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Th8a

Prepared April 15, 2015 for April 16, 2015 Hearing

To: Commissioners and Interested Persons

From: Nancy Cave, District Manager
Stephanie Rexing, Coastal Planner

Subject: STAFF REPORT ADDENDUM for Th8a
CDP Application Number 2-12-014 (Sharp Park)

In the time since the staff report was distributed, both the Applicant (City and County of San Francisco Recreation and Parks Department) and the project opponents (Wild Equity) have raised several issues by submittal of letters regarding staff's recommendation on this project. A letter dated April 13, 2015 from Wild Equity states that the staff report has "many unsupported assertions and factual errors" and requests a continuance of the hearing because information submitted by them is "not presented to the commission as part of the staff report." See pages 407-409 and 414-415 in the North Central Coast District Deputy Director's Report for Item Th8a on the Commission's April 16, 2015 agenda. A letter dated April 13, 2015 from San Francisco Recreation and Parks Department states they "agree with most of the Special Conditions in staff's recommendation" but raise some specific questions regarding conditions that will be discussed below (see pages 545-547 in the North Central Coast District Deputy Director's Report for Item Th8a on the Commission's April 16, 2015 agenda). In addition, staff has received other correspondence of both support (approximately 20 communications) and opposition (approximately 30 communications) for the staff recommendation as well as Coastal Commissioner ex parte disclosures (see also separately included in the Deputy Director's report).

The purpose of this addendum is to modify and clarify the staff recommendation for the above-referenced item and to respond to various issues raised. Modifications to the staff recommendation range from fairly minor (in terms of clarification to condition language in special conditions 4(f) and 7(c)) to major (modifications to the required Pumping Protocol Plan required by special conditions 2(a)-(g)). These changes do not modify the basic staff recommendation, which is still approval with conditions, but the major change requires some discussion, as do the various issues raised. The additional findings in the "Response to Issues Raised" section below will be incorporated into the relevant portion of the staff report should the Commission adopt the staff recommendation.

The response letters and emails to the initial staff recommendation from both the project Applicant, as well as the project opponents, raise concerns regarding the Pumping Protocol Plan required by the special conditions. Both parties asked for specificity of certain language and

requirements of the condition language in **Special Condition #2**. Project Opponents inquired exactly how the required submittal of the Pumping Protocol Plan required by **Special Condition #2** will go beyond what is required as a part of the protocol in the United States Fish and Wildlife Service (USFWS) Biological Opinion (BO). Further, they raised issues about how this particular condition will protect not only the sensitive species that are present at Sharp Park (and in breeding locations where frogs have been most prolific), but also how it will be protective of the sensitive wetland habitats present. The original condition language required the plan to contain criteria to protect sensitive species and the wetland habitat at the pumping site, but further specificity and refinements are added to define what will specifically be required by **Special Condition #2**. Thus, the staff report is modified as shown below (where applicable, text in underline format indicates text to be added, and text in ~~strikethrough~~ format indicates text to be deleted):

Changes to the Staff Recommendation

1. Modify **Special Condition #2** on staff report page 6-7 as follows to better clarify the intent of the special condition in protecting sensitive species and the wetland habitats.

2. Pumping Protocol Plan. *PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall submit two copies of a five-year Pumping Protocol Plan (the Pumping Plan) to the Executive Director for review and approval that shall, at a minimum, include the following:*

(a) Technical Operations. *The Pumping Plan shall include details of the proposed pump operations that comply with all protocols in the October 2, 2012 United States Fish and Wildlife Biological Opinion, Conservation Measure #15 (**see Exhibit 2**). The Pumping Plan should contain verifiable criteria to protect sensitive species and the wetland habitat at the pumping site. The Pumping Plan shall not allow for pumping prior to rainfall events nor pumping to low levels after California red-legged frog egg masses have hatched. The Pumping Plan shall also establish a minimum water elevation as required by the United States Fish and Wildlife Service Biological Opinion that is protective of both the sensitive species and the on-site wetlands.*

(b) Water Level Monitoring*. The Pumping Plan shall require water levels in Horse Stable Pond (HSP) and Laguna Salada (LS) be continually monitored and recorded in NAVD88 vertical datum as a way to document ~~continual~~ pump operations and the hydrologic conditions of these two wetlands. The location of all continuous automated monitoring devices shall be indicated in the Pumping Plan.*

(c) Salinity Monitoring*. The Pumping Plan shall require that salinity in both LS and HSP be ~~continually~~ monitored. Monitoring can occur by use of continuous automated devices or by periodic physical readings. The plan shall justify the periodicity and instrumentation used for monitoring. Changes in water quality and hydrological conditions shall be documented.*

(d) Groundwater Monitoring*. The Pumping Plan shall require shallow piezometers be installed to monitor groundwater levels and groundwater salinities around LS. The*

plan shall justify the periodicity used for monitoring. ~~Salinity intrusions shall be documented.~~

***(e) Emergent Vegetation Monitoring**. The Pumping Plan shall require monitoring of the growth and spread of emergent vegetation such as cattails and tules. The Plan shall set a baseline of the initial percent of cover of emergent vegetation in both LS, ~~and~~ HSP, and the connecting channel at the beginning of the monitoring period. The Plan shall require periodic evaluation of the changes in percent cover of emergent vegetation and their effects on wetland functioning and California red-legged frog habitat. ~~including the rate of growth from one monitoring event to the next with the goal of evaluating the current protocol and its contribution to the spread of emergent vegetation.~~ The plan shall justify the periodicity determined for monitoring.*

***(f) Protection of Sensitive Breeding Locations.** The Pumping Plan shall detail how and where staff will conduct searches for egg masses. The most productive areas as indicated by past egg mass location data shall be included in the monitoring areas of the Plan and shall be protected.*

***(g) Monitoring and Reporting.** The Permittee is required to submit, for the review and approval of the Executive Director, an annual monitoring report prepared by a qualified specialist that certifies the ongoing maintenance pumping activities are being conducted in conformance with the approved Pumping Plan. Reports will be due annually and due at an appropriate time as designated by the approved Plan. The Permittee shall submit a total of 5 annual monitoring reports for a period of 5 years. The first annual report is due one year after completion of approved project. If the first annual monitoring report indicates that the pumping activities are causing salinity intrusions into the groundwater or wetlands, drawdown of groundwater stores, or significant impacts to sensitive species, the Permittee shall submit, for the review and approval of the Executive Director, within 90 days, a revised or supplemental Pumping Plan that incorporates pumping protocols to minimize any such impact that would be adverse to the groundwater stores, sensitive species or the health of the wetlands. After approval by the Executive Director, the Permittee shall implement the revised or supplemental plan and perform monitoring for an additional 5 years. If the final monitoring report indicates that ~~the current pumping protocol~~ there has been an increase~~d~~ in emergent vegetation ~~based on the increased cover of cattails and tules~~ that has degraded wetland functions or the habitat of California red-legged frogs, the Permittee shall submit, for the review and approval of the Executive Director, within 90 days, a vegetation management plan, including a revised Pumping Plan that ~~proposes to~~ will manage water levels in an alternative way that will ~~not lead to the shallow water spread~~ restrict the abundance of ~~of new~~ emergent vegetation to levels considered beneficial to California red-legged frog habitat and general wetland functioning ~~over the percent of cover established at the beginning of the monitoring period~~. After approval by the Executive Director, the Permittee shall implement the revised or supplemental plan and monitor its success for a period of 5 years.*

The Permittee shall undertake all development in accordance with the approved Pumping

Protocol Plan.

2. Modify **Special Condition #4(f)** on staff report pages 9 as follows:

> ***(f) Restoration.*** *All areas impacted by construction activities shall be restored to their pre-construction physical condition or better within three days of completion of construction. Restoration of disturbed sites will be completed within 3 weeks of the first major rain event (greater than 0.25 inches) of the fall. Erosion control measures shall be put in place within three days of completion of construction.*

3. Modify **Special Condition #7(c)** as follows:

> ***(c) Future Removal of Development.*** *The Permittee shall remove or relocate, in part or in whole, the development authorized by this CDP, including, but not limited to, pumping infrastructure and outfall, and other development authorized under this CDP, when any state or federal government agency orders removal of the development in the future or when the development becomes threatened by coastal hazards, whichever happens sooner. Development associated with removal of authorized development shall require an amendment to this CDP. In the event that portions of the development fall to the water or ground before they are removed, the Permittee shall remove all recoverable debris associated with the development from the ocean, intertidal areas, and wetlands and lawfully dispose of the material in an approved disposal site. Such removal shall require an amendment to this CDP.*

Response to Issues Raised

1. Request for a Continuance

In their letter of April 13, 2015 the project opponents requested a continuance of the hearing because information submitted by them is "not presented to the commission as part of the staff report." Further, they state that it is not clear if the documents they reference were reviewed by Staff in producing the staff report. The documents the project opponents refer to were comment letters sent to the United States Fish and Wildlife Service and the Army Corps of Engineers pertaining to the Biological Assessment for this project, and prior to the development of, and incorporation of comments and concerns into, the final United States Fish and Wildlife Biological Opinion. Commission staff was copied on this 2012 correspondence and had these letters in the project file. However, Commission staff substantially relied on the final USFWS Biological Opinion for the analyses contained within the initial staff report. The referenced letters are included in the North Central Coast District Deputy Director's Report for Item Th8a on the Commission's April 16, 2015 agenda.

2. Historic Ecology of Sharp Park

In their letter of April 13, 2015 the project opponents claim that contrary to the staff report findings, "Sharp Park was historically a backbarrier lagoon/beach ecosystem, and was not influenced by daily tides."

While there is still some question as to the extent of which the historical wetlands within Shark Park were brackish, all references in the staff report refer to the wetlands in the seaward portion of the course, near the beach, to be those that were historically, tidally influenced. Specifically, Dr. John Dixon's memo describes the historic ecology of the course similar to that of the project opponents as follows:

> *In the mid-1800s, Laguna Salada appears to have been a back beach lagoon that was generally non-tidal and principally formed by rainfall runoff delivered by sheet flow and by Sanchez Creek (ESA PWS et al. 2011). The southern limit of the lagoon was very near Mori Point (Figure 1). The watershed is too small for runoff to maintain on open inlet or regularly breach the barrier beach, but the lagoon was probably intermittently and briefly connected to the ocean through an outlet channel and it periodically received sea water that overtopped the sand berm adjacent to the beach.* ***These hydrological characteristics probably resulted in a salinity gradient from brackish near the beach to fresh at the landward edge.*** *No riparian vegetation was indicated in the 19th century maps, suggesting that the area may have been grazed. The plant species that dominate Laguna Salada today are adapted to a fresh to brackish salinity regime and probably include many of the same species that were dominant 100 years ago. [emphasis added]*

Thus, in regards to the historic ecology of Sharp Park staff does not see a significant area of disagreement between what has been presented in the staff report and what was presented by the project opponents.

3. Support for the Golf Course

In their letter of April 13, 2015 the project opponents claim that the findings in the staff report regarding the popularity of Sharp Park Golf Course are not supported by facts but are a "regurgitation of the Golf Alliance's advocacy."

The San Francisco Public Golf Alliance submitted a letter of support for the project that provides substantial evidence that people use Sharp Park and that it is a popular course (see Public Correspondence in Exhibit 6). The Golf Alliance works to "research and educate the public about recreational facilities in San Francisco, specifically about the beneficial aspects of San Francisco's endangered municipal golf courses." Their "goal is to preserve affordable, eco-friendly golf in San Francisco for future generations of golfers by making sure that Sharp Park and Lincoln Park golf courses remain open for play."

Regarding the popularity of the course, Commission staff has received approximately 25 letters of support from individuals urging the approval of this project, which have voiced their desire for Sharp Park and the Golf Course to remain, and have expressed their frequent use of the Golf Course facilities. Letters of support received also include letters from the City of Pacifica and the Pacifica Chamber of Commerce, from the San Mateo County Board of Supervisors and from Congresswoman Jackie Speier.

The statistics presented by the project opponents cite numbers of golf play from, most recently, 2006. Estimates provided in the findings of the staff report were from San Francisco Recreation and Parks Department (SFRPD) from 2013-2014. The estimates of rounds played from 2013-2014 are much higher than those reported in 2006 (i.e., 45,622 in 2014 as compared to 35,197 in 2006).

The recommendation for Sharp Park presented in the Pros Consulting Report on pages 9-10 which was submitted by the project opponents (see the North Central Coast District Deputy Director's Report for Item Th8a on the Commission's April 16, 2015 agenda) states, "Allow Sharp Park Golf Course to be redesigned to build back as much as possible the Alister MacKenzie design and privately raise the money for the capital improvements over a period of five years combined with public funds for environmental mitigation/management to protect the endangered species on the golf course." These efforts are currently being undertaken by SFRPD. As the original staff report noted, the long term plan for the course includes reconfiguration and a larger restoration plan that will be implemented in accordance with the requirements of other regulatory agencies.

While page 6 of The National Golf Foundation consulting report, which was submitted by the project opponents (see the North Central Coast District Deputy Director's Report for Item Th8a on the Commission's April 16, 2015 agenda), does speak to the lack of loyalty of Sharp Park golfers, as compared to the national benchmarks, the report also notes that location, aesthetics, and appreciation of the affordability and overall value were rated very high.

Thus, in regards to the popularity among golfers and general viability as a golf course of Sharp Park, staff does not see a significant area of disagreement between what has been presented in the staff report and what was presented by the project opponents.

4. Historic Landmark

In their letter of April 13, 2015, the project opponents claim the statements that the Golf Course is a designated historic site in Pacifica and that the Golf Course and Club House are historic landmarks are "demonstrably false."

The golf course and the clubhouse were separately designated as historic landmarks by the City of Pacifica in 2009. The property is not listed on the state or national registries. The property is considered a "Category A" (Known Historic Resource) property for the purposes of the City of San Francisco's California Environmental Quality Act (CEQA) review procedures. This is consistent with how the course is described in the project description section of the staff report.

5. Shoreline Protection

On April 10, 2015, Staff received a letter from Surfrider Foundation urging denial of this project, due to the inevitability of hazards such as sea level rise and erosion at the project site, or at the least, urging the amendment of conditions to explicitly prohibit any and all coastal armoring and require managed retreat be implemented at the property.

Staff has included special conditions of approval that require removal of the proposed development when it is threatened with coastal hazards that would require a response beyond ordinary repair and maintenance. Further, special conditions also prohibit additional future expansions of protective structures. Therefore, staff feels the concerns raised in the letter regarding future hazards at the site have been addressed.

6. Public Access to Water Gauges

Staff also received a letter regarding the desire of a number of individuals who are residents of Pacifica who are keenly interested in monitoring water levels in Sharp Park wetlands to have access to a water gauge in order to monitor the water levels. SFRPD expressed liability and safety concerns, as well as protection of species concerns, in opening this area to the public. In the alternative, one letter requests that SFRPD install a new gauge, calibrated to the current one, and visible to members of the public standing on the berm using binoculars.

Commission staff will not amend the conditions to require such a gauge because monitoring water levels will be accomplished through the requirements of **Special Condition #2**, the Pumping Protocol Plan. These materials submitted to the Commission are public records, and the public may obtain access to them, including any monitoring data there, and further conditions aren't necessary on this point.

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Filed:	1/9/2015
Action Deadline:	7/8/2015
Staff:	S. Rexing - SF
Staff Report:	4/3/2015
Hearing Date:	4/16/2015

STAFF REPORT: REGULAR CALENDAR

Application Number:	2-12-014
Applicant:	City and County of San Francisco Recreation and Parks Department
Project Location:	Sharp Park Golf Course, Pacifica, San Mateo County (APN 016-430-020)
Project Description:	Infrastructure improvements at Sharp Park Golf Course including after-the-fact permit approval of pump replacements, removal of sediment (dredging) and emergent vegetation from both Horse Stable Pond and Laguna Salada wetlands, installation of steps, a gate, a walkway and retaining wall in association with the pumphouse, and relocation of a golf cart path.
Staff Recommendation:	Approval with Conditions

SUMMARY OF STAFF RECOMMENDATION

San Francisco Recreation and Parks Department (SFRPD) proposes an infrastructure improvement project at Sharp Park Golf Course that would include the following project elements: after-the-fact permit approval for pump replacements, removal of sediment (dredging) and emergent vegetation from both Horse Stable Pond and Laguna Salada wetlands, installation of steps, a gate, a walkway and retaining wall in association with the pumphouse, and finally the relocation of a golf cart path. As directed by the United States Fish and Wildlife Service

(USFWS) Biological Opinion (BO) prepared for the proposed project activities and ongoing operations and maintenance activities occurring at the golf course, the project would also include creation of a pond to function as additional breeding habitat for sensitive species.

Violations of the Coastal Act exist on the subject property including, but not limited to, the replacement of two existing pre-Coastal pumps that were installed in 1959 (capacity of 500 gpm and 250 gpm respectively) with two new pumps (1,500 gpm and 10,000 gpm, respectively); and the 2010 replacement-in-kind of the 10,000 gpm pump. The Applicant applied to perform infrastructure improvements in association with the pumphouse and it was discovered in discussions between Commission staff, the Applicant and those keenly interested in the project that the above-referenced actions occurred without the benefit of a coastal development permit (CDP). Approval of this application pursuant to the staff recommendation, issuance of the permit, the Applicant's subsequent compliance with all terms and conditions of the permit and final project implementation will result in resolution of the above described violations.

The proposed project would improve flood control of the golf course, a public, visitor-serving, low-cost recreational asset that provides access to and spectacular views of the coast. The Sharp Park Golf Course is a popular course (in a recent fiscal year, SFRPD reports more than 45,000 18-hole rounds were played), offering relatively inexpensive opportunities for the public to enjoy the sport, especially compared to prices to play at private golf courses in the area. The current rate for seniors who are residents of San Francisco is $16 on weekdays and $24 on weekends. Coastal Act policies set a priority for and encourage the protection of recreational uses and lower cost visitor serving uses. The project activities are proposed to protect, maintain, and improve an existing public, visitor-serving, low-cost recreational activity. Therefore, the proposed project is consistent with the public access and recreation requirements of the Coastal Act.

Aspects of the infrastructure improvements would result in temporary and permanent impacts to the environmentally sensitive wetland and wetland buffer areas of Horse Stable Pond and Laguna Salada, which contain the federally-listed threatened California red-legged frog (CRLF), and uplands that may also be considered environmentally sensitive habitat areas (ESHAs) due to the possible foraging of the federally-listed endangered San Francisco garter snake. When a dredging or fill project occurs in wetlands that are also ESHAs, Section 30233 allows for such dredging and fill in wetland ESHAs, subject to certain criteria, importantly including that such projects incorporate feasible mitigation measures and are limited to certain purposes, including incidental public service purposes. The primary purpose of the proposed infrastructure improvements resulting in dredging and fill of wetlands (including vegetation and sediment removal, piers to support the walkway around the pumphouse, repair and slight expansion of the retaining wall, and after-the-fact pump replacement) appears to be a flood control purpose for public recreational use and to improve worker safety. Thus, the Commission finds that the uses proposed in wetlands can be characterized as incidental public service uses for the purposes of evaluation under Coastal Act Section 30233(a). Additionally, clearing sediments and vegetation from Horse Stable Pond will maintain the long-term functional capacity of the wetland complex and may eventually increase such capacity consistent with Coastal Act Section 30233(c). Finally, the proposed activities in wetlands will result in the creation of more open water breeding habitat for CRLF and better maintenance of water levels consistent with the requirements of the USFWS BO.

However, the Commission also recognizes that the work conducted in wetlands has the potential to result in adverse impacts to sensitive species from construction activities and from the continuation of the ongoing pumping. Specifically, ongoing pumping may continue to maintain low water levels that will potentially aggravate the spread of emergent vegetation which compromises open water breeding habitat for CRLF and could potentially lead to salinity intrusion in the Laguna Salada wetlands. As such, staff recommends special conditions be required to ensure that the development occurs in a manner that avoids and minimizes adverse environmental impacts, then employs feasible mitigation measures to reduce impacts to a less than significant level. The recommended special conditions include: submission of more specific, technical pumping protocol; a plan to monitor water levels, salinity, groundwater levels, and cattail and tule cover; submission of a final dredging plan; and a construction plan.

Aspects of the proposed project that would be located in non-wetland ESHA (in the wetland buffer areas and in the adjacent upland areas) include construction of the steps and gate that are part of the pumphouse infrastructure improvements; the golf cart path relocation out of wetland buffers into upland areas; and the creation of a pond to provide breeding habitat for the CRLF to comply with the USFWS BO. The Coastal Act restricts development in ESHA to resource-dependent uses, and requires protection from any significant disruption of habitat values. Project opponents view the development as a major disruption to habitat and the USFWS BO indicates potential impacts to ESHA from project activities. Further, the development, other than the creation of a frog-breeding pond required by USFWS, is not a resource-dependent use. To resolve the conflict between the protection of low-cost visitor-serving recreational uses and the unavoidable impacts to ESHA, Commission staff additionally analyzes the development under the Coastal Act's conflict resolution provision. Staff concludes that, assisted by the numerous mitigation measures contained in the USFWS BO, the features of the project description that avoid and minimize impacts to species and the wetlands, the installation of a pond that creates a wetland to encourage CRLF breeding, and the Commission's further required conditions of approval, impacts to ESHA have been minimized to the extent feasible, and that on balance, the recreational resource should be preserved.

The project as proposed has been designed to protect existing views of a scenic coastal area, and is compatible with the character of the surrounding area consistent with Coastal Act Section 30251. Special conditions are required to assure development will be removed from hazardous areas if necessary, consistent with Coastal Act Section 30253, which requires that new development minimize risks to life and property in areas of high flood hazard risk. Staff also recommends conditions mandating timely condition compliance and submission of evidence demonstrating necessary authorization from other agencies.

Thus, staff recommends approval of the CDP application as conditioned. The motion is found on page 5 below.

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APPENDICES

EXHIBITS

I. MOTION AND RESOLUTION

Staff recommends that the Commission, after public hearing, **approve** a coastal development permit for the proposed development. To implement this recommendation, staff recommends a **YES** vote on the following motion.

> ***Motion:*** *I move that the Commission approve Coastal Development Permit Number 2-12-014 pursuant to the staff recommendation.*

Staff recommends a **YES** vote. Passage of this motion will result in approval of the CDP as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

> ***Resolution to Approve CDP:*** *The Commission hereby approves Coastal Development Permit Number 2-12-014 and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with Coastal Act policies. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.*

II. STANDARD CONDITIONS

This permit is granted subject to the following standard conditions:

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the Permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the Permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

1. **Condition Compliance.** WITHIN 180 DAYS OF COMMISSION ACTION ON THIS CDP APPLICATION, or within such additional time as the Executive Director may grant for good cause, the Applicant shall satisfy all requirements specified in Special Conditions 2-4. Failure to comply with this requirement or any other aspect of the permit and its conditions may result in the institution of enforcement action under the provisions of Chapter 9 of the Coastal Act.

2. **Pumping Protocol Plan.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall submit two copies of a five-year Pumping Protocol Plan (the Pumping Plan) to the Executive Director for review and approval that shall, at a minimum, include the following:

   (a) Technical Operations. The Pumping Plan shall include details of the proposed pump operations that comply with all protocols in the October 2, 2012 United States Fish and Wildlife Biological Opinion, Conservation Measure #15 (**see Exhibit 2**). The Pumping Plan should contain verifiable criteria to protect sensitive species and the wetland habitat at the pumping site.

   (b) Water Level Monitoring. The Pumping Plan shall require water levels in Horse Stable Pond (HSP) and Laguna Salada (LS) be continually monitored and recorded in NAVD88

vertical datum as a way to document continual pump operations and the hydrologic conditions of these two wetlands.

(c) Salinity Monitoring. The Pumping Plan shall require that salinity in both LS and HSP be continually monitored. Changes in water quality and hydrological conditions shall be documented.

(d) Groundwater Monitoring. The Pumping Plan shall require shallow piezometers be installed to monitor groundwater levels and groundwater salinities around LS. Salinity intrusions shall be documented.

(e) Emergent Vegetation Monitoring. The Pumping Plan shall require monitoring of the growth and spread of emergent vegetation such as cattails and tules. The Plan shall set a baseline of the initial percent of cover of emergent vegetation in both LS and HSP at the beginning of the monitoring period. The Plan shall require periodic evaluation of the changes in percent cover of emergent vegetation, including the rate of growth from one monitoring event to the next with the goal of evaluating the current protocol and its contribution to the spread of emergent vegetation.

(f) Monitoring and Reporting. The Permittee is required to submit, for the review and approval of the Executive Director, an annual monitoring report prepared by a qualified specialist that certifies the ongoing maintenance pumping activities are being conducted in conformance with the approved Pumping Plan. Reports will be due annually and due at an appropriate time as designated by the approved Plan. The Permittee shall submit a total of 5 annual monitoring reports for a period of 5 years. The first annual report is due one year after completion of approved project. If the first annual monitoring report indicates that the pumping activities are causing salinity intrusions into the groundwater or wetlands, drawdown of groundwater stores, or significant impacts to sensitive species, the Permittee shall submit, for the review and approval of the Executive Director, within 90 days, a revised or supplemental Pumping Plan that incorporates pumping protocols to minimize any such impact that would be adverse to the groundwater stores or the health of the wetlands. After approval by the Executive Director, the Permittee shall implement the revised or supplemental plan and perform monitoring for an additional 5 years. If the final monitoring report indicates that the current pumping protocol has increased emergent vegetation based on the increased cover of cattails and tules, the Permittee shall submit, for the review and approval of the Executive Director, within 90 days, a revised Pumping Plan that proposes to manage water levels in an alternative way that will not lead to the shallow water spread of new emergent vegetation over the percent of cover established at the beginning of the monitoring period. After approval by the Executive Director, the Permittee shall implement the revised or supplemental plan and monitor its success for a period of 5 years.

The Permittee shall undertake all development in accordance with the approved Pumping Protocol Plan.

3. Final Dredging Plan. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall submit two sets of the Final Dredging Plan (Dredging Plan) for

the Executive Director's review and approval. The Dredging Plan shall demonstrate the following:

(a) Dredging Areas. All areas where dredging will occur shall be clearly labeled in the Dredging Plan including with estimated volumes of vegetation/sediment to be removed. The Dredging Plan and proposed areas for dredging shall be in substantial conformance with Map 1 shown in **Exhibit 3** of this CDP application which illustrates excavation/fill areas of the project.

(b) Work in Wetland Areas Minimized. All dredging and vegetation removal will be accomplished from the banks of the wetlands to the maximum extent feasible. For work performed in the connecting channel between HSP and LS, all work shall be performed from the banks of the channel. For work in HSP, work will be accomplished from the banks of HSP to the maximum extent feasible. Access points required in order to wade into HSP as necessary to remove sediments and vegetation shall be minimized to the maximum extent feasible. Access points shall be in substantial conformance with Map 1 shown in **Exhibit 3** of the CDP application which illustrates one single area for access to the wetlands.

(c) USFWS Biological Opinion Conservation Measures. At a minimum, all conservation measures and best management practices for dredging included in the October 2, 2012 United States Fish and Wildlife Biological Opinion (listed on pages 11-19 of **Exhibit 2**) for the removal of sediments and emergent vegetation aspect of the project shall be included in the Dredging Plan.

(d) Monitoring for Acid Sulfides. Monitoring for the release of acid sulfides shall be accomplished in substantial conformance with the Mitigation Measure M-BIO-2b of the Final Mitigated Negative Declaration (see **Exhibit 4** pages 85-87).

The Permittee shall undertake all development in accordance with the approved Final Dredging Plan.

4. Construction Site Plan. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall submit two copies of a Construction Site Plan to the Executive Director for review and approval. The Construction Site Plan shall, at a minimum, include the following:

(a) Construction Areas. The Construction Plan shall identify the specific location of all construction areas, all staging areas, and all construction access corridors in site plan view. All such areas within which construction activities or staging are to take place shall be minimized to the extent feasible, in order to have the least amount of impact on public access and coastal resources, including by using upland portions of the subject property for staging and storing construction equipment and materials as feasible. Construction, including but not limited to construction activities and materials and equipment storage, is prohibited outside of the approved and defined construction, staging, and storage areas.

(b) Construction Methods and Timing. The plan shall specify the construction methods to be used, including all methods to be used to keep the construction areas separate from

wetland habitat. All work shall take place during daylight hours and lighting of wetland habitat is prohibited. No earthmoving or soil disturbing work shall occur from October 31 to June 1 (breeding season for the California Red Legged Frog (CRLF)) in order to avoid breeding CRLF.

(c) BMPs. The plan shall identify the type and location of all erosion control/water quality best management practices (BMPs) that will be implemented during construction to protect coastal water quality, including the following: (a) silt fences, straw wattles, or equivalent apparatus shall be installed at the perimeter of the construction site to prevent construction-related runoff or sediment from discharging to wetland areas; (b) equipment washing, refueling, and servicing shall take place at least 50 feet from the delineated wetlands (c) all construction equipment shall be inspected and maintained at an off-site location to prevent leaks and spills of hazardous materials at the project site; (d) the construction site shall maintain good construction housekeeping controls and procedures (e.g., clean up all leaks, drips, and other spills immediately; keep materials covered and out of the rain, including covering exposed piles of soil and wastes; dispose of all wastes properly, place trash receptacles on site for that purpose, and cover open trash receptacles during wet weather; remove all construction debris from the site); and (e) all erosion and sediment controls shall be in place prior to the commencement of construction as well as at the end of each work day.

