



CITIZENS COMMITTEE TO COMPLETE THE REFUGE

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Lieutenant Colonel John C. Morrow, Commander

US Army Corps of Engineers

San Francisco District

1455 Market Street

San Francisco, CA 94103-1398

Email: Janelle.D.Leeson@usace.army.mil

Attn: Janelle D. Leeson

July 15, 2016

Re: Public Notice (PN) 2012-00093S Collier Creek Mitigation and Conservation Bank

Dear Commander Morrow,

This responds to Public Notice regarding a proposal to establish a mitigation bank for permanent and temporary impacts to waters of the U.S. and a species conservation bank in an area located along the border of Alameda-Contra Costa Counties. The proposed mitigation bank is located near the intersection of Manning and Highland Roads and is approximately 188.62 acres in size.

The proposed site is described as being "predominately actively grazed grassland habitat occurring on level flats, moderately steep hillslopes, and ridgelines." The Eagle Ridge Preserve is located to the south, the Cayetano Creek Preserve is located to the west, and agricultural lands border the rest of the site.

The project proponent proposes to preserve 159.11 acres of grasslands and uplands that provide habitat for special status species (it is unclear whether or not a full list of species has been provided), 0.56 acres of ephemeral drainage, rehabilitation of 0.24 acres of perennial drainage, and the establishment of 15.78 acres of seasonal wetlands.

The description of the potential project impacts is limited to a single sentence:

Project impacts from the proposed Bank construction may include temporary and permanent discharge of fill into Cayetano Creek, Collier Creek, and abutting and adjacent wetlands.

We are appalled by the lack of substantive information provided within this Public Notice.

The Public Notice:

- fails to state the extent of, or provide a jurisdictional map of, Section 404 Clean Water Act jurisdiction or include cross sections of the creek adjacent to proposed wetlands creation,
- fails to provide any indication of the quantitative extent of direct impacts proposed in waters of the U.S.,
- fails to provide any information that could allow the public to ascertain the likelihood of success for the creation of 15.78 acres of wetlands in uplands, or whether the proposed creation of wetlands could adversely impact existing on-site or off-site waters of the U.S.
- provides no indication of how the rehabilitation or creation of waters of the U.S. would be undertaken,
- states that the federally *threatened* (not endangered) Central Valley Distinct Population Segment of the California tiger salamander (CTS) (*Ambystoma californiense*) and federally threatened California red-legged

frog (CRLF) (*Rana aurora draytonii*) are known to occur on the site, but provides no indication of the known locations in relation to the proposed work,

- fails to indicate what species may currently utilize the site besides the federally listed species (only California tiger salamander, California red-legged frog, San Joaquin kit fox, and Burrowing Owl are mentioned in the PN),
- fails to provide any indication of standards by which “success” of the proposed seasonal wetland creation would be measured or what reference sites have been selected,
- fails to provide maps that indicate the service areas for waters of the U.S. or special status species that would be covered by the proposed bank.

We question why a public notice has been issued as the application for the proposed mitigation bank does not appear to be complete. 33 C.F.R. 325.1 (d) requires that the application “must include a complete description of the proposed activity including necessary drawings, sketches, or plans sufficient for public notice.” How can an application be deemed complete without crucial information such as whether there will be any fill placed in waters of the U.S., where the fill will be placed, or the extent of fill proposed?

Furthermore, 33 C.F.R. 325.3 (a)(5) states a PN should include:

A brief description of the proposed activity, its purpose and intended use, so as to provide sufficient information concerning the nature of the activity to generate meaningful comments, including a description of the type of structures, if any, to be erected on fills or pile or float-supported platforms, and a description of the type, composition, and quantity of materials to be discharged or disposed of in the ocean; [emphasis added]

And § 325.3 (a)(6) requires:

A plan and elevation drawing showing the general and specific site location and character of all proposed activities, including the size relationship of the proposed structures to the size of the impacted waterway and depth of water in the area; [emphasis added]

Clearly, the information provided in this public notice does not meet the standards required by Corps regulations, nor does it meet the requirements of a complete permit application. If in fact information has been provided to the Corps, it should have been included within the PN.

The current public notice is disappointingly inconsistent with the level of detail provided in other Corps public notices for proposed mitigation banks. The public notice for PN 08-00046S The Preserve at Redwood Shores, now known as the San Francisco Bay Wetlands Mitigation Bank [PN attached], provides an example of what has been released in the past. The PN for that mitigation bank provided sufficient information for the public to discern the extent of impacts that would occur in waters of the U.S., the types of activities that were proposed to accomplish tidal marsh restoration, the approximate location of activities that were anticipated, and enabled the public to provide meaningful comment regarding potential adverse impacts to waters of the U.S. and special status species with the goal of reducing adverse impacts to those resources.

We urge the Corps to suspend this public notice process and circulate a revised public notice that will address the deficiencies noted above. The lack of even the most basic of information thwarts the public’s ability to understand the extent of impacts to waters of the U.S. both direct and indirect, and renders impossible our ability to provide substantive comments. If this information has already been made available to the Corps, the Corps has failed to meet the standard of its regulations as described above and the PN should be re-circulated with the missing information. If the applicant has not provided the Corps with the information described within

this letter, the proposed mitigation bank authorization must be denied, to do otherwise would be an arbitrary and capricious decision.

Proposed Mitigation Bank:

The project description states the objectives of the project are to:

- improve retention and release of overland flow through natural flow channels and pools,
- preserve and or increase the local populations of special status species,
- design seasonal wetlands to mimic the functions and values of wetlands found at the agency approved reference site (the PN does not disclose where the reference site is located),
- design all wetlands to have natural long term hydrologic sustainability,
- establish seasonal wetlands and seasonal ponds on previously degraded land,
- maintain food webs by increasing the availability of suitable foraging and breeding habitat for onsite rodents and burrowing owls,
- establish and rehabilitate wetlands in the landscape in a form that will support breeding and non-breeding special status species,
- establish riparian woodland habitat,
- maintain regional and landscape biodiversity,
- and assist in meeting defined recovery goals for special status species that are known to occur in the area.

These are certainly worthy goals, but what is missing is a description of how these objectives will be accomplished beyond the three sentences provided in the PN:

Seasonal wetland, swale, and pond establishment is proposed for the valley floor along both creek channels. These features would be created by excavating and grading in upland areas. To reduce infiltration, compaction of the existing clay layer would occur. Riparian habitat enhancement and establishment would take place along the creek channels.

