillar Point Harbor Area. Note extensive fresh and estuarine wetlands in Pillar Point Marsh and Denniston Creek drainages. Pillar Point Marsh creek mouth is closed; Denniston Creek mouth is open. (Map Source: *Map of Part of the Coast of California in the Vicinity of Half Moon Bay*. U.S. Coast Survey. A.D. Bache Supt. 1861. Register 993. Scale 1:10,000).

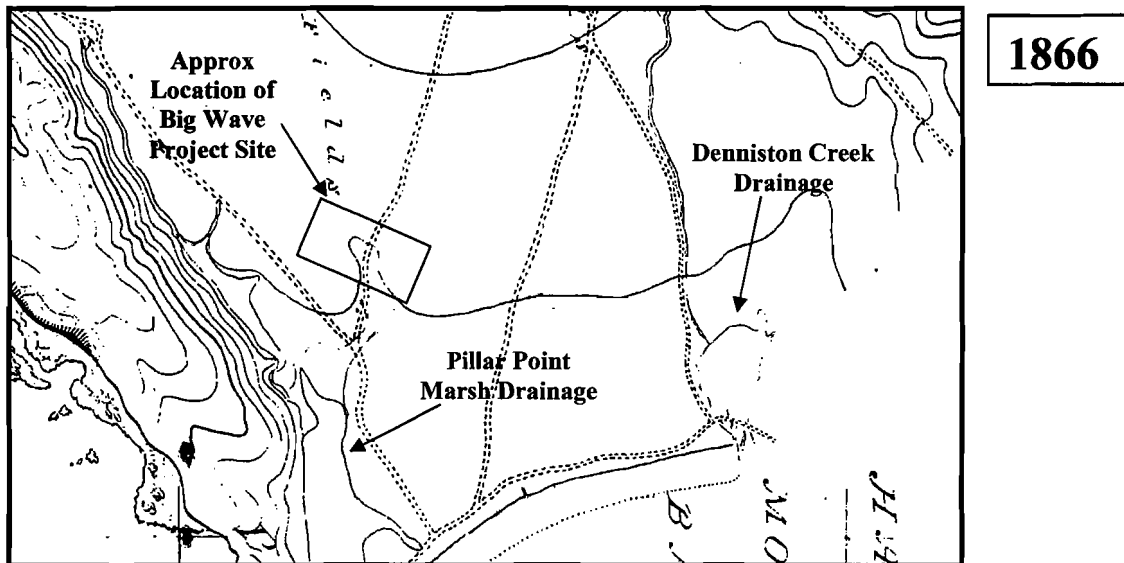


Figure A-2. 1866 Map of the Pillar Point Harbor Area. Extensive fresh and estuarine wetlands in Pillar Point Marsh and Denniston Creek drainages still persist. Pillar Point Marsh creek mouth is closed; Denniston Creek mouth is open. (Map Source: *Map of the Coast Between Pt. San Pedro and Pillar Pt.* U.S. Coast Survey. A.D. Bache Supt. Register 1019. Scale 1:10,000).



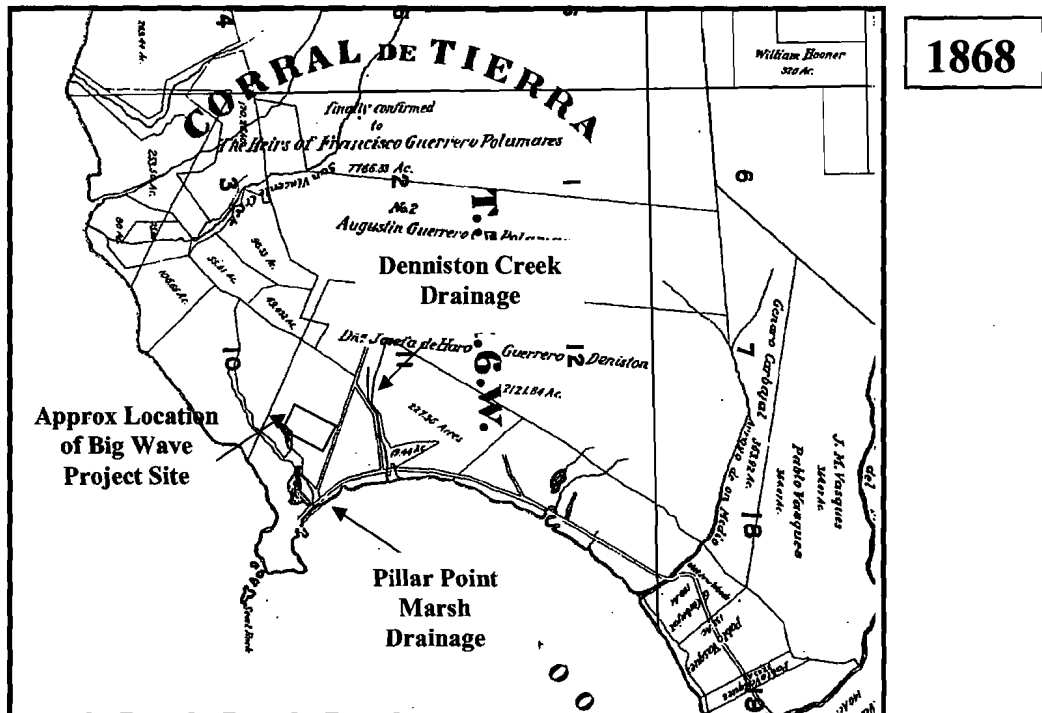


Figure A-3. 1868 Map of the Pillar Point Harbor Area. Extensive estuarine wetlands in lower Pillar Point Marsh drainage depicted, while Denniston Creek drainage estuary is no longer depicted. Mouths of both Pillar Point Marsh and Denniston creek mouths are open. (Map Source: *Map of the Coast Between Pt. San Pedro and Pillar Pt. U.S. Coast Survey. A.S. Easton, County Surveyor, SMC. Scale 40 chains \approx 0.75"*).