(d) Construction Site Documents. The plan shall provide that a copy of the signed CDP and the approved Construction Plan shall be maintained in a conspicuous location at the construction job site at all times, and that the CDP and the approved Construction Plan are available for public review on request. All persons involved with the construction shall be briefed on the content and meaning of the CDP and the approved Construction Plan, and the public review requirements applicable to them, prior to commencement of construction.

(e) Construction Coordinator. The plan shall provide that a construction coordinator be available 24 hours a day for the public to contact during construction should questions arise regarding the construction. Contact information for the coordinator, including a mailing address, e-mail address, and phone number shall be conspicuously posted at the job site in a place that is visible from public viewing areas, along with information that the construction coordinator should be contacted in the case of any questions regarding the construction. The construction coordinator shall record the name, phone number, and nature of all complaints received regarding the construction, and shall investigate complaints and take remedial action, if necessary, within 72 hours of receipt of the complaint or inquiry.

(f) Restoration. All areas impacted by construction activities shall be restored to their pre-construction condition or better within three days of completion of construction.

(g) Notification. The Permittee shall notify planning staff of the Coastal Commission's North Central Coast District Office at least three working days in advance of commencement of construction, and immediately upon completion of construction.

Minor adjustments to the above construction requirements may be allowed by the Executive Director if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources. The Permittee shall undertake construction in accordance with the approved Construction Plan.

5. **Mitigation and Monitoring Plan.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall submit two sets of the Final Mitigation and Monitoring Plan (Mitigation Plan) for the Executive Director's review and approval. The Mitigation Plan shall demonstrate the following:

   (a) Documentation of Temporary Impacts. All expected temporary impacts associated with removal and relocation of the golf cart path, as well as with the construction of the CRLF breeding pond, shall be documented in the Mitigation Plan. Such impacts are expected to include any upland staging areas not located on the existing cart paths, any areas on the margins of the to-be-constructed breeding pond

   (b) Mitigation of Temporary Impacts. The Mitigation Plan shall propose mitigation measures for all temporary impacts associated with the construction activities for the golf cart path removal and relocation, as well as for the construction of the CRLF breeding pond. Such mitigation would include at a minimum, revegetation plans for impacted areas, installation of erosion control devices and conducting construction from upland areas.

   (c) Monitoring for Success of Revegetated Areas and Breeding Pond. The Mitigation Plan will include success criteria for monitoring all revegetated areas as well as the CRLF breeding pond including at a minimum, that monitoring for success criterial should occur for a minimum of five years, that monitoring for success of native species will occur, that a goal of the revegetation efforts will be to achieve a reduction in non-native cover and approximately 90% cover of grassland and shrub species after five years and that monitoring for success of the CRLF breeding pond will be conducted according to Conservation Measure 29 of the USFWS BO (see **Exhibit 2**).

   (d) Remedial Plantings. If required because original plantings fail, the Mitigation Plan should make clear that remedial plantings will be occur in order to achieve required success criteria.

   (e) Annual Reporting. The Permittee is required to submit, for the review and approval of the Executive Director, an annual monitoring report prepared by a qualified biologist that certifies the ongoing monitoring is being conducted in conformance with the approved Mitigation Plan. Reports will be due annually and due at an appropriate time as designated by the approved Mitigation Plan.

6. **Other Agency Review and Approval.** PRIOR TO COMMENCEMENT OF CONSTRUCTION, the Permittee shall submit to the Executive Director written evidence that all necessary permits, permissions, approvals, and authorizations for the approved project have been granted by all applicable agencies or evidence that no additional authorizations are necessary. Any changes to the approved project required by these agencies

shall be reported to the Executive Director. No changes to the approved project shall occur without a Commission amendment to this CDP unless the Executive Director determines that no amendment is legally necessary.

7. **Coastal Hazards Response**. By acceptance of this CDP, the Permittee acknowledges and agrees, on behalf of itself and all successors and assigns, that:

   (a) Coastal Hazards. The site is subject to coastal hazards including but not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, storms, tsunami, tidal scour, coastal flooding, and their interaction.

   (b) Permit Intent. The intent of this CDP is to allow for the approved project to be constructed and used consistently with the terms and conditions of this CDP for only as long as the development remains safe for use, without additional substantive measures.

   (c) Future Removal of Development. The Permittee shall remove or relocate, in part or in whole, the development authorized by this CDP, including, but not limited to, pumping infrastructure and outfall, and other development authorized under this CDP, when any government agency orders removal of the development in the future or when the development becomes threatened by coastal hazards, whichever happens sooner. Development associated with removal of authorized development shall require an amendment to this CDP. In the event that portions of the development fall to the water or ground before they are removed, the Permittee shall remove all recoverable debris associated with the development from the ocean, intertidal areas, and wetlands and lawfully dispose of the material in an approved disposal site. Such removal shall require an amendment to this CDP.

8. **Coastal Hazards Risk**. By acceptance of this CDP, the Permittee acknowledges and agrees, on behalf of itself and all successors and assigns:

   (a) Assume Risks. To assume the risks to the Permittee and the property that is the subject of this CDP of injury and damage from coastal hazards as described in Special Condition 7(a) in connection with this permitted development;

   (b) Waive Liability. To unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such coastal hazards;

   (c) Permittee Responsible. That any adverse effects to property caused by the permitted project shall be fully the responsibility of the Permittee.

   (d) Indemnification. The Permittee indemnify and hold harmless the Coastal Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, or amounts paid in settlement arising from any injury or damage due to such hazards

9. Liability for Costs and Attorney Fees. The Permittee shall reimburse the Coastal Commission in full for all Coastal Commission costs and attorneys' fees (including but not limited to such costs/fees that are: (1) charged by the Office of the Attorney General; and (2) required by a court that the Coastal Commission incurs in connection with the defense of any action brought by a party other than the Permittee against the Coastal Commission, its officers, employees, agents, successors and assigns challenging the approval or issuance of this CDP, the interpretation and/or enforcement of permit conditions, or any other matter related to this CDP. The Permittee shall reimburse the Coastal Commission within 60 days of being informed by the Executive Director of the amount of such costs/fees. The Coastal Commission retains complete authority to conduct and direct the defense of any such action.

IV. COASTAL DEVELOPMENT PERMIT DETERMINATION

The proposed project location is within a public Golf Course, located adjacent to the shoreline in the City of Pacifica, which has a certified Local Coastal Program (LCP). However, the proposed project involves development to be located in an area of the Commission's retained coastal development permitting (CDP) jurisdiction because development is proposed in an area that is defined as former tidelands, submerged land or land subject to the public trust (see **Exhibit 5**). Therefore, the standard of review for this CDP application is the Chapter 3 policies of the Coastal Act, and the appropriate permitting entity is the Coastal Commission.

A. PROJECT LOCATION

The proposed work will take place at Sharp Park Golf Course in Pacifica, San Mateo County. Sharp Park Golf Course is located within the City of Pacifica just inland of the Pacific Ocean, south of Pacifica's Municipal Pier and north of Mori Point. See **Exhibit 1** for project location and vicinity maps. The Golden Gate National Recreation Area, which is managed by the National Park Service, borders Sharp Park to the south. The Golf Course is part of the larger Sharp Park complex, a public park physically located in Pacifica but owned by the City and County of San Francisco and operated by San Francisco Recreation and Parks Department (SFRPD). The Sharp Park complex is approximately 417 acres, and, besides the Golf Course, contains an archery range, a remediated former rifle range, a clubhouse, and a parking lot. The Sharp Park complex is bisected by Hwy 1. The 18-hole Golf Course is located mostly on the seaward portions of the park and is separated from the beach by a berm built in 1941 to keep the ocean from flooding the course.[1] This earthen berm, with a rock revetment on its western side adjacent to the sandy beach and ocean, eliminated the hydrologic connection between the Pacific Ocean and the wetland areas found within the Golf Course. As a result of the berm, the wetlands found within the Golf Course transitioned from historically tidally influenced saltwater wetlands that were brackish near the beach, to modernly freshwater wetlands (see Dr. John Dixon's Memo **Exhibit 7)**.[2]

[1] Historic Resource Evaluation Response. February 8, 2011, pages 4-4

[2] Letter from San Francisco Public Golf Alliance, March 10, 2015, page 3.

The Golf Course is interspersed with wetland areas, and in total Sharp Park Golf Course contains 27 acres of wetlands. These wetlands, as well as the upland areas surrounding them, support both threatened and endangered species of concern. Specifically, the California red-legged frog (CRLF) is federally listed as threatened and the San Francisco garter snake (SFGS) is federally listed as endangered. The project will take place in and around Laguna Salada (LS) and Horse Stable Pond (HSP) - two wetland areas in the western part of the Golf Course, located just inland of the berm - and in a channel that connects these two wetlands.

Sharp Park is located within a large 845-acre watershed. LS is a freshwater wetland maintained by groundwater when surface flow is low (i.e., during the summer). HSP is located south of LS and consists of open water pond and freshwater wetland habitat and is also fed by groundwater during periods of low precipitation. In addition to watershed/groundwater drainage, the wetlands in Sharp Park receive runoff from Highway 1, surrounding residential streets and subdivisions located within Pacifica, and the Golden Gate National Recreation area that is adjacent to the park.[3] The two wetlands at issue in this permit application are connected by a 1,000-foot long channel that was constructed in 1941 to drain water from LS to HSP, where a pumphouse is located. The pumphouse, which is situated on the southwest corner of HSP, contains a flood control pump system used to drain excess water from the wetlands to the Pacific Ocean. The existing pump system consists of a large pump (rated 10,000 gallons per minute or gpm) and a small pump (rated 1,500 gallons per minute or gpm).

B. PROJECT BACKGROUND

Alister Mackenzie, noted master golf architect, was commissioned to build Sharp Park Golf Course in 1929 and the course was completed in 1932. The Golf Course is designated an historic site by the Pacifica General Plan, the Golf Course and Club House are historic landmarks in the City of Pacifica, and the property itself is designated a known historic resource for the purposes of the SF City and County Planning Department's CEQA determination.[4] Sharp Park Golf Course is one of two low-priced, full 18-hole courses available in San Mateo County and is one of the most-played municipal courses operating in San Francisco and the surrounding areas.[5]

As previously stated, the Golf Course is located in the seaward portions of the Sharp Park complex and is separated from the beach by a berm originally built in 1941 to keep the ocean from flooding the course.[6] This berm eliminated the hydrologic connection between the Pacific Ocean and any wetland areas found within the Golf Course. Prior to installation of the berm the seaward portions of the property were occupied by sand dunes and even some portions of the Golf Course fairways were located within the existing sand dunes. Prior to the elimination of the hydrologic connection between the Pacific Ocean and the wetland areas in the seaward portions of the Golf Course, the wetlands were tidally influenced salt water wetlands. It is likely that the

[3] U.S. Fish & Wildlife Service Biological Opinion (BO), October 2, 2012, page 8.

[4] Historic Resource Evaluation Response. February 8, 2011, pages 1-2

[5] San Francisco Public Golf Alliance letter, March 10, 2015, page 2

[6] Historic Resource Evaluation Response. February 8, 2011, pages 4-4

wetlands would not have been suitable habitats for CRLF prior to the berm installation because of the saline influence from ocean water.[7]

The water levels of HSP and the LS wetlands have been actively managed since the construction of the berm in 1941. Historically, SFRPD utilized the pumping infrastructure in the pumphouse at the southwest corner of HSP to manage flood waters on the Golf Course in order to maintain year round full play of all 18 holes. In 1959 SFRPD installed two pumps to help with the flooding of LS.[8] Currently, as stated above, existing pumps in the pumphouse are rated 1,500 and 10,000 gpm respectively.[9]

SFRPD began managing the natural areas within the park complexes throughout San Francisco and Pacifica in the late 1990's, including Sharp Park Golf Course, through the development of a Natural Areas Program and Significant Natural Resource Area Management Plan (SNRAMP). The SNRAMP being implemented at Sharp Park and the Golf Course was published in 2006. The SNRAMP is the chief guidance for natural resource protection, habitat restoration, maintenance activities and other capital projects at Sharp Park through 2026.[10] The SNRAMP project goals at Sharp Park Golf Course include: deepening of open water areas within LS and HSP by 2-3 feet; and restoration actions to increase habitat and ensure ample edge habitat consisting of open water interlaced with emergent vegetation to support and benefit CRLF.

The current pumping scheme at Sharp Park manages water levels with the purpose of maintaining the recreational golfing areas within Sharp Park Golf Course. The Applicant states that the determination as to whether, how, and when to operate the pumps is guided by pumping criteria specified in detail within the United States Fish and Wildlife Service (USFWS) Biological Opinion (BO) prepared for the long-term Infrastructure Improvement and Habitat Enhancement Project at Sharp Park. The Infrastructure Improvement and Habitat Enhancement Project was proposed in 2012 by the Applicant to further the goals of the SNRAMP. The USFWS BO includes an incidental take statement for CRLF and SFGS in accordance with the terms and conditions of the incidental take associated with the proposed project activities and ongoing operations and maintenance at the Golf Course. The BO lays out the proposed project activities, as well as the operation and maintenance activities at the Sharp Park complex, with appropriate mitigation and conservation measures that were evaluated and authored up by the USFWS.

With regard to flood control and drainage, SFRPD controls the pumps in the pumphouse with adjustable electric probes. Water levels are monitored by a mounted gauge board. Pumping occurs mainly in the rainy season months between November and May. BO Conservation Measure 15 requires specific pumping protocols, including: 1) pump operations to ensure, to the maximum extent feasible, that CRLF in HSP, LS and the connecting channel are protected from desiccation; 2) the presence of a biological monitor; 3) water levels to be maintained as

[7] Personal Communication, Lisa Wayne, SFRPD Open Space Manager, March 18, 2015.

[8] Historic Resource Evaluation Response. February 8, 2011, pages 4-4

[9] Letter from Lisa Wayne, March 16, 2015, page 3.

[10] Sharp Park Golf Course Historical Resources Evaluation Report, page 3-2

determined by visual surveys for CRLF egg masses beginning at the first rain events in November and throughout the breeding season until all tadpoles have hatched (or during drought years whenever the first heavy rains occur); 4) visual surveys to track CRLF data including egg mass attachment type, water depth, size of egg masses and potential for stranding; 5) when CRLF masses are observed, water levels be set so as to assure that sufficient water surrounds egg masses, if sufficient water is not present, water levels are adjusted upward, regardless of any risk of flooding the course; 6) water levels also be set to protect the most vulnerable egg masses present; 7) once all tadpoles are hatched and aggregation around egg masses is no longer occurring, water levels may be adjusted downward insofar as to assure tadpoles will not be stranded by receding waters; 8) water levels never be set below a level that provides at least 6 inches of depth on the inboard margin of the vegetation; and 9) when no masses are present, water levels may be adjusted downward to reduce flooding in anticipation of rain events (but never below 6 inches of depth on vegetation inboard margin). For a full text of the pumping protocol approved by USFWS, please see the **Exhibit 2**, USFWS BO, pages 13-14.

The stated purpose of the proposed project is to ensure the ongoing operation of the flood control pumps to reduce flooding of the Golf Course and maintain recreational activities; to ensure worker safety when operating/maintaining the pumps and pumping infrastructure; to relocate a golf cart path out of wetland areas; and to prevent stranding and desiccation of egg masses of the threatened California red-legged frog (CRLF). The Applicant states that currently two factors impact the ongoing operation of the pumps: 1) operation of the pumps are impaired by sediment buildup and vegetation growth around the pump intake structure and along the connecting channel between LS and HSP; and 2) operation of the pumps is impaired by buildup of vegetation on pump intake screens. This diminished capacity of the pumps contributes to flooding of certain playable areas of the Golf Course and also affects the ability of Golf Course staff to effectively manage flood levels consistent with the requirements of Conservation Measure 15 of the BO.

Flooding of the Golf Course affects the playability of the course, as well as Golf Course maintenance activities. In past years, flooding on the Golf Course has rendered entire holes or portions of holes unplayable, including holes 9, 12, 13, 14, 15 and 17, during winter and early spring months.[11] In most if not all years, portions of the Golf Course flood for a period of the rainy season.[12] Flood waters back up onto the Golf Course such that players cannot access greens and tees, and holes are shortened by SFRPD to avoid flooded areas. Operationally, the Golf Course cannot be mowed or otherwise maintained under flooded conditions. The biological assessment prepared for the project by the Applicant states that optimal operation of the flood control pumps can limit and lessen the extent of such flooding. According to the biological assessment, operation of the flood control pump system is necessary to manage floodwaters both on the Golf Course property, as well as the surrounding areas. During normal rainfall level years, floodwaters back up from LS onto the Golf Course paths, blocking play and access across the fairways to greens, and tees and holes are shortened to avoid flooded areas, diminishing the

[11] Supplemental Information for Coastal Development Permit for the Sharp Park Safety, Infrastructure Improvement and Habitat Enhancement Project, March 16, 2015, page 5.

[12] *Id.*

ability of the public to enjoy golf at Sharp Park Golf Course. Absent the pumping of the water, the Golf Course is not fully functional. Absent active management, the extent and duration of flooding on the course is worsened, encompassing about half of the 18 holes. As a result, the course would be shut down for extended periods of time every winter and into spring, except in years with little rain.

Ongoing maintenance and management activities at Sharp Park Golf Course are covered by the above-referenced SNRAMP. The USFWS BO covers the Infrastructure Improvement and Habitat Enhancement Project at Sharp Park, as well as the ongoing operations and maintenance activities, and was drafted in furtherance of the goals of the SNRAMP. The SNRAMP, as well as the stated intentions of SFRPD indicate that Sharp Park Golf Course is in need of long-term management solutions and potential course reconfiguration in order to remedy the ongoing flooding and habitat issues which occur at the course. The current proposed project activities include dredging, removing emergent vegetation, and improving pumphouse infrastructure to remedy flooding and habitat issues currently occurring at Sharp Park Golf Course. However, both the USFWS BO and the Applicant's Biological Assessment point out that shallow water, which in one sense, benefits egg laying by the CRLF because the frogs prefer warmer waters, also promotes the growth of cattails and tules, causing the encroachment of emergent vegetation within LS and HSP. This spread of emergent vegetation not only compromises the pumping operations, but also leads to loss of open water habitat needed by CRLF.[13] SFRPD has explained that the current project activities proposed in this CDP application consist of a short-term solution to an ongoing problem. SFRPD is currently considering long-term solutions, including reconfiguration of the layout of greens, tees, and holes at the Golf Course in order to remove play areas from areas more vulnerable to flooding, in conjunction with a more robust plan to restore a greater area of wetlands to improve habitat values for sensitive species.

C. PROJECT DESCRIPTION

The SFRPD proposes to implement the proposed project in two locations within Sharp Park to address flooding and allow for continued recreational opportunities, improve worker safety, and restore CRLF breeding habitat. The majority of the proposed infrastructure work would be performed on the southwest corner of the existing Golf Course, at the pumphouse near HSP. Dredging and vegetation removal will occur at HSP and the channel that connects LS and HSP. In addition, one segment of an existing golf cart path is proposed to be realigned as part of this project. This golf cart path segment is located in upland areas adjacent to the northeast portion of LS and to the southwest of Lakeside Avenue (**Exhibit 3**).

Specific proposed project elements include the following:

- removal of sediments and emergent vegetation within HSP near the intake structure; removal of sediment and emergent vegetation that impedes water flow in select locations within the connecting channel and culverts that link HSP and LS;

[13] BO, page 34.

- installation of steps leading down the slope from the access road to the pumphouse and the intake structure; construction of a walkway on concrete support structures that will wrap around the intake structure around the front of the pump intake box;
- replacement of the failing wooden retaining wall next to the pump house (at the base of the levee slope between the uplands and the wetland) with a concrete retaining wall to prevent further soil deposition from the uplands from entering the waterway, that will result in 6 square feet of fill in wetlands;
- relocation and removal of approximately 100 linear feet of a golf cart path (approximately 700 square feet or 0.016 acres) located adjacent to the LS wetland; and
- construction of a new pond approximately 1,600 square feet in size in a location to be determined, proposed to facilitate breeding habitat for CRLF with a monitoring plan for breeding success (this restoration pond will be modeled after the Golden Gate National Recreation Area frog restoration ponds that have been successful).

The Applicant proposes that emergent vegetation will be removed to a depth of no more than 3 feet. Current existing ground elevations at the bottom of HSP and the connecting channel, where vegetation will be removed, are between 3 and 8 feet NAVD. Biological monitors will be present during vegetation/sediment removal, no dredging activities will be conducted during CRLF breeding season, erosion control BMPs will be employed during all dredging activities and to the maximum extent feasible, vegetation removal will be accomplished from the banks or edges of the wetlands to minimize project impacts to wetlands and species. Please see the **Exhibit 2**, USFWS BO, pages 11-13 for the conservation measures associated with the removal of emergent vegetation.

Dredging, vegetation removal and installation of the walkway piers and replacement of the failing retaining wall at the pumphouse will take place in wetland areas. In addition, SFPRD's ongoing maintenance practice of pumping and the proposed improvement of those pumping activities have the potential to impact the sensitive wetlands and habitat for threatened and endangered species, CRLF and SFGS, respectively.

Finally, the Applicant proposes after-the-fact approvals of previous pump replacements at the pump house including: the replacement of two existing pre-Coastal pumps that were installed in 1959 (capacity of 500 gpm and 250 gpm respectively) with two new pumps (1,500 gpm and 10,000 gpm respectively); and the 2010 replacement-in-kind of the 10,000 gpm pump. SFRPD has so far been unable to provide specific information as to when these pumps were installed to replace the original pre-Coastal pumps. Additionally, no permit information has been provided for when, in 2010, the large-capacity 10,000 gpm pump was replaced in-kind. These actions would have required a Coastal Development Permit by the Coastal Commission and absent proof of such a permit, the pumps (the original 1,500 gpm pump, the original 10,000 gpm pump and the replacement-in-kind 10,000 gpm pump) are currently unpermitted and require after-the-fact approval. As a result of the discovery of alleged unpermitted development, the Coastal Commission Enforcement Staff has opened an investigation into this matter. The installation of replacement pumps occurs in the wet wells that contain the pumps. The wells draw water from an existing cement vault currently located in association with the pumphouse infrastructure, a few feet below the bottom surface of the pond. The pump replacement events consist of changing

the pump from within the well and no digging, fill or disturbance to the wetlands would be required.

See **Exhibit 3** for detailed project description and plans.

D. RECREATION AND PUBLIC ACCESS

Applicable Policies

The Coastal Act grants a high priority to recreational uses along the coast and to public access to the coast. The Act protects and encourages lower-cost visitor and recreational facilities where feasible and states a preference for developments providing public recreational opportunities. In addition, the Coastal Act requires that oceanfront land and upland areas suitable for recreational use be protected for recreational uses.

Coastal Act Section 30210 states:

> *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

Coastal Act Section 30213 states:

> *Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.*

Coastal Act Section 30221 states:

> *Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.*

Coastal Act Section 30223 states:

> *Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.*

Sharp Park is a public park that provides recreational opportunities for all people. In addition to the golf course, it offers breathtaking views to hikers, runners, cyclists, and due to the easy access by car and on foot, to visitors who may only have a short time available to see the ocean. Sharp Park qualifies as a sensitive coastal resource area due to its significant recreational value and because it is a highly scenic area. (See § 30116(b) and (c).) The Park

contains public pathways that the public may use to reach the coast and to observe the interplay of the wetland areas and the coastal environment.

In particular, Sharp Park Golf Course is open to the public. It is a highly popular course enjoyed by golfers who appreciate its historic architecture, dramatic views, and inexpensive rates. In fiscal year 2013-2014, SFRPD reports 45,622 18-hole rounds were played. According to the San Francisco Public Golf Alliance, the course is considered the "poor man's Pebble Beach," and is a favorite among senior and ethnic minority golf associations.

The golf course offers relatively inexpensive opportunities for the public to enjoy the sport, especially compared to private golf courses in the area. The current rate for seniors who are residents of San Francisco is $16 on weekdays and $24 on weekends, with junior (youth) rates less than that. Adult residents may play for $26 on weekdays and $31 on weekends. Nonresidents play for less than $50. By contrast, private courses range from $34-$77 for senior residents at the Presidio Golf Course in San Francisco, to as high as $185 at the Half Moon Bay Golf Links Ocean Course. The other public course in San Mateo County, Poplar Creek, offers rates that run about $10 higher and Poplar Creek restricts the residency discount to residents of the City of San Mateo. Staff has received support letters from the City of Pacifica and San Mateo County stressing that Sharp Park and the Golf Course, specifically, provide an important recreational area for golfers and a public access asset to other residents (See **Exhibit 6**).

The proposed project will allow for improved management of these recreational assets. The improvement and increased efficiency of the infrastructure SFRPD uses to manage flood waters at the course will assure that the course is fully playable and that public access paths remain open and free of obstruction to the maximum extent feasible consistent with the requirements of the USFWS BO. The Applicant has stated that if the proposed project management activities or infrastructure improvements are not completed, especially during the rainy season, up to half (or more) of the existing 18-hole Golf Course could be impacted and/or closed off to recreational/access uses. **Figure 1** below illustrates the approximate extent of the high water mark of typical winter/early spring flooding on the Golf Course even with current management practices (9 feet NAVD88).[14] At these levels, flooding already impacts a large portion of the Golf Course. The Applicant asserts that if flood waters were allowed to accumulate even 3 additional feet NAVD88 to 12 feet, this would substantially increase the extent and duration of flooding on the course, and encompass about half of the 18 holes (9, 11, 12, 13, 14, 15, 16, 17 and 18).[15] As a result, the course would be shut down for extended periods of time every winter and into spring, except in the very lowest of precipitation years, and public use could significantly decrease.[16] Project activities, as proposed, will enhance the ability of SFRPD staff to manage flood waters so that playability

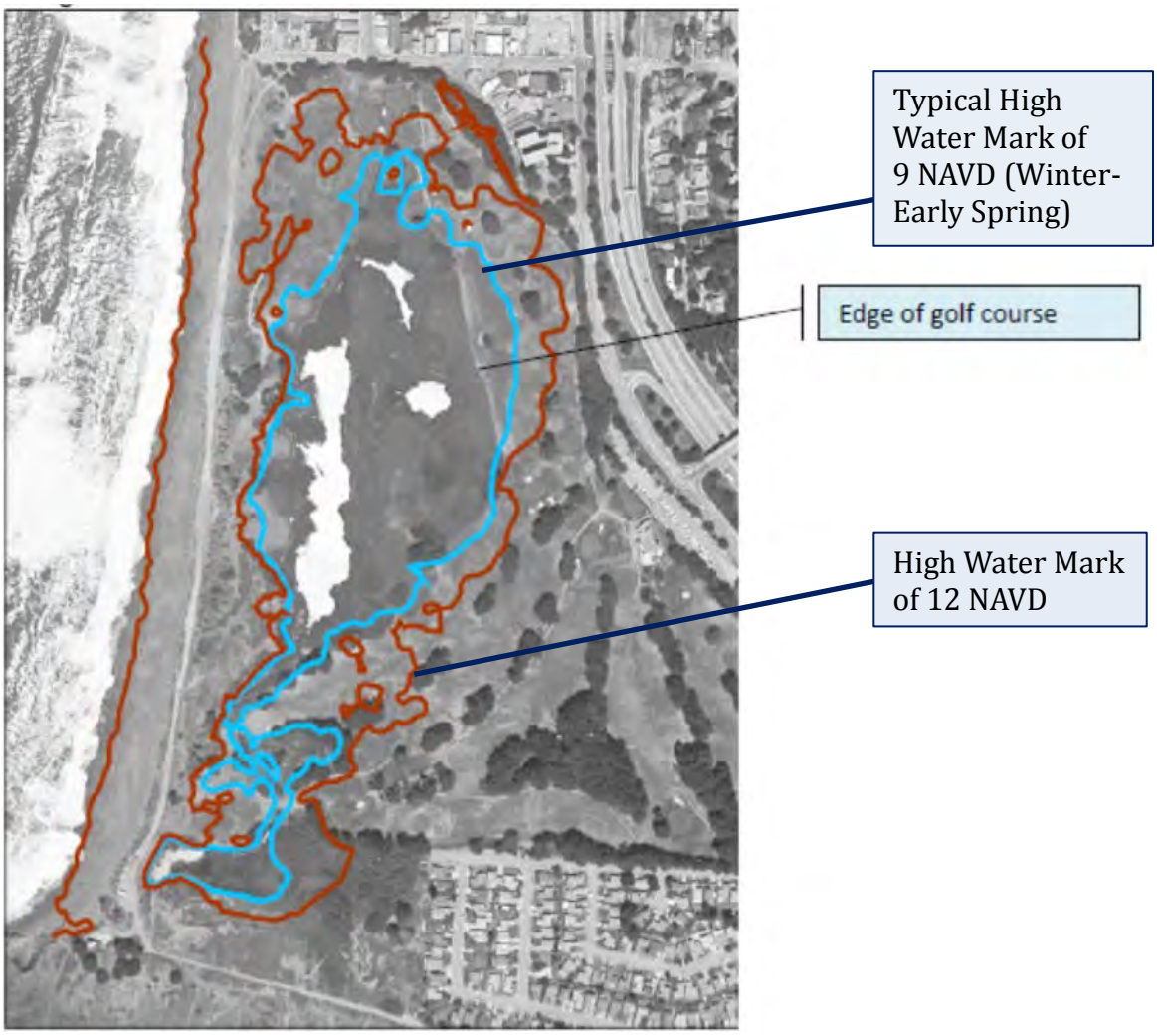
[14] Supplemental Information for Coastal Development Permit for the Sharp Park Safety, Infrastructure Improvement and Habitat Enhancement Project, March 16, 2015, page 5.