- How much fill will occur in waters of the U.S.?
- What indirect impacts might result for existing waters of the U.S. and special status species?
- Can the existing hydrologic regime support the addition of 15.78 acres of seasonal wetland creation especially in light of the wetlands creation that has occurred on the adjacent Cayetano Creek Preserve (October 2015 Google Earth image attached)? Is it appropriate to propose such a dense assemblage of pond creation alongside Cayetano and Collier Creeks? Is such a dense concentration of ponds appropriate for the current topography of the land? What will be the impact of the proposed mitigation on existing on-site and off-site waters of the U.S.? Is the proposed mitigation appropriate in light of climate change? Will these features be sustainable under prolonged drought conditions?
- Where is the reference site located? Does it possess the topographic, soil, and hydrologic features found at the proposed Collier Creek mitigation site?
- Have the resource agencies agreed concentrating all of the potential California red-legged frog and California tiger salamander mitigation habitat in such close proximity is a good thing for the species or does the proposed wetlands creation plan render the local populations more susceptible to extirpation from pathogen outbreaks, or invasion and subsequent hybridization with the non-native barred tiger salamander?
- How will non-native predators or invasive species be dealt with and do they currently exist within the project boundaries?
- What contingency measures or adaptive management strategies are proposed?
- Will these created wetlands and ponds be self-sustaining over the long-term or will regular management be required over the long-term? For example, and with respect to mitigation ponds for California tiger

salamander, would dredging of the ponds be required to maintain their ability to pond for an adequate period of time? 33 CFR § 332.8(a)(2), states “To the maximum extent practicable, mitigation banks and in-lieu fee project sites must be planned and designed to be self-sustaining over time, but some active management and maintenance may be required to ensure their long-term viability and sustainability.” Has the proposed mitigation bank identified and evaluated potential maintenance or management issues, and disclosed how they will be addressed?

- What “rehabilitation” and enhancement activities are proposed for the creeks? Are actions beyond riparian plantings proposed? If so, what is the nature of those activities? Bank stabilization? Repair of creek incision? The PN states the site is located within the upper watersheds of Cayetano and Collier Creeks. Is head-cutting of the creeks an issue? If so, would this be addressed under “rehabilitation” activities?

These are just some of the questions raised by the dearth of information provided in the PN.

What is of particular concern is the statement in the PN that “...following preservation, the installation of protective fencing, *the collection of baseline data*, and the creation and rehabilitation of target habitat would occur.” [emphasis added] What baseline data has been gathered to date? Why has a PN been issued if baseline data for the proposed mitigation bank has not been collected? Certainly an understanding of the water budget for the local watershed must be provided prior to any issuance of a Corps permit authorization, to provide some degree of certainty that the individual and cumulative impacts of wetlands creation will not have direct and indirect adverse impacts to other existing wetlands and waters of the U.S. If this information is available, why was a summary not provided within the PN, or mention made of supporting documents that contain this information?

Significant impacts to the aquatic environment occur when mitigation banks fail. Not only through the loss of waters within the boundaries of the mitigation bank, but also due to the unmitigated impacts to waters of the U.S. from fill projects that have been permitted and for which mitigation credits for the failed mitigation bank have been issued. This is precisely why the public should be able to review information available for any proposed mitigation bank, and have the opportunity to provide substantive comments.

Service Area – the great unknown:

The PN merely states: “The overall project purpose is to create a mitigation bank for permanent and temporary impacts to waters of the U.S and to provide mitigation and conservation to offset impacts to both federal and State listed species and associated habitat for *several counties in the East Bay*.” Which counties - Alameda and Contra Costa, or more? Does this include the entirety of these counties? Have areas of identified critical habitat for federally listed species been eliminated from the service areas? Species conservation credits should not be approved at the proposed mitigation bank for the loss of critical habitat, or habitat identified as essential to the recovery of a listed species.

The Oregon Department of State Lands provides the following advice in an article entitled, “Do You Want to be a Mitigation Banker,” dated 2000:

The rules limit the maximum size of the service area to the “sub-basin” in which the bank is located, which can be quite large. However, *Mitigation Bank Review Teams typically express strong opposition to service areas so large that permit applicants can use banks more than 15 to 20 miles away*; the concern is that the localized effects of wetland functional losses cannot be offset by mitigation far away from the impact site. A related concern is the greater potential for a “mismatch” between wetland types and functions when the impact site and the mitigation site are far apart. (emphasis added)

The following undated guidance from the Savannah District of the Corps of Engineers, “Guidelines on the Establishment & Operation of Wetland Mitigation Banks in Georgia,” is also appropriate for consideration.

a. Use of credit from a bank located in one ecoregion will generally not be considered acceptable as mitigation for an impact in an adjacent ecoregion. In certain instances, the MBRT may determine that out of ecoregion credit use would be the most ecologically/environmentally beneficial method of mitigating a particular impact (e.g. impact site and bank are in different ecoregions but both are very near the ecoregion boundary). *Use of credit in an adjacent ecoregion would require an associated increase in the acceptable credit ratio.* (emphasis added)

b. Use of credit will generally be considered acceptable for the portion of each watershed that is located within a single ecoregion. *There will generally be an associated incremental increase in the applicable credit ratio required to mitigate an impact for each watershed boundary that is crossed between the bank and the impact site.* (emphasis added)

General comments regarding the use of mitigation banks:

An issue of great importance to us is the matter of how quickly the Corps allows the project proponents to sell their mitigation credits. All too often, the Corps has allowed mitigation credits to be sold far in advance of successful creation of wetlands within the mitigation bank; at times, in advance of mitigation construction actually occurring at all. We are strongly opposed to this practice as it allows the destruction of wetlands with no certainty their functions and values will be replaced at all. If created wetlands do achieve success criteria, in addition to the problem of geographic displacement, there is still a temporal loss of functions and values.

How will the issuance of mitigation credits be documented? This must be done in a thorough, up-to-date, and easily accessible manner to ensure mitigation credits are not oversold.

There is always the concern that the existence of a mitigation bank will make it “easier” for developers to obtain permits for wetlands and riparian fill and impacts to critical habitat and native plant communities. It is incumbent upon the Corps to require permit applicants to first demonstrate compliance with the sequencing requirements of the 404 (b)(1) Guidelines, and then to demonstrate that on-site compensatory mitigation is not a viable alternative prior to purchasing credits at a mitigation bank. It is the responsibility of the Corps to ensure there is no loss of wetlands functions and values that could lead to a degradation of waters of the U.S. It is also the responsibility of the Corps to continue appropriate dialogue with the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife to ensure the purchase of mitigation credits for threatened or endangered species, or special status species does not have long-term adverse impacts on local populations of these species.

What types of impacts to wetlands and waters of the U.S. will the Corps consider in approving the purchase of mitigation credits? For example, will there be a limitation on the size of the impacts? Are there sensitive areas within the proposed service area where the purchase of mitigation credits will not be approved?

Steinhoff (2008) quotes California Department of Fish and Game’s (2007) Mitigation Banking Section, “Mitigation banking helps to consolidate small, fragmented wetlands mitigation projects into large, contiguous sites which will have much higher wildlife values.” However, Steinhoff then goes on to introduce studies that contradict this assertion. For example, Semlitch (2000) states:

Too often, decisionmakers assume that a small wetland is unimportant or less valuable than a larger wetland, because they assume that “larger” means “better.” Small wetlands, however, are extremely valuable for maintaining the biodiversity of a number of plant and animals species. Furthermore, healthy populations of many species depend on not just a single wetland but a landscape densely covered by a variety of wetlands...

...Small isolated wetlands are not expendable if the goal is to maintain present levels of biodiversity.