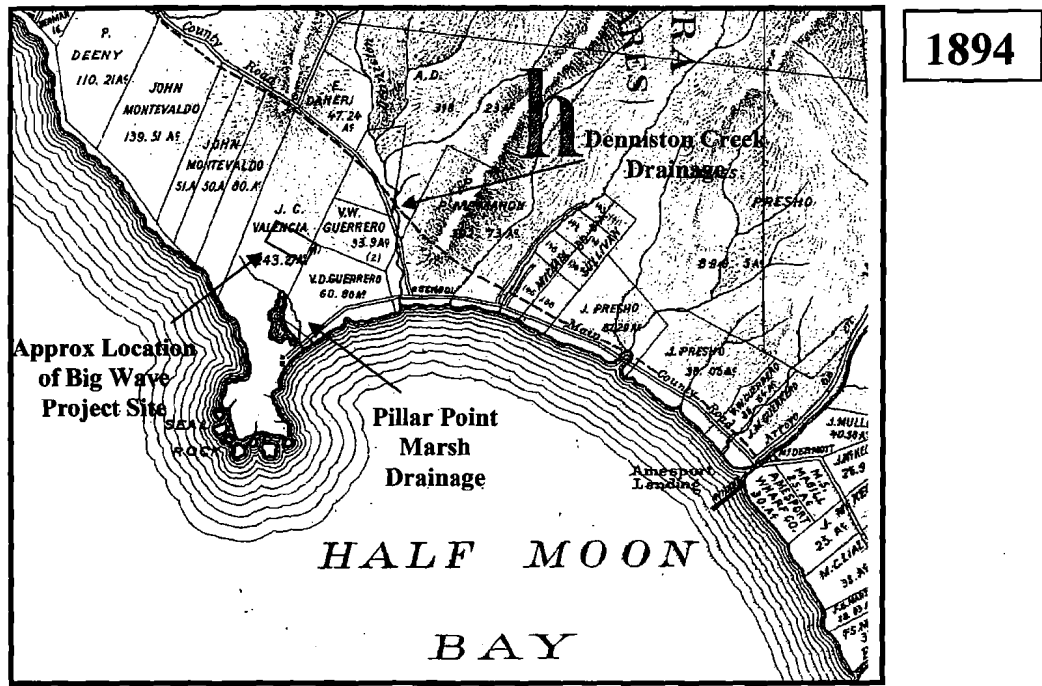


Figure A-4. 1894 Map of the Pillar Point Harbor Area. Extensive estuarine wetlands in lower Pillar Point Marsh drainage depicted, while Denniston Creek drainage estuary is no longer depicted. Mouths of both Pillar Point Marsh and Denniston creek mouths are open. (Map Source: *Coast I Subdivisions. Rancho Divisions of Land. Half Moon Bay May 1894. Scale unknown*).

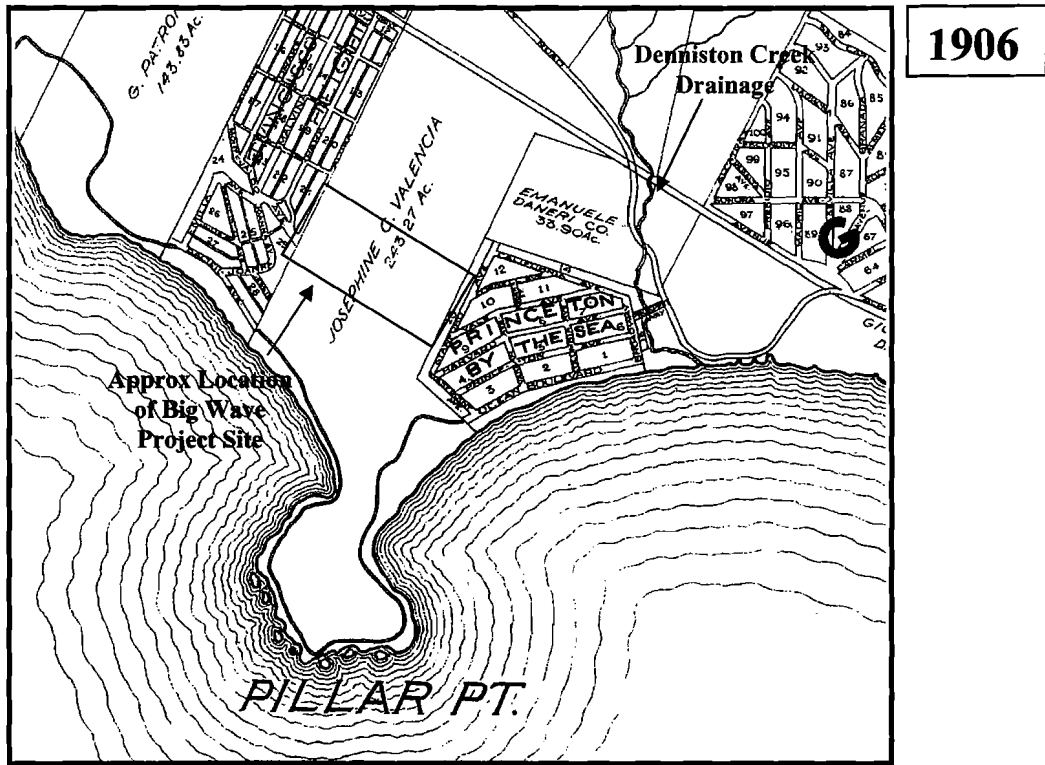


Figure A-5. 1906 Map of the Pillar Point Harbor Area. Pillar Point Marsh drainage not depicted, suggested extensive drainage and wetland loss. Denniston Creek drainage estuary is no longer depicted, mouth open. (Map Source: *Coral del Tierra. Half Moon Bay Feliz Ranch. 1906. Scale unknown*).