[15] *Id.*

[16] *Id.*

of the Golf Course and the accessible path areas are better maintained for the benefit of the public.

Figure 1. Typical winter-spring flooding levels (around 9 feet NAVD88) and accumulated water (around 12 feet NAVD88) at Sharp Park Golf Course.



One project activity, the proposed golf cart path realignment area to the northeast of LS, will temporarily block a public path for a short period of time while the path is reconfigured and relocated. However, this path is already in a damaged state, it is primarily used by golfers and impacts to access and recreation will only be for a short time (a maximum expected 5 days). Further, other publicly available paths exist throughout Sharp Park so that impacts to access throughout the park and to areas seaward of the park will be limited to the temporary closure of the pertinent golf cart path for the project construction.

Conclusion
Because the project activities are proposed to protect, maintain, and improve an existing public, visitor-serving, low-cost recreational activity and because any impacts to access are temporary in nature and alternative routes to the sea are provided, the proposed project is consistent with the public access and recreation requirements of the Coastal Act.

E. BIOLOGICAL RESOURCES

1. Permissible use in Wetlands

Applicable Policies
Coastal Act Section 30233 allows for dredging of wetlands where there is no feasible less environmentally damaging alternative and where feasible mitigation measures have been provided to minimize adverse environmental effects and are limited to certain circumstances such as incidental public services. Coastal Act Section 30233 states:

> *(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*
> …
> *(4) Incidental public service purposes...*
> *(6) Restoration purposes.*
>
> *(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation...*
>
> *(c) ... diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary.*

When a dredging or fill project occurs in wetlands that are also environmentally sensitive habitat areas (ESHAs), Section 30233 allows for such dredging and fill in wetland ESHAs, subject to certain criteria, importantly including that such projects incorporate the feasible mitigation measures. As stated in *Bolsa Chica Land Trust v. Superior Court*, "...the ESHA protections provided by section 30240 are more general provisions and the wetland protections provided by section 30233 are more specific and controlling when a wetland area is also an ESHA.... Section 30240, a more general policy, also applies, but the more specific language in the former sections is controlling where conflicts exist with general provisions of Section 30240." ((1999) 71 Cal.App4th 493, 515.)

Analysis
Sharp Park contains two species of particular concern: the California red-legged frog (CRLF), which is federally-listed as threatened and state listed Species of Special Concern, and the San Francisco garter snake (SFGS) which is state and federally-listed as endangered. Areas within Sharp Park and within the confines of the Golf Course including Sanchez Creek, LS and HSP are

significant foraging areas for SFGS because these wetland areas are freshwater breeding habitat for CRLF and other species that SFGS feed on. CRLF egg masses have been observed at Sharp Park Golf Course every year from 2004-2011 and the California Natural Diversity Database also reports known occurrences of CRLF at the park.[17] Since these threatened and endangered species use the wetland areas as both breeding and foraging habitat, the wetland areas meet the definition of ESHA under Section 30107.5 of the Coastal Act because they support rare species and are therefore subject to the provisions of Section 30240. The wetlands also meet the definition of ESHA because they are especially valuable due to their role in the ecosystem of providing essential habitat for a diverse assemblage of wetland species.

The aspects of the proposed project that directly impact wetland ESHAs include removal of vegetation and sediments; placement of the walkway that will hang over the water and require a small amount of fill for supporting piers; the minor expansion of the existing retaining wall; and the periodic draining of water from the wetlands. The Applicant proposes to dredge sediment and emergent vegetation (cattails and tules) from HSP and the connecting channel between HSP and LS (the approximate areas are indicated in **Exhibit 3**). The installation of a walkway on piers and replacement of a retaining wall at the pumphouse will result in approximately 1.7 cubic yards of fill in wetlands and impact 12 square feet (1.33 square yards) of the water's surface area.

The Applicant presents the project, in part, for purposes of restoration. The Applicant documents that there has been an overall loss of open water habitat in HSP over the last 7 years due to the spread of emergent wetland vegetation such as cattails and tules in the wetlands of HSP.[18] The Applicant also asserts that the proposed dredging of sediment and removal of emergent vegetation (cattails and tules) will open up additional open water habitat and therefore, restore open water CRLF breeding habitat in HSP and parts of the connecting channel between HSP and LS. The USFWS BO agrees with this assertion, by stating that the "tule and cattail removal proposed as part of the project will likely improve breeding habitat for [CRLF] by creating additional open water habitat."[19] The Applicant also asserts that the infrastructure improvements proposed at the pumphouse will improve worker safety, and allow for the improved monitoring and maintenance of flood levels to protect CRLF egg masses during the rainy season.

Coastal Commission Biologist, Dr. John Dixon states that although removal of vegetation "is likely to have some ancillary benefits to the [California red-legged] frog, these activities are primarily to increase water flow to the pumps." (See **Exhibit 7**). Dr. Dixon also finds that removal of vegetation is the minimum necessary to operate the pumps efficiently and to facilitate water movement from the LS to HSP which will at least maintain, and may potentially increase, the existing functional capacity of the wetlands. Thus, because the primary purpose of the proposed vegetation and sediment removal appears to be to allow for flood control for public recreational use and the pumphouse infrastructure improvements are primarily to improve worker safety, the Commission finds that the use proposed in wetlands is more accurately

[17] BO page 29.

[18] Supplemental Information for Coastal Development Permit for the Sharp Park Safety, Infrastructure Improvement and Habitat Enhancement Project, March 16, 2015, page 1.

[19] BO page 34.

characterized as incidental public services for purposes of evaluation under Coastal Act Section 30233.

The Commission has considered what constitutes an incidental public service many times. First and foremost is whether the project is initiated by a public agency for a public purpose, such as replacement of old railroad bridges (CC-059-09); expansion of a railroad line (CC-052-05, CC-086-03) or modifications to an airport (CC-058-02). In this case, the pumps owned by the City of San Francisco and operated by SFRP are for the purposes of maintaining the public golf course.

Second, the use must be incidental. *Bolsa Chica*, cited above, supported the Commission's interpretive guidelines regarding incidental public service purposes and elaborated:

> *In particular we note that under Commission's interpretation, incidental public services are limited to temporary disruptions and do not usually include permanent roadway expansions. Roadway expansions are permitted only when no other alternative exists and the expansion is necessary to maintain existing traffic capacity.*

By analogy, clearing of the vegetation and sediment is a temporary action to maintain the existing capacity of the pumps. No other feasible less damaging alternative exists that would support existing capacity.

However, project opponents, Wild Equity Institute, have asserted that despite the incidental public service purpose of the proposed project, this project does not comply with Coastal Act Section 30233(a), as there is a less environmentally damaging alternative to dredging and active vegetation removal. Wild Equity's proffered less environmentally damaging alternative is to prevent the spread of this emergent vegetation by drowning it out. Specifically, Wild Equity asserts that if wetland water depths were maintained at the lower edge of vegetation at 4 feet, the spread of this type of vegetation growth would cease and result in the natural die off of tules and cattails. Wild Equity states that since these types of vegetation spread by lateral clonal growth by creeping rhizomes, as opposed to general vegetative or reproductive growth, this higher water level maintained in HSP would stop the spread of the emergent vegetation and create more open water CRLF breeding habitat.[20] It should be mentioned that this alternative approach may require amphibious equipment to mow tules and cattails to stumps before the winter flooding and frog breeding season begins.[21]

The USFWS BO would seem to support the statement that shallow water promotes the growth of cattails and tules causing the gradual encroachment of vegetation and loss of open water habitat.[22] However, the Applicant states that Wild Equity's proposal is not feasible for a number of reasons. First, the SFRPD Natural Areas Program Director states that maintaining the water levels high enough to allow natural die off of emergent vegetation is dependent on sufficient precipitation in the region which the Applicant cannot control. In addition, assuming there is

[20] Sharp Park Memorandum for CCC staff 3.2.15, Wild Equity Institute, page 3.

[21] Letter from Ralph Faust, Consulting Attorney for Wild Equity Institute, March 28, 2015, page 8.

[22] BO page 34.

sufficient precipitation in the region, water levels required for such a process would be up to three[23] to four[24] feet higher than the very highest winter/spring flooding ever recorded to have occurred at the Golf Course (see above, 12 feet NAVD88 inundation line on **Figure 1**), effectually closing down the entire Golf Course for a longer duration of time. This longer duration of closure would result in a decrease in available playing area and would cause impacts to low cost recreational opportunities at the Golf Course in the short-term, while flooding is occurring, and in the long-term, due to the inability of Park staff to maintain the course for ongoing and future use while the areas are flooded.

Dr. Dixon agrees that cattails and tules proliferate in shallow water less than 2.5 ft. and agrees that if the water levels were maintained at a very high level, theoretically all the cattails might die. Since the water levels at Sharp Park depend on rainfall and pumping, without rainfall there will not be the opportunity to manipulate water levels other than to reduce them. Dr. Dixon goes on to conclude that for this method to be effective, the desired water levels would have to be maintained for several years and, since the only source of water is rainfall, this method may not be feasible during a drought.

The Applicant's biologist, Karen Swaim, states that managing the waters to allow for increased inundation of the course, also increases the likelihood that CRLF would deposit egg masses in seasonal, perennial waters[25] on the 11th, 13th, 14th and 18th fairway outside of the delineated LS wetlands. These are areas within the Golf Course where water recedes faster and the areas become hydraulically disconnected from the waters of the LS wetland complex. This would in turn create a supposed population sink for CRLF because the early life stages (eggs and tadpoles) would become stranded in these ephemeral waters as they dry up, likely killing the juveniles, before they are able to translocate to more permanent bodies of water.[26] The USFWS BO agrees with this assertion as there are conservation measures required in the BO to assure that pumps are operated according to the specified protocol to prevent such strandings. Further, the aquatic mowing that may be required in this alternative could have similar or worse environmental impacts than dredging for emergent vegetation. Thus, the Commission finds that the alternative as proposed by project opponents may not be the least environmentally damaging alternative with regards to wetland ESHAs, and is not feasible given this alternative relies on environmental factors such as rainfall that are out of the Applicant's control.

While the proposed project aspects to remove sediment and emergent vegetation from the wetlands will improve CRLF breeding habitat and maintain the functional capacity of the existing wetland, the Commission recognizes that this alternative has the potential to result in adverse impacts to sensitive species. According to the USFWS BO, construction activities for the proposed project have the potential to result in adverse effects to the sensitive species in the

[23] Supplemental Information for Coastal Development Permit for the Sharp Park Safety, Infrastructure Improvement and Habitat Enhancement Project, March 16, 2015, page 5.

[24] Sharp Park Memorandum for CCC staff 3.2.15, Wild Equity Institute, page 3.

[25] Letter from Swaim Biological, August 5, 2014.

[26] Supplemental Information for Coastal Development Permit for the Sharp Park Safety, Infrastructure Improvement and Habitat Enhancement Project, March 16, 2015, page 6.

following ways: injury or mortality may result from being crushed by earth moving equipment, debris or foot traffic; injury, exposure or disruption of normal behaviors will likely result from removal or disturbance of vegetation and sediments from HSP and the connecting channel between HSP and LS and from the construction of the infrastructure improvements of the walkway and retaining wall at the pumphouse; and work activities including noise and vibration may result in adverse effects to CRLF and SFGS by causing them to evacuate normal habitats in association with any work areas. Finally, disturbed sediment layers in HSP may re-suspend anoxic hydrogen sulfide sediments which could result in pulses of low oxygen in the water, leading to CRLF larvae and juvenile mortality. The USFWS BO for the project addresses the above adverse impacts by including significant conservation measures which address impacts associated with construction activities (please see **Exhibit 2** pages 11-13); and the Mitigated Negative Declaration also includes mitigation measures to address such impacts (see **Exhibit 4)**.

In addition, the project represents a temporary solution to an existing problem that may be already aggravated by the ongoing maintenance activities at the Golf Course. Specifically, ongoing pumping activities at the Golf Course, which will continue as a result of the infrastructure improvements and replacement pumps, may continue to maintain low water levels that all parties agree aggravate the spread of emergent vegetation which compromises open water breeding habitat for CRLF. So, while this project proposes a temporary feasible management solution, the ongoing pumping may continue to exacerbate the problem in the long-term. Further, ongoing pumping activities at the Golf Course, which maintain lower water levels, may cause salinity intrusions into the LS and HSP wetlands, altering the pH of these wetlands and impacting groundwater.[27] Dr. Dixon agrees that this salinity impact may occur, stating that there "is also a possibility that pumping may result in salt water intrusion and a deleterious change in the salinity regime of both Laguna Salada and Horse Stable Pond." The USFWS BO for the project also requires conservation measures for ongoing operations, including pumping, at the Golf Course (please see **Exhibit 2** Conservation Measure 15, pages 13-14).

In order to assure that proposed project components occurring within wetlands are consistent with Coastal Act Section 30233 in that the project will minimize adverse environmental impacts and maintain or enhance the functional capacity of these wetlands, further special conditions are required. Specifically, **Special Condition #2** requires submission of a Pumping Protocol Plan. The plan must be in conformance with the USFWS BO pumping conservation measures, as well as provide verifiable success criteria. In addition, **Special Condition #2** requires that wetland water levels, salinity, groundwater levels, and cattail and tule cover in LS and HSP wetlands be analyzed and monitored in order to assure that pumping is not adversely impacting sensitive species and coastal resources and is minimizing adverse environmental impacts in accordance with Coastal Act Section 30233.

Special Condition #3 requires submission of a Final Dredging Plan to assure emergent vegetation and dredging areas are identified and labeled, work in wetlands is minimized to the greatest extent feasible, and that the USFWS BO conservation measures for dredging and construction activities are incorporated into the Final Dredging Plan. As previously discussed,

[27] BO page 34-35.

the construction activities and ongoing pumping proposed as a part of this project have the potential to impact ESHA wetlands in that dredging and construction activities could kick up acid sulfides which could result in pulses of low oxygen in the water. The BO contains significant conservation measures and the Final Mitigated Negative Declaration (MND) also contains significant mitigation measures to protect the wetland's water quality from the potential adverse impacts described above (see full text of BO in **Exhibit 2** and MND in **Exhibit 4**). **Special Condition #3** also ensures that monitoring for acid sulfide release from soils is conducted in accordance with the mitigation measures in the CEQA Final Mitigated Negative Declaration for the project. Further, **Special Condition #4** requires the submittal of a Construction Site Plan that assures construction areas are labeled, construction is timed not to interfere with CRLF breeding season, that BMP's for erosion control and water quality are incorporated, and that a designated construction site coordinator is available to be contacted if there are problems or questions regarding construction.

Therefore, due to the requirement that the Applicant conform to measures in the USFWS BO, the features of the project description that avoid and minimize impacts to species and the wetlands, the installation of a new pond that creates a wetland to encourage CRLF breeding, and the Commission's further required conditions of approval, the Commission finds the proposed project is the least damaging alternative that is feasible for meeting the project goals consistent with Coastal Act Section 30233(a). Further, removal of the vegetation and sedimentation will maintain the existing functional capacity of the wetland consistent with Coastal Act Section 30233(c).

Conclusion

As proposed, and as conditioned by the Commission, including the requirement to adhere to measures described in the USFWS BO, there is no feasible less environmentally damaging construction alternative. Feasible mitigation measures provided minimize the adverse environmental effects associated with potential dredging and fill activities, construction and post construction-related impacts to the wetlands and sensitive species. Thus, as conditioned, the proposed project is consistent with Coastal Act Sections 30233.

2. Environmentally Sensitive Habitat Areas

Applicable Policies

Environmentally Sensitive Habitat Areas (ESHAs) are defined in Section 30107.5 of the Coastal Act as areas in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem, and which could be easily disturbed or degraded by human activities and developments. Section 30240 of the Coastal Act states that ESHAs shall be protected against disruption of habitat values and that only uses dependent on the resources shall be allowed within an ESHA. Section 30240 also requires that development adjacent to such areas be sited and designed to prevent impacts that would significantly degrade those areas, and to be compatible with the continuance of the ESHA. Coastal Act Section 30240 states:

> *(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.*

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

Analysis

As discussed above, Sharp Park contains two species of particular concern: the California red-legged frog (CRLF), which is federally-listed as threatened and a state Species of Special Concern, and the San Francisco garter snake (SFGS) which is federally- and state-listed as endangered. Areas within Sharp Park and within the confines of the Golf Course including Sanchez Creek, LS and HSP are significant foraging areas for SFGS because these wetland areas are freshwater breeding habitat for CRLF and other species that SFGS feed on. CRLF egg masses have been observed at Sharp Park Golf Course every year from 2004-2011 and the California Natural Diversity Database also reports known occurrences of CRLF at the park.[28] Since these threatened and endangered species use the wetland and wetland buffer areas as both breeding and foraging habitat and the upland areas to aestivate or burrow, the wetland areas and adjacent upland areas of LS and HSP are considered ESHA under 30240. As discussed in the previous section, the wetlands also meet the definition of ESHA because they are especially valuable due to their ecosystem role of providing essential habitat for a diverse assemblage of wetland species.

Section 30240 also applies to aspects of this project that would develop in the wetland buffer areas and in the adjacent upland areas including construction of the steps and gate that are part of the pumphouse infrastructure improvements; the golf cart path relocation out of wetland buffers into upland areas; and the creation of a new pond to provide breeding grounds for the CRLF and to comply with the USFWS BO. An alternative that avoids impacting ESHA is not feasible for the pumphouse infrastructure, as the pumphouse is existing development within the buffer. The relocation of the golf cart path will lessen impacts to ESHA, as the path will be moved out of the wetland buffer and into the uplands. To avoid ESHA uplands and wetland buffers completely, the Applicant would have to loop the cart path much further inland from its current location, which would require more grading and fill and create associated impacts. The current proposal minimizes disturbance and is the least damaging environmental alternative. Finally, the creation of the breeding pond will benefit ESHA by providing additional wetlands, additional breeding ground for CRLF, and perhaps additional food for the SFGS.

As described above, only resource dependent uses and development are allowed in ESHA. Of the above-described aspects of the project, only the pond is clearly a resource-dependent use, although the improved pumphouse infrastructure should help workers adjust the pumps during the rainy season, conceivably fine-tuning the execution of the pumping protocol to avoid impacts to the CRLF.

[28] BO page 29.

Assuming, however, that the uses are allowed, the Coastal Act further requires that uses are allowed in ESHA only where it will not lead to significant habitat disruption. In addition, adequate ESHA buffers and other measures are required to protect against significant degradation, as Section 30240 states development in areas adjacent to ESHA should be designed to prevent impacts. Ongoing operations of Sharp Park Golf Course already impact both CRLF and SFGS. According to the Applicant's biological assessment as well as the USFWS BO, the project activities including infrastructure improvements at the pumphouse, may result in additional adverse impacts to the ESHA for CRLF and SFGS because both sensitive species are known to occur in proposed project areas. Specifically, injury, exposure and disruption of normal behavior have the potential to result from the construction activities.[29] Though the BO and Biological Assessment (BA) both propose conservation and mitigation measures to lessen impacts to these sensitive habitats, and the species that use them, the proposed project activities in ESHAs may cause significant habitat disruption.

In addition, according to the USFWS BO for this project, both CRLF and SFGS are already affected by ongoing operation and maintenance activities at the Golf Course.[30] Specifically, pumping to control flood waters can affect these sensitive species through entrainment of egg masses and juvenile frogs in the pumps, through stranding and desiccation of egg masses, and because pumping can, over time, reduce habitat quality in the wetlands by encouraging the encroachment of cattails and tules, or by altering the salinity and/or pH profiles of the water.[31] The USFWS BO requires numerous conservation measures that both protect sensitive species and have the added benefit of creating additional breeding habitat for CRLF including: presence of biological monitors, required timing of construction, surveys for sensitive species, required reporting of sensitive species, erosion control BMPs, revegetation with native plants and required restoration efforts for the CRLF pond onsite. Even with the BO and BA proposed conservation and mitigation measures, the proposed project activities that affect pumping capacity - including the installation of permanent infrastructure in wetland buffers to allow for ongoing pumping operations - all raise significant Coastal Act ESHA concerns.

Conclusion

The proposed project would result in development in ESHA buffers. The proposed development and its associated activities would result in significant disruption of and degradation to the environmentally sensitive wetland and upland areas and buffers. The proposed development of the infrastructure improvements does not constitute development activity that is dependent on the wetland resource and therefore are not allowable uses in wetlands. Therefore, this project as proposed cannot be found consistent with the ESHA protections laid out in Coastal Act Section 30240.

[29] BO page 31.

[30] BO page 29.

[31] *Id.*

F. HAZARDS

Applicable Policies

Coastal Act Section 30253 addresses the need to ensure long-term structural integrity, minimize future risk, and to avoid the need for landform altering protective measures in the future. Section 30253 provides, in part:

> *New development shall do all of the following:*
>
> *(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
>
> *(b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs….*

Analysis

The proposed development must comply with all applicable Coastal Act requirements, including Section 30253. The subject property is located just inland from the Pacific Ocean and parts of it are situated in the mapped FEMA 100 year flood plain. Therefore, while the project activities of increasing the efficiency and safety of pumphouse infrastructure to improve the capacity of LS and HSP wetlands as flood control devices, there are aspects of the proposed project activities that may denigrate the stability of natural landforms or contribute to erosion and the spread of flood waters. Specifically, the installation of infrastructure improvements of the retaining wall, steps, gate and walkway around the pumphouse, will all be occurring in the mapped FEMA 100 year flood plain. The addition of the retaining wall, the steps and walkway could aggravate flooding to surrounding areas by pushing flood waters off to other areas, inconsistent with Coastal Act Section 30253. In addition, given the location of the property just inland from the Pacific Ocean, there is inherent uncertainty associated with coastal hazards, including in relation to sea level rise and its projections at this site.

Coastal Act Section 30253 requires the project to assure long-term stability and structural integrity, minimize future risk, and avoid additional, more substantial protective measures in the future. This is particularly critical for the proposed project given the dynamic shoreline environment within which it would be placed. The nature of the potential hazards at the site may put the proposed project elements, as well as the ongoing operation of the Golf Course, at risk within its lifetime. This future risk could be avoided, however, as required by the Coastal Act, through a requirement to remove the proposed development when it is threatened with coastal hazards that would require a response beyond ordinary repair and maintenance. Therefore, the Commission requires **Special Condition #7** to require such removal to occur. Further, **Special Condition #7** prohibits additional future expansions of protective structures. In short, although long-term stability cannot be assured, as conditioned, the project would not require additional, more substantial protective measures in the future, because it would be removed when it is in danger, as opposed to being further protected, consistent with Coastal Act Section 30253.

In terms of recognizing and assuming the hazard risks for shoreline development, the Commission's experience in evaluating proposed developments in areas subject to hazards has

been that development has continued to occur despite periodic episodes of heavy storm damage and similar occurrences. Development in such dynamic environments is susceptible to damage due to such long-term and episodic processes. Past occurrences statewide have resulted in public costs (through low interest loans, grants, subsidies, direct assistance, etc.) in the billions of dollars. As a means of allowing continued development in areas subject to these hazards while avoiding placing the economic burden for damages onto the people of the State of California, Applicants are regularly required to acknowledge site hazards. Accordingly, **Special Condition #8** requires the Applicant to assume all risks for developing at this location.

Conclusion

Thus, as conditioned, the project is consistent with Coastal Act Section 30253, which requires that new development minimize risks to life and property in areas of high flood hazard risk.

G. VISUAL RESOURCES

Applicable Policies

The scenic and visual qualities of coastal areas are protected under Coastal Act Section 30251. Coastal Act Section 30251 states:

> *The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.*

Analysis

The proposed project's impacts to visual resources will be minimal. New infrastructure will be installed at the pumphouse in the form of adding a retaining wall, steps, gate and a walkway. However, these structures will be at lower elevations than existing public trail elevations adjacent to the project site and the structures themselves will be minimal in scale and will not obstruct or restrict existing views and will be generally unnoticeable to recreational users at the park.

Conclusion

The proposed development has been designed to protect views of a scenic coastal area as much as possible, and is found to be visually compatible with the character of the surrounding area and consistent with Coastal Act Section 30251.

H. CONFLICT RESOLUTION

Applicable Policy

Coastal Act Section 30007.5 states:

The Legislature further finds and recognizes that conflicts may occur between one or more policies of the division. The Legislature therefore declares that in carrying out the provisions of this division such conflicts be resolved in a manner which on balance is the most protective of significant coastal resources. In this context, the Legislature declares that broader policies which, for example, serve to concentrate development in close proximity to urban and employment centers may be more protective, overall, than specific wildlife habitat and other similar resource policies.

Coastal Act Section 30200(b) states:

Where the commission or any local government in implementing the provisions of this division identifies a conflict between the policies of this chapter, Section 30007.5 shall be utilized to resolve the conflict and the resolution of such conflicts shall be supported by appropriate findings setting forth the basis for the resolution of identified policy conflicts.

As noted previously in this report, the proposed project is inconsistent with Section 30240 of the Coastal Act. However, as explained below, denying or modifying the proposed project to eliminate these inconsistencies would lead to nonconformity with other Coastal Act policies, namely Sections 30210, 30213, 30221, and 30223. In such a situation, when a proposed project is inconsistent with a Chapter 3 policy, and denial or modification of the project would cause inconsistency with another policy, Section 30007.5 of the Coastal Act provides for resolution of such a policy conflict.

Analysis

Based on the Commission's history and practice, resolving conflicts through application of Section 30007.5 involves the following seven steps:

1) The project, as proposed, is inconsistent with at least one Chapter 3 policy;
2) The project, if denied or modified to eliminate the inconsistency, would affect coastal resources in a manner inconsistent with at least one other Chapter 3 policy that affirmatively requires protection or enhancement of those resources;
3) The project, if approved, would be fully consistent with the policy that affirmatively mandates resource protection or enhancement;
4) The project, if approved, would result in tangible resource enhancement over existing conditions;
5) The benefits of the project are not independently required by some other body of law;
6) The benefits of the project must result from the main purpose of the project, rather than from an ancillary component appended to the project to "create a conflict"; and,
7) There are no feasible alternatives that would achieve the objectives of the project without violating any Chapter 3 policies.

The proposed development meets all of the above criteria for applying conflict resolution, as follows:

Step 1

For the Commission to apply Section 30007.5, a proposed project must be inconsistent with an applicable Chapter 3 policy. Approval of the proposed development would be inconsistent with Coastal Act Section 30240, which protects ESHA. Parts of the proposed development take place within wetland buffers constituting ESHA, and may also impact uplands that may be considered ESHA as they can supply foraging areas for the SFGS. In addition, aspects of the project occurring in these areas which provide for ongoing pumping may also result in impact to sensitive species. These aspects of the development may result in a significant disruption of the habitat. Additionally, the development aspects occurring in these areas are not a resource-dependent uses as required by Section 30240.

Step 2

The project, if denied or modified to eliminate the inconsistency, would affect coastal resources in a manner inconsistent with at least one other Chapter 3 policy that affirmatively requires protection or enhancement of those resources. A true conflict between Chapter 3 policies results from a proposed project which is inconsistent with one or more policies, and for which denial or modification of the project would be inconsistent with at least one other Chapter 3 policy. Further, the policy inconsistency that would be caused by denial or modification of a project must be with a policy that affirmatively mandates protection or enhancement of certain coastal resources.

Coastal Act Sections 30210, 30213, 30221, and 30223 affirmatively require that recreational opportunities along the coast be provided for all people, that lower-cost visitor and recreational facilities be protected and encouraged, especially when they provide recreation to the public; that oceanfront land suitable for recreational use be protected for that use; and that upland areas necessary to support coastal recreational uses be reserved for such uses, when feasible.

In most cases, denying a proposed project will not cause adverse effects on coastal resources for which Coastal Act mandates protection or enhancement, but will simply maintain the status quo. However, in this case, denial of the proposed project would result in continued significant impacts to recreation, as the golf course would continue to be flooded for significant portions of the year. Thus, a conflict between or among two or more Coastal Act policies exists.