Ruhl and Salzman (2006) issue the following caution with respect to the impacts of mitigation banking on society:

On-site wetland mitigation is in principal neutral with respect to ecosystem services in the sense that it keeps wetland resources in generally the same location. In contrast, wetland mitigation banking facilities move wetland resources from one location, the development project, to a potentially distant location, the bank site. Even with the generous assumption that this movement provides a net ecological advantage, it cannot be the case that the same human population benefits from the ecosystem services once associated with the damaged wetlands. If the wetlands move, their ecosystem services go with them. Some people will inevitably lose and others will gain the economic benefit of wetland ecosystem services...

We reference the above statements to point out that despite advantages espoused by regulatory agencies in utilizing mitigation banking, it should not be forgotten that the use of mitigation banks does not occur without environmental harm or societal impacts.

Conclusion:

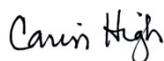
As has been stated repeatedly, it is not clear why a public notice was issued at this juncture, especially if the most basic of information, the amount of grading and fill in wetlands and waters subject to Section 404 is unknown. It is however, very clear additional substantive information is necessary to determine whether a mitigation bank is appropriate for this site.

We are deeply concerned by what appears to be an ongoing trend of providing insufficient information during the public comment period. We expressed this concern in verbal comments to staff and in our comments for another mitigation bank proposal, the Newark Slough mitigation bank. Certainly, the paucity of information in this and in other recent Corps PN's concerning proposed mitigation banks is not to the standard required by Corps regulation. The level of information provided by the Wilmington District during their public comment period should be a model for the San Francisco District Regulatory Division, with respect to the level of detail that should be included for any mitigation bank public notice. Not only has the Wilmington District provide detailed maps, but also a link to the draft mitigation bank Prospectus. This level of information conforms to the spirit and intent of the Corps regulations at 33 CFR §325.3 (a) (5) and (a)(6). An example can be found at:

<http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Public-Notices/Article/613449/saw-2015-00940/>

Based upon the deficiencies identified above, we strongly urge the Corps to deny the proposal to establish the Collier Creek Mitigation Bank. The current public comment period should be suspended until sufficient information can be provided in a revised public notice. We request to be kept informed of any future opportunities to provide public comment and any decision made regarding the proposed mitigation bank.

Sincerely,



CCCR Co-Chair



PUBLIC NOTICE

NUMBER: 08 00046S

DATE: 19 February 2008

RESPONSE REQUIRED BY: 20 March 2008

Regulatory Branch
1455 Market Street
San Francisco, CA 94103-1398

PROJECT MANAGER: Bob Smith Phone: (415) 503-6792/E-mail: robert.f.smith@usace.army.mil

1. INTRODUCTION: Mr. Max Keech, Keech Properties, LLC, 1060 Twin Dolphin Drive, Suite 500, Redwood City, CA 94539 has requested, through his agent Terry Huffman, Huffman-Broadway Group, Inc., [415] 925-2000, Corps of Engineers authorization to construct a wetland mitigation bank, the Preserve at Redwood Shores Mitigation Bank, on a site adjacent to Belmont Slough and Shearwater Parkway in the Redwood Shores area of Redwood City, San Mateo County, California (Figures 1 – 3).

2. PROPOSED PROJECT: The Preserve at Redwood Shores Mitigation Bank project (Project) is proposing to restore an approximately 88-acre area to estuarine intertidal emergent and unconsolidated bottom wetlands habitat. Of the 88-acre restoration site, approximately 61.9 acres would be included in the Preserve at Redwood Shores Mitigation Bank boundary. The project would involve restoring the site to fully tidal estuarine intertidal emergent and unconsolidated bottom wetlands habitat. This would require breaching the current flood control levee and lowering the existing levee to the approximate MHW elevation (105 feet NGVD). Breaching of the levee would occur after completion of a new interior flood control levee that is proposed for the Preserve at Redwood Shores and Salt Court project (Corps Public Notice 30159S).

Historically the 88-acre restoration site was hydrologically connected to Belmont Slough and influenced by the ebb and flow of the tide. During the early part of the 20th century, along with the surrounding Redwood Shores area, the land was separated from the bay by a levee system and

drained of water. As a result, it is no longer influenced by the natural ebb and flow of the tide. Current land use on the Project site includes public access trails along a portion of the levee and wildlife viewing.

Approximately 13.9 acres of non-tidal palustrine emergent wetlands, 1.1 acres of tidal palustrine emergent wetlands, and 5.9 acres of open water ponds occur on the site, separated from the bay by the existing levee system. Figure 6, Sheets 1-4, is a map of the jurisdictional areas found within the study area. The proposed project would temporarily impact 0.12 acre of non-tidal wetlands, 0.08 acre of non-tidal open water subject to Corps jurisdiction.

Although the majority of the site is contained within the levee and is not connected to the San Francisco Bay (i.e., the area is not tidal), the soils have high salinity and thus the environment is ideal for such palustrine emergent species. Coastal scrub (non-native grasslands mixed with coyote brush) dominates the upland portions of the site adjacent to the non-tidal palustrine emergent wetlands. Dominant species of vegetation in upland areas include wild oat, soft brome, meadow barley, and coyote brush. Also, due to the historical marsh characteristics of the area, pickleweed may occasionally occur in upland areas.

Within the 88-acre restoration site, approximately 61.9 acres would be included in the mitigation bank boundary (Figure 3). The remaining 26.1 acres consist of:

- (1) 1.1 acres of tidal wetlands, along the outside of the levee, which would be preserved;

(2) A 5.9-acre wetland mitigation site near the northeastern corner which was created for impacts related to a levee maintenance project conducted in 2000 by the City of Redwood City and permitted by the Corps (Corps # 19783S);

(3) A 7.7-acre parcel, which transects the northern section of the property and is owned by the State Lands Commission and leased to the Department of Fish and Game; and

(4) An 11.4-acre area which would be used to mitigate for impacts resulting from the Preserve at Redwood Shores and Salt Court project. The Preserve at Redwood Shores and Salt Court project is being processed under a separate permit application (Corps Public Notice 30159S)

To facilitate the restoration of the site, vegetation and debris would be removed and five wave breaks, three ditch blocks, and four levee breaches would be constructed. Additionally, a slough channel would be constructed from the largest levee breach and connected to a historical slough channel (Figures 4 and 5).

Prior to breaching the outer levee, woody vegetation and upland grassland areas would be mowed. The material, along with woody debris and garbage would be raked and hauled to a designated agency-approved upland disposal site. Additionally, as shown on Figures 4 and 5, several "wave breaks," "ditch blocks," and a slough channel would be constructed.

The wave breaks would promote accretion of sedimentation within the restoration site by minimizing the re-suspension of sediments as a result of wave action. The accretion of sediment would in turn promote vegetation growth and protect the new levee by damping wave action generated by wind and storm events. The wave breaks would be approximately 300 feet long, have a maximum elevation of approximately 104.5 feet NGVD, and a 5:1 outboard slope and 3:1 inboard slope. Refer to Figures 4 and 5 for a plan view and cross section of the proposed wave breaks.