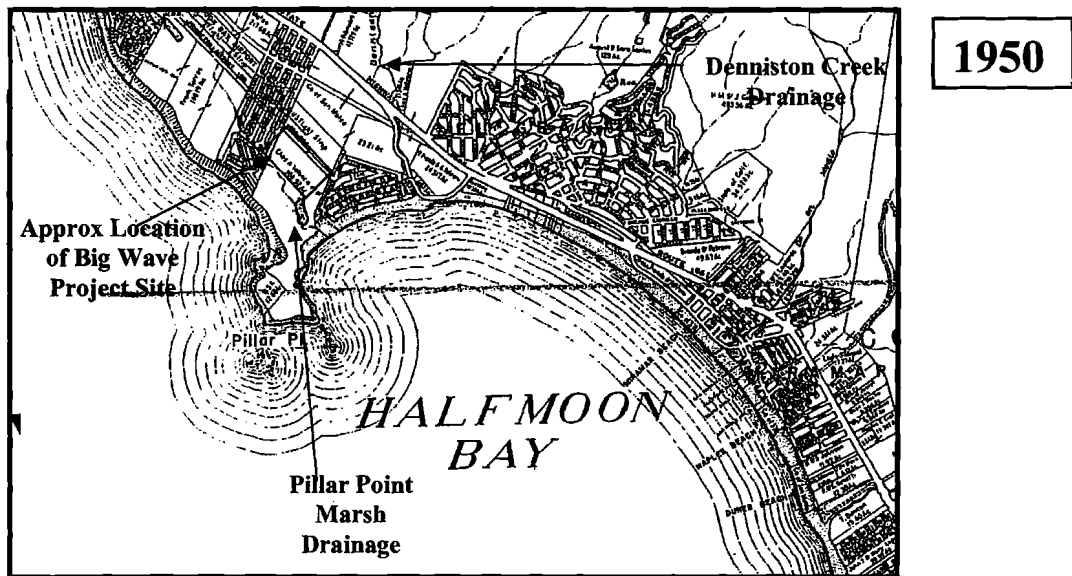
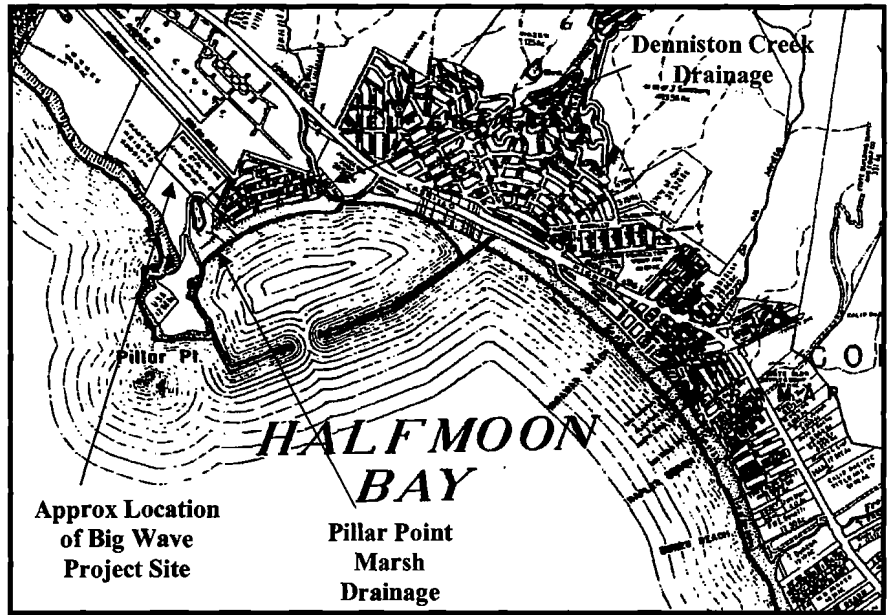


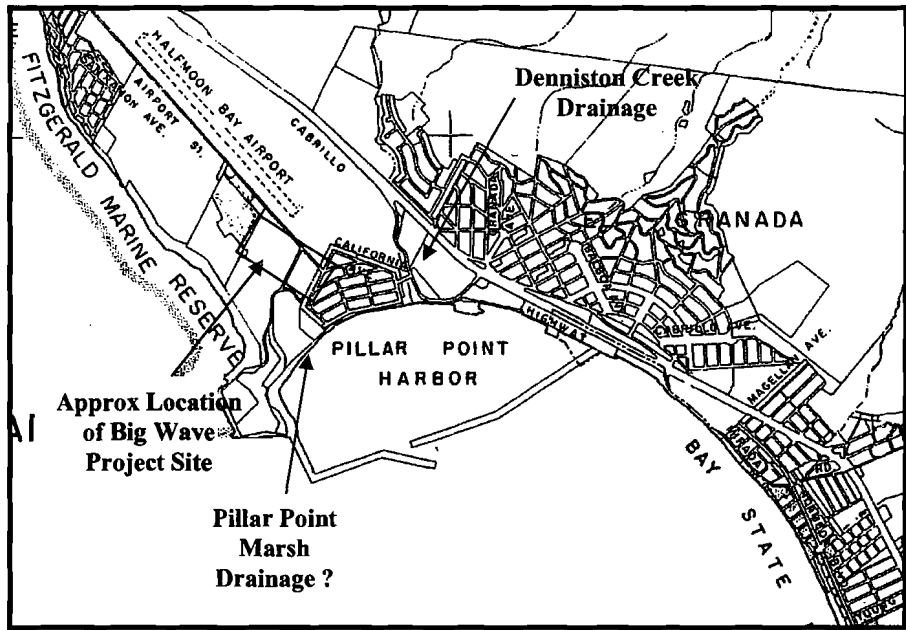
Figure A-6. 1950 Map of the Pillar Point Harbor Area. Pillar Point Marsh drainage now depicted, suggesting wetland gain. Denniston Creek drainage estuary clearly destroyed through urbanization. (Map Source: *Official Map of San Mateo County. June 1950. M.A. Grant, County Engineer & Road Commissioner. Scale 1" = 5,000 ft.*)