Step 3

The project, if approved, would be fully consistent with the policy that affirmatively mandates resource protection or enhancement. For denial of a project to be inconsistent with a Chapter 3 policy, the proposed project would have to protect or enhance the resource values for which the applicable Coastal Act policy includes an affirmative mandate. That is, if denial of a project would conflict with an affirmatively mandated Coastal Act policy, approval of the project would have to conform to that policy. If the Commission were to interpret this conflict resolution provision otherwise, then any proposal, no matter how inconsistent with Chapter 3 that offered a slight incremental improvement over existing conditions could result in a conflict that would allow the use of Section 30007.5. The Commission concludes that the conflict resolution provisions were not intended to apply to such minor incremental improvements.

In this case, the proposed project would protect and enhance recreational resources, by preventing the flooding of major portions of the golf course for significant portions of the year. The proposed project is fully consistent with the Coastal Act recreation policies.

Step 4

The project, if approved, would result in tangible resource enhancement over existing conditions. This is the case here as the goal is to prevent flooding, and improve the playability and recreational use areas of Sharp Park and the Golf Course.

Step 5

The benefits of the project are not independently required by some other body of law. The benefits that would cause denial of the project to be inconsistent with a Chapter 3 policy cannot be those that an Applicant is already being required to provide pursuant to another agency's directive under another body of law. In other words, if the benefits would be provided regardless of the Commission's action on the proposed project, the Applicant cannot seek approval of an otherwise unapprovable project on the basis that the project would produce those benefits — that is, the Applicant does not get credit for resource enhancements that it is already being compelled to provide. The proposed project's benefits are not required by another agency under another body of law.

Step 6

The benefits of the project must result from the main purpose of the project, rather than from an ancillary component appended to the project to artificially create a conflict. A project's benefits to coastal resources must be integral to the project purpose. If the project is inconsistent with a Chapter 3 policy, and the main elements of the project do not result in the cessation of ongoing degradation of a resource the Commission is charged with enhancing, the Applicant cannot "create a conflict" by adding to the project an independent component to remedy the resource degradation. The benefits of a project must be inherent in the purpose of the project. If this provision were otherwise, Applicants could regularly "create conflicts" and then request that the Commission use Section 30007.5 to approve otherwise unapprovable projects. The balancing provisions of the Coastal Act could not have been intended to foster such an artificial and easily manipulated process, and were not designed to barter amenities in exchange for project approval. In this case the recreational benefits of the project directly result from its primary purpose of improving the functionality of infrastructure used to manage flooding on the Golf Course.

Step 7

There are no feasible alternatives that would achieve the objectives of the project without violating any Chapter 3 policies. Possible alternatives for the proposed project include: 1) a "no project" alternative; 2) flooding the vegetation; 3) habitat-only restoration; and 4) installing a larger-capacity pump.

1) <u>No Project Alternative</u>
   A no project alternative maintains the status quo. First and most simply, the golf course would continue to flood and the flooding would continue to interfere with recreation use.

There would be biological impacts as well. The lack of wetlands management in years of low precipitation could potentially further allow sedimentation and vegetation to continue to build up, eventually "choking off" the pond, reducing CRLF open water breeding habitat. The pumps could also clog, perhaps to the point where they would be unusable.

The safety improvements for workers would not take place, which would make it more difficult to maintain the pumphouse, would put the City at risk of worker claims, and discourage fine-tuning of the pumping protocol consistent with the USFWS BO due to the difficulty in reaching the site.

Sharp Park is unusual in that natural conditions are not necessarily the best conditions for the sensitive species in question here. Under completely natural conditions, without the berm and with no pumping, CRLF would probably not exist at the site as the water would be too brackish. The CRLF began surviving at the site after the water became less salty. Further, if the quantity of water completely followed nature, uncontrolled precipitation levels could result in marginal breeding habitat on the edge of the course, disconnected from the wetlands and isolating the CRLF egg masses.

The no project alternative is not feasible as it compromises the recreational resources on site, has not been shown to be the least environmentally damaging alternative with regard to sensitive species, and it fails to be consistent with all relevant Chapter 3 policies.

2) Flooding of the Vegetation

Project opponents suggest "conventional" water depth management of the marsh and ponds. This entails raising the amount of water around the lower edges of tules and cattails from 2 to 4 feet deep to a minimum of 4 feet deep. The alternative also calls for amphibious equipment to mow tules and cattails to stumps before the winter flooding and frog breeding season begins. Opponents assert the submerged tule and cattail stumps will die off due to the lack of oxygen, solving the problem of emergent vegetation.

Allowing this much water to accumulate would impact recreation substantially (see above Figure 1 for analysis of excess water and impacts to the Golf Course.) Therefore, it is not a feasible alternative and results in recreational resource impacts.

Therefore, this is not a not a feasible alternative and is not consistent with all relevant Chapter 3 policies.

3) Habitat Only Restoration

This is a reduced project alternative that would eliminate the worker safety improvements and the relocation of the golf cart path, leaving the sediment and vegetation removal components of the project.

Under this alternative, personnel working in the pumphouse would continue to work in unsafe conditions. Avoiding the work in the pumphouse is not feasible. Workers must adjust pumping, remove debris from the screens, and generally maintain the pumps. The Applicant states that during the rainy season, maintenance may be necessary every day and it often

takes place under poor conditions, including hampered visibility while walking on slippery surfaces and with an ongoing risk of high water levels. This could lead to flooding on the course that will adversely impact the recreation resources onsite.

Not moving the golf cart path increases the chances that the path will be flooded and that golfers will use their carts off the path. The relocation of the cart path will take the path out of the wetland buffer and into upland areas, further away from Laguna Salada.

This alternative is inconsistent with Chapter 3 policies.

4) Larger Capacity Pump
The Applicant also considered installing a larger capacity pump, which would better handle large storm events. However, the larger capacity in turn creates higher pumping levels, which could negatively impact the CRLF even further than the proposed project. The Applicant also describes this alternative as not cost-effective, as the larger pump would only be used during the most extreme storm events, and may require further construction of a new outfall pipe through the existing seawall. This alterative is not effective at meeting the project goals and is infeasible.

None of the identified alternatives to the proposed project would be both feasible and fully consistent with all relevant Chapter 3 policies.

Conclusion

Based on the above, the Commission finds that the proposed project presents a conflict between Section 30240, on the one hand, and Sections 30210, 30213, 30221, and 30223, on the other, which must be resolved through application of Section 30007.5, as described below.

With the conflict among several Coastal Act policies established, the Commission must resolve the conflict in a manner which on balance is the most protective of significant coastal resources. In reaching this decision, the Commission evaluates the project's tangible, necessary resource enhancements over the current state and whether they are consistent with resource enhancements mandated in the Coastal Act. In the end, the Commission must determine whether its decision to either deny or approve a project is the decision that is most protective of significant coastal resources.

In this case, the Commission finds that the impacts on recreational resources from not constructing the project as conditioned, would be more significant than the project's potential adverse effects to sensitive EHSA buffer areas and upland habitat. Denying the proposed project because of its inconsistency with Section 30240 would result in the continued flooding of the golf course, which over time may discourage its use and deprive low-income users of the opportunity to play golf with coastal views. In contrast, approving the development as proposed protects and continues recreational uses, and provides some habitat enhancement.

The test for approval is not for the project to be "more" protective of resources; it must be "most" protective. In order for that finding to be made, the adverse coastal resource impacts caused by the project must be avoided, minimized and mitigated to the maximum feasible extent.

Improving the pumping infrastructure and pumping protocol, as conditioned, minimize the impacts to sensitive species and over time should create additional habitat for the CRLF.

The Applicant analyzed three alternative scenarios: the no-project alternative, the habitat restoration only alternative, and the larger capacity pump alternative. (See **Exhibit** 4). Project opponents suggested another alternative, that of flooding the HSP in order to "drown" the vegetation instead of clearing it. As explained above in Step 7 of the Conflict Resolution, none of the alternatives is both feasible and fully consistent with Chapter 3 policies.

Thus, on balance, the proposed project would result in improvements to recreational resources and may improve habitat for the CRLF and in turn, the SFGS; however, the proposed project would not be completely consistent with Chapter 3 ESHA policies. To ensure that the maintenance and enhancement of wetland habitat and the protection of sensitive species is achieved, the Commission requires **Special Conditions 2 through 4** as further discussed in the sections above. In addition, the Commission recommends **Special Condition 5** which would require preparation of a mitigation and monitoring plan for the breeding pond and path removal activities. As described throughout the other sections of this report, the proposed project, as conditioned, is consistent with all other applicable Coastal Act policies. Therefore, the Commission finds that, approving the project, as conditioned, is, on balance, most protective of coastal resources.

I. VIOLATION

Violations of the Coastal Act exist on the subject property including, but not limited to, the replacement of two existing pre-Coastal pumps that were installed in 1959 (capacity of 500 gpm and 250 gpm, respectively) with two new pumps (1,500 gpm and 10,000 gpm, respectively); and the 2010 replacement-in-kind of the 10,000 gpm pump. The Applicant applied to perform infrastructure improvements in association with the pumphouse and it was discovered in discussions between Commission staff, the Applicant and those keenly interested in the project that the above-referenced actions occurred without the benefit of a CDP. The approval of the at-issue project, pursuant to the staff recommendation, and in association with the special conditions required, after the project is completed, will resolve the violations. This approval will require the Applicant to do submit a refined pumping protocol as required by **Special Condition #2**. The pumping protocol requires conformance with the USFWS BO pumping conservation measures, as well as verifiable success criteria. In addition, the pumping protocol requires that wetland water levels, salinity, groundwater levels, and cattail and tule cover in LS and HSP wetlands be analyzed and monitored in order to assure that ongoing pumping is not adversely impacting sensitive species and coastal resources and is minimizing adverse environmental impacts in accordance with Coastal Act. Issuance of the CDP compliance with all of the terms and conditions of the permit and actual completion of the approved project will result in resolution of the aforementioned violations of the Coastal Act on the subject property.[32]

[32] This is not a comprehensive resolution of all alleged violations on the site.

Although development has taken place prior to submission of this permit application, consideration of this application by the Commission has been based solely upon the Chapter 3 policies of the Coastal Act. Commission review and action on this permit does not constitute a waiver of any legal action with regard to the alleged violations, nor does it constitute an implied statement of the Commission's position regarding the legality of development, other than the development addressed herein, undertaken on the subject site without a coastal permit. In fact, approval of this permit is possible only because of the conditions included herein and failure to comply with these conditions would also constitute a violation of this permit and of the Coastal Act. Accordingly, the Applicant remains subject to enforcement action just as it was prior to this permit approval for engaging in unpermitted development, unless and until the conditions of approval included in this permit are satisfied and the approved project completed, fully implementing all required mitigation.

J. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Section 13096 of the California Code of Regulations requires that a specific finding be made in conjunction with coastal development permit applications showing the application to be consistent with any applicable requirements of CEQA. Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The City of San Francisco is the lead agency responsible for CEQA review. The City approved a Mitigated Negative Declaration for this project on January 17, 2014. The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary of Resources as being the functional equivalent of environmental review under CEQA. The Commission has reviewed the relevant coastal resource issues associated with the proposed project, and has identified appropriate and necessary modifications to address adverse impacts to such coastal resources. The preceding CDP findings in this staff report have discussed the relevant coastal resource issues with the proposal, and the permit conditions identify appropriate mitigations to avoid and/or lessen any potential for adverse impacts to said resources consistent with the requirements of Section 30235 of the Coastal Act. All public comments received to date have been addressed in the findings above. All above findings are incorporated herein in their entirety by reference.

The Commission finds that only as modified and conditioned by this permit will the proposed project avoid significant adverse effects on the environment within the meaning of CEQA. As such, there are no additional feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse environmental effects that approval of the proposed project, as modified, would have on the environment within the meaning of CEQA. If so modified, the proposed project will not result in any significant environmental effects for which feasible mitigation measures have not been employed consistent with CEQA Section 21080.5(d)(2)(A).

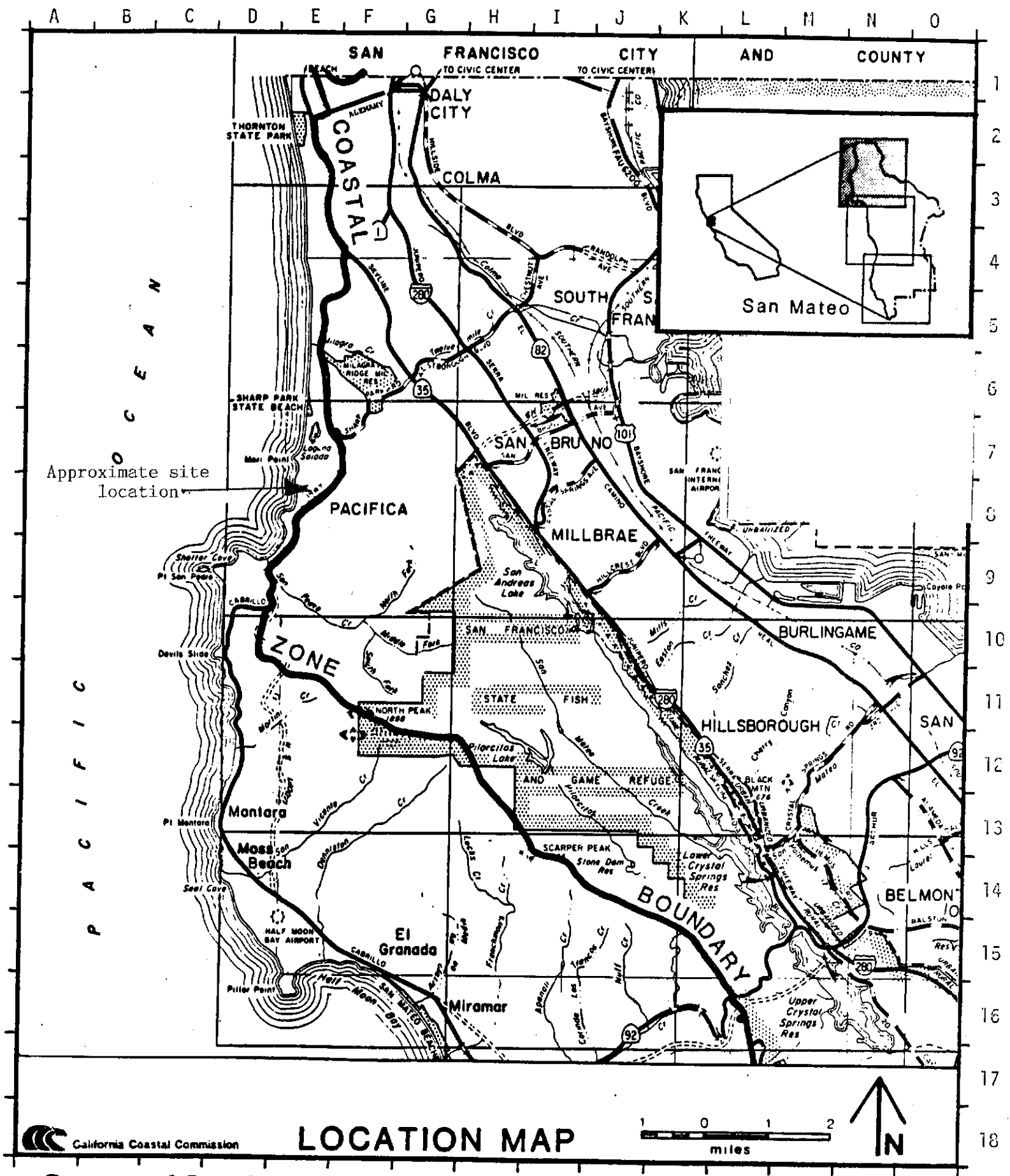
APPENDIX A: SUBSTANTIVE FILE DOCUMENTS

1. Historic Resource Evaluation Response. February 8, 2011**.**

2. San Francisco Public Golf Alliance Letter, March 10, 2015**.**

3. Supplemental Information for Coastal Development Permit for the Sharp Park Safety, Infrastructure Improvement and Habitat Enhancement Project, March 16, 2015**.**

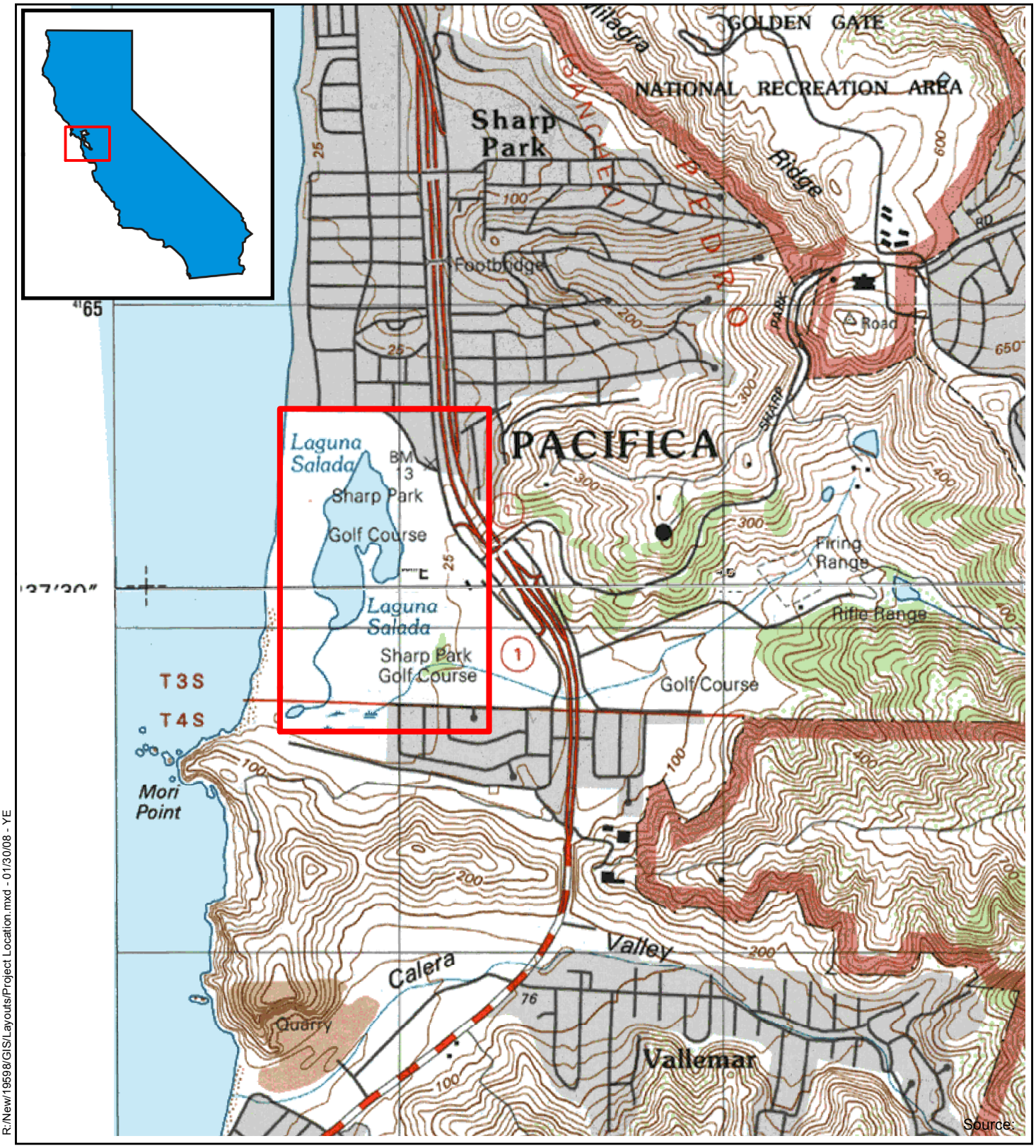
4. Significant Natural Resource Area Management Plan (SNRAMP) for Sharp Park, February 2006.



California Coastal Commission

LOCATION MAP

County of San Mateo



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Feet

Legend

Project Area

Project Location
Laguna Salada

Pacifica, California

Tetra Tech, Inc

Figure 1

2-12-014 Exhibit 1
Page 2 of 2

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:
08ESMF00-2012-F-0082-2

OCT 02 2012

Ms. Jane M. Hicks
Chief, Regulatory Division
U. S. Army Corps of Engineers
San Francisco District
1455 Market Street
San Francisco, California 94103-1398

Subject: Formal Endangered Species Consultation on the Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project in San Mateo County, California

Dear Ms. Hicks:

This letter is in response to the U.S. Army Corps of Engineers' (Corps) October 25, 2011, request for the initiation of formal consultation with the U.S. Fish and Wildlife Service (Service) for the San Francisco Recreation and Parks Department (SFRPD) proposed Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project in San Mateo County, California. Your request for formal consultation was received by this office on October 28, 2011, and was subsequently modified through discussions between the Corps, SFRPD and the Service, culminating in submission of a final Biological Assessment on August 16, 2012, which constitutes the Project description relied upon for this consultation. At issue are effects to the federally threatened California red-legged frog (*Rana draytonii*), the endangered San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), and the endangered mission blue butterfly (*Icaricia icarioides missionensis*).

The Service has determined that the proposed action is not likely to adversely affect the mission blue butterfly. There are no project activities proposed on or near the mission blue butterfly habitat. Project activities will all occur at least 0.5 mile away from mission blue butterfly habitat and the mission blue butterfly is not expected to occur in the intervening areas. Based on habitat conditions in the action area and the distance to mission blue butterfly habitat from the action area, the Service has determined that the proposed action is not likely to adversely affect the mission blue butterfly because effects will be insignificant and discountable. Therefore, we will not address the mission blue butterfly further in this biological opinion.

This document represents the Service's biological opinion on the effects of the proposed action on the San Francisco garter snake and on the California red-legged frog. This document is issued under the authority of the Endangered Species Act, as amended (16 U.S.C. 1531 *et seq.*) (Act). Because the Project will not occur within designated critical habitat for the California red-legged frog, no adverse effects to the primary constituent elements

of critical habitat are anticipated. Moreover, critical habitat has not been designated for the San Francisco garter snake. Therefore, we do not address critical habitat in this biological opinion.

Moreover, the incidental take authorization that accompanies this biological opinion exempts from the prohibitions of the Act, take of California red-legged frog and San Francisco garter snake carried out in accordance with the terms and conditions of the incidental take statement. This biological opinion and its incidental take statement do not authorize other actions nor do they address the restrictions or requirements of other applicable laws.

This document is based on: (1) the *Sharp Park Safety, Infrastructure Improvement and Habitat Enhancement Project Biological Assessment* received August 16, 2012 and associated attachments; (2) the Corps' October 25, 2011, letter requesting initiation of formal consultation; (3) numerous phone calls and emails between SFRPD and the Service; and (4) and other information available to the Service.

Consultation History:

October 7, 2008:	The Service issued a biological opinion addressing the Proposed Sharp Park Golf Course Storm Drain Repair Project, Pacifica, San Mateo County, California (Service File No. 81420-2008-F-1952).
November 3, 2010:	The City asked the Service to amend the October 7, 2008 biological opinion to include sediment removal at the pump house intake in Horse Stable Pond in the Sharp Park Golf Course Storm Drain Repair Project.
November 18, 2010:	The Service reinitiated formal consultation on the Sharp Park Golf Course Storm Drain Repair Project, Pacifica, San Mateo County, California and amended the October 7, 2008 biological opinion (Service File No. 81420-2008-F-1952-2).
January 2011 - March 2011:	The Service provided emergency authorization for relocation of multiple California red-legged frog egg masses on the Sharp Park Golf Course.
January 12, 2011:	The Service recommended to the City that it engage in consultation under section 7(a)(2) or obtain a permit under section 10(a)(1).
May 10, 2011:	The City asked the U.S. Army Corps of Engineers (Corps) to initiate consultation.
August 24, 2011:	The City submitted a section 404 permit application to the Corps for the Sharp Park Pump House Safety and Infrastructure Improvement Project.

October 25, 2011:	The Corps requested formal consultation on the City's application for a section 404 permit for the Sharp Park Pump House Safety and Infrastructure Improvement Project.
January 4, 2012:	Staff from the Service and the Corps met with representatives of the City to discuss consultation.
January 18, 2012:	The Service requested additional information about the proposed project.
February 6, 2012:	The City submitted a draft biological assessment to the Service and the Corps.
March 5, 2012:	Staff from the Service met with representatives of the City to discuss the draft biological assessment.
March 14, 2012:	The City submitted a revised biological assessment to the Service and the Corps.
April 17, 2012:	The Service requested additional information and provided comments on the proposed project.
May 2, 2012:	The City submitted a revised biological assessment to the Service and the Corps.
May 10, 2012:	The Service informed the City and the Corps that the revised biological assessment contained enough information to begin consultation on the proposed project.
July 11, 2012	The Corps submitted the May 2, 2012, revised biological assessment to the Service.
August 16, 2012	The City submitted a further revised biological assessment to the Service and the Corps.
August 29, 2012	The Corps authorized the Service to communicate directly with the City on matters regarding the ongoing consultation.
September 21, 2012	The Service issues draft biological opinion to the Corps.
September 24, 2012	The Service receives comments from the City on the draft biological opinion.
September 28, 2012	The Service receives comments from the Corps on the draft biological opinion.

BIOLOGICAL OPINION

Description of the proposed action

The description stated below of the proposed action was provided by SFPRD in the *Sharp Park Safety, Infrastructure Improvement and Habitat Enhancement Project Biological Assessment.* Additional information has been added where needed for clarity.

Project Background

Sharp Park is a public park located in the City of Pacifica in San Mateo County. The Park is approximately 417 acres. The Pacific Coast Highway runs through Sharp Park. To the west, the Park is bordered by the Pacific Ocean. To the north and south, portions of the Park are bordered by residential development. To the south and east, Golden Gate National Recreation Area, which is managed by the National Park Service, borders the Park.

The Project site contains an 18-hole golf course, an approximately 27 acre wetland complex, an archery range, a remediated former rifle range, a clubhouse, parking lot, and extensive natural areas. The wetlands complex is composed of Laguna Salada, Horse Stable Pond, a channel that connects the two water bodies, and adjacent wetlands. A seawall on the western boundary of Sharp Park eliminated the historic hydrologic connection between the Pacific Ocean and the wetlands complex. The wetlands are believed to be maintained by ground water but are also fed by surface water inflow due to precipitation in the winter. A flood control pump system in Horse Stable Pond affects water levels in that body, and it may affect water levels in Laguna Salada when the channel connecting the two water bodies creates a surface water connection between them. The pump system consists of a large pump (rated 10,000 gallons per minute) and a small pump (rated 1,500 gallons per minute) located in a pumphouse adjacent to Horse Stable Pond and pipes built through the seawall to an outfall.

According to the biological assessment, operation of the flood control pump system is necessary to manage floodwaters both on the Property and on adjacent properties. During normal rainfall years, floodwaters into Laguna Salada back up onto the golf course path. As a result, carts must venture off the cart path onto the fairway and other vegetated areas in order to continue play. During heavy rainfall years, extensive flooding can occur in areas of play on the golf course and can also threaten adjacent residential areas. Flooding of the golf course affects the playability of the course as well as golf course maintenance activities. In past years, flooding on the course has rendered entire holes or portions of holes unplayable including holes 9, 12 and 14. Flood waters back up onto the course such that players cannot access greens and tees and holes are shortened to avoid flooded areas. Operationally, the course cannot be mowed or otherwise maintained under flooded conditions. The biological assessment states that operation of the flood control pumps can limit the extent of such flooding.

The Project Description submitted to the Service for this consultation includes two parts: (1) the construction action and (2) golf course maintenance and operations (together referred to as Project).

Construction Action

As described in the biological assessment, the construction action is intended to 1) ensure the ongoing operation of the flood control pumps and worker safety when operating and maintaining the pumps and 2) to replace minor infrastructure (pathways).

Currently, the biological assessment states that two factors adversely affect the operation of the pumps. First, pump operation is impaired by sediment buildup and vegetation growth around the pump intake structure and along the connecting channel between Laguna Salada and Horse Stable Pond. Second, pump operation is impaired by the buildup of vegetation on the pump intake screens. In order for the pumps to function properly, the existing screens at the intake must be kept clear of vegetation buildup. The maintenance of the screens, including the removal of debris buildup, can be necessary as frequently as daily during the rainy season. Such maintenance often occurs while the pumps are being operated during or immediately after storm events when poor visibility, slippery conditions, and high water levels present hazards to access and maintenance. Currently, there is no safe walking and working surface and access to the screens is only possible by lifting a heavy piece of chain link fence while clearing the screens.

Portions of the golf cart paths along the eastern side of Laguna Salada regularly flood, even during drought years. Two sections of cart path, which total approximately 190 feet, are located in low lying depressions such that water does not drain to Laguna Salada and ponds on the pathway. California red-legged frogs have deposited egg masses on these sections of cart path. Because the paths flood, golfers using carts must venture off the pathway in order to continue play.