Ditch blocks would be constructed within the non-tidal open water ditch (also referred to as the borrow ditch) adjacent to the two small breach locations. The ditch blocks would serve two functions: (1) promote accretion of sediment and vegetation growth and (2) prevent a channel from forming along the base of the existing levee. Refer to Figures 4 and 5 for plan view and cross sections of the proposed ditch blocks.

The main channel (main slough channel) would be constructed from the large levee breach to a historical slough channel (Figure 4). The bottom elevation would be excavated to approximately 98.5 feet NGVD with a bottom width of 3 feet and 5:1 slope. Refer to Figure 5 for a cross section and elevation of the constructed slough channel. The constructed slough channel would act as the primary tidal channel to the restoration site. Due to the presence of overhead power lines the breach would be protected by a floating boom or similar device to keep sailboats from entering the slough.

Once the wave breaks, ditch blocks, and main slough channel are complete, four levee breaches would be constructed. The smallest levee breach, referred to as a "sill" on Figures 4 and 5, is near the northeastern corner of the site across from Bird Island. It would have a bottom width of 15 feet and bottom elevation of 102 feet NGVD. This breach would be armored with rock to prevent downward scouring.

Two small breaches are proposed along the western boundary. They would have a bottom width of 20 feet and bottom elevation of 99 feet NGVD. The two small breaches would also be armored to prevent downward cutting. The sill and two small breaches would provide an additional inlet and outlet during high tides to promote water circulation and the movement of wildlife from wetlands along Belmont Slough and Bird Island to the restoration site.

The largest breach, located just north of the PG&E electrical towers, would serve as the main tidal channel. The bottom of the main channel would be 100 feet wide at an elevation of 97 feet NGVD. Near the center of the bottom of the main channel, a small 20-foot-wide pilot channel would be constructed at elevation 95 feet NGVD. To promote scouring and channel formation during the ebb and flow of the

tides, the pilot channel and main bottom would not be armored. The banks of the main breach would be constructed at a 5:1 slope and stabilized with rock armor. A plan view of the breach locations and cross sections can be found on Figures 4 and 5.

In addition to the four levee breach locations, the outer levee would be lowered to approximately 105 feet NGVG (refer to Figure 5, cross section F). Elevations along the existing levee are approximately 108 – 107 feet NGVD. Lowering the outer levee to 105 feet NGVD would serve several functions, to include: (1) establishment of high marsh vegetation; (2) wildlife access from Belmont Slough and Bird Island to the restoration site by providing visual and physical access; (3) refuge for wildlife (salt marsh harvest mouse and California clapper rail) by providing an upper zone of peripheral halophytes (salt-tolerant plants).

The applicant states that one of the most severely reduced habitats of the San Francisco Bay ecosystem is the tidal marsh/salt marsh community. Of the 193,800 acres of tidal marsh that bordered San Francisco Bay in 1850, about 30,100 remain. These marshes provide essential habitat for many species including the federally listed salt marsh harvest mouse and California clapper rail. The proposed restoration and mitigation bank Project would provide for the restoration of approximately 88 acres of historical baylands of which approximately 61.9 acres would be available as mitigation bank credits. Restoration of the 88 acres would expand or enhance essential habitat for the federally listed salt marsh harvest mouse and California clapper rail, which is key for their recovery.

The Project would provide the public's need for wildlife viewing opportunities and access to the Bay and the public's need to promote the recovery of the salt marsh harvest mouse and California clapper rail in accordance with the U.S. Fish and Wildlife Service. The Project would also provide a private need for mitigation opportunities for project-specific impacts within the mitigation bank service boundary (Figure 7).

3. CONSIDERATION OF COMMENTS: The Corps of Engineers is soliciting comments from the public, Federal, State and local agencies and officials, Indian Tribes, and other interested parties in order to consider and evaluate authorization of the proposed bank. The Corps will consider any comments received in preparation of the bank enabling instrument.

4. SUBMISSION OF COMMENTS: Interested parties may submit, in writing, any comments concerning this activity. Comments should include the applicant's name and the number and the date of this Public Notice, and should be forwarded so as to reach this office within the comment period specified on Page 1. Comments should be sent to the **U.S. Army Corps of Engineers, San Francisco District, Regulatory Branch, 1455 Market Street, San Francisco, California 94103-1398**. Additional details may be obtained by contacting the applicant whose name and address are indicated in the first paragraph of this Public Notice or by contacting Bob Smith of our office at telephone [415] 503-6792 or E-mail: robert.f.smith@usace.army.mil.