1960

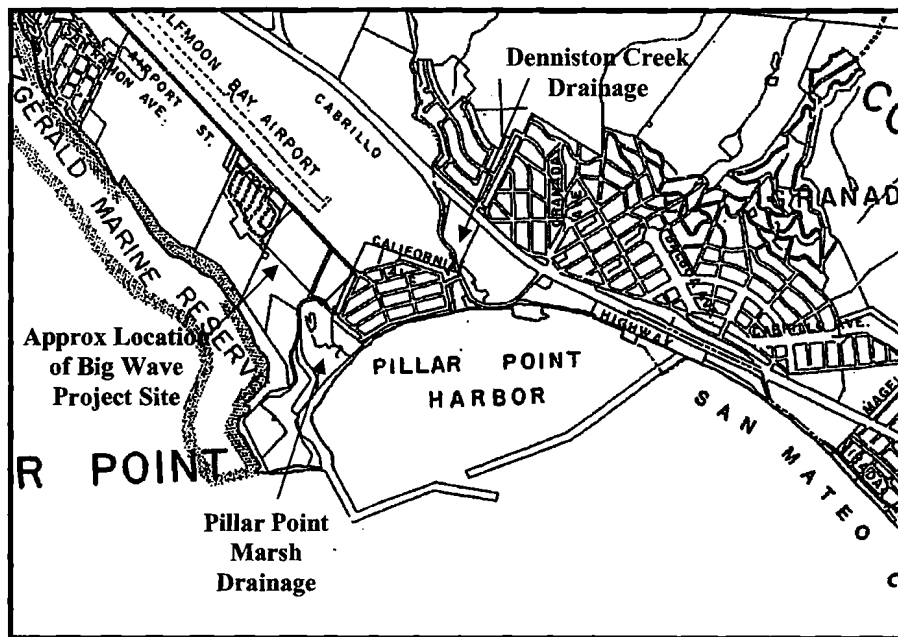
Figure A-7. 1960 Map of the Pillar Point Harbor Area. Pillar Point Marsh drainage and wetland continues to be depicted. Denniston Creek drainage estuary evident. Pillar Point Harbor breakwater now in place (Map Source: *Official Map of San Mateo County, 1960*. Scale 1" = 2,500 ft).



1973



Figure A-8. 1973 Map of the Pillar Point Harbor Area. Pillar Point Marsh drainage and wetland again no longer are depicted. Denniston Creek drainage evident. (Map Source: *County of San Mateo County, State of California 1973*. S.H. Cantwell, Jr. Scale 1" = 5,000 ft).



1988

Figure A-9. 1988 Map of the Pillar Point Harbor Area. Pillar Point Marsh drainage and wetland again depicted again. Denniston Creek drainage evident. (Map Source: County of San Mateo County, State of California 1988. R.L. Sans, Director of Public Works. Scale 1" = 5,000 ft).



APPENDIX B

**Partial Listing of Vascular Plant Species on and Adjacent to the
Big Wave Project Site**

Appendix B. Special status plant species recorded by the California Department of Fish and Game in the California Natural Diversity Database (Half Moon Bay, San Mateo, Montara Mountain, San Francisco South, and Woodside). (E = Endangered, T = Threatened, R = Rare)

Scientific Name	Common Name	Federal Status	State Status	CNPS Status	Likelihood of Occurrence
<i>Allium peninsulare</i> var. <i>franciscanum</i>	Franciscan onion			1B	Low Potential
<i>Amsinckia lunaris</i>	bent-flowered fiddleneck			1B	Low Potential
<i>Arctostaphylos andersonii</i>	Santa Cruz Mountains manzanita			1B	Low Potential
<i>Arctostaphylos hookeri</i> ssp. <i>franciscana</i>	Franciscan manzanita			1A	Low Potential
<i>Arctostaphylos hookeri</i> ssp. <i>ravenii</i>	Presidio manzanita	E	E	1B	Low Potential
<i>Arctostaphylos imbricata</i>	San Bruno Mountain manzanita		E	1B	Low Potential
<i>Arctostaphylos montaraensis</i>	Montara manzanita			1B	Low Potential
<i>Arctostaphylos pacifica</i>	Pacific manzanita		E	1B	Low Potential
<i>Arctostaphylos regismontana</i>	Kings Mountain manzanita			1B	Low Potential
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>	coastal marsh milk-vetch			1B	Low Potential
<i>Astragalus tener</i> var. <i>tener</i>	alkali milk-vetch			1B	Low Potential
<i>Carex comosa</i>	bristly sedge			2	Low Potential
<i>Centromadia parryi</i> ssp. <i>parryi</i>	pappose tarplant			1B	Low Potential
<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i>	San Francisco Bay spineflower			1B	Low Potential
<i>Chorizanthe robusta</i> var. <i>robusta</i>	robust spineflower	E		1B	Low Potential
<i>Cirsium andrewsii</i>	Franciscan thistle			1B	Low Potential
<i>Cirsium fontinale</i> var. <i>fontinale</i>	Crystal Springs fountain thistle	E	E	1B	Low Potential
<i>Cirsium occidentale</i> var. <i>compactum</i>	compact cobwebby thistle			1B	Low Potential
<i>Collinsia multicolor</i>	San Francisco collinsia			1B	Low Potential
<i>Cordylanthus maritimus</i> ssp. <i>palustris</i>	Point Reyes bird's-beak			1B	Low Potential
<i>Dirca occidentalis</i>	western leatherwood			1B	Low Potential
<i>Eriophyllum latilobum</i>	San Mateo woolly sunflower	E	E	1B	Low Potential
<i>Fritillaria biflora</i> var. <i>ineziana</i>	Hillsborough chocolate lily			1B	Low Potential
<i>Fritillaria liliacea</i>	fragrant fritillary			1B	Low Potential
<i>Gilia capitata</i> ssp. <i>chamissonis</i>	dune gilia			1B	Low Potential
<i>Grindelia hirsutula</i> var. <i>maritima</i>	San Francisco gumplant			1B	Low Potential