In order to address these issues, the following water flow, safety and path repair components are proposed:

- Removal of sediments and emergent vegetation within the Horse Stable Pond wetland near the intake structure in order to reduce obstructions to water flow to the pump intake. Approximately 435 cubic yards of sediment in an area of approximately 5,900 square feet (0.14 acres) would be removed. Approximately 2,350 square feet (0.05 acres) of this 5,900 square foot area is occupied by cattails and bulrush; the remaining area is open water.
- Removal of sediment and emergent vegetation that impedes water flow in select locations within the connecting channel and culverts that link Horse Stable Pond and Laguna Salada. This removal work would not exceed 480 cubic yards of removed sediment and vegetation, within an area of approximately 6,500 square feet or 0.15 acres.
- Installation of steps leading down the slope from the access road to the pumphouse and the intake structure (approximately 47 square feet or 0.001 acres). A fence with a locking gate will restrict access to the steps and boardwalk.
- Construction of a walkway on concrete support structures around the front of the pump intake box. This walkway, which will be approximately 42 feet long at the perimeter and 4.6 feet wide, will wrap around the intake structure. The walkway will be made of wood and supported by approximately 6 concrete support structures to be placed in the water (approximately 6 square feet). It is anticipated that the footings will be placed by installing cylindrical metal casings into the water, dewatering and excavating sediment from the inside

of the casings and then filling the casings with concrete. If feasible, a secondary screening system may be installed below the walkway surface and between the pilings to further reduce the amount of detritus, such as dead floating cattails, from entering the pumps. It is anticipated that if feasible[1] the secondary screening system will be similar to the existing screens that separate the pump from the pond. This screen is a metal mesh with holes measuring approximately one inch by one half inch. It is estimated that this component of the project will require the placement of approximately 1.2 cubic yards of fill (concrete) in wetlands and waters of the United States.

- Replacement of the failing wooden retaining wall next to the pumphouse (at the base of the levee slope between the uplands and the wetland) with a concrete retaining wall to prevent further soil deposition from the uplands from entering the waterway. The retaining wall, which will measure approximately 12 feet long and five feet high, will be placed in jurisdictional wetlands and is estimated to result in 0.4 cubic yards of fill (approximately 6 square feet surface area).
- Repair of two cart paths (total of approximately 570 square feet or 0.01 acres) located adjacent to, but not within, the Laguna Salada wetland. Repairs to the cart paths will involve moving the paths away from the wetland and into the golf course, installing interlocking pavers to support the downslope embankment and backfilling the area with drain rock to raise elevations.

Excavation of sediments and vegetation will be conducted from the golf course uplands wherever possible, thus minimizing impacts to the wetlands. The sediment and vegetation removal along the connecting channel between Horse Stable Pond and Laguna Salada can be accomplished with little or no impact to the adjacent wetland. It is anticipated that an excavator or Grade-all stationed on the golf course would be used for vegetation and sediment removal along the channel. The excavation around the pumphouse will likely require establishing an equipment access route through the jurisdictional wetland on the north side of Horse Stable Pond. Due to limited bank access into Horse Stable Pond, the optimal method for sediment and vegetation removal from Horse Stable Pond would be to use a compact multi-purpose aquatic vessel (i.e., an Aquamog) or similar equipment with long boom and clam shell or bucket type attachment that can reach sediment and vegetation near the pumphouse. This would avoid impacts to steep intact upland habitats adjacent to Horse Stable Pond and allow a shorter construction window in the habitat without compromising the ability to avoid take of species. The emergent vegetation would first be removed from the sediment removal foot print using a bucket with a thumb. After the vegetation is removed, the Aquamog would be fitted with a clamshell attachment for sediment excavation. Vegetation that is removed from both locations (the channel and Horse Stable Pond) will be placed in an elevated dewatering container located in an adjacent cleared upland or placed directly into a dump truck and hauled to either the organic dump or reclaimed rifle range east of the PCH. No at-grade dewatering vehicles or containers will be left on site overnight.

[1] The secondary screening will be deemed feasible if it will not compromise the operation and longevity of the pumps.

Construction at Horse Stable Pond, Laguna Salada and the connecting channel is expected to occur between June 1 and October 31. Pre-project clearing and construction actions occurring in the uplands (staging areas, pathway repair and step construction) would begin in June. This project phasing will minimize and/or avoid impacts to aquatic stages of the California red-legged frog. Implementation of the construction action is expected to be phased over a two year period.

Golf Course Maintenance and Operations

The SFRPD currently employs seven staff members who perform the year-round operation and maintenance of the golf course. These activities include mowing; application of water for irrigation; application of fertilizers and compost tea; controlling for gophers; tree removal and trimming; landscaping; maintenance of golf course features, structures, and cart paths; and plumbing and electrical operations. The duration of the action for which the City is seeking take coverage is limited to a 10-year period.

Current Course Maintenance
Mowing of the golf course occurs on fairways, tees, greens and surrounds. In general, greens are mowed daily, tees twice a week, and the fairways are mowed twice weekly during spring, summer, and fall, and weekly during the winter. The greens are mowed to a height of 1/8 inch while the tees, surrounds and fairways are mowed to ½ inch. Although a triplex riding mower is used for greens, tees, and surroundings, hand mowing and trimming are necessary in some locations, such as around the clubhouse, tree basins, steep slopes and other small areas where the larger mowers cannot be used. The 2009 Compliance Plan describes employing a biologist to walk ahead of mowers to survey for California red-legged frog and San Francisco garter snake. This level of monitoring has not been implemented because it was determined to be economically infeasible. An alternate protocol that will offer equivalent protection for the species has been initiated at Sharp Park. Rather than employing a daily biological monitor to walk the course each day, golf course mowing staff are trained and instructed to cease mowing if a frog or snake is observed on the course.

The SFRPD uses an automated and quick coupler system to irrigate the golf course. Weather and climate conditions dictate how often the golf course is irrigated; however on average the course is irrigated twice a week in the dry season (May to October).

Other maintenance actions include hand or mechanized application of organic fertilizer and seed, raking bunkers, rodent control, repairing divots and erosion, cleaning out drainage sumps and tree and vegetation pruning, removal and planting. Golf course staff manage bunkers daily, Monday through Friday, by raking the sand to remove foreign objects and pulling weeds as needed, and fill divots on the tees and fairways as needed by hand using a mixture of sand and seed mix as needed. A workman with a spreader placed on the dump bed is used to spread fertilizer.

Sharp Park drainage sumps are below grade settling basins that separate large debris from the drainage system. Several drainage sumps are interspersed on one culvert system that enters the golf course from Francisco Boulevard and, running east to west, crosses tee number 3 in front of

number 2 Green, and numbers 1, 10, 11, and 13 fairways until it daylights into a ditch leading into Laguna Salada. Annually, the golf staff enters the sumps via an at-grade lid, to remove debris by hand.

Flood Control and Drainage

Sharp Park Golf Course is located within an 845-acre watershed. Historical maps show a salty/freshwater brackish lake in the area now predominantly occupied by the lower golf course. Sanchez Creek and its tributaries provide a riparian corridor for the watershed that at one time drained by gravity into the ocean through a sandy barrier dune that seasonally formed along the beach, similar to that on many California coastal streams. In the 1930s, Sanchez Creek was blocked from discharging to the ocean, which transformed the marine influenced lake into a fresh water wetland (including Laguna Salada and Horse Stable Pond). In addition to watershed drainage, Laguna Salada and Horse Stable Pond receive runoff from the Pacific Coast Highway, residential streets in Pacifica, undeveloped areas managed by the Golden Gate National Recreation Area (GGNRA), and surrounding subdivisions constructed after the golf course.

The SFRPD currently pumps storm water from Horse Stable Pond to the Pacific Ocean. The pumps that control the water levels in Horse Stable Pond and Laguna Salada are located in a pumphouse at the southwest corner of Horse Stable Pond. There are two electric pumps located in the pumphouse, a large pump with a rated capacity of 10,000 gallons per minute (gpm) and a smaller pump with a rated capacity of 1,500 gpm. The pumps sit in a wet well and are controlled by electric probes, which are adjustable and set by SFRPD engineers. A gauge board is mounted to the outside of the pumphouse that allows monitoring of the water levels. Pumping takes place primarily during the rainy season between November and May. In accordance with the 2009 Compliance Plan, the Director of the Natural Areas Program determines whether and when the pumps are operated and communicates target water levels to an SFRPD Stationary Engineer that adjusts the pump setting accordingly. Water management on the Property occurs among other reasons to facilitate recreational activity at Sharp Park.

Integrated Pest Management

The SFRPD recognizes unique linkages between the golf course and environmental attributes of the site that provide habitat for native species. In 2001, the SFRPD, in consultation with city, state, and federal agencies, began to examine fertilizer and pesticide application practices at the golf course. After a successful pilot study that analyzed the effectiveness of alternatives that lessen adverse environmental effects, the SFRPD implemented a bio-organic program for the entire golf course that is subject to an annual review by a Certified Pest Control Advisor working in the SFRPD's Integrated Pest Management Division. Today, only organic fertilizers are used at Sharp Park and only on the greens, tees and surrounds. Organic dry fertilizers are applied on average four times a year to the greens and three times a year to the tees. Liquid organic fertilizers such as compost tea are applied on average once a week throughout the year. At this time, the City does not use any chemical pesticides in any landscaped or natural area at Sharp Park.

Gophers are common on golf courses. Gopher mounds may damage mowers, and gophers can damage turf roots as well as other plants. SFRPD staff manages gopher populations by raking

down gopher mounds. Mounds are raked away from the opening of the hole. If an active burrow is present on the fairway, greens, tees or roughs, traps may be set by removing a clump of dirt from the ground such that the middle of a main tunnel is exposed. A U-shaped wire sprung gopher trap (MacAbee trap) is placed in the burrow on either side of the hole. The access hole is then immediately filled in with the clump of turf that had been removed. Typically the traps are checked and removed before the end of the work day. The 2009 Compliance Plan describes restrictions on gopher control in the Management Area. While gopher holes and tunnels are not a concern in the no-mow zone, they do affect course playability. If gopher tunnels are left untreated in areas of play (that is, tees, greens, and fairways), sections of the course would be rendered unplayable.

Park User Habits

Park use includes foot and cart traffic on or around the course. Golfers frequently deviate from the fairway searching for lost balls. However, within the last few years, golf course rules have been modified such that the rough adjacent to the wetlands is out of play and golfers are not allowed to seek lost balls there. The 2009 Compliance Plan limited golf cart use to pathways only. The SFRPD implemented this new course rule by posting signs and informing users to stay on pathways. SFRPD is aware that it has been unable to achieve 100 percent compliance with the rule, but it has limited enforcement authorities and resources. Further, in limiting carts to paths only, SFRPD has found that the golf course is less accessible to seniors and persons with impaired mobility. Such limitations affect the economic viability of the course by making it a less desirable course to play. Golf cart limitations are proposed to follow a 90-degree rule in areas adjacent to sensitive areas (see description below in Conservation Measure 20). SFRPD states that the implementation of a cart path only rule would have questionable beneficial effects for the species, inhibit course use by a subset of the population, and likely have an economic cost.

The golf course and surrounding environs have also attracted dog walkers who use a strip of land between Laguna Salada and the seawall as an off-leash dog area even though this area is off limits to dogs under SFRPD policy and a fence has been installed. There is currently no barrier between this strip of land and Laguna Salada that prevents dogs from accessing the water body. Dog owners/walkers may be unaware that dogs are not permitted on the golf course or Laguna Salada because of insufficient signage on the course and surrounding areas.

Circulation

The golf course contains an interconnected system of paved paths intended for golf cart use and service roads used by SFRPD staff to access the golf course and by users of the archery range. Approximately 30-40% of the golf course users rent carts. Golf carts are used by players to access balls in between strokes and have a maximum speed of 10 miles per hour. West of Highway 1, there are service roads between the number 1 tee and the number 2 tee and on the sea wall from the 16th tee to the pumphouse. On the east side of Highway 1, a paved road runs east from Lundy Way along the north side of the number 7 fairway to a compost site, the defunct rifle range, and ends as a dirt and gravel road at the Archery Range. There are a series of unpaved roadways and trails within the Archery Range. The SFRPD also maintains an easement over a dirt road (Mori Point Road) along GGNRA property just south of the lower course that leads to

the seawall. Recently portions of this road were converted to a boardwalk and at that time the SFRPD relinquished its rights to use this easement as the regular vehicular access to the pumphouse and sea wall. While the easement is still considered an emergency access route, this access is maintained by a locked gate and the SFRPD's only regular access on this route is on foot. The only current vehicle access to the pumphouse is via the sea wall road and the pumphouse access road off of Mori Pont Road. This route is used by City personnel that maintain and adjust the pumps at Horse Stable Pond and is also used regularly by the City of Pacifica, which maintains the garbage receptacles on the seawall.

Application of Recycled Water for Irrigation
State law prohibits the use of potable water for golf course irrigation wherever suitable recycled water is available at a reasonable cost. The North Coast County Water District is implementing the Pacifica Recycled Water Project to provide treated water from the City of Pacifica's Calera Creek Water Recycling Plant to irrigation sites within the City of Pacifica and San Mateo County, including Sharp Park Golf Course. The Calera Creek Water Recycling Plant currently discharges tertiary treated recycled water to Calera Creek. The Recycled Water Project is currently underway and is scheduled to be completed in 2012. The Park currently uses approximately 30 million gallons per year of imported surface water from the regional water system operated by the San Francisco Public Utilities Commission to irrigate the golf course. In December 2005, the Park discontinued use of the water in Arrowhead Reservoir (east of the Pacific Coast Highway) to irrigate the golf course. Flows to and from Sanchez Creek and Arrowhead Reservoir now function under natural conditions increasing with winter rains and decreasing with summer evaporation.

Natural Areas Restoration

The wetlands associated with Horse Stable Pond, Laguna Salada and the connecting channel are considered Natural Areas (SFRPD 2012). As such these areas are to be managed and restored for their biodiversity. Maintenance activities, such as hand removal of vegetation within and adjacent to Horse Stable Pond, Laguna Salada and the connecting channel, would be undertaken by the Natural Areas Program, a division of the SFRPD responsible for the conservation and management of biological resources including endangered species on SFRPD Natural Areas. The activities would include the removal of vegetation overhanging and shading the wetlands such as acacia, Monterey cypress, as well as vegetation within the wetlands such as cattails and bulrush that reduce the quality of California red-legged frog breeding habitat and therefore reduce prey availability and foraging habitat quality for San Francisco garter snake. In areas where appropriate, native plants and erosion control measures would be installed to replace and augment the wildlife habitat and reduce soil loss.

Conservation Measures

The following conservation measures are proposed as part of the Project in order to minimize its potential effects on the listed species or their habitat.

Conservation measures for construction activities

1. All sensitive habitats outside the Construction site shall be avoided during and following Project implementation. All biologists working on the project and their roles will be approved by the Service and CDFG based on their qualifications. All approved biologists shall be part of the Project Implementation Team. SFRPD will designate one of the Service/CDFG approved biologists to oversee and coordinate all avoidance and survey tasks of the Project Implementation Team. Prior to commencement of any Project-related construction activity, an approved biological monitor will flag the sensitive areas and/or the limits of the Construction site with suitable markers that are easily discernible by construction equipment operators. No construction equipment or personnel will enter the sensitive areas designated for avoidance by the project.

2. The lead Service-approved biological monitor will be present at all planning meetings prior to Project implementation. A Service-approved biological monitor shall present an educational program at one or more such meetings regarding the listed species and their habitats. Every person who works on Project implementation must receive this education program and sign a form indicating they have attended and agree to abide by the terms and conditions being implemented to avoid take of listed species and/or habitat. A Service-approved biological monitor will be present at the site during all construction activities including but not limited to, vegetation and sediment removal, placement of concrete support structures for the walkway, replacement of the retaining wall and pathway repair. The biological monitor will have the authority to stop work temporarily in order to protect the listed species or the flagged sensitive areas.

3. Prior to commencement of any construction activities and daily prior to construction each day, a Service-approved biological monitor shall survey the site for the listed species. A Service approved biologist will also oversee the installation of exclusion fencing in segments or fully enclosing components of the construction site as appropriate. The biological monitor will inspect the integrity of the exclusion fencing on a daily basis.

4. During dredging and vegetation removal activities, if required, up to three (3) biological monitors will be present to 1) monitor the area of vegetation or sediment removal, 2) observe the material as it transferred to the shoreline and 3) to inspect material as it is loaded into a container/dump bed that will allow the water in the excavated sediment to drain out before removal from the site.

5. Biological monitors will complete a daily monitoring log that records information on compliance and construction activities as well as avoidance measures implemented each day during the project. Each monitor will submit a daily monitoring form to the lead biologist before the start of the next construction day. Photographic documentation of project activities shall accompany each daily monitoring log. Within 60 days of completion of the Project, SFRPD will submit a report to Service documenting compliance with the terms and conditions and avoidance of unauthorized take of species or habitat.

6. No earthmoving or soil disturbing work shall occur starting October 31 and ending June 1, the breeding season for the California red-legged frog and the season when San Francisco garter snake are less active on the site.

7. Terrestrial vegetation in undisturbed areas around Horse Stable Pond and the connecting channel will be cleared by manual means to a height of 4 inches (or a height that allows visibility of the ground) under the supervision of an approved biological monitor and checked for the presence of California red-legged frog and San Francisco garter snake.

8. Prior to ground disturbing activities associated with construction, including the use of staging or vehicle access areas or the removal or placement of fill or construction materials, rodent burrows in the construction site will be hand excavated by a Service-approved biologist until the burrow terminates or until a maximum depth of 30 centimeters.

9. Vehicle speeds in the project area will not exceed 10 miles an hour. The Service-approved biological monitor will inspect for snakes and frogs underneath any vehicle that is parked for 30 minutes or more prior to moving the vehicle. All construction personnel will inspect under their tires and vehicle if it is idle for more than 5 minutes and has not been inspected by the on-site monitor. Vehicles accessing the construction site will be limited to the minimum necessary to complete the project. Project personnel shall park personal vehicles at a staging area located away from all aquatic habitats or areas of sensitive upland habitat.

10. Any workers on the site that observe any frog or snake will immediately report their findings to the on-site biological monitor and immediately suspend work that may be harmful to the individual. The monitor will identify the animal if it has not left the area. If a California red-legged frog is observed in the work area, it will be relocated by a Service-approved biological monitor to the nearest suitable aquatic habitat out of harm's way. Work may only recommence if the California red-legged frog moves out of harm's way or the animal is relocated by the biological monitor. Work may not recommence until the biological monitor has returned to the work area and gives approval.

11. Only Service approved personnel will be allowed to capture or attempt to capture and move California red-legged frog or other non-listed wildlife (e.g., treefrogs, small rodents) in the work area.

12. Erosion control best management practices (silt fences, coir rolls, straw bales) will be employed as part of the dewatering of sediments after removal and while soils are exposed. The erosion control measures will not include netting, plastic or natural monofilament netting or other materials that may entrap frogs or snakes.

13. After completion of the project, the access routes in the wetland will be revegetated with appropriate native plants and erosion control measures, as described in conservation measure 12, will be installed on exposed soils with slopes of 3:1 or greater.

14. All construction activities will occur in uplands and on the golf course. Stockpiling and staging areas will be located in the uplands and in areas cleared for species and the golf course. Construction materials (bricks, boards, shoring, concrete forms, etc.) shall be elevated approximately four to six inches above ground to minimize the potential for species to take cover under these items. If feasible materials will be staged on a trailer/truck bed to avoid contact with the ground. Construction materials will be brought to on-site staging areas as close to the time they are needed as possible.

Conservation measures for golf course maintenance and operations

15. During the 10 year duration of the Project, the water pumps will be operated pursuant to the following criteria:

    a. SFRPD staff will operate the pumps to ensure, to the maximum extent practicable, that California red-legged frog egg masses at Horse Stable Pond, Laguna Salada and the connecting channel are protected from desiccation as a result of pump operation by monitoring and adjusting pump levels to keep egg masses hydrated.
    b. A biological monitor from the SFRPD Natural Areas Program with appropriate experience, knowledge and permit authority from the Service, will monitor closely California red-legged frog egg masses and water levels.
    c. Appropriate water levels will be determined by conducting visual surveys of California red-legged frog egg masses in potential habitat areas around Horse Stable Pond, Laguna Salada and the connecting channel.
    d. Visual surveys will commence following the first rains in November or thereafter and continue throughout the California red-legged frog breeding season after each major rain event but not less than once every three weeks until all the tadpoles have hatched. If, for example during drought years, rains do not commence in November or December, surveys should begin in the first week of January.
    e. During the visual surveys, data on the California red-legged frog egg masses including attachment type, water depth, size of egg mass, and Gosner stage will be taken, and a determination of potential stranding will also be made.
    f. If California red-legged frog egg masses are observed at Horse Stable Pond, Laguna Salada, or the connecting channel and there is sufficient water surrounding the mass, no adjustments to the water level will be made. But if one or more egg masses in any of these three areas are observed to not possess sufficient water around it to prevent stranding, the water level that triggers operation of the pumps will be adjusted upwards, even at the risk of flooding the golf course. This minimization measure would not apply to egg masses observed outside of Horse Stable Pond, Laguna Salada, or the connecting channel.
    g. Pump levels will be set relative to the California red-legged frog egg mass in Horse Stable Pond, Laguna Salada, or the connecting channel with the least

amount of water around it; in other words, the pumps will be set to a level to protect the most vulnerable egg masses in Horse Stable Pond, Laguna Salada and the connection channel.

h. Following pump adjustments, the site will be resurveyed to ensure that the new pump levels have been achieved and the vulnerable egg masses are safe from desiccation.

i. Once all California red-legged frog eggs have hatched and the tadpoles are no longer aggregating about the egg mass, the water level may be lowered incrementally and the lowering of water levels in Horse Stable Pond, Laguna Salada and the connecting channel will be monitored to ensure that California red-legged frog tadpoles are not stranded by receding waters. The water level at the pump house will not be lowered below a level that provides the open water adjacent to the emergent vegetation is at least 6 inches deep on the inboard margin of the vegetation[2].

j. When no egg masses are present, the water levels may be lowered to reduce flooding on the Property or in advance of the rainy season (typically in November) in order to increase flood storage capacity. The SFRPD will ensure that sufficient non-breeding habitat remains at Horse Stable Pond if water levels are to be lowered. Water level will be determined to be sufficient if the open water adjacent to the emergent vegetation is at least 6 inches deep on the inboard margin of the vegetation[3]. Prior to the rainy season, water levels in Horse Stable Pond may be lowered no more than five days prior to the first projected large rain event of the season.

16. During the 10 year duration of the Project, if California red-legged frog egg masses on the fairways, greens, or roughs are determined to be at risk of stranding and desiccation, an SFRPD biological monitor with the Natural Areas Program will apprise Service of the situation and propose a relocation plan to the Service for review and approval. Such a relocation plan will describe the habitat, location and number of the at-risk egg masses as well as the remainder of the egg masses in the Project area that are not at risk. The relocation plan also will include protective measures above and beyond pump adjustments, such as bending vegetation to adjust the egg mass to the water level or relocating egg masses to more sustainable habitats. Relocation of egg masses will not be performed without approval of the Service.

17. During the 10 year duration of the Project, mowing will occur pursuant to the following criteria:

    a. The area to be mowed will be the minimum required to maintain the golf course. A no-mow zone area, which includes the roughs adjacent to the wetlands, will be

[2] In 2011, SFRPD in consultation with a biological expert, determined that if water levels remain above 1.0 on the gage board that sufficient water existed in Horse Stable Pond to support wildlife species. This level may change over time as the distribution of emergent vegetation of Horse Stable Pond changes.

[3] In 2011, SFRPD in consultation with a biological expert, determined that if water levels remain above 1.0 on the gage board that sufficient water existed in Horse Stable Pond to support wildlife species. This level may change over time as the distribution of emergent vegetation of Horse Stable Pond changes.

identified with stakes or other markers on the ground (see Figure 2-5 in biological assessment for boundaries of no-mow zone). Golf staff will be instructed not to mow in these areas. The land between Mori Point and Laguna Salada is an important movement corridor for the California red-legged frog and San Francisco garter snake. This area will be further evaluated by SFRPD biologists, in consultation with Service, to identify additional opportunities for movement and increases in the no-mow area. Based on this assessment, the extent of the no-mow zones may be increased as long as the restrictions on mowing do not affect the playability of the golf course.

b. To the extent feasible, mowing of fairways and greens adjacent to Laguna Salada would occur in the early morning hours before 9:00 a.m.
c. If mowing occurs prior to dawn, for example in the winter, the SFRPD will ensure that the mowers are equipped with lights so that drivers can see the turf in front of them. Golf course staff trained in the identification of California red-legged frogs and San Francisco garter snakes will walk the edge of Horse Stable Pond, Laguna Salada, and the connecting channel prior to mowing to ensure that neither species is present on the greens or fairways.
d. All mower operators will be trained to identify the California red-legged frog and San Francisco garter snake and instructed to stop any activities if they observe any frog or any snake on the course.
e. If any frog or any snake is encountered in the pathway of a mower, the operator will cease the mowing activity and wait for the animal to remove itself from harm's way or discontinue the mowing activity in that area for the day. If the animal does not move out of harm's way, the SFRPD biological monitor with the Natural Areas Program will be contacted. Work may not recommence in the area until the area has been determined to be clear of California red-legged frog or San Francisco garter snake.

18. During the 10 year duration of the Project, only organic fertilizers, such as pro-biotics, blood meal, lime, and compost tea, will be used at Sharp Park, and they will only be applied to the greens, tees and surrounds. No fertilizers will be applied to fairways.

19. During the 10 year duration of the Project, the City will not use any chemical pesticides on the golf course or associated landscaped areas at Sharp Park. Golf course pests and weeds will be controlled either by hand weeding or promoting healthy soil ecosystems. Organic materials such as compost tea, ferrous sulphate (iron), chelated iron, liquid humate, liquid guano, yucca extract and EM1 (effective microbes) will be applied to golf course to promote healthy soils. In the event of a major fungal outbreak on the golf course, the City will consult with the San Francisco Department of the Environment's Integrated Pest Management Program to identify the least toxic material to use to control the outbreak and would comply with labeling and other restrictions imposed by the U. S. Environmental Protection Agency. This biological opinion does not analyze any of the potential effects of pesticide application and does not authorize the use of any pesticides at Sharp Park.

20. During the 10 year duration of the Project, vehicle use on the golf course will be reduced. The City will reduce golf cart use on turf areas by establishing, posting, and enforcing 90-degree rules (golfers may drive to their ball by entering the golf course from the cart path at 90 degrees to their ball and returning to the golf cart along the same route after completing the swing) in areas adjacent to sensitive habitats (i.e., Holes 9 through 17 west of the Pacific Coast Highway and adjacent to Laguna Salada, Horse Stable Pond, Sanchez Creek and the connecting channel). In order to implement these rules, the City will post signs throughout the course and in the golf carts stating where golf carts must stay on paths and where the 90-degree rule applies. The Golf Course lessee, marshals and golf course maintenance staff will be instructed to enforce these rules throughout the course. In the rest of the course, there would be no restrictions on golf cart use.

    If non-mowing vehicles associated with golf course maintenance must be taken off path on the golf course, the area must be visually surveyed in advance for California red-legged frog and San Francisco garter snake. If a California red-legged frog or San Francisco garter snake is sited in the maintenance work area and the animal does not relocate itself to adjacent habitat and out of harm's way, the SFRPD biological monitor with the Natural Areas Program will be notified of the location and condition of the animal. If the animal is at risk due to other conditions (e.g., if it is located in the parking lot or maintenance area), the SFRPD biological monitor will relocate the animal to suitable nearby habitat and/or contact the Service and/or CDFG for guidance. If the animal is at risk, work must be suspended until the California red-legged frog or San Francisco garter snake removes itself from harm's way.

21. The SFRPD will continue to conduct regular staff training. SFRPD staff will be taught how to identify species of concern, conduct activities incorporating the required minimization measures in project areas, and determine what conditions require cessation of work and what situations require notification of a biological monitor. Upon completion of additional training, staff will be able to perform routine maintenance tasks within the golf course footprint (excluding the no-mow zone) such as changing pin placements; removing ball marks from surfaces; roping off, repairing, and reporting damage to sensitive areas to the SFRPD Natural Areas Manager; filling divots with seed mixes; removing foreign objects; replenishing and raking sand in bunkers; removing debris and litter; conducting landscaping activities; mowing fairways and greens; hand or mechanized trimming of vegetation that cannot be mowed; applying organic fertilizers, compost tea and other soil health products with machinery, aerating, dethatching and irrigating play surfaces; controlling gophers; and maintaining plumbing, drainage and electrical systems. Landscaping activities within the golf course footprint include tree removal, pruning and stump grinding throughout; hand weeding and edging around areas of play, and groundcover, tree and shrub installation, pruning and weeding at the clubhouse and other ornamentally landscaped areas. SFRPD staff will also be able to perform minor maintenance activities such as hand litter and trash removal, inspections and clearing of irrigation valves, and hand removal of debris from culverts in the no-mow areas.