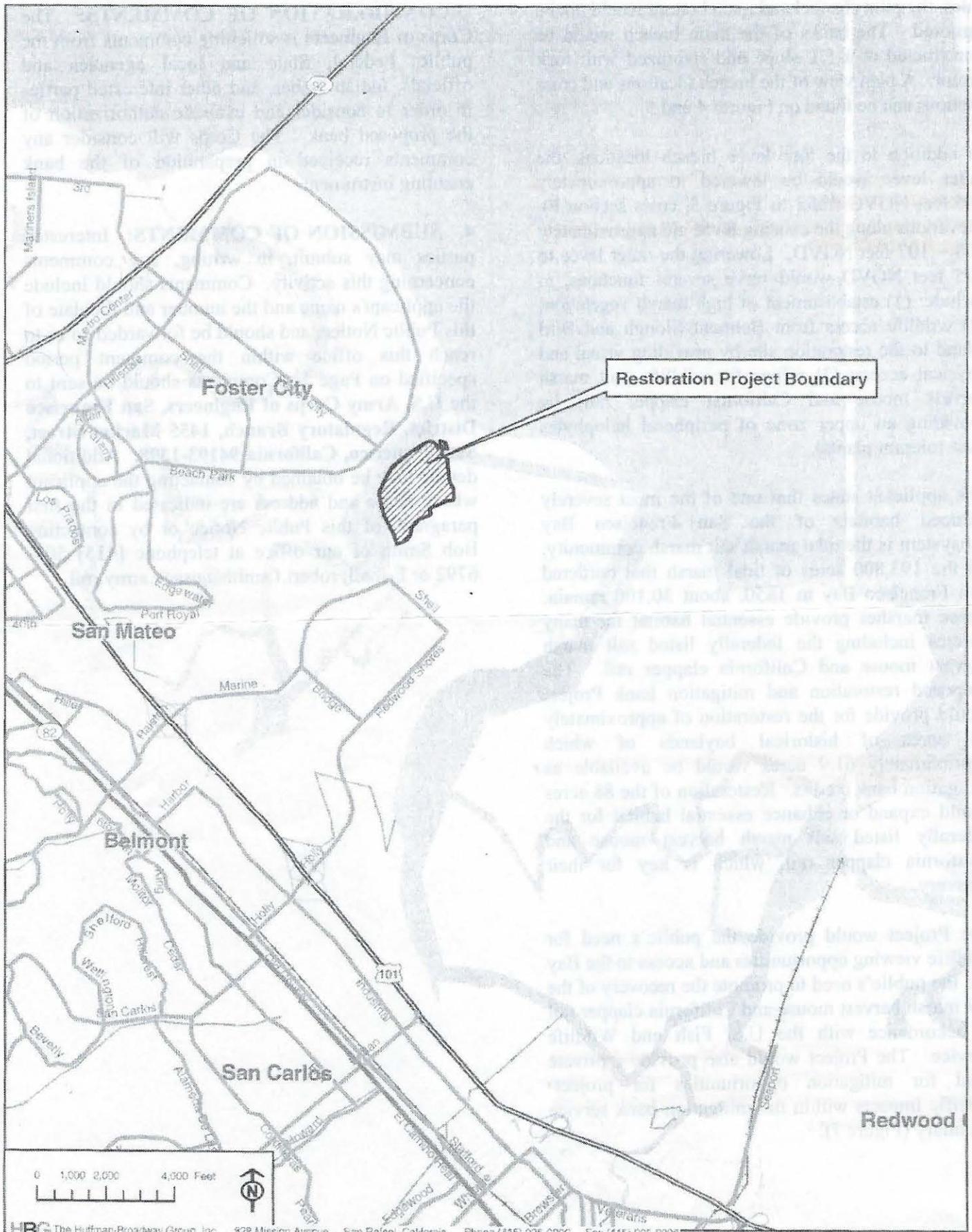
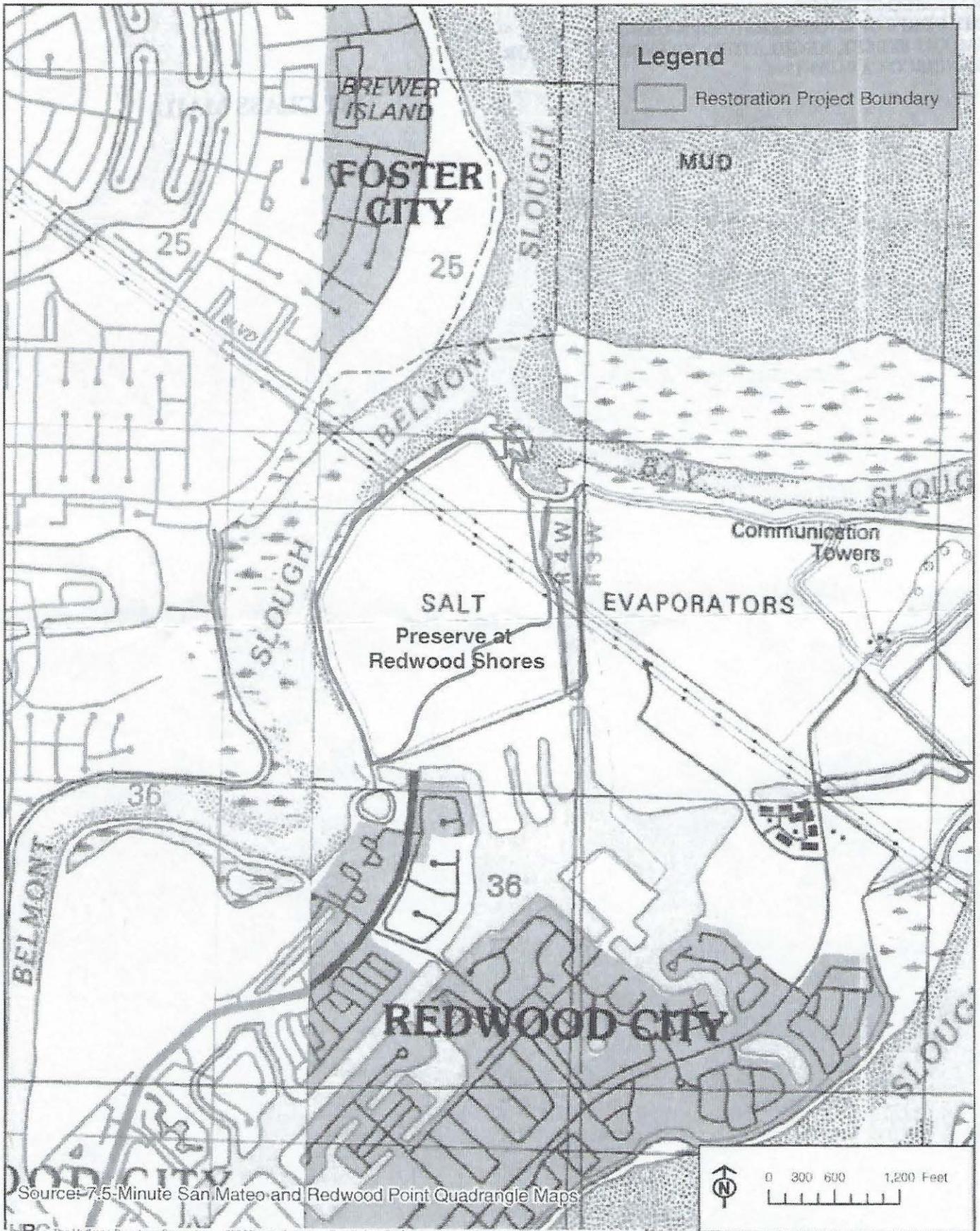


Figure 1. General Location Map of the Preserve at Redwood Shores Restoration Project,