Appendix B (cont.)

Scientific Name	Common Name	Federal Status	State Status	CNPS Status	Likelihood of Occurrence
<i>Helianthella castanea</i>	Diablo helianthella			1B	Low Potential
<i>Hesperivax sparsiflora</i> var. <i>brevifolia</i>	short-leaved evax			2	Low Potential
<i>Hesperolinon congestum</i>	Marin western flax	T	T	1B	Low Potential
<i>Horkelia cuneata</i> ssp. <i>sericea</i>	Kellogg's horkelia			1B	Low Potential
<i>Horkelia marinensis</i>	Point Reyes horkelia			1B	Low Potential
<i>Leptosiphon croceus</i>	coast yellow leptosiphon			1B	Low Potential
<i>Leptosiphon rosaceus</i>	rose leptosiphon			1B	Low Potential
<i>Lessingia arachnoidea</i>	Crystal Springs lessingia			1B	Low Potential
<i>Lessingia germanorum</i>	San Francisco lessingia	E	E	1B	Low Potential
<i>Malacothamnus aboriginum</i>	Indian Valley bush-mallow			1B	Low Potential
<i>Malacothamnus arcuatus</i>	arcuate bush-mallow			1B	Low Potential
<i>Malacothamnus davidsonii</i>	Davidson's bush-mallow			1B	Low Potential
<i>Malacothamnus hallii</i>	Hall's bush-mallow			1B	Low Potential
<i>Pentachaeta bellidiflora</i>	white-rayed pentachaeta	E	E	1B	Low Potential
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i>	Choris' popcorn-flower			1B	Low Potential
<i>Potentilla hickmanii</i>	Hickman's cinquefoil	E	E	1B	Low Potential
<i>Sanicula maritima</i>	adobe sanicle		R	1B	Low Potential
<i>Silene verecunda</i> ssp. <i>verecunda</i>	San Francisco campion			1B	Low Potential
<i>Trifolium depauperatum</i> var. <i>hydrophilum</i>	saline clover			1B	Low Potential
<i>Triphysaria floribunda</i>	San Francisco owl's-clover			1B	Low Potential
<i>Triquetrella californica</i>	coastal triquetrella			1B	Low Potential

APPENDIX C

**Special Status Animal Species Recorded by the
California Department of Fish and Game for the
Big Wave Project Site**

Appendix C. Special status animal species recorded by the California Department of Fish and Game in the California Natural Diversity Database (Half Moon Bay, San Mateo, Montara Mountain, San Francisco South, and Woodside quadrangles). (E = Endangered, T = Threatened, D = Delisted, SC = Species of Concern.)

Scientific Name	Common Name	Federal Status	State Status	CDFG Status	Likelihood of Occurrence	Typical habitat	Rationale on potential for occurrence
Mammals							
<i>Antrozous pallidus</i>	pallid bat			SC	Low Potential	Occurs in dry open areas with rocky areas for roosting; sensitive to roost disturbance	No suitable roost habitat on site; potential habitat for foraging.
<i>Lasiurus cinereus</i>	hoary bat			SC	Low Potential	Open habitat, or habitat mosaics with access to large trees for roosting and water.	No suitable roost habitat on site; potential for foraging.
<i>Neotoma fuscipes annectens</i>	San Francisco dusky-footed woodrat			SC	Low Potential	Forested habitats such as chaparral and redwood habitats. Uses shredded grass and leaves for nesting material; availability of nesting material may be limiting.	Potential utilization of willow riparian areas and scrub habitat on site.
<i>Nyctinomops macrotis</i>	big free-tailed bat			SC	Low Potential	Low lying relatively rocky arid areas.	No suitable roost habitat on site.
<i>Reithrodontomys raviventris</i>	salt-marsh harvest mouse	E	E		Low Potential	Saline emergent wetlands containing pickleweed, which it uses for nesting.	No suitable habitat on site.
<i>Taxidea taxus</i>	American badger			SC	Low Potential	Drier open stages of shrub, forest, and herbaceous habitats with friable soils.	Badgers do not survive in cultivated land.
Reptiles and Amphibians							
<i>Actinemys marmorata</i>	western pond turtle			SC	Moderate Potential	Aquatic; inhabits ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires grassy upland fields or sandy banks for egg-laying and basking.	Potential utilization of intermittent stream on site.
<i>Ambystoma californiense</i>	California tiger salamander	T		SC	Low Potential	Low elevation vernal pools for breeding, and underground refuge habitats such as ground squirrel burrows.	No suitable breeding habitat on site.
<i>Rana aurora draytonii</i>	California red-legged frog	T		SC	Moderate Potential	Requires deepwater habitat with 11-20 weeks of permanent water and dense shrubby or emergent riparian vegetation.	May utilize intermittent creek on site.
<i>Thamnophis sirtalis tetrataenia</i>	San Francisco garter snake	E	E		Low Potential	Freshwater marshes, ponds, and streams, with dense cover and water depths greater than one foot in San Mateo and northern Santa Cruz counties.	The Project Site is beyond the southern extent of the snake's typical range.