22. All major golf course related activities occurring in the no-mow zones adjacent to Laguna Salada, Horse Stable Pond, Sanchez Creek and adjacent wetlands must be overseen by the SFRPD biological monitor with the Natural Areas Program. Tree removal, tree pruning and stump grinding are the only major maintenance activities anticipated to occur in portions of the no-mow zone. These activities will only occur in the isolated no-mow zones located between the golf course fairways (i.e., not the no mow zones adjacent to Horse Stable Pond and Laguna Salada). Prior to the commencement of any work in these areas, the biological monitor with the Natural Areas Program must be contacted. The biological monitor will evaluate whether the activity requires that measures such as exclusion barriers, burrow collapsing or incremental vegetation removal be implemented in order to protect the species. The Natural Areas Program biological monitor will oversee the implementation of these measures. If unanticipated activities (activities not listed in conservation measures 21 and 22 above) are required in the no-mow zone and the Natural Areas Program manager determines that the activities may result in take, the Service will be consulted to determine whether additional measures are required.

23. The SFRPD will distribute educational materials developed in cooperation with Service to staff, Park users, and golf patrons. These materials will include means to identify California red-legged frog and San Francisco garter snake, a synopsis of their natural history, including habitat requirements, information on their distribution and abundance at the facility, and procedures for avoidance and who to contact in case of a question.

24. The SFRPD will distribute or install educational materials (brochures, or interpretive or regulatory signs) where appropriate around Laguna Salada and Horse Stable Pond, the golf course entrances, and in the clubhouse stating that golfers and park users and their pets are prohibited from entering Laguna Salada and Horse Stable Pond, dogs are to remain on leash, and that leaving food for cats is prohibited. The signs will also state that releasing animals in the park is prohibited. If a feral cat feeding station is discovered at Sharp Park, it will be removed as soon as practicable. The SFRPD will cooperate with GGNRA on their regional effort to address free-roaming cats at Mori Point and Sharp Park. The SFRPD will work with Service staff and other local agencies (the City of Pacifica, San Mateo County, Golden Gate National Recreation Area) to develop and implement an enforcement plan to control unauthorized access to the western side of Laguna Salada. Among the items to be considered in this plan are closing holes in the fence at the seawall, placing additional signs, and on-site enforcement. A draft enforcement plan will be provided to the Service within 18 months of the date of the Biological Opinion. The implementation of the plan will begin within 6 months of the Service approval of the final plan.

25. The SFRPD will install and maintain a 3 foot wood fence around Horse Stable Pond and a 3 foot wire-mesh fence along the eastern edge of the seawall, to keep dog walkers and other park users from entering Horse Stable Pond and Laguna Salada from the seawall. "No Access" signs will be installed on the fence.

26. The SFRPD will restrict the use of vehicles on Mori Point Road, from Moose Lodge to Horse Stable Pond, over which the City has an easement.

27. The SFRPD will prepare and implement, with Service approval, an Invasive Species Management Plan that includes monitoring and control of bullfrogs and other introduced species that potentially reduce California red-legged frog populations and habitat quality. Routine annual surveys for potentially detrimental non-native invasive animal species, particularly bullfrogs, predatory fish and non-native turtles, will be scheduled and supervised by the Natural Areas Program biological monitor. Monitoring surveys for bullfrogs would be conducted in the spring and could consist of searches for egg masses, calling surveys and visual surveys. If individuals of potentially destructive animal species are encountered, control methods will be developed and, with Service approval, implemented. Among the methods that could be employed include draining of the water body (Arrowhead Reservoir), hand removal of egg masses, dipnetting for tadpoles and culling of adults. These control activities would be conducted by a Service-approved biologist.

28. The SFRPD will undertake actions to restore and enhance California red-legged frog habitat in Arrowhead Reservoir by eliminating known predators. Presently, Arrowhead Reservoir is the only area in the Project site where any invasive animals (bass) are known to occur. The SFRPD will drain the reservoir to eliminate the bass population and post signs prohibiting release of animals in order to reduce the potential for future introductions. Arrowhead Reservoir will be monitored to detect potentially detrimental animals (see Measure 27 above)

29. The SFRPD will restore 0.5 acre of upland habitat around Horse Stable Pond and Laguna Salada. This restoration would occur in three locations 1) south of Horse Stable Pond in an area with significant radish, mustard and Cape ivy cover, 2) immediately north of Horse Stable Pond in an area dominated by iceplant, and 3) in the area west of Laguna Salada in an area dominated by iceplant. The restoration in this latter area would be coordinated with initiatives described in Measure 24 to reduce unauthorized access to sensitive areas. Within 9 months of the date of the Biological Opinion, the SFRPD will provide to the Service for review, a detailed draft restoration plan that includes a map of the restoration areas and a description of the proposed restoration, monitoring and maintenance actions. Surveys for infestations of invasive non-native and particularly aggressive native plant species that reduce habitat value for desired wildlife will also be conducted annually. Where feasible, additional hand removal of these aggressive species would be conducted in the no mow areas around Horse Stable Pond, Laguna Salada and the connecting channel. Invasive plant removal will occur incrementally and will be followed by re-vegetation by locally collected and habitat appropriate native plants. All habitat restoration work will be conducted or overseen by the Natural Areas Program staff and overseen by the Service-approved biological monitor. Large-scale mechanical control or eradication efforts will be initiated as part of the long-term restoration plan of the site.

30. Golf course staff engaged in activities and who detect any California red-legged frog or San Francisco garter snake on the course that does not move of its own accord and would otherwise be in harm's way, must immediately report their finding to the biological monitor with the Natural Areas Program and attempt to prevent harm to the individual(s).

31. During and following completion of the Project, the SFRPD shall maintain and keep in good repair the sea wall road, which provides the only vehicle access for maintenance activities as described above. Maintenance of the roadway on the sea wall is expected to include filling ruts in the surface with aggregate or comparable materials and repairing drainage issues by outsloping the roadbed. The SFRPD does not anticipate hardening or further armoring of the sides of the sea wall.

32. The SFRPD will construct a perennial California red-legged frog pond approximately 150 square meters in size and similar in scope and design to the breeding pond constructed by the GGNRA. The design and site selection will be provided to the Service for review and approval nine months from the date of issuance of the biological opinion. Construction of the California red-legged frog pond will occur within two years and nine months of issuance of the biological opinion. San Francisco Parks Department will monitor the pond for breeding success by surveying for egg masses on an annual basis and documenting habitat conditions for a period of five years following pond construction and this information will be provided to the Service and the GGNRA.

Action Area

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." For the proposed action, the action area includes all lands at Sharp Park associated with the footprint of the construction action and all lands associated with operation and maintenance of Sharp Park. Sharp Park is approximately 417 acres characterized by upland ruderal habitat, freshwater wetlands, open water, and an upland golf course including tees, greens, and fairways.

Analytical Framework for the Jeopardy Analysis

Section 7(a)(2) of the Act requires that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species. "Jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of the species. 50 Code of Federal Regulations (C.F.R.) §402.02.

In accordance with policy and regulation, the jeopardy analysis in this biological opinion relies on three components: (1) the *Status of the Species*, which evaluates the California red-legged frog and San Francisco garter snake's range-wide conditions, the factors responsible for that condition, and their survival and recovery needs; (2) the *Environmental Baseline*, which evaluates the condition of these listed species in the action area, the factors responsible for that

condition, and the relationship of the action area to the survival and recovery of these listed species; (3) the *Effects of the Action*, which determines the direct and indirect effects of the proposed Federal action and the effects of any interrelated or interdependent activities on these species; and (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on them.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the California red-legged frog and San Francisco garter snake's current status, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of these listed species in the wild.

The jeopardy analysis in this biological opinion places an emphasis on consideration of the range-wide survival and recovery needs of these listed species, and the role of the action area in the survival and recovery of these listed species as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

Status of the Species

California Red-legged Frog

Listing Status: The California red-legged frog was listed as a threatened species on May 23, 1996 (61 FR 25813) (Service 1996). Critical habitat was designated for this species on April 13, 2006 (71 FR 19244) (Service 2006c) and revisions to the critical habitat designation were published on March 17, 2010 (75 FR 12816) (Service 2010). At this time, the Service recognized the taxonomic change from *Rana aurora draytonii* to *Rana draytonii*. A Recovery Plan was published for the California red-legged frog on September 12, 2002 (Service 2002).

Description: The California red-legged frog is the largest native frog in the western United States (Wright and Wright 1949), ranging from 1.5 to 5.1 inches in length (Stebbins 2003). The abdomen and hind legs of adults are largely red, while the back is characterized by small black flecks and larger irregular dark blotches with indistinct outlines on a brown, gray, olive, or reddish background color. Dorsal spots usually have light centers (Stebbins 2003), and dorsolateral folds are prominent on the back. Larvae (tadpoles) range from 0.6 to 3.1 inches in length, and the background color of the body is dark brown and yellow with darker spots (Storer 1925).

Distribution: The historic range of the California red-legged frog extended from the vicinity of Elk Creek in Mendocino County, California, along the coast inland to the vicinity of Redding in Shasta County, California, and southward to northwestern Baja California, Mexico (Fellers 2005; Jennings and Hayes 1985; Hayes and Krempels 1986). The species was historically documented in 46 counties but the taxa now remains in 238 streams or drainages within 23 counties, representing a loss of 70 percent of its former range (Service 2002). California red-legged frogs are still locally abundant within portions of the San Francisco Bay Area and the Central

California Coast. Isolated populations have been documented in the Sierra Nevada, northern Coast, and northern Transverse Ranges. The species is believed to be extirpated from the southern Transverse and Peninsular ranges, but is still present in Baja California, Mexico (CNDDB 2012).

Status and Natural History: California red-legged frogs predominately inhabit permanent water sources such as streams, lakes, marshes, natural and manmade ponds, and ephemeral drainages in valley bottoms and foothills up to 4,921 feet in elevation (Jennings and Hayes 1994, Bulger *et al.* 2003, Stebbins 2003). However, they also inhabit ephemeral creeks, drainages and ponds with minimal riparian and emergent vegetation. California red-legged frogs breed from November to April, although earlier breeding records have been reported in southern localities. Breeding generally occurs in still or slow-moving water often associated with emergent vegetation, such as cattails, tules or overhanging willows (Storer 1925, Hayes and Jennings 1988). Female frogs deposit egg masses on emergent vegetation so that the egg mass floats on or near the surface of the water (Hayes and Miyamoto 1984).

Habitat includes nearly any area within 1-2 miles of a breeding site that stays moist and cool through the summer including vegetated areas with coyote brush, California blackberry thickets, and root masses associated with willow and California bay trees (Fellers 2005). Sheltering habitat for California red-legged frogs potentially includes all aquatic, riparian, and upland areas within the range of the species and includes any landscape feature that provides cover, such as animal burrows, boulders or rocks, organic debris such as downed trees or logs, and industrial debris. Agricultural features such as drains, watering troughs, spring boxes, abandoned sheds, or hay stacks may also be used. Incised stream channels with portions narrower and depths greater than 18 inches also may provide important summer sheltering habitat. Accessibility to sheltering habitat is essential for the survival of California red-legged frogs within a watershed, and can be a factor limiting frog population numbers and survival.

California red-legged frogs do not have a distinct breeding migration (Fellers 2005). Adults are often associated with permanent bodies of water. Some individuals remain at breeding sites year-round, while others disperse to neighboring water features. Dispersal distances are typically less than 0.5-mile, with a few individuals moving up to 1-2 miles (Fellers 2005). Movements are typically along riparian corridors, but some individuals, especially on rainy nights, move directly from one site to another through normally inhospitable habitats, such as heavily grazed pastures or oak-grassland savannas (Fellers 2005).

In a study of California red-legged frog terrestrial activity in a mesic area of the Santa Cruz Mountains, Bulger *et al.* (2003) categorized terrestrial use as migratory and non-migratory. The latter occurred from one to several days and was associated with precipitation events. Migratory movements were characterized as the movement between aquatic sites and were most often associated with breeding activities. Bulger *et al.* (2003) reported that non-migrating frogs typically stayed within 200 feet of aquatic habitat 90 percent of the time and were most often associated with dense vegetative cover, i.e., California blackberry, poison oak and coyote brush. Dispersing frogs in northern Santa Cruz County traveled distances from 0.25-mile to more than 2

miles without apparent regard to topography, vegetation type, or riparian corridors (Bulger et al. 2003).

In a study of California red-legged frog terrestrial activity in a xeric environment in eastern Contra Costa County, Tatarian (2008) noted that a 57 percent majority of frogs fitted with radio transmitters in the Round Valley study area stayed at their breeding pools, whereas 43 percent moved into adjacent upland habitat or to other aquatic sites. This study reported a peak seasonal terrestrial movement occurring in the fall months associated with the first 0.2-inch of precipitation and tapering off into spring. Upland movement activities ranged from 3 to 233 feet, averaging 80 feet, and were associated with a variety of refugia including grass thatch, crevices, cow hoof prints, ground squirrel burrows at the base of trees or rocks, logs, and under man-made structures; others were associated with upland sites lacking refugia (Tatarian 2008). The majority of terrestrial movements lasted from 1 to 4 days; however, one adult female was reported to remain in upland habitat for 50 days (Tatarian 2008). Upland refugia closer to aquatic sites were used more often and were more commonly associated with areas exhibiting higher object cover, e.g., woody debris, rocks, and vegetative cover. Subterranean cover was not significantly different between occupied upland habitat and non-occupied upland habitat.

California red-legged frogs are often prolific breeders, laying their eggs during or shortly after large rainfall events in late winter and early spring (Hayes and Miyamoto 1984). Egg masses containing 2,000 to 5,000 eggs are attached to vegetation below the surface and hatch after 6 to 14 days (Storer 1925, Jennings and Hayes 1994). In coastal lagoons, the most significant mortality factor in the pre-hatching stage is water salinity (Jennings *et al.* 1992). Eggs exposed to salinity levels greater than 4.5 parts per thousand resulted in 100 percent mortality (Jennings and Hayes 1990). Increased siltation during the breeding season can cause asphyxiation of eggs and small larvae. Larvae undergo metamorphosis 3½ to 7 months following hatching and reach sexual maturity 2 to 3 years of age (Storer 1925; Wright and Wright 1949; Jennings and Hayes 1985, 1990, 1994). Of the various life stages, larvae probably experience the highest mortality rates, with less than 1 percent of laid eggs reaching metamorphosis (Jennings *et al.* 1992). California red-legged frogs may live 8 to 10 years (Jennings *et al.* 1992). Populations can fluctuate from year to year; favorable conditions (generally years with above average rainfall) allow the species to have extremely high rates of reproduction and thus produce large numbers of dispersing young and a concomitant increase in the number of occupied sites. In contrast, the animal may temporarily disappear from an area when conditions are stressful (e.g., during periods of drought, disease, etc.).

The diet of California red-legged frogs is highly variable, changing with the life history stage. The diet of the larval stage has been the least studied and is thought to be similar to that of other ranid frogs, which feed on algae, diatoms, and detritus (Fellers 2005; Kupferberg 1996a, 1996b, 1997). Hayes and Tennant (1985) analyzed the diets of California red-legged frogs from Cañada de la Gaviota in Santa Barbara County during the winter of 1981 and found invertebrates (comprising 42 taxa) to be the most common prey item consumed; however, they speculated that this was opportunistic and varied based on prey availability. They ascertained that larger frogs consumed larger prey and were recorded to have preyed on Pacific chorus frog, three-spined stickleback and, to a limited extent, California mice, which were abundant at the study site

(Hayes and Tennant 1985, Fellers 2005). Although larger vertebrate prey was consumed less frequently, it represented over half of the prey mass eaten by larger frogs suggesting that such prey may play an energetically important role in their diets (Hayes and Tennant 1985). Juvenile and subadult/adult frogs varied in their feeding activity periods; juveniles fed for longer periods throughout the day and night, while subadult/adults fed nocturnally (Hayes and Tennant 1985). Juveniles were significantly less successful at capturing prey and all life history stages exhibited poor prey discrimination, feeding on several inanimate objects that moved through their field of view (Hayes and Tennant 1985).

Threats: Habitat loss, non-native species introduction, and urban encroachment are the primary factors that have adversely affected the California red-legged frog throughout its range. Several researchers in central California have noted the decline and eventual local disappearance of California and northern red-legged frogs in systems supporting bullfrogs (Jennings and Hayes 1990; Twedt 1993), red swamp crayfish, signal crayfish, and several species of warm water fish including sunfish, goldfish, common carp, and mosquitofish (Moyle 1976; Barry 1992; Hunt 1993; Fisher and Schaffer 1996). This has been attributed to predation, competition, and reproduction interference. Twedt (1993) documented bullfrog predation of juvenile northern red-legged frogs, and suggested that bullfrogs could prey on subadult California red-legged frogs as well. Bullfrogs may also have a competitive advantage over California red-legged frogs. For instance, bullfrogs are larger and possess more generalized food habits (Bury and Whelan 1984). In addition, bullfrogs have an extended breeding season (Storer 1933) during which an individual female can produce as many as 20,000 eggs (Emlen 1977). Furthermore, bullfrog larvae are unpalatable to predatory fish (Kruse and Francis 1977). Bullfrogs also interfere with California red-legged frog reproduction by eating adult male California red-legged frogs. Both California and northern red-legged frogs have been observed in amplexus (mounted on) with both male and female bullfrogs (Jennings and Hayes 1990; Twedt 1993; Jennings 1993). Thus bullfrogs are able to prey upon and out-compete California red-legged frogs, especially in sub-optimal habitat.

The urbanization of land within and adjacent to California red-legged frog habitat has also affected the threatened amphibian. These declines are attributed to channelization of riparian areas, enclosure of the channels by urban development that blocks dispersal, and the introduction of predatory fishes and bullfrogs. Diseases may also pose a significant threat, although the specific effects of disease on the California red-legged frog are not known. Pathogens are suspected of causing global amphibian declines (Davidson et al. 2003). Chytridiomycosis and ranaviruses are a potential threat because these diseases have been found to adversely affect other amphibians, including the listed species (Davidson et al. 2003; Lips et al. 2006). Mao *et al.* (1999 cited in Fellers 2005) reported northern red-legged frogs infected with an iridovirus, which was also presented in sympatric threespine sticklebacks in northwestern California. Non-native species, such as bullfrogs and non-native tiger salamanders that live within the range of the California red-legged frog have been identified as potential carriers of these diseases (Garner *et al.* 2006). Humans can facilitate the spread of disease by encouraging the further introduction of non-native carriers and by acting as carriers themselves (i.e., contaminated boots, waders or fishing equipment). Human activities can also introduce stress by other means, such as habitat fragmentation, that results in the listed species being more susceptible to the effects of disease.

Recovery Plan: The Recovery Plan for the California red-legged frog identifies eight recovery units (Service 2002). The establishment of these recovery units is based on the determination that various regional areas of the species' range are essential to its survival and recovery. These recovery units are delineated by major watershed boundaries as defined by U.S. Geological Survey hydrologic units and the limits of its range. The goal of the recovery plan is to protect the long-term viability of all extant populations within each recovery unit. Within each recovery unit, core areas have been delineated and represent contiguous areas of moderate to high California red-legged frog densities that are relatively free of exotic species such as bullfrogs. The goal of designating core areas is to protect metapopulations. This, when combined with suitable dispersal habitat, will allow for the long term viability within existing populations. This management strategy identified within the Recovery Plan will allow for the recolonization of habitats within and adjacent to core areas that are naturally subjected to periodic localized extinctions, thus assuring the long-term survival and recovery of California red-legged frogs.

San Francisco garter snake

Listing Status: The San Francisco garter snake was listed as an endangered species on March 11, 1967 (Service 1967) and was listed as endangered by the State of California in 1971. A detailed species account can be found in the *San Francisco Garter Snake 5 -year Review: Summary and Evaluation* (Service 2006b). Critical habitat has not been proposed or designated for the species. The San Francisco garter snake is a fully protected species under California law. See California Fish and Game Code, Section 5050(b). A recovery plan was published for the San Francisco garter snake in 1985 (Service 1985).

Description: The San Francisco garter snake is a slender, colorful snake, with a burnt orange head, greenish-yellow dorsal stripe edged in black, bordered by a red stripe, which may be continuous or broken with black blotches, and then a black stripe. The belly color varies from greenish-blue to blue. The eyes are relatively large, and usually seven upper and ten lower labial scales are present. The body scales are in 19 rows and the dorsal scales are weakly to strongly keeled (Fox 1951). Large adults can reach 36 inches or more in length. Females give live birth from June through September, with litters averaging 16 newborn (Stebbins 2003). The snakes are extremely shy, difficult to locate and capture, and quick to flee to water or cover when disturbed.

Distribution: Historically, San Francisco garter snakes occurred in scattered wetland areas on the San Francisco Peninsula from approximately the San Francisco County line south along the eastern and western bases of the Santa Cruz Mountains, at least to the Upper Crystal Springs Reservoir, and along the coast south to Año Nuevo Point, San Mateo County, and Waddell Creek, Santa Cruz County, California (Barry 1994; Service 1985). Currently, the species has been reduced to only six significant populations in San Mateo County and northern Santa Cruz County. These sites are Pescadero Marsh, Año Nuevo, the San Francisco State Fish and Game Refuge, San Francisco Airport/Milbrae, Sharp Park Golf Course at Laguna Salada, and Cascade Ranch. Each of these six locations is considered by the San Francisco Garter Snake Recovery Plan to be essential to the long-term survival of the species (Service 1985) and these locations are recognized as important to achieving recovery in the San Francisco garter snake 5-year

review (Service 2006a). Of these sites Fox (1951) considered the Sharp Park population to be the purest morphological example of San Francisco garter snakes.

Status and Natural History: There are two significant components to San Francisco garter snake habitat: ponds that support California red-legged frogs and Pacific tree frogs *(Pseudacris regilla),* and surrounding upland habitat that supports burrowing mammals such as Botta's pocket gopher *(Thomomys bottae)*and California vole *(Microtus californicus).*The preferred habitat of the San Francisco garter snake is vegetated ponds with an open water component near open hillsides where they can sun themselves, feed, and find cover in rodent burrows (Larsen 1994). However, considerably less ideal habitats can be successfully occupied by the snakes, including ditches and waterways, where snakes are believed to pursue and prey on California red-legged frogs and Pacific tree frogs (McGinnis 1987). San Francisco garter snakes have also been observed in ponds surrounded by dense stands of California redwood with some open area for basking, dramatically differing from the upland and dispersal areas that were historically considered suitable for the species. This has led to unanswered questions regarding species behavior and movements in wooded areas and what role these ecosystems may play in the life history of the species.

San Francisco garter snakes also utilize temporary ponds and other seasonal freshwater bodies for foraging. They avoid brackish marsh areas because their preferred prey base is primarily comprised of California red-legged frogs and Pacific tree frogs. Emergent and bankside vegetation such as cattails, bulrushes, and spike rushes *(Juncus* spp. and *Eleocharis* spp.) are apparently preferred and used by the snake for cover. However, in the absence of these species, dense stands of coyote bush, pampas grass *(Cortaderia selloana),* or blackberry *(Rubus* spp.) may substitute as adequate cover (Barry 1994; Larsen 1994). The interface between stream and pond habitats and grasslands or bank sides is used for basking while nearby dense vegetation or water often provides escape cover. Barry (1994) noted that scattered, as opposed to dense brush was the preferred basking habitat for San Francisco garter snakes. San Francisco garter snakes also use floating algal or rush mats, if available. Sag ponds, small seasonal freshwater ponds formed along the San Andreas rift, historically supported this snake, but many of these habitats have been destroyed by urbanization and high intensity agriculture (Barry 1994). Barry (1994) reported that the San Francisco garter snake was abundant in the sag ponds that were eliminated by the construction of Skyline Boulevard.

San Francisco garter snakes forage extensively in aquatic habitats. In addition to California red-legged frogs, adults may also feed on juvenile bullfrogs, but they are unable to feed on larger adult bullfrogs (Barry 1994, 2005, undated). The elimination of aquatic habitat used by the anuran prey base of the San Francisco garter snakes, such as these sag ponds, negatively impacts the San Francisco garter snakes by removing both its prey and suitable habitat (McGinnis 1987). Additionally, San Francisco garter snakes have been observed regurgitating bullfrogs in experiments performed by Larsen (1994). Thus, some experts believe that this species may not be a suitable prey item for San Francisco garter snakes in the wild. Adult San Francisco garter snakes are known to gorge on tadpoles of both the California red-legged frog and Pacific tree frog, when ponds dry prior to metamorphosis (McGinnis 1989). Newborn and juvenile San Francisco garter snakes depend heavily upon juvenile Pacific tree frogs as prey (Larsen 1994)

and young San Francisco garter snakes may not survive if newly metamorphosed Pacific tree frogs are not available. Adult bullfrogs likely prey on smaller garter snakes, and may be an additional threat. However, there is debate about the level of adverse effect caused by this predation (Barry 2005). San Francisco garter snakes are one of the few animals capable of eating the toxic California newt *(Taricha torosa)* without suffering serious side effects. Although primarily diurnal, captive San Francisco garter snakes housed in an outside enclosure have been observed foraging after dark on warm evenings.

Adult San Francisco garter snakes sometimes aestivate in rodent burrows during summer months when the ponds are dry. On the coast, the snakes hibernate during the winter, but further inland, if the weather is suitable, snakes may be active year round. Female San Francisco garter snakes exhibit a high level of site fidelity (McGinnis 1989), particularly to burrows that are used for aestivation. Females can be found daily at the entrance to their burrow, and may travel to wetland areas once or twice a day. Larsen (1994) reported movements of up to 671 meters for one female and 632 meters for one male. Additionally, San Francisco garter snakes have been observed moving between 1.12 and 1.3 miles over several days during the warmer spring and fall months (Larsen 1994). Whorton et al. (1989) observed snake movement of 1.3 miles over 111 days at the West of Bayshore site, indicating that individuals may be highly mobile under some circumstances. The largest and longest garter snake migrations have been observed between March and May and again during the month of November (Whorton et al. 1989; Larsen 1994). Long distance movements of San Francisco may be attributed to the search for food as they follow dispersing prey and newly hatched tadpoles in wetlands throughout their range (Service 2006b).

Mating occurs during both the spring and fall, but principally during the first few warm days of March. Increased mating activity in spring is thought to be due to the increased likelihood of encountering a mate as individuals emerge from hibernacula and congregate near aquatic foraging areas. Increased movement may correspond with the mating and foraging during the spring and fall (Service 2006).

Threats: The recovery plan for the San Francisco garter snake identified several threats to the species including loss of habitat from agricultural, commercial and urban development, and collection by amateur herpetologists (Service 1985). The historical threats to the species remain, but there are now additional threats to the species, which include: (1) declining numbers of the threatened California red-legged frog; (2) the introduction of non-native bullfrogs which prey on both the San Francisco garter snake and California red-legged frog; (3) possible hybridization with other garter snake species; (4) removal of aquatic habitat for flood control; (5) seral succession of the remaining breeding habitat to the level that much of it has become unsuitable for the species; (6) vehicle strikes along roadways, (7) use of fertilizers and pesticides at golf courses adjacent to San Francisco garter snake habitat, and (8) rapid global climate change (IPCC 2007).

Recovery Plan: Because of past range contraction and loss of populations throughout their historic range, the San Francisco Garter Snake Recovery Plan (Service 1985) identifies 6 extant San Francisco garter snake populations that are essential for long-term survival including:

Pescadero Marsh, Año Nuevo State Reserve, San Francisco State Fish and Game Refuge, San Francisco Airport/Milbrae, Sharp Park Golf Course at Laguna Salada, and Cascade Ranch. An additional 4 populations must be established and protected to achieve delisting of the San Francisco garter snake. In addition to protecting and establishing populations, the recovery plan calls for additional research into the life history traits of San Francisco garter snakes so that recovery objectives and management plans can be adjusted. The five year review additionally recommended that the species remain listed as endangered and also recommended that additional ponds and other habitats continue to be created or restored for the species (Service 2006a).

Environmental Baseline

The action area is part of the Sharp Park Laguna Salada/Mori Point population of the San Francisco garter snake and is part of the Central Coast Recovery Unit for the California red-legged frog. Mori Point, an undeveloped coastal bluff now managed by the GGNRA, is adjacent to Sharp Park Golf Course to the south. The treatment of Laguna Salada and Mori Point as a single sub-population is consistent with habitat usage in the "saddle area" between Mori Point Road and the Bottoms' Mitigation Pond, as illustrated in the *Laguna Salada Resource Enhancement Plan* (PWA *et al,*1992). Significant foraging areas for the San Francisco garter snake exist in freshwater aquatic habitats in both areas where California red-legged frogs and Pacific tree frogs are present, and include Sanchez Creek, Laguna Salada, and Horse Stable Pond on Sharp Park, and the Bottoms' Mitigation Pond on Mori Point just south of Sharp Park. Laguna Salada, a managed water body within the Sharp Park Golf Course, also provides hibernacula for San Francisco garter snake. In order for the Sharp Park populations of the San Francisco garter snake and California red-legged frog to have access to upland and wetland habitats necessary to complete essential behaviors they may move between Sharp Park and the upland habitats at Mori Point (Service 2006b).