The Preserve at Redwood Shores Mitigation Bank,
Redwood City, California

Applicant: Keech Properties, LLC
Corps File: 09 00046S

Date: 1-21-2008
Type of Illustration: Plan View

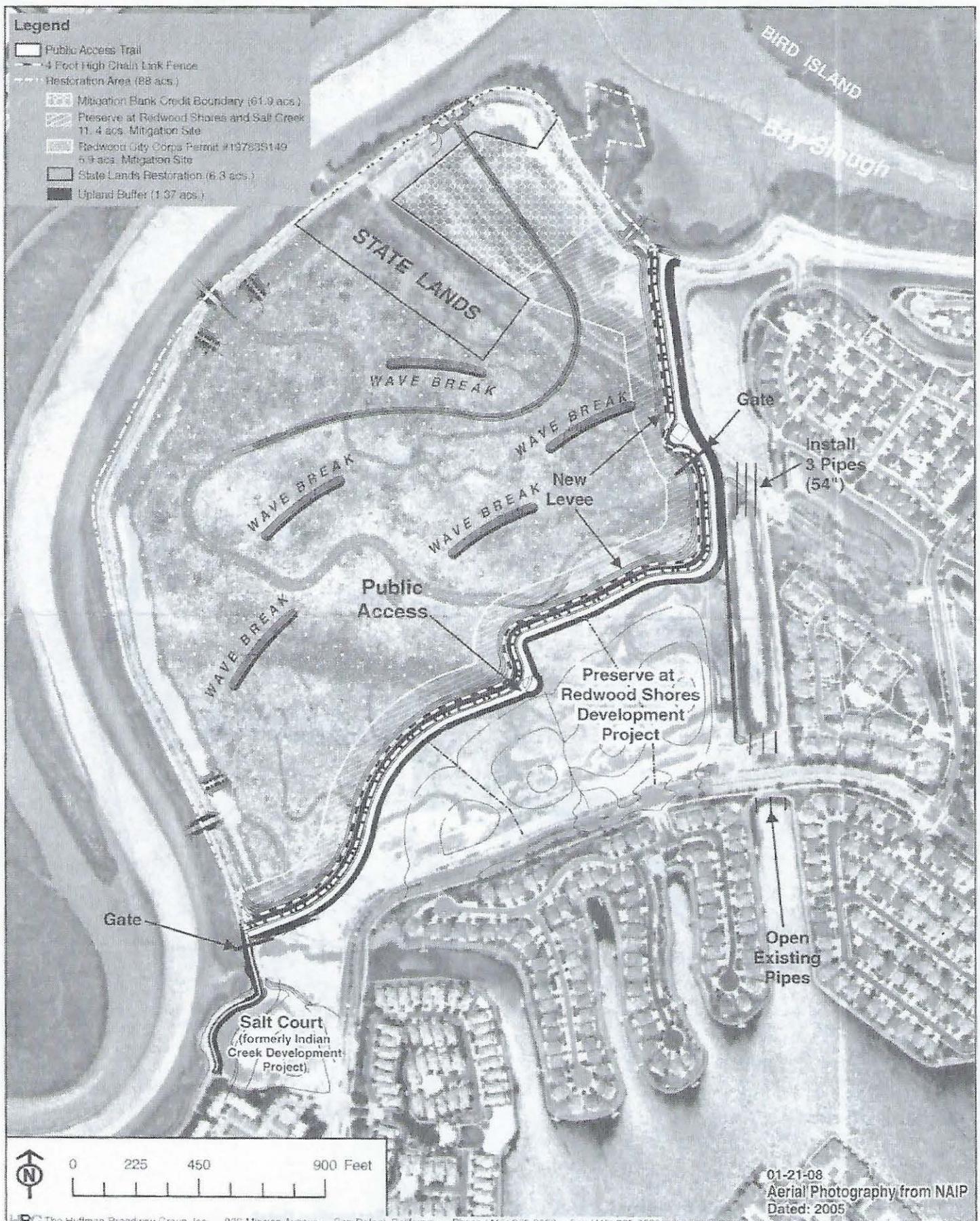


Source: 7.5-Minute San Mateo and Redwood Point Quadrangle Maps

HBG The Hillier Group, Inc. 808 Mission Avenue - San Rafael, California Phone (415) 925-2000 Fax (415) 925-2006

Figure 2. USGS Topographic Map Showing Project Site, The Preserve at Redwood Shores Mitigation Bank, Redwood City, California

Applicant: Keach Properties, LLC
Corps File: 09 00046S
Date: 01-21-2008
Type of Illustration: Plan View



HBG The Huffman Broadway Group, Inc. 828 Mission Avenue San Rafael, California Phone (415) 945-2000 Fax (415) 925-2006

Figure 3. Plan View, Restoration Project Boundaries,
 The Preserve at Redwood Shores Mitigation Bank,
 Redwood City, California

Applicant: Keach Properties, LLC
Corps File: 09 00046S

Date: 1-21-2008
Type of Illustration: Plan View

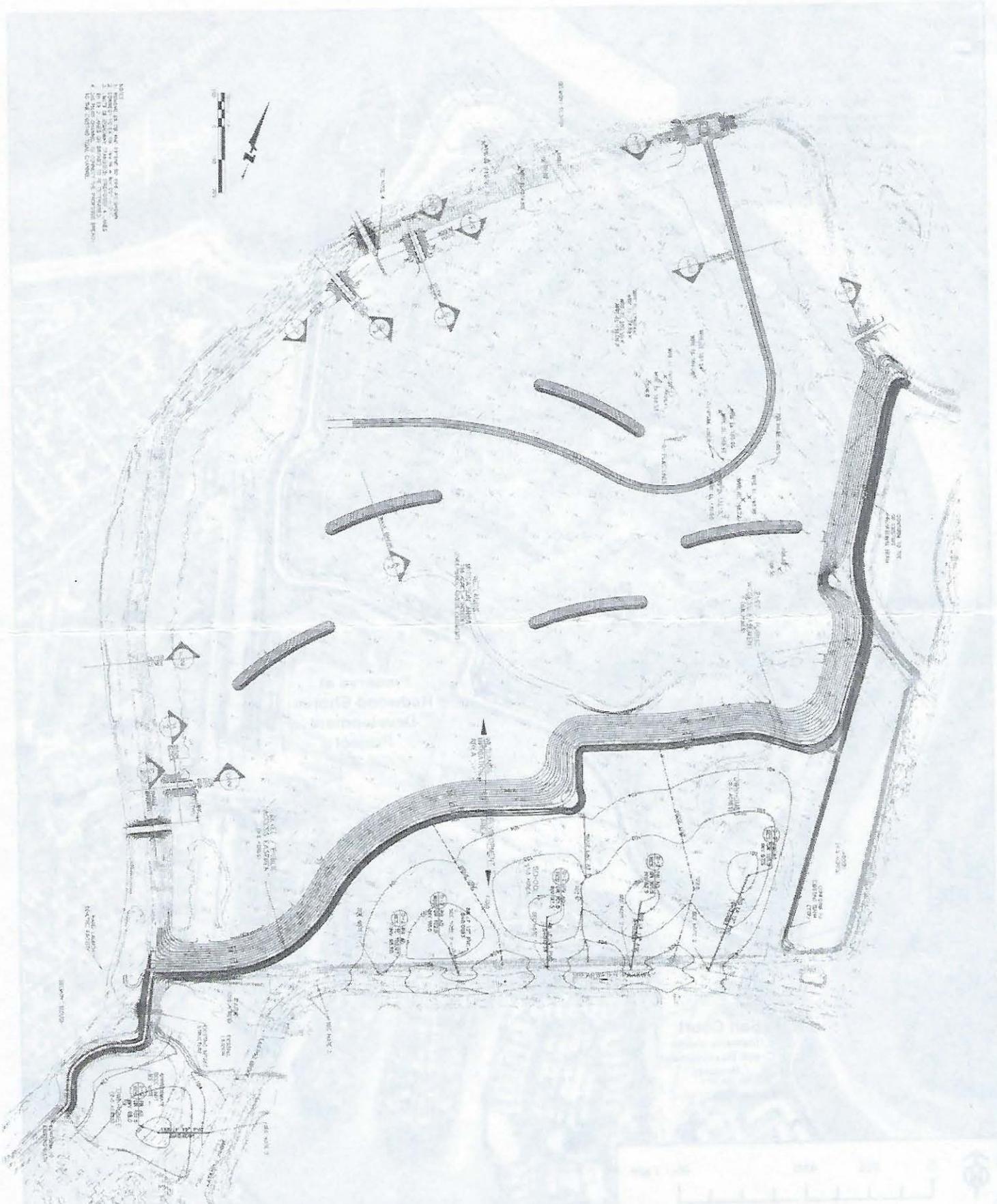


Figure 4. Plan Views, Rough Grading Plan, Tidal Restoration Detail
 The Preserve at Redwood Shores Mitigation Bank,
 Redwood City, California