Appendix C (cont.)

Scientific Name	Common Name	Federal Status	State Status	CDFG Status	Likelihood of Occurrence	Typical habitat	Rationale on potential for occurrence
Birds							
<i>Charadrius alexandrinus nivosus</i>	western snowy plover	T		SC	Low Potential	Sandy beaches of alkali lakes, salt pond shores and levees. They require sandy, gravelly, or friable soils for nesting.	Very sensitive to human disturbance; no documented occurrences in the vicinity of the Project Site.
<i>Falco peregrinus anatum</i>	American peregrine falcon	D	E		Moderate Potential	Near wetlands, lakes, rivers, or other water with cliffs, dunes, banks, or human structures.	Potential utilization of the site for foraging. There may be insufficient vertical structure for nesting on site.
<i>Geothlypis trichas sinuosa</i>	saltmarsh common yellowthroat			SC	Moderate Potential	Salt and freshwater marshes in the San Francisco Bay region. Requires thick cover down to water, such as tall grasses and willows.	Suitable habitat on site.
<i>Laterallus jamaicensis coturniculus</i>	California black rail		T		Low Potential	Inhabits freshwater marshes, wet meadows, and the shallow borders of saltwater marshes.	Requires permanent water depths of about one inch and dense vegetation for nesting.
<i>Melospiza melodia pusillula</i>	Alameda song sparrow			SC	Low Potential	Salt marshes bordering south arm of San Francisco Bay. Resides in pickleweed and <i>Grindelia</i> .	No suitable habitat on site.
<i>Phalacrocorax auritus</i>	double-crested cormorant			SC	Low Potential	Coastal cliffs, offshore islands, and along lake margins.	No suitable habitat on site.
<i>Rallus longirostris obsoletus</i>	California clapper rail	E	E		Low Potential	Saltwater and brackish marshes traversed by tidal sloughs in the San Francisco Bay area. Associated with pickleweed, but also feeds on invertebrates in mud-bottomed sloughs.	Pickleweed and saltwater or brackish marshes are not present on site.
<i>Riparia riparia</i>	bank swallow		T		Low Potential	Nests on cliffs and banks near riparian and lowland habitats west of the desert.	Potential for foraging; no suitable nesting habitat on site.
Fishes							
<i>Eucyclogobius newberryi</i>	tidewater goby	E		SC	Low Potential	Brackish water habitats along the coast. May use lower reaches of streams with slow moving, highly oxygenated streams.	No suitable aquatic habitat on site.
<i>Oncorhynchus mykiss irideus</i>	steelhead - Central California Coast ESU	T			Low Potential	Adults spawn in cool streams with clean gravels and cobbles. Juveniles reside in streams for one or more years.	No suitable aquatic habitat on site.

Appendix C (cont.)

Scientific Name	Common Name	Federal Status	State Status	CDFG Status	Likelihood of Occurrence	Typical habitat	Rationale on potential for occurrence
Butterflies							
<i>Callophrys mossii bayensis</i>	San Bruno elfin butterfly	E			Low Potential	Coastal mountainous areas, with colonies located on steep, north facing slopes along the fog belt with grassy ground cover.	No suitable habitat on site; the site does not have steep north facing slopes.
<i>Euphydryas editha bayensis</i>	Bay checkerspot butterfly	T			Low Potential	Native grasslands in the vicinity of San Francisco Bay, utilizing <i>Plantago erecta</i> , <i>Orthocarpus densiflorus</i> , and <i>O. purpurescens</i> .	No suitable host plants were observed on site.
<i>Plebejus icarioides missionensis</i>	Mission blue butterfly	E			Low Potential	Inhabits grasslands of the San Francisco peninsula, utilizing three larval host plants: <i>Lupinus albifrons</i> , <i>L. variicolor</i> , and <i>L. formosus</i> .	Located south of typical range, no suitable host plants observed on site.
<i>Speyeria callippe callippe</i>	callippe silverspot butterfly	E			Low Potential	Restricted to northern coastal scrub of the San Francisco peninsula.	Project site is located outside of the species' range.
<i>Speyeria zerene myrtilae</i>	Myrtle's silverspot	E			Low Potential	Restricted to the foggy coastal dunes of the Point Reyes Peninsula, using <i>Viola adunca</i> as a larval food plant.	Project site is located outside of the species' range and no suitable host plants were observed.

APPENDIX D

**Partial Listing of Vascular Plant Species on and Adjacent to the
Big Wave Project Site**

Appendix D. Partial listing of plants observed on and adjacent to the Big Wave Project Site (2007-2008).