The action area is within the the Sanchez Creek watershed area, which covers 844 acres (1.3 sq. miles) (PWA *et al,*1992). The watershed is a mixture of urban uses such as residences, roads and golf course while open space areas such as Sweeney Ridge are under management of GGNRA. Storm water runoff, as well as water used as irrigation water for golf course, flows in the creek (PWA *et al.*1992). The Sanchez Creek corridor is the most likely connection between the Sharp Park Laguna Salada/Mori Point populations of California red-legged frogs and San Francisco garter snakes and the nearest adjacent population on San Francisco Water Department lands. The corridor between these two populations may be compromised, or at least constrained, by existing development.

The *Laguna Salada Resource Enhancement Plan* has delineated the general vegetation types for the area, which include wet meadow, ruderal grassland, willow riparian, and cattail-bulrush emergent marsh habitats (PWA *et al*_1992). More recently, the GGNRA has completed a wetland vegetation map using the Cowardin wetland classification system. Wetland classes in the area include emergent marsh, scrub-shrub and scrub-shrub/emergent wetland habitat types. Most of these wetland acreages are located near Sanchez Creek.

Numerous human activities have affected San Francisco garter snakes and California red-legged frog in the action area. Little is known about the status of San Francisco garter snake and California red-legged frog in the action area prior to the construction of Sharp Park golf course in 1932. The species were first documented in the action area in 1946. Many of the historic San Francisco garter snakes populations in the Pacifica region have been extirpated due to residential development (Service 2006b). Fox (1951) reported typical populations of San Francisco garter snake on the coast around Sharp Park Golf Course at the Laguna Salada and along Skyline Boulevard. Since then, the sag ponds along Skyline Boulevard have been drained and filled for urban development and the Sharp Park area has been severely impacted by residential development and road construction.

Breeding habitat for the San Francisco garter snake at the Bottoms Quarry on Mori Point was filled and bulldozed on two separate occasions in the 1980s (Service 2006b). San Francisco garter snake and California red-legged frog habitat at Laguna Salada was compromised several times in the 1970s and 1980s due to breaching of the dunes during winter-storm events and subsequent inundation by sea water (PWA, *et. al.* 1992). In 1987, the seawall at Sharp Park failed, allowing the intrusion of salt water into Laguna Salada. These salt water intrusion events likely resulted in a decline in the San Francisco garter snake population in Laguna Salada (Service 2006a). Breeding habitat and hibernacula on the Laguna Salada side of Mori Point has also been compromised by dumping of debris, off-road vehicle use, and social trails (Service 2006b). This is most serious in area of Mori Point adjacent to Horse Stable Pond where a gentle slope rises up from the low lying wetlands (this area is often referred to as the bowl area), where the highest numbers of San Francisco garter snakes were recorded in 1979.

Zero to low detections, even with intensive surveying and trapping in 1984 and 1988, suggest that the San Francisco garter snake population was at very low levels in the mid-1980s, and again by 1990 (Service 2006b). There was a report of a sighting at Mori Point in 2000 and surveys conducted in 2004, 2006, and 2008 each documented the presence of San Francisco garter snakes in the Sharp Park Golf Course/Mori Point area. A 2004 survey found eight individual snakes in the areas of Horse Stable Pond, Laguna Salada, the connecting channel, and at Mori Point on GGNRA land (Swaim 2009). Subsequent surveys in 2006 and 2008 yielded thirteen and nine individual snakes respectively (Swaim 2009). In both 2006 and 2008 the snakes were observed at ponds on Mori Point and at Horse Stable Pond (Swaim 2009). The ratio of males to females was roughly equal in each year (Swaim 2009). CNDDB also reports known occurrences of San Francisco garter snakes within Sharp Park Golf Course and at Mori Point (CNDDB 2012).

The 2004, 2006, and 2008 surveys also detected a variety of San Francisco garter snake prey species including the California red-legged frog, Pacific chorus frog, and two salamander species (California slender salamander (*Batrachoseps attenuatus)* and yellow-eyed salamander (*Ensatina eschscholtzii xanthoptica*)) (Swaim 2009).

Surveys for California red-legged frogs were also conducted at Sharp Park Golf Course and Mori Point in 2004, 2006, and 2008. In each year adult and juvenile frogs were captured at Mori Point and Sharp Park Golf Course ranging in number from three in 2004 to 69 in 2008 (Swaim 2009).

As described in the biological assessment, California red-legged frog egg masses have been observed at Sharp Park Golf Course in each year from 2004 through 2011 with numbers ranging from 16 egg masses in 2005 to 189 in 2011. The biological assessment also provides data for egg masses observed at Mori Point during the same period with annual numbers ranging from zero in 2004 to 120 in 2008. CNDDB also reports known occurrences of California red-legged frogs within Sharp Park Golf Course and at Mori Point (CNDDB 2012). Based on the available data showing a trend of increasing number of egg masses and adults, California red-legged frog numbers may be increasing in the project area. This increase is likely due to the continued breeding success at Laguna Salada and at the newer ponds at Mori Point (GGNRA data, as cited in SFRPD 2012, Swaim 2009). Since California red-legged frogs are the primary food source for the San Francisco garter snake, this increase in frogs would increase the food source for the San Francisco garter snake and may help the snake population numbers increase.

California red-legged frog and San Francisco garter snake are affected by ongoing operation and maintenance of Sharp Park Golf Course. Activities at Sharp Park Golf Course that affect these species include pumping of water from Horse Stable Pond to the Pacific Ocean to control winter flood waters. Pumping may cause frog egg masses to become stranded and desiccated; cause entrainment of egg masses and juvenile frogs; and over time reduce habitat quality in Horse Stable Pond and Laguna Salada by encouraging encroachment of cattails and tules, altering the salinity levels in both water bodies, and potentially increasing the pH of the water; mowing of golf course tees, greens, and fairways; use of golf carts on cart paths, tees, greens, and fairways; removal of upland refuge habitat during gopher control activities on the tees, greens, and fairways; application of nitrogen-based fertilizers to golf course tees and greens; and off-trail recreational use on the west side of Laguna Salada. A San Francisco garter snake was killed, most likely by a lawnmower in 2005. Ongoing pumping is known to strand over one-hundred egg masses in wet years; however, it is unknown how these numbers relate to the proportion of egg masses present on site because no comprehensive surveys for egg masses have been attempted.

The Service has consulted on three previous projects in the vicinity of Sharp Park Golf Course. The Mori Point Restoration and Trail Plan in the Golden Gate National Recreation Area (GGNRA) Biological Opinion analyzed the effects of habitat restoration at Mori Point for the benefit of the California red-legged frog and San Francisco garter snake, including reducing the impact of existing trails on these species, restoration of native plant communities, improvement of wetland habitat connectivity at Mori Point, and creation of five ponds for San Francisco garter snake foraging habitat (Service 2006b). Together, these activities provided long-term benefit the San Francisco garter snake at Mori Point (Service 2006b)

The Sharp Park Golf Course Storm Drain Repair Biological Opinion analyzed the effects of an emergency repair to a storm drain from the golf course through the seawall covering 0.023 acres (Service 2008). The Sharp Park Golf Course Storm Drain Repair Biological Opinion contains reasonable and prudent measures and terms and conditions that ensured that take of California red-legged frogs and San Francisco garter snakes would be minimized.

The Pacifica Recycled Water Project Revised Biological Opinion analyzed the effect of irrigation at Sharp Park Golf Course on California red-legged frogs and San Francisco garter snakes. The 2009 Biological Opinion specifies that irrigation runoff into Sanchez Creek, Horse Stable Pond, and Laguna Salada is not permitted, consistent with permit requirements for the application of recycled water for irrigation uses (Service 2009). The Pacifica Recycled Water Biological Opinion contains reasonable and prudent measures and terms and conditions that ensure that: (1) the use of recycled water is restricted to the approved golf course area, including time and flow limitations, (2) automatic shut-off valves are used, (3) training for staff is provided, and (4) ongoing monitoring of listed species is implemented (Service 2009). Therefore, the effects of irrigation are not analyzed by this biological opinion.

These three Biological Opinions authorize small amounts of take for both the California red-legged frog and the San Francisco garter snake. The consultation with GGNRA in fact authorized management actions to benefit these species. The Drain Repair Biological Opinion authorized a limited repair to the storm drain with minimal effects and take in the form of harm and harassment for the 0.023 acre. The Recycled Water Project Biological Opinion authorized 0.11 acre of take for temporary disturbance and harassment. From these Biological Opinions, there have been no reports of mortality of the two species.

Effects of the Proposed Action

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat that would be added to the environmental baseline, along with the effects of other activities that are interrelated or interdependent with that action. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur. The action that the Corps initiated consultation on was for construction of the Sharp Park Pump House Safety and Infrastructure Improvement Project, which, in large part, is intended to ensure ongoing operation of the flood control pumps. The Horse Stable Pond pump system enables golf course operations by lowering water levels in Horse Stable Pond and Laguna Salada during the winter storm system that would otherwise flood the golf course and render portions of holes unusable. Accordingly, the golf course is not fully operable without the pump system and thus, the operations and maintenance portion of the action is considered interdependent and interrelated to the construction action.

Construction

The City proposes to minimize construction related effects of repair and improvement of the pump system by implementing the Conservation Measures included in the project description section of this biological opinion. Effective implementation of the Conservation Measures will likely minimize effects to the California red-legged frog and San Francisco garter snake during construction. However, the proposed Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project construction activities have the potential to result in a variety of adverse effects to the California red-legged frog and San Francisco garter snake. Because snakes and frogs have been observed throughout the project site, the effects of the construction activities to

wetland and upland habitat and to individual California red-legged frogs and San Francisco garter snakes will be throughout the 0.624 acre construction footprint.

Injury, exposure disorientation, and disruption of normal behaviors will likely result from 1) the removal and/or disturbance of vegetation, sediments, and cover sites in Horse Stable Pond and the connecting channel, 2) construction of a concrete walkway in front of the pumphouse at Horse Stable Pond, 3) soil disturbance and fill associated with replacement of the wooden retaining wall with a concrete retaining wall at Horse Stable Pond, and 4) excavation of sediments and vegetation as part of cart path repairs. Construction noise, vibration, and increased human activity during the construction may interfere with normal behaviors such as feeding, sheltering, movement between refugia and foraging grounds, and other essential behaviors. This can result in avoidance of areas that have suitable habitat and can cause disturbance to the species.

Direct effects may include injury or mortality from being crushed by earth moving equipment, construction debris, and worker foot traffic. These impacts will be reduced through implementation of the Conservation Measures described above, including: (1) clearly demarcating the boundaries of the project areas and equipment access routes and locating staging areas outside of wetland areas or other water bodies; (2) use of appropriate erosion control practices to minimize effects to water quality and prevent entanglement of San Francisco garter snakes; (3) elevating construction materials above ground level, checking beneath tires of parked construction vehicles, and limiting the speed of vehicles at the construction site to minimize the risk of California red-legged frogs and San Francisco garter snakes being crushed; (4) avoiding work activities during the breeding season will reduce adverse impacts, particularly to eggs and tadpoles; (5) suspending work when species are observed and relocating individual California red-legged frogs and San Francisco garter snakes to further minimize injury or mortality; and (6) revegetation with native species following construction will help to reduce the effects of construction activities on site.

Work activities, including noise and vibration, may result in adverse effects to California red-legged frogs and San Francisco garter snakes by causing them to leave the work area. This disturbance may increase the potential for predation and desiccation. As described in the Conservation Measures, limiting the area disturbed by construction activities to June 1 through October 31 would reduce the potential for adversely affecting dispersal of the species. The City proposes to further minimize adverse effects by locating stockpiling and staging areas in the uplands and in areas cleared for species and the golf course.

The sediment layer in Horse Stable Pond could be anoxic and contain hydrogen sulfide (Baye 2012). Resuspension of anoxic hydrogen sulfide sediments may result in pulses of low oxygen conditions in Horse Stable Pond which could cause mortality of California red-legged frog larvae and juveniles. By limiting the construction period to June 1 through October 31, the City's Conservation Measures minimize the likelihood that adult or juvenile California red-legged frogs will be present and reduces this potential effect.

The potential exists for uninformed workers to intentionally or unintentionally injure or kill California red-legged frogs and San Francisco garter snakes. The potential for this impact will be

greatly reduced by implementing an education program (Conservation Measure 2) that informs workers of the presence and protected status of this species and the measures that are being implemented to protect it during project activities.

Trash left during or after project activities could attract predators to work sites, which could, in turn, prey on the listed species. For example, raccoons are attracted to trash and also prey opportunistically on the California red-legged frog and San Francisco garter snake. This potential impact can be reduced or avoided by careful control of waste products at all work sites.

The capture and handling of California red-legged frogs and San Francisco garter snakes to move them from a work area may have adverse effects to individuals. Mortality may occur as a result of improper handling, containment, or transport of individuals or from releasing them into unsuitable habitat. Improper handling, containment, or transport of individuals will be reduced or prevented by use of a Service-approved biologist as proposed in the above Conservation Measures.

Accidental spills of hazardous materials or careless fueling or oiling of vehicles or equipment could degrade water quality or upland habitat to a degree where the California red-legged frog and San Francisco garter snake are adversely affected or killed. The potential for this impact to occur can be reduced by thoroughly informing workers of the importance of preventing hazardous materials from entering the environment, locating staging and fueling areas a minimum of 65 feet from riparian areas or other water bodies, and by having an effective spill response plan in place.

Golf course maintenance and operations
The proposed golf course maintenance and operations activities described above have the potential to result in direct and indirect effects to the California red-legged frog and San Francisco garter snake. As detailed below, over a period of ten years (the time of proposed operations and maintenance activities at Sharp Park Golf Course), adverse effects to the California red-legged frog and San Francisco garter snake could occur at Sharp Park Golf Course as a result of pumping water from the site; mowing tees, greens, and fairways; operation of golf carts; gopher control; application of nitrogen-based fertilizers; and trampling by off-leash dogs.

The ongoing and continuing golf course maintenance and operations activities have the potential to cause adverse effects to the California red-legged frog and San Francisco garter snake. The City proposes to minimize these ongoing effects by implementing the Conservation Measures included in the project description section of this biological opinion. Proposed Conservation Measures include: operating pumps to reduce the likelihood of stranding egg masses in Horse Stable Pond, Laguna Salada, and the connecting channel; developing relocation plans for egg masses stranded on the fairways and greens; implementation of a no-mow zone; providing training to mower operators; implementation of a 90 degree rule for golf cart use; development of educational materials; limiting access to Laguna Salada; development of an invasive species eradication plan; restoration activities; and construction of a perennial California red-legged frog pond. Effective implementation of the Conservation Measures will likely minimize effects to the California red-legged frog and San Francisco garter snake during golf course maintenance and operations activities but incidental take is still likely to occur.

Pumping water from Horse Stable Pond could result in direct mortality of California red-legged frogs through two primary mechanisms. The first source of potential mortality is through stranding and subsequent desiccation of frog egg masses. California red-legged frog breeding and deposition of egg masses coincide with winter storm events (Storer 1925, Service 2002) which cause water levels to rise in Horse Stable Pond, Laguna Salada, and surrounding wetlands (SFRPD 2012). Although water levels may be lowered in advance of winter storms to provide additional water storage capacity, the pumps are not able to instantaneously lower water levels throughout the site as storm water runoff accumulates from the surrounding watershed (Geomatrix 1987; Kamman Hydrology and Engineering, Inc. 2009; Hayes 2012). Because water levels may rise during storm events, California red-legged frogs may lay eggs in areas that will be drained or become isolated from other wetland features as the pumps lower water levels (Swaim Biological Inc. 2008; Kamman Hydrology and Engineering, Inc. 2009, Kamman 2012).

As described in the biological assessment, egg masses located in drained and/or isolated areas may not contain enough water to allow individual frogs to develop and metamorphose. As these isolated areas continue to dry, egg masses may become exposed to air resulting in desiccation and mortality of eggs (Service 2002; Service 2005; Hayes 2012). This process has the potential to adversely affect egg masses in wet years. During the wet season of 2011 – 2012 189 egg masses were detected at Sharp Park (SFRPD 2012). Of these 132 were determined by SFRPD staff to be at risk of stranding and subsequent desiccation (SFRPD 2012) and additional egg masses were determined to be at risk of stranding and desiccation during February of 2012 (Bowie 2012). The basis for the Service not to move these eggs masses are the following: 1) the stranding of eggs masses is a natural process; 2) that moving the eggs masses has risks and can result in mortality of the egg masses after they are moved; and 3) that there can be risk and uncertainty to where to place the egg masses. As described in Baseline, GGNRA have created some breeding ponds which have shown a yearly increase in production. Conservation Measure 32, will create an additional pond similar in design to these ponds which should increase available breeding habitat and the animals will be able to successfully breed in most rainy seasons, even during low rainfall years. In addition, the removal of predators such as bull frogs and fish, will also improve successful breeding for the California red-legged frog.

The actions described in Conservation Measure 15 will minimize that likelihood of egg masses in Horse Stable Pond, Laguna Salada, and the connecting channel from becoming stranded and desiccated. However, visual searches for stranded egg masses are not likely to locate all egg masses present throughout Horse Stable Pond, Laguna Salada, and the connecting channel. Egg masses are often in dense vegetation and it is not reasonable to expect that all egg masses will be detected. Therefore, some egg masses in these water bodies may become stranded and desiccated. Of the stranded egg masses that are detected outside of the areas where pumping activities will allow for adjustment of the water level to accommodate egg development, translocation to suitable areas is not likely to be appropriate and/or successful in all cases and mortality of individual eggs and egg masses may still occur (Hayes 2012).

A second source of potential California red-legged frog mortality in response to pump operation is through entrainment (individuals being pulled along with water into and through the screen and pipes as a result of the pumping action) of egg masses and individual larvae at the pumps.

Egg masses are incapable of self-movement and larvae are poor swimmers making these life stages particularly vulnerable to entrainment (Mitchell 2008, Hayes 2012). Surveys at Horse Stable Pond in 2008 and 2012 identified a number of California red-legged frog egg masses in Horse Stable Pond near the pump house (Swaim 2008, Bowie 2012). If any egg masses were to become detached from the surrounding vegetation during pump operations they could become entrained resulting in egg masses being crushed against the screen at the pump house or being carried through the pump apparatus and deposited on the sandy beach on the ocean-side of the seawall; either situation could result in mortality of affected egg masses.

As described in the biological assessment, water levels at Sharp Park Golf Course are drawn down during the summer resulting in shallow water conditions at the margins of Laguna Salada (6 inches deep on the inboard margin of the vegetation). Shallow water promotes the growth of cattails and tules causing the gradual encroachment of vegetation and loss of open water habitat used by California red-legged frogs (ESA-PWA 2011; Hayes 2012). Aerial imagery, taken between 1946 and 2000, shows a decrease in the extent of both open water and wetland vegetation at Laguna Salada (Arup North America Ltd. 2009). The Sharp Park Working Group, convened by SFRPD during 2010, concluded that "the most valuable habitat and breeding opportunities of San Francisco Garter Snake and California Red-legged Frog are concentrated around Laguna Salada and Horse Stable Pond. Habitat for the California Red-legged Frog continues to rapidly degrade at Laguna Salada and Horse Stable Pond where cattails and tules are replacing the open water habitat the frog depends upon for breeding" (Sharp Park Working Group 2010). Based on the pattern of encroachment seen in the aerial images, encroachment of cattails may continue over the next 10 years, resulting in loss of breeding habitat for the California red-legged frog and loss of foraging opportunities for the San Francisco garter snake. The tule and cattail removal proposed as part of the project will likely improve breeding habitat for California red-legged frog by creating additional open water habitat.

Lowered water levels due to pumping activity may increase the likelihood of salinity intrusion to Laguna Salada and Horse Stable Pond. If water levels in Laguna Salada and Horse Stable Pond fall below sea level and beach groundwater levels, then saline ground water may flow into the lagoon from the beach (ESA-PWA 2011). Observational data of saline seeps on the landward side of the seawall indicate that some degree of saline intrusion may already be occurring (ESA-PWA 2011), although the relative contributions of pumping and natural variation in groundwater and wave action to saline intrusion are not fully understood (Kamman 2009). California red-legged frogs are sensitive to salinity levels and cannot survive in water that exceeds particular salinity thresholds (McGinnis 1986; ESA-PWA 2011). If the amount of saline intrusion and overall salinity of Laguna Salada and Horse Stable Pond increase beyond the tolerance of California red-legged frogs then frog mortality may occur and neither water body would continue to function as habitat for the frog (as was seen in 1983 when the seawall failed allowing intrusion of salt water into Laguna Salada increasing salinity and eliminating frogs from Laguna Salada; Service 2006a; ESA-PWA 2011).

Pumping may also alter the pH of Laguna Salada and thereby degrade California red-legged frog habitat. Observations of black mud below the lagoon surface are indicative of anoxic iron sulfide (ESA-PWA 2011). When iron sulfide containing sediments are exposed to air they can form acid

sulfates which may result in a decrease in the pH (increased acidity) of Laguna Salada and degrade the frog's habitat. Lower water levels in Laguna Salada may intensify this process as more sediment becomes exposed to air. The extent to which pumping activities contribute to exposure of anoxic sediments has not been established and pH data have not yet been collected for Laguna Salada.

Sharp Park staff members entering drainage sumps along the culvert from Francisco Boulevard to Laguna Salada and removing debris that may provide cover for snakes and frogs may have unintentional adverse effects to the California red-legged frogs and San Francisco garter snakes by causing the species to leave cover habitat or by injuring the species as heavy pieces of debris are moved. The potential for this impact will be greatly reduced, as proposed in the Conservation Measures, by informing workers of the presence and protected status of these species and the measures that should be implemented to protect it during project activities.

Application of nitrogen fertilizers at Sharp Park Golf Course to greens adjacent to wetlands has the potential to adversely affect the California red-legged frog and San Francisco garter snake. Nitrate, nitrite, and ammonia are known to have toxic effects on amphibians, including California red-legged frogs (Schuytema and Nebeker 1999a, 1999b; Marco et al. 1999; Service 2002; Service 2006b). Because nitrogen fertilizers are applied near wetland features, it is likely that nitrogen will enter aqueous systems at Sharp Park Golf Course, where it will be transformed into nitrates, nitrites, and ammonia. Past measurements of nitrate and ammonia from Laguna Salada have shown levels toxic to California red-legged frogs (ESA-PWA 2011). Because various life stages of frogs are known to occupy Laguna Salada, it is possible that the increased nitrate and ammonia levels have resulted in mortality to the California red-legged frog. By potentially reducing numbers of California red-legged frogs in Laguna Salada application of nitrogen fertilizers has the potential to adversely affect the San Francisco garter snake by reducing the numbers of a primary prey item of San Francisco garter snakes (Service 2006b).

Mortalities caused by lawn mowers have been previously documented in a telemetry-monitored population of snakes (Durbian 2006). Mowing of fairways and greens at Sharp Park Golf Course has the potential to cause direct mortality to California red-legged frogs and San Francisco garter snakes (Service 2006a; Salisbury 2011). California red-legged frogs and San Francisco garter snakes are known to occur in the wetlands at Sharp Park Golf Course (Fox 1951; Service 1985; Service 2002; Service 2006a; CNDDB 2012; SFRPD 2012) and the adjacent uplands at Mori Point (Barry 1978; Service 2002; Service 2006a, 2006b; CNDDB 2012; SFRPD 2012). The mosaic of wetlands and uplands is interspersed with fairways and greens that both species may use as corridors between different wetlands and between wetlands and uplands. As proposed in the Conservation Measures, the effect of mowing on California red-legged frogs and San Francisco garter snakes will be reduced by educating and training mower operators about the presence of these species at the golf course. However, even with training, detection by mower operators of all snakes and frogs that may be on fairways and greens is unlikely, particularly when mowing occurs in the early morning before full daylight. The Conservation Measures will reduce adverse effects by requiring predawn lawn mower use to include lighting and a biological monitor. However, mowing has the potential to result in mortality of both species (Service 2006a, 2006b).

Puglis and Boone 2012 found that maintenance of an adequate buffer zone at a golf course is important for resident frog populations. Because the Project will only mow existing tees, greens, and fairways and the proposed Conservation Measures includes provision for possible expansion of the no-mow zone the adverse effects from this aspect of mowing activities will be reduced.

Direct mortality of San Francisco garter snakes may result from the operation of golf carts on cart paths and fairways as described in the biological assessment. Direct mortality of snakes resulting from vehicle strikes on roads has been well documented (Rosen and Lowe 1994, Ashley and Robinson 1996, Rudolph *et al.* 1999, Enge and Wood 2002, Row *et al.* 2007), including 186 killed by golf carts in a five month period at a golf course in North Carolina (DeGregorio et al. 2010). Snakes are particularly vulnerable to vehicle strikes because of their long bodies that provide a large target area, their relatively slow speed, and their habit of lying on warm roadways during the day to raise their body temperatures (Rosen and Lowe 1994). Evidence suggests that San Francisco garter snakes may also be susceptible to road mortality. This source of mortality will be reduced by implementation of Conservation Measures 20, 21, 23, and 24.

California red-legged frogs are also susceptible to direct mortality as a result of operation of golf carts. A "road effect" has been investigated in amphibian species and has been associated with direct mortality (Forman and Deblinger 1998). Additionally, species such as red-legged frogs that regularly move between upland and wetland habitats may be particularly vulnerable to road effects (Service 2002). Road mortalities of California red-legged frogs have been documented at a similar habitat in Marin County along Bunker Road where the road separates upland terrestrial breeding habitat from aquatic breeding habitat in Rodeo Lagoon.

At Sharp Park Golf Course, the cart paths most likely to attract California red-legged frogs and San Francisco garter snakes are those occurring between the wetlands at Laguna Salada and Horse Stable Pond and the upland habitat at Mori Point (this includes portions of cart paths associated with holes 9, 11, 12, and 13). The biological assessment and Fields 2011 indicate that 30-40 percent of the roughly 50,000 annual golf course users at Sharp Park Golf Course rent carts. For golf carts carrying two golfers, this results in about 7,500 golf cart trips annually on the cart paths, greens, and fairways at Sharp Park Golf Course. The usage of golf carts combined with the orientation of several cart paths between upland and wetland habitats indicate that direct mortality of California red-legged frogs and San Francisco garter snakes on cart paths is possible. The adverse effects associated with golf cart use will be reduced through enforcement of a 90-degree rule as described in the Conservation Measures.

Upland terrestrial landscapes are an important component of both California red-legged frog and San Francisco garter snake habitat. Gopher burrows in upland zones provide refugia for both frogs and snakes and provide foraging opportunities for the San Francisco garter snake. The gopher control activities have the potential to result in direct mortality to both the California red-legged frog and the San Francisco garter snake. The project description proposes to set gopher traps at the entrance to burrows found on the fairways and greens and to fill burrows with turf. Direct mortality may occur to both species through trap mortality (because gopher traps may cause mortality to non-target species such as frogs and snakes) and through entombment

(because gopher holes are not inspected for presence of either California red-legged frogs or San Francisco garter snakes prior to filling). Removal of gopher burrows may also result in adverse effects to the California red-legged frogs and San Francisco garter snakes by removing upland terrestrial habitat adjacent to wetlands. Without nearby upland refugia, frogs and snakes may have to travel greater distances to find suitable terrestrial habitat and may be exposed to additional risk of mortality due to mowing, golf carts, and predators.

The seawall and beach adjacent to Horse Stable Pond and Laguna Salada are popular areas for recreational use by pedestrians and dog walkers. Currently there is no functional barrier that prevents people and dogs from leaving the seawall and entering Laguna Salada. One area of Laguna Salada, known locally as Dog Beach, is particularly popular as a destination for dog walkers and is also a location where California red-legged frog egg masses were observed during January and March 2012 (Swaim 2012, Campo 2012). Dogs are regularly observed in the water (Britt 2012) and may trample and cause mortality of egg masses in the water as was noted by SFRPD biologists during field observations in January 2012 (Swaim 2012). Conservation Measure 25 includes installation of fencing around Horse Stable Pond and the eastern edge of the seawall and signage to discourage use of off trail areas by pedestrians and dog walkers.

Restoration actions

The City proposes to restore upland habitat and create a perennial pond to benefit the California red-legged frog and San Francisco garter snake and control predators at Arrowhead Lake. As has been demonstrated at Mori Point, creation of aquatic features, such as ponds, and habitat restoration can benefit the California red-legged frog and San Francisco garter snake. In addition, the tule and cattail removal will likely improve breeding habitat for the California red-legged frog. Use of the ponds constructed by GGNRA as breeding habitat for California red-legged frogs and foraging habitat for San Francisco garter snakes has been documented. Therefore, the creation of a perennial pond and habitat restoration at Sharp Park Golf Course are likely to reduce the adverse effects of pumping (both California red-legged frog egg mass mortality and loss of San Francisco garter snake foraging opportunities). Although ultimately serving as a long-term Conservation Measure for the California red-legged frog and San Francisco garter snake, construction of a perennial pond, removal of non-native plants, and other restoration activities described in the Conservation Measures may also result in adverse effects to both species in the short term through ground disturbance and use of heavy equipment (Service 2006b). These activities could inadvertently result in disturbance to the essential behaviors of the frog and snake, such as feeding, dispersal, and breeding, injuries or fatalities to individual frogs and snakes, or effects to burrows. Vehicles, equipment, or crew members could crush individuals or their burrows or cause frogs and snakes to leave areas being actively restored. Removal of large vegetation during restoration activities may disturb sheltering frogs or snakes causing them to move out of their resident habitat and making them more susceptible to injury or mortality due to predation or increased competition for food and living space. Provided that the City implements the proposed restoration activities (restoration and pond construction) following the scope and design of the existing GGNRA ponds at Mori Point (as described in Conservation Measure 32), short-term direct and indirect adverse effects to the California red-legged frog and San Francisco garter snake are likely to be minimized. The removal of invasive vegetation will improve essential upland habitats for both species as described in Conservation Measure 29.