Applicant: Keach Properties, LLC
Corps File: 09 00046S

Date: 1-21-2008

Type of Illustration: Plan View

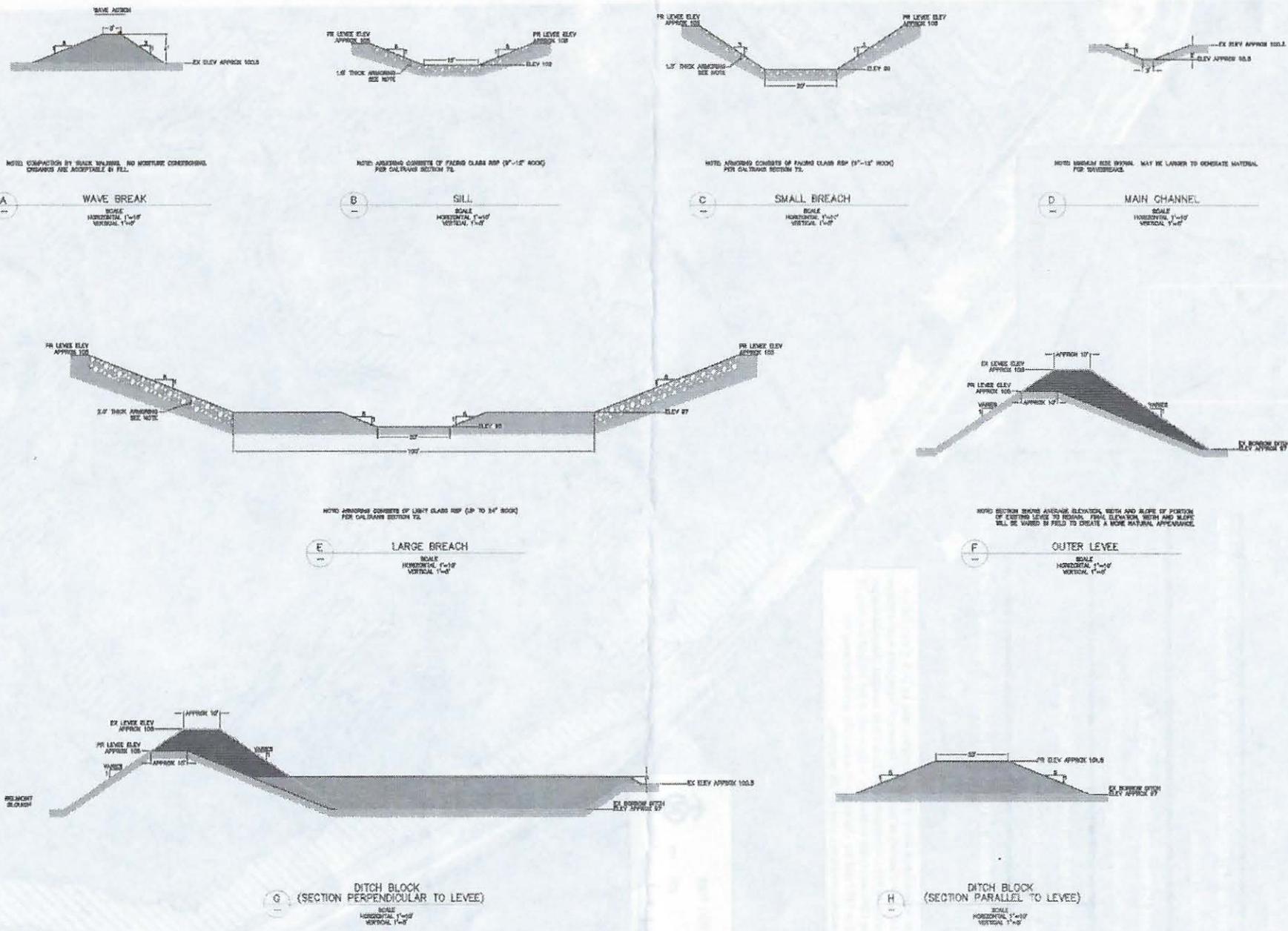
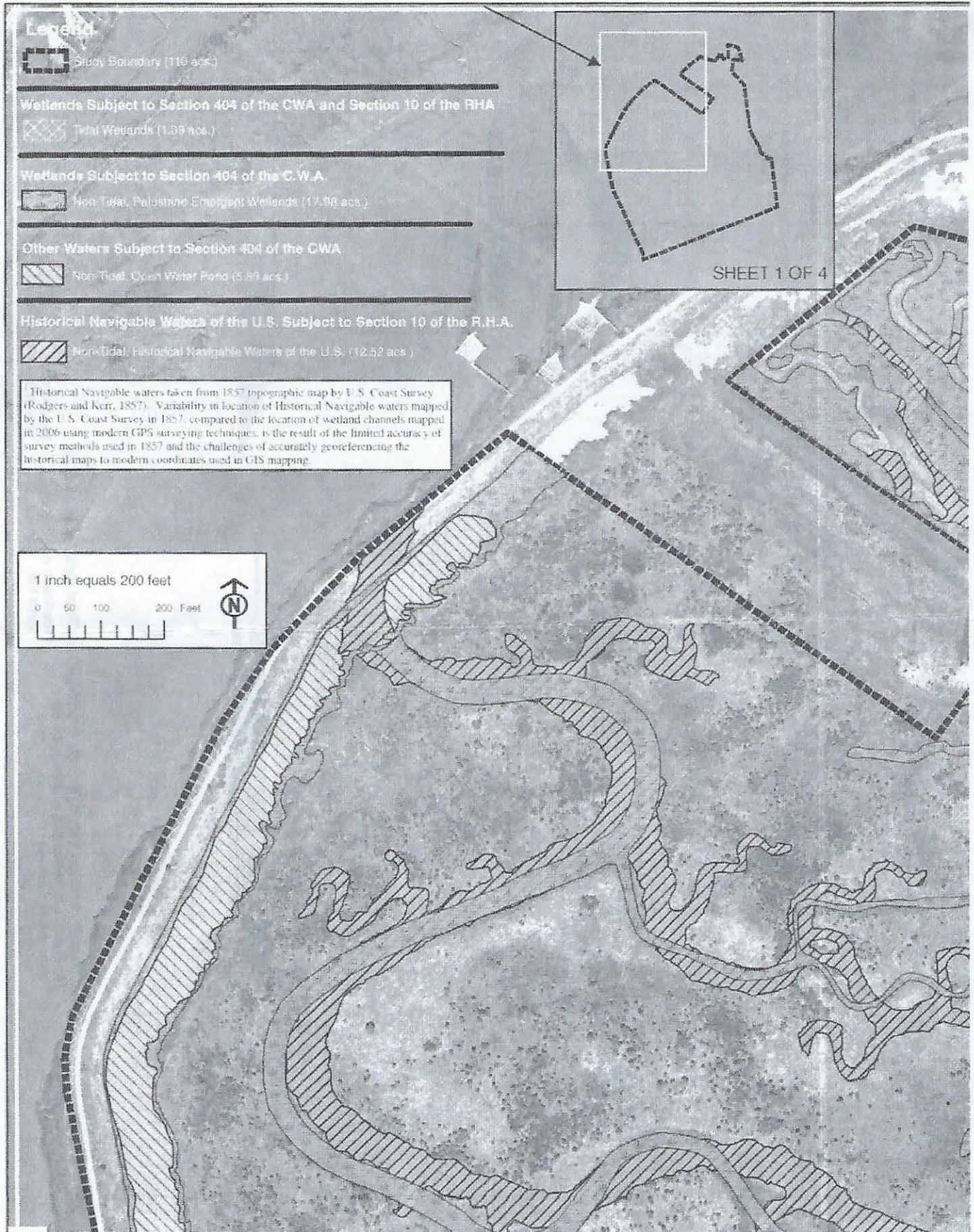