Stratum	Common Name	Scientific Name	WIS	Project Site	Adjacent Wetlands
Tree/Shrub					
	Monterey pine	<i>Pinus radiata</i>	NL	X	
	arroyo willow	<i>Salix lasiolepis</i>	FACW	X	X
	Sitka willow	<i>Salix sitchensis</i>	FACW	X	X
Shrub					
	Douglas' baccharis	<i>Baccharis douglasii</i>	OBL		X
	coyote brush	<i>Baccharis pilularis</i>	NL	X	X
	red osier dogwood	<i>Cornus sericea</i> ssp. <i>sericea</i>	FACW		X
	cotoneaster	<i>Cotoneaster pannosa</i>	NL		X
Vine					
	cape ivy	<i>Delairea odorata</i>	NL	X	X
	passion flower	<i>Passiflora coerulea</i>	NL	X	
	Passiflora cult. "Jamesonii"	<i>Passiflora</i> sp.	NL	X	
	California blackberry	<i>Rubus ursinus</i>	FAC+	X	X
Herb					
	yarrow	<i>Achillea millefolia</i>	FACU	X	X
	scarlet pimpernel	<i>Anagallis arvensis</i>	FAC	X	X
	California aster	<i>Aster chilensis</i>	FAC	X	X
	slender wild oats	<i>Avena barbata</i>	NL	X	
	wild oat	<i>Avena fatua</i>	NL	X	
	Mediterranean linseed	<i>Bellardia trixago</i>	NL	X	X
	black mustard	<i>Brassica nigra</i>	NL	X	X
	broccoli	<i>Brassica oleracea</i>	NL	X	
	field mustard	<i>Brassica rapa</i>	NL	X	X
	rescuegrass	<i>Bromus catharticus</i>	NL	X	
	ripgut brome	<i>Bromus diandrus</i>	NI	X	
	soft chess	<i>Bromus hordeaceus</i>	FACU-	X	
	redmaids	<i>Calandrinia ciliata</i>	FACU*	X	X
	shepherd's purse	<i>Capsella bursa-pastoris</i>	FAC-	X	X
	milk maids	<i>Cardamine californica</i>	UPL*	X	X
	bitter cress	<i>Cardamine oligosperma</i>	FACW	X	X
	Italian thistle	<i>Carduus pycnocephalus</i>	NL	X	
	slough sedge	<i>Carex obnupta</i>	OBL		X
	mouseear chickweed	<i>Cerastium glomeratum</i>	NL	X	X

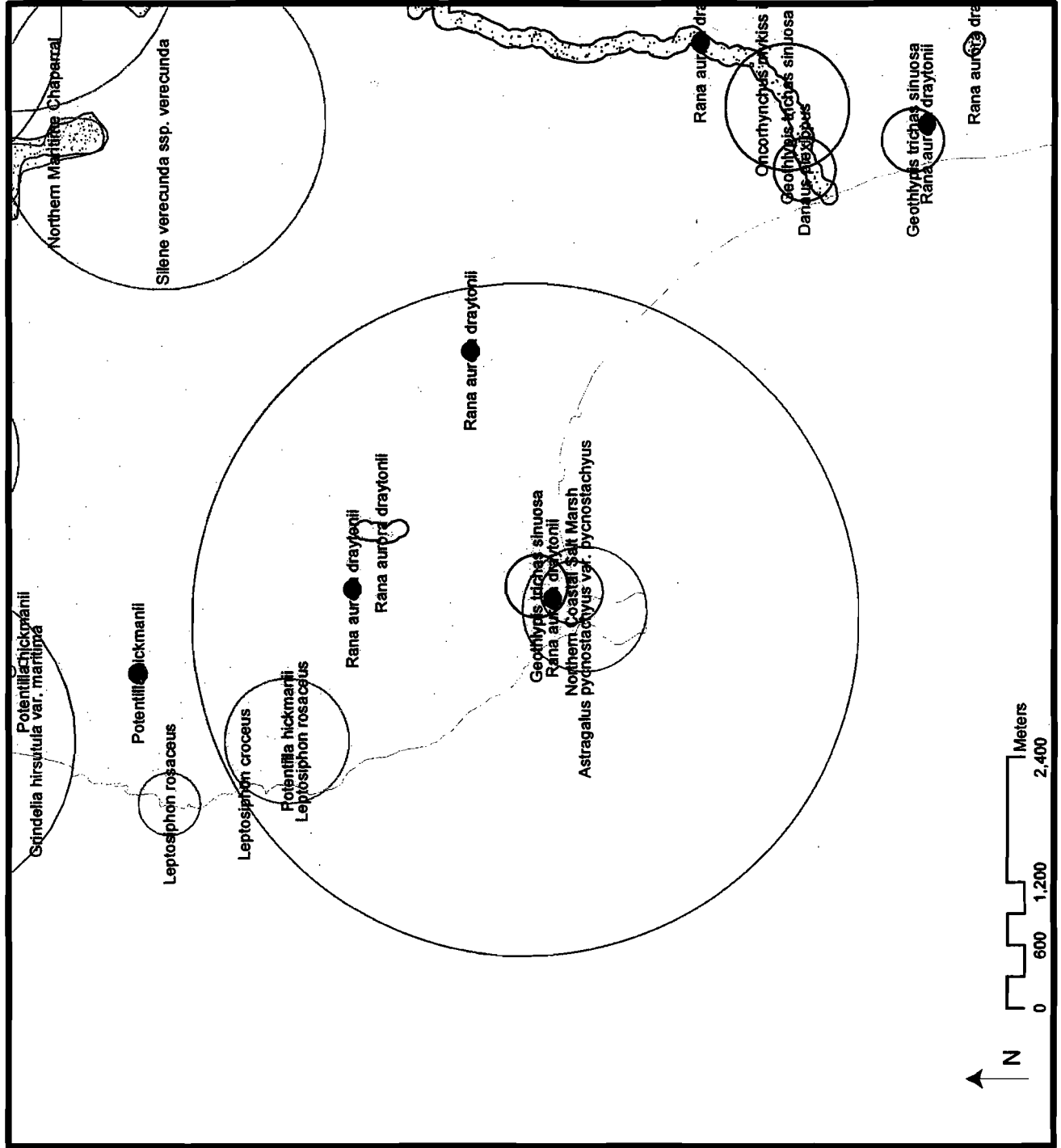
Herb, continued	Common Name	Scientific Name	WIS	Project Site	Adjacent Wetlands
	lamb's quarters	<i>Chenopodium album</i>	FAC	X	
	bull thistle	<i>Cirsium vulgare</i>	FACU	X	
	poison hemlock	<i>Conium maculatum</i>	FACW	X	X
	cotoneaster	<i>Cotoneaster pannosa</i>	NL		X
	umbrella sedge	<i>Cyperus eragrostis</i>	FACW	X	X
	orchard grass	<i>Dactylis glomerata</i>	FACU	X	X
	hairy willow-herb	<i>Epilobium ciliatum</i>	FACW		X
	giant horsetail	<i>Equisetum telmateia</i> ssp. <i>braunii</i>	OBL	X	X
	California poppy	<i>Eschscholzia californica</i>	NL	X	
	petty spurge	<i>Euphorbia pepus</i>	NL	X	
	fennel	<i>Foeniculum arvense</i>	FACU	X	X
	white ramping fumitory	<i>Fumaria capreolata</i>	NL	X	
	drug fumitory	<i>Fumaria officinalis</i>	NL	X	
	bedstraw	<i>Galium aparine</i>	FACU	X	X
	cutleaf geranium	<i>Geranium dissectum</i>	NL	X	
	dove's foot geranium	<i>Geranium molle</i>	NL	X	
	common velvet grass	<i>Holcus lanatus</i>	FAC	X	X
	Mediterranean barley	<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	FAC	X	X
	mouse barley	<i>Hordeum marinum</i> ssp. <i>leporinum</i>	NI	X	
	hairy cat's ear	<i>Hypochaeris radicata</i>	FACU	X	X
	bog rush	<i>Juncus effusus</i> var. <i>brunneus</i>	OBL		X
	salt rush	<i>Juncus lesueurii</i>	FACW		X
	spreading rush	<i>Juncus patens</i>	FAC		X
	henbit	<i>Lamium amplexicaule</i>	NL	X	X
	Cornish mallow	<i>Lavatera cretica</i>	NL	X	
	sweet alyssum	<i>Lobularia maritima</i>	NL	X	
	Italian rye-grass	<i>Lolium multiflorum</i>	FAC*	X	X
	twinberry	<i>Lonicera involucrata</i>	FAC		X
	floating water primrose	<i>Ludwigia peploides</i>	OBL		X
	lupine	<i>Lupinus</i> sp. (cult.)	NL	X	
	loosestrife	<i>Lythrum hyssopifolia</i>	FACW	X	X
	bull mallow	<i>Malva nicaeensis</i>	NL	X	
	cheeseweed	<i>Malva parviflora</i>	NL	X	
	pineapple weed	<i>Matricaria matricarioides</i>	FACU	X	X
	bur clover	<i>Medicago polymorpha</i>	NL	X	