Figure 5. Section Views, Rough Grading Plan, Tidal Restoration Detail,
The Preserve at Redwood Shores Mitigation Bank,
Redwood City, California

Applicant: Ketch Properties, LLC
Corps File: 09 00046 S

Date: 1-21-2008
Type of Illustration: Plan View



HBC The Huffman-Broadway Group, Inc. 828 Mission Avenue San Rafael, California Phone (415) 925-2000 Fax (415) 925-2006

Figure 6. Preserve at Redwood Shores Site Jurisdictional Map Sheet 1-4,

The Preserve at Redwood Shores Mitigation Bank,
Redwood City, California

Applicant: Keech Properties, LLC
Corps File: 09 00046S

Date: 01-21-2008

Type of Illustration: Plan View



HBG The Huffman-Bradway Group, Inc. 928 Mission Avenue San Rafael, California Phone (415) 925-2000 Fax (415) 925-2006

Figure 6. Preserve at Redwood Shores Site Jurisdictional Map Sheet 2-4,
 The Preserve at Redwood Shores Mitigation Bank,
 Redwood City, California

Applicant: Keach Properties, LLC
Corps File: 09 00046S

Date: 01-21-2008
Type of Illustration: Plan View



HBG The Hufman-Broadway Group, Inc. 828 Mission Avenue San Rafael, California Phone (415) 925-2000 Fax (415) 926-2006

Figure 6. Preserve at Redwood Shores Site Jurisdictional Map Sheet 3-4,
 The Preserve at Redwood Shores Mitigation Bank,
 Redwood City, California

Applicant: Keach Properties, LLC
Corps File: 09 00046S

Date: 01-21-2008
Type of Illustration: Plan View



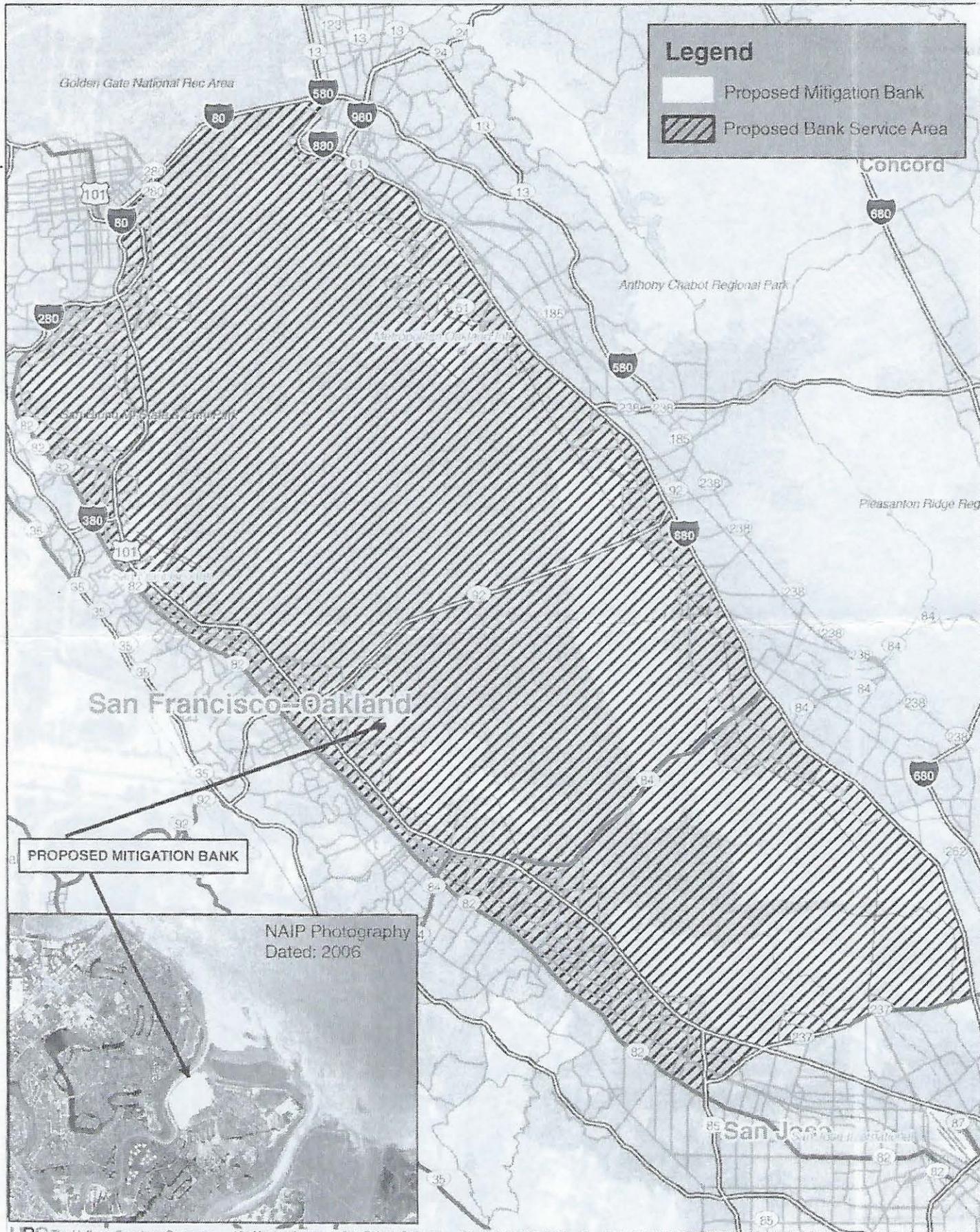
HBG The Huffman-Broadway Group, Inc. 228 Mission Avenue San Rafael, California Phone (415) 925-2000 Fax (415) 925-2006

Figure 6. Preserve at Redwood Shores Site Jurisdictional Map Sheet 4-4,
 The Preserve at Redwood Shores Mitigation Bank,
 Redwood City, California

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Figure 7. Proposed Bank Service Area,
 The Preserve at Redwood Shores Mitigation Bank,
 Redwood City, California

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Type of Illustration: Plan View



Collier Canyon Rd

Carneal Rd

Manning Rd

Highland Rd

Collier Creek Mitigation Bank