Herb, continued	Common Name	Scientific Name	WIS	Project Site	Adjacent Wetlands
	field mint	<i>Mentha arvensis</i>	FACW		X
	water parsley	<i>Oenanthe sarmentosa</i>	OBL	X	X
	Bermuda buttercup	<i>Oxalis pes-caprae</i>	NL	X	
	harding grass	<i>Phalaris aquatica</i>	FAC+	X	X
	bristly ox-tongue	<i>Picris echioides</i>	FAC*	X	X
	cut leaf plantain	<i>Plantago coronopus</i>	FAC	X	X
	English plantain	<i>Plantago lanceolata</i>	FAC-	X	X
	annual bluegrass	<i>Poa annua</i>	FACW-	X	
	swamp knotweed	<i>Polygonum amphibium</i> var. <i>emersum</i>	OBL		X
	dotted smartweed	<i>Polygonum punctatum</i>	OBL		X
	rabbit's-foot grass	<i>Polypogon monspeliensis</i>	FACW+	X	X
	western sword fern	<i>Polystichum munitum</i>	FACU		X
	silverweed	<i>Potentilla anserina</i> ssp. <i>pacifica</i>	OBL		X
	wild radish	<i>Raphanus sativa</i>	NI*	X	
	sheep sorrel	<i>Rumex acetosella</i>	FAC-	X	
	curly dock	<i>Rumex crispus</i>	FACW-	X	X
	bitter dock	<i>Rumex obtusifolius</i>	FACW	X	X
	willow leaved dock	<i>Rumex salicifolia</i>	OBL	X	X
	California bulrush	<i>Schoenoplectus</i> <i>californicus</i>	OBL		X
	panicled bulrush	<i>Scirpus microcarpus</i>	OBL		X
	common groundsel	<i>Senecio vulgaris</i>	NI*	X	
	pricky sowthistle	<i>Sonchus asper</i>	FAC	X	X
	common sow thistle	<i>Sonchus oleraceus</i>	NI*	X	X
	bur reed	<i>Sparganium eurycarpum</i> ssp. <i>eurycarpum</i>	OBL		X
	corn spurrey	<i>Spergula arvensis</i>	NL	X	X
	common chickweed	<i>Stellaria media</i>	FACU	X	X
	tumbling mustard	<i>Sisymbrium altissimum</i>	NL	X	
	common dandelion	<i>Taraxacum officinale</i>	FACU	X	X
	nasturtium	<i>Tropaeolum majus</i>	NL	X	
	narrow-leaved cattail	<i>Typha angustifolia</i>	OBL		X
	stinging nettle	<i>Urtica dioica</i>	FACW		X
	bird's eye speedwell	<i>Veronica persica</i>	NL	X	X
	common vetch	<i>Vicia sativa</i>	FACU	X	
	periwinkle	<i>Vinca major</i>	NL	X	
	brome fescue	<i>Vulpia bromoides</i>	FACW	X	
	Calla lily	<i>Zantedeschia aethiopica</i>	OBL		X

APPENDIX E

**Special Status Species Observed Within a 2-Mile Radius of the
Big Wave Project Site**

Species of concern previously recorded near the Big Wave Project Site (CNDDDB 2008)



APPENDIX F

Site Plan for the Big Wave Project Site