Also, the predator removal will improve breeding success by removing bullfrogs and fish which prey on California red-legged frogs.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. The Service is unaware of any future non-federal activities in the action area.

The global average temperature has risen by approximately 0.6 degrees Celsius during the 20th Century (IPPC 2007; Adger *et al.* 2007). There is an international scientific consensus that most of the warming observed has been caused by human activities (IPPC 2007; Adger *et al.* 2007), and that it is "very likely" that it is largely due to manmade emissions of carbon dioxide and other greenhouse gases (Adger *et al.* 2007). Ongoing climate change (Inkley *et al.* 2004; Adger *et al.* 2007) likely imperils the California red-legged frog and San Francisco garter snake and the resources necessary for their survival. Since climate change threatens to disrupt annual weather patterns, it may result in a loss of their habitats and/or prey, and/or increased numbers of their predators, parasites, and diseases. Where populations are isolated, a changing climate may result in local extinction, with range shifts precluded by lack of habitat. At Sharp Park, sea level rise caused by climate change may further increase the risk of intrusion of saline water into Horse Stable Pond and Laguna Salada. If sea level rises above the water levels in Horse Stable Pond and Laguna Salada then saline ground water may flow into the lagoon from the beach.

Conclusion

After reviewing the current status of the California red-legged frog and San Francisco garter snake, the environmental baseline for the project area, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the Sharp Park Safety, Infrastructure Improvement and Habitat Enhancement Project, as proposed, is not likely to jeopardize the continued existence of the California red-legged frog or San Francisco garter snake. We based this conclusion on the variety of Conservation Measures that will be implemented throughout the life of the proposed action to minimize the likelihood or potential for take of individual California red-legged frogs and San Francisco garter snakes. These measures include, but are not limited to, creation of a perennial pond, habitat restoration west of Laguna Salada, invasive plant control in the vicinity of Horse Stable Pond, and limitation of off trail habitat degradation around Laguna Salada. These Conservation Measures will help to lessen the adverse effects of the proposed construction and operations and maintenance activities on the survival and recovery of the California red-legged frog and San Francisco garter snake.

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as actions that create the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the Corps of Engineers and the City so that they become binding conditions of any grant or permit issued to the City, as appropriate, in order for the exemption in section 7(o)(2) to apply. The Corps and City have a continuing duty to regulate the activity covered by this incidental take statement. If the Corps or City (1) fail to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fail to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the Corps and the City must report the progress of the subject action and resulting impact on the California red-legged frog and San Francisco garter snake to the Service as specified in the incidental take statement. 50 C.F.R. §402.14(i)(3).

Amount or Extent of Take

Construction activities
The Service anticipates that incidental take of the California red-legged frog will be difficult to detect because when this amphibian is not located at breeding ponds, it inhabits the burrows of ground squirrels or other rodents, or may be difficult to locate due to its cryptic appearance and behavior; the sub-adult and adult animals may be located a distance from the breeding ponds; dispersal occurs during rainy nights in the fall, winter, or spring; and the finding of an injured or dead individual is unlikely because of their relatively small body size. For these reasons, the Service anticipates that all California red-legged frogs in the 0.624 acre within the Horse Stable Pond construction site will be subject to incidental take in the form of harassment and capture. The Service also anticipates that, in total, one (1) California red-legged frog adult will be subject to incidental take in the form of death or injury as a result of construction activities.

The Service anticipates that all San Francisco garter snakes in the 0.624 acre within construction area will potentially be harassed as a result of ground disturbing activities. Because additional Conservation Measures, including presence of biological monitors, cessation of construction

work between October 31 and June 1, and hand removal of terrestrial vegetation, will be implemented at the Horse Stable Pond construction site, take of this species is expected to be in the form of harassment and no San Francisco garter snakes are expected to be killed or injured as a result of construction activities.

Operations and Maintenance Activities
Because of the large area potentially affected by golf course operations and maintenance (Sharp Park) and because of the difficulty in accessing some wetland areas such as Laguna Salada, the Service anticipates that incidental take of California red-legged frogs associated with golf course operations and maintenance will be difficult to detect. For these reasons the Service anticipates that all adult and juvenile California red-legged frogs in the action area will be subject to incidental take in the form of harassment. The Service also anticipates that over the ten year life of the operations and maintenance project 130 egg masses per year will be subject to incidental take in the form of harm, harassment, capture, death, or injury due to operation of pumps. The Service futher anticipates that the majority of these egg mass mortalities will occur in areas outside of Laguna Salada, Horse Stable Pond, and the connecting channel; however, even though Conservation Measure 15 minimizes the effect of pumping, some of the 130 egg masses may be stranded at Laguna Salada, Horse Stable Pond, and the connecting channel. As per Conservation Measure 16, egg masses will only be moved subject to Service approval. In addition, the Service anticipates that one (1) California red-legged frog adult will be subject to incidental take in the form of death or injury as a result of construction activities.

Due to the same difficulties in detecting take as described above, the Service anticipates that all San Francisco garter snakes in the action area will be subject to incidental take in the form of harassment as a result of the direct effects of operations and maintenance activities and the indirect effect of loss of prey. Because of previous incidents of road mortality and mowing mortality of San Francisco garter snakes in the vicinity of Sharp Park and other locations in San Mateo County, the Service anticipates that over the ten year life of the operations and maintenance project a total of one (1) San Francisco garter snake will be subject to incidental take in the form of death or injury.

Restoration Activities
Provided that the City implements the proposed restoration activities following the scope and design of the existing GGNRA ponds at Mori Point, the Service anticipates that all San Francisco garter snakes and California red-legged frogs in the restoration area footprint will be subject to incidental take in the form of harassment as a result of the direct effects of removal of invasive plants, revegetation activities, and the construction activities associated with pond construction.

Effect of the Take

In the accompanying biological opinion, the Service has determined that this level of anticipated take is not likely to result in jeopardy to the San Francisco garter snake or California red-legged frog.

Reasonable and Prudent Measure

Our evaluation of the proposed action includes consideration of the Conservation Measures described in the Project Description section of this biological opinion. Consequently, any changes in those measures, or any failure to implement those measures, may constitute a modification of the proposed action that causes an effect to the California red-legged frog and San Francisco garter snake that was not considered in the biological opinion and require reinitiation of consultation, pursuant to the implementing regulations of section 7(a)(2) of the Act (50 C.F.R. § 402.16).

The Service believes the following reasonable and prudent measure is necessary and appropriate to minimize the effects of the Sharp Park Safety, Infrastructure Improvement and Habitat Enhancement Project on San Francisco garter snakes and California red-legged frogs:

> The Corps and City will minimize the effect of take to the California red-legged frog and San Francisco garter snake.

Terms and Conditions

To be exempt from the prohibitions of Section 9 of the Act, the Corps and the City shall ensure compliance with the following terms and conditions, which implements the reasonable and prudent measure described above and are intended to minimize the impact of incidental take on the California red-legged frog and San Francisco garter snake. These terms and conditions are nondiscretionary.

The following terms and conditions will implement the Reasonable and Prudent Measure described above:

1. The Corps and the City will minimize the potential for harm, harassment, injury, and death of federally listed wildlife species resulting from project related activities including implementation of the Conservation Measures in this biological opinion.

2. If requested, during or upon completion of construction activities, the City will ensure the Service, CDFG, or their authorized agents have immediate access to the project area. The on-site biologist and/or a representative from the Corps/City shall accompany Service personnel on an on-site inspection of the project area(s) to review project effects to California red-legged frogs and San Francisco garter snake and their habitats.

3. The Corps and/or City will ensure compliance with the *Reporting Requirements* of this biological opinion.

4. The City will contact the Service for review and approval of plans to lower the water level in Horse Stable Pond at the end of the wet season.

5. Within three months of issuance of the biological opinion, the City will develop, for Service review and approval, a California red-legged frog and San Francisco garter snake training program for all golf staff involved with the operations of lawn mowers and/or maintenance and cleaning of Sharp Park drainage sumps. This plan will detail the qualifications of the person(s) delivering the training as well as the number of hours of training and how often golf course staff will take the training. Within six months of issuance of the biological opinion, the City will begin implementation of the training program.

6. The Corps will ensure that all project monitors associated with the construction aspects of the project will possess a valid 10(a)1(A) permit for the California red-legged frog and San Francisco garter snake.

7. During the course of construction activities, biological monitors may determine that relocation of a California red-legged frog or San Francisco garter snake is necessary for the safety of individual animals. If it is determined that a San Francisco garter snake needs to be moved, the Service will be contacted for further guidance. Individuals will be relocated to appropriate sites away from disturbance on Sharp Park property.

8. In order to minimize the effects of golf course operations and maintenance activities, the restoration activities described in Conservation Measure 29 will include a detailed plan for enhancing the movement corridor between the upland habitat at Mori Point and the wetlands of Horse Stable Pond, the connecting channel, and Laguna Salada. As described in Conservation Measure 17(a), enhancement of connectivity will include a plan subject to Service review and approval for expansion of the no-mow zone for the benefit of the California red-legged frog and San Francisco garter snake.

9. The Corps will ensure that implementation of restoration activities described in Conservation Measure 29 will begin 18 months following issuance of the biological opinion. As indicated in the project description the restoration activities will follow the scope and design of the restoration actions previously implemented by the GGNRA on Mori Point. The GGNRA scope and design included the following measures which will be implemented by the City during restoration activities:

    a. No earthmoving or soil disturbing work shall occur in the vicinity of existing ponds or wetlands between November15 and April 15, the breeding season for California red-legged frog and the season when San Francisco garter snake are inactive in their winter burrows.

    b. Vegetation in all construction areas will be progressively cleared by hand equipment to a height of 4 inches and checked for presence of snakes prior to ground-disturbance and construction equipment or vehicles entering the sites.

Once vegetation is cleared, a pre-construction survey for the San Francisco garter snake will be conducted in the impact area.

c. Prior to construction near wetlands or ponds, exclusion fencing will be constructed and all rodent burrows in the construction area will be hand excavated until the burrows terminates or until a maximum depth of 30 centimeters in areas where soil or fill will be removed or placed.

d. Exclusion fencing gates will be closely monitored throughout construction to ensure no snakes or frogs enter the area.

e. Speed limits of 10 miles per hour will be posted on all access roads.

f. A Biological Monitor will inspect for snakes and frogs underneath any vehicle that is parked for 30 minutes or more, immediately prior to moving the vehicle.

g. Personnel who detect any suspected San Francisco garter snake or California red-legged frog on-site will immediately report their finding to a Biological Monitor for positive identification. Non-permitted personnel will not attempt to capture or move any snake or frog detected. If the Biological Monitor determines that the animal is not a San Francisco garter snake or California red-legged frog, the Biological Monitor may hand capture and move the animal to suitable habitat outside the construction area. If the Biological Monitor determines that the detected animal is a San Francisco garter snake or a California red-legged frog, or is unable to positively identify the animal, then the Biological Monitor will notify the permitted biologist for appropriate action. If it is determined that a San Francisco garter snake needs to be moved, the Service will be contacted for further guidance.

h. A biologist holding a valid 10(a)(1)(A) permit from the Service will be on call or on-site to handle any San Francisco garter snakes or California red-legged frogs encountered during pre-construction and construction activities. Only a holder of a valid 10(a)(1)(A) permit from the Service will handle San Francisco garter snakes. California red-legged frogs will only be handled by a holder of a valid 10(a)(1)(A) permit from the Service or a Service-approved Monitor.

i. Invasive non-native plant removal would be conducted as follows so that any San Francisco garter snakes or California red-legged frogs that may be hiding in vegetation can escape unharmed. First, search each clump or patch thoroughly for snakes. If a San Francisco garter snake or California red-legged frog is found, disturbing it is likely to make it hide more deeply in the vegetation; therefore, leave the clump or patch alone and check it again on a later day. If no San Francisco garter snake or California red-legged frog is found, vegetation will be

progressively cut and searched to 1 to 2 feet above ground level. If no San Francisco garter snake is found, the remainder of the clump or patch can be removed. Prior to removal of vegetation, the site will be surveyed for underground burrows. In those areas where no burrows are found, the plant will be removed by hand using a weed-wrench or other digging tool. Non-native vegetation with large root balls that could cause ground disturbance would be cut instead of pulled.

j. Current sterilization protocols will be followed for all wetland sampling and monitoring, to protect against chytrid and trematode infestation.

k. Wetlands will be monitored for invasive aquatic species and removal will be conducted if found.

l. An education program for field personnel involved with the restoration activities will be conducted prior to initiation of field activities. The program will consist of a brief presentation by person(s) knowledgeable in the California red-legged frog and San Francisco garter snake. The program shall include the following: a description of these species, their ecology, and habitat needs; an explanation of their legal status and their protection under the Act; and an explanation of the measures being taken to avoid or reduce effects to these species during implementation of the proposed project. The education may be conducted in the field.

m. To minimize the potential for mortality of San Francisco garter snakes, the areas near wetlands and ponds shall be fenced to the maximum extent possible when heavy equipment is used. Future contracts for San Francisco garter snake surveys, including biological monitoring, shall only be awarded to persons who have a valid 10(a)(1)(A) permit. All snake marking and holding shall be in conformance with the monitor's existing permit, as well as additional protective measures described in this opinion.

n. All captured San Francisco garter snakes and California red-legged frogs shall be released promptly outside of the exclosure areas, unless release would cause the individual to be injured or killed, in which cases the individual shall be released as close to the point of capture as possible, but away from the construction area.

o. Trained personnel shall walk the route to and from each restoration area ahead of heavy-equipment and trucks, to be sure that the area is clear of San Francisco garter snakes prior to heavy equipment on site. City staff shall be trained on the identification and avoidance of both the San Francisco garter snake and the California red-legged frog.

10. In order to minimize the effect of gopher control activities, the City will develop for Service review and approval and implement a plan to place woody debris around Laguna Salada to provide refuge habitat for California red-legged frogs and San Francisco garter snakes. No gopher control will occur within the roughs or natural areas of the site. Implementation of the plan will begin 18 months following issuance of the biological opinion.

11. Within six months of issuance of the biological opinion, the City will develop, for Service review and approval, a water quality monitoring plan for Horse Stable Pond and Laguna Salada. This plan will include monitoring of nitrate, nitrite, ammonia, pH, and salinity in both water bodies and set threshold levels for each that will trigger defined conservation actions, such as changes to fertilization and pumping practices, or other measures for the protection of the California red-legged frog and San Francisco garter snake.

12. The City will ensure that implementation of the water quality monitoring plan will begin 1 year following issuance of the biological opinion.

13. Within nine months of issuance of the biological opinion, the City will develop, for Service review and approval, a monitoring plan for the new perennial pond described in Conservation Measure 33. The plan will include monitoring of 1) the use of the pond by all life stages of the California red-legged frog and San Francisco garter snake, 2) the amount of emergent vegetation and open water available, and 3) how effective barriers are preventing entry by people and off-leash dogs. If predators become established in the pond they will be immediately removed and the Service will be notified.

14. Implementation of the pond monitoring plan will begin immediately following the construction of the new pond.

15. In order to reduce the effects of gopher control on California red-legged frogs and San Francisco garter snakes, the City will not remove gopher burrows or set traps for gophers in any areas outside of greens, tees, and fairways. Burrows in roughs will not be removed and no traps will be set.

16. In order to reduce mortalities associated with golf carts and lawn mowers, the City will enforce a 5 mile per hour speed limit for all golf carts at holes 12 and 13 and a speed limit of 8 miles per hour for all lawn mowers. Additionally, golf carts will be required to stay on cart paths at holes 12 and 13.

Reporting Requirements

Within 60 days of the completion of construction of the proposed action, the Corps and City must provide a report to the Service that provides details on the effects of the action on the

California red-legged frog and San Francisco garter snake and the City must provide an annual report on operations and maintenance by December 31 of each year. Specifically, these reports must include information on any instances when California red-legged frogs and San Francisco garter snakes were killed, injured, or handled; the circumstances of such incidents; and actions undertaken to prevent similar incidents from reoccurring.

The City will notify the Service must be notified within 24 hours of any operation of pumps (e.g., in advance of winter storms, following storms, and at the end of the wet season). The Corps and/or City as appropriate will notify the Service upon finding of any injured or dead California red-legged frog or San Francisco garter snake, or any unanticipated damage to their habitats associated with the proposed action. Injured frogs or snakes must be cared for by a licensed veterinarian or other qualified person such as the Service-approved biologist. Notification should include the date, time, and precise location of the individual/incident clearly indicated on a USGS 7.5 minute quadrangle and other maps at a finer scale, as requested by the Service, and any other pertinent information. Dead individuals must be sealed in a zip-lock® plastic bag containing a paper with the date and time when the animal was found, the location where it was found, and the name of the person who found it. The bag containing the specimen must be frozen in a freezer located in a secure area. The Service contact persons are the Division Chief, Endangered Species Program at the Sacramento Fish and Wildlife Office (916) 414-6600, and the Resident Agent-in-Charge of the Service's Law Enforcement Division, 2800 Cottage Way, Room W-2928, Sacramento, California 95825, at (916) 414-6660.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and databases.

1. Report any sightings of California red-legged frog and San Francisco garter snake to the California Natural Diversity Database maintained by CDFG.

2. The City and Corps should develop a plan for the long-term restoration and enhancement of the wetlands at Sharp Park Golf Course for the benefit of the California red-legged frog and San Francisco garter snake.

3. The City and Corps should develop and implement scientific studies to refine the understanding of California red-legged frog and San Francisco garter snake ecology in the Sharp Park / Mori Point vicinity.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

RENITIATION - CLOSING STATEMENT

This concludes formal consultation on the proposed Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project in San Mateo County, California. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this biological opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must immediately cease, pending reinitiation.

If you have any questions regarding this biological opinion on the Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project, please contact Cay Goude, Ryan Olah or Josh Hull of my staff at the letterhead address, or at telephone (916) 414-6600.

Sincerely,

Susan K. Moore

Susan K. Moore
Field Supervisor

cc: Lisa Wayne, SFRPD
Scott Wilson and Suzanne Deleon, California Department of Fish and Game, Yountville, California

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2. Describe the proposed development in detail. Include secondary improvements such as grading, septic tanks, water wells, roads, driveways, outbuildings, fences, etc. (Attach additional sheets as necessary.)

Sharp Park Golf Course is a Pacific Coast public recreation/public access facility (§ 30001.5(c)) in operation and serving the public since 1931, before enactment of the Coastal Act (§ 30608). The golf course is perhaps the most affordable public golf course in coastal California, and was designed by the renowned golf course architect Alister MacKenzie. Approval of the Pump House Safety, Infrastructure Improvement, and Habitat Enhancement Project will not result in a substantial change to the existing, vested golf course operation (§ 30608).

There are two significant components of the project. First, the pump house is in need of improvement (§ 30233(4)), to reduce obstructions of water flow to the intake and improve worker safety. The improvements will allow City personnel to monitor and manage water levels, which is necessary to protect California red-legged frog ("CRLF") egg masses during the rainy season and reduce flooding of the golf course and the risk of flooding of neighboring residential areas. Further, the safety improvements are necessary because City personnel must monitor water levels in inclement weather. Second, wetlands restoration and creation will improve functions and values (§ 30233(6)), and thereby enhance existing CRLF habitat. Approval of the proposed project will therefore assure the continued operation of this vested public service use, promote the safety of City employees, and restore the functionality of the surrounding wetlands.

The project includes the following elements:

(1) Removal of sediments and emergent vegetation within the Horse Stable Pond (HSP) near the intake structure in order to reduce obstructions to water flow to the pump intake and to enhance breeding habitat for the CRLF.

(2) Removal of sediment and emergent vegetation that impedes water flow and reduces habitat suitability for CRLF in select locations within the connecting channel and culverts that link HSP and Laguna Salada (LS).The existing ground of Horse Stable Pond and connecting channel is located between 3' and 8' NAVD88. Sediment and vegetation will be removed to a maximum depth of 3'. Please see attached drawings for excavation area relative to the existing pond footprint.

(3) Installation of steps leading down the slope from the access road to the pumphouse and the intake structure (approximately 47 square feet or 0.001 acres). A fence with a locking gate will restrict access to the steps and boardwalk.

(4) Construction of a walkway on concrete support structures around the front of the pump intake box, approximately 42 feet long at the perimeter and 4.9 feet wide, which will wrap around the intake structure. The walkway, which will substantially improve access to the intake and screens thereby improving worker safety, will be made of wood and supported by 2 concrete filled steel pipe piles in the water. If feasible, a secondary screening system may be installed below the walkway surface and between the pilings to further reduce the amount of detritus, such as dead floating cattails, from entering the pumps. This screen is a metal mesh with holes measuring approximately one inch by one half inch.

(5) Replacement of the failing wooden retaining wall next to the pumphouse (at the base of the levee slope between the uplands and the wetland) with a wood retaining wall to prevent further soil deposition from the uplands from entering the waterway. The retaining wall, which will measure approximately 12 feet long and five feet high, will be placed in jurisdictional wetlands and is estimated to result in 0.4 cubic yards of fill (approximately 6 square feet surface area).

(Continued on next page)

(6) Repair of one cart path (total of approximately 700 square feet or 0.016 acre) located adjacent to, but not within, the LS wetland. Repairs to the cart path will involve removing approximately 100 linear feet of the existing path and relocating the path further away from the wetland and into the golf course.

In addition to the above mentioned items, the project components include two conservation measures as described in the Biological Opinion (pages 18-19):

(a) Construction of a pond to facilitate CRLF breeding that is approximately 150 square meters in size and similar in scope and design to the ponds constructed by the GGNRA. San Francisco RPD will monitor the pond for breeding success by surveying for egg masses on an annual basis and documenting habitat conditions for a period of five years following pond construction.

(b) SFRPD will restore 0.5 acre of upland habitat around Horse Stable Pond and Laguna Salada. This restoration component is included in the project description for contextual purposes only.

ADMINISTRATIVE REQUEST

At the request of the Coastal Commission staff, SFRPD is requesting an after-the-fact permit for the increase in pump capacity at the Sharp Park Pumphouse. SFRPD records provided to Coastal Commission staff shows that one pump has been located at the site since at least 1941 and two pumps have been there since at least 1959. The record shows that in 1959 one pump was rated 500 gallons per minute and the other was rated 250 gallons per minute. Further records have shown that the pumps increased in capacity by 1992. Institutional knowledge indicates that by 1997, the pumps had been replaced with pumps rated 10,000 gallons per minute and 1,500 gallons per minute, respectively. City staff and the Coastal Commission staff have been unable to find documentation on the date(s) of change and accompanying permit(s) for this capacity change. Thus, SFRPD requests an after-the-fact permit to cover the capacity change for the two pumps located in the Horse Stable Pond Pumphouse. Please note, the protocols in place (i.e., visual survey of flooded areas to locate CRLF egg masses and manually managing the pump level to keep egg masses saturated) manage pumping operation. These protocols have been developed with input from USFWS and CA Department of Fish and Wildlife, and are part of the action covered by the USFWS Biological Opinion. Pumping operation at Sharp Park has decreased in frequency and intensity over the years as the protocols now in place prioritize providing a safe environment for the CRLF and San Francisco Garter Snake over managing flooding on the golf course. The pump rated 1,500 gallons per minute is the one most often used to finely tune water levels to cover egg masses. The pump rated 10,000 gallons per minute is used during major storm events, when water levels rise rapidly.

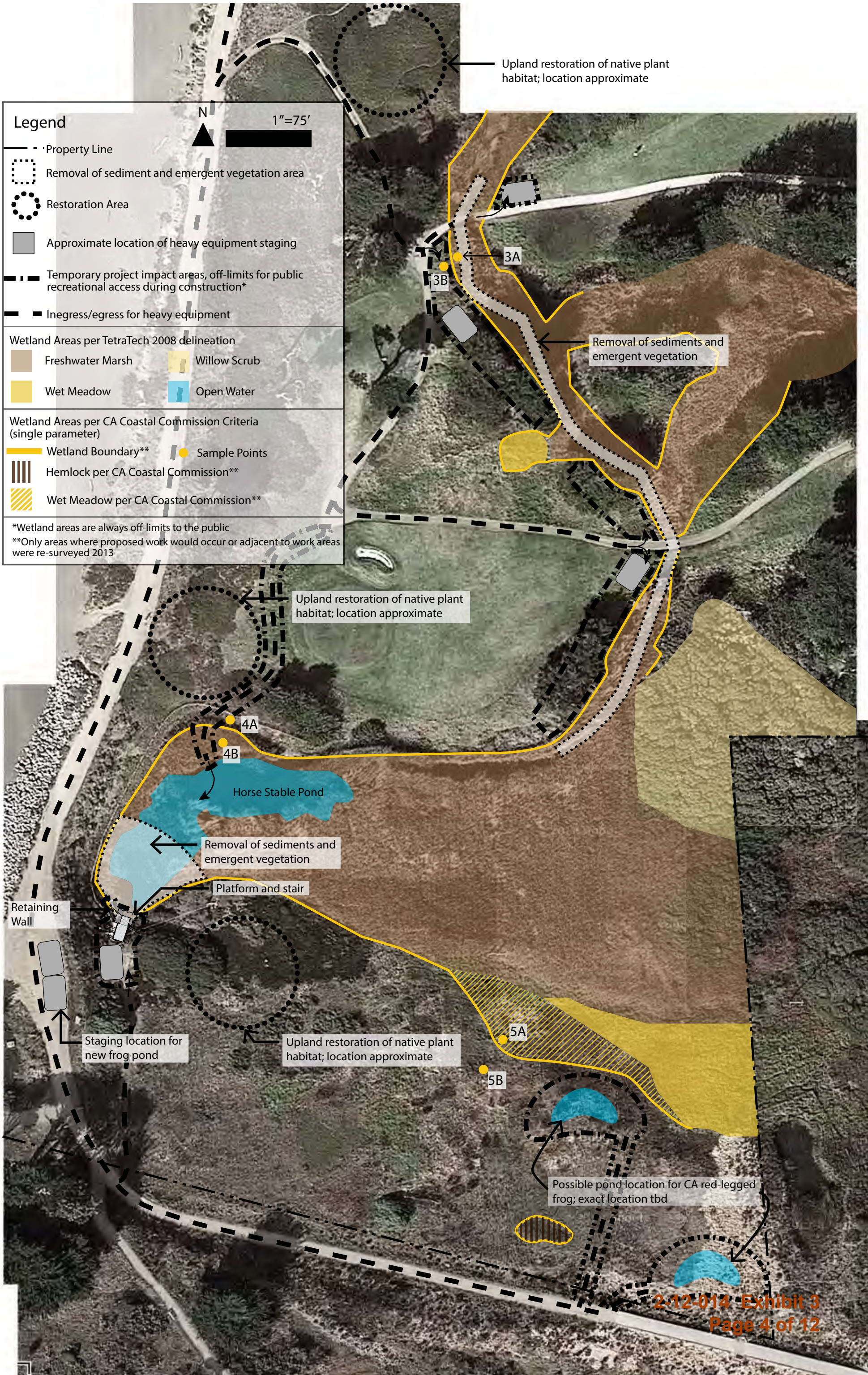
Sharp Park, Pacifica, CA
Project elements overview

Sharp Park, Pacifica, CA
Project Elements Overview

① Removal of emergent vegetation and sediment in Horse Stable Pond
② Removal of emergent vegetation and sediment in connecting channel and culverts
③ Pumphouse staircase
④ Pumphouse walkway/platform with footings
⑤ Replacement retaining wall
⑥ Realignment of two cart paths
⑦ New Pond for California Legless Frog, two possible locations shown, exact location to be determined
⑧ Restoration of native plant habitat; location shown on map approximate, TBD in field

1"=300'

Sharp Park, Pacifica, CA
Figure 2: Elements related to construction




LS-12W
LS-12U
1b
2
1b
1a
3a
3b
N
50'
Map1:
Excavation/Fill Areas within Wetland Delineation
① Excavation (channel and pond)
② Access to Wetland
③ Retaining Wall and Walkway Footings
HSP 2W

SF RECREATION AND PARKS
CAPITAL IMPROVEMENTS DIVISION
30 VAN NESS AVE, 5TH FLR
SF CA 94102
T: 415.581.2542 / F:415.581.2540

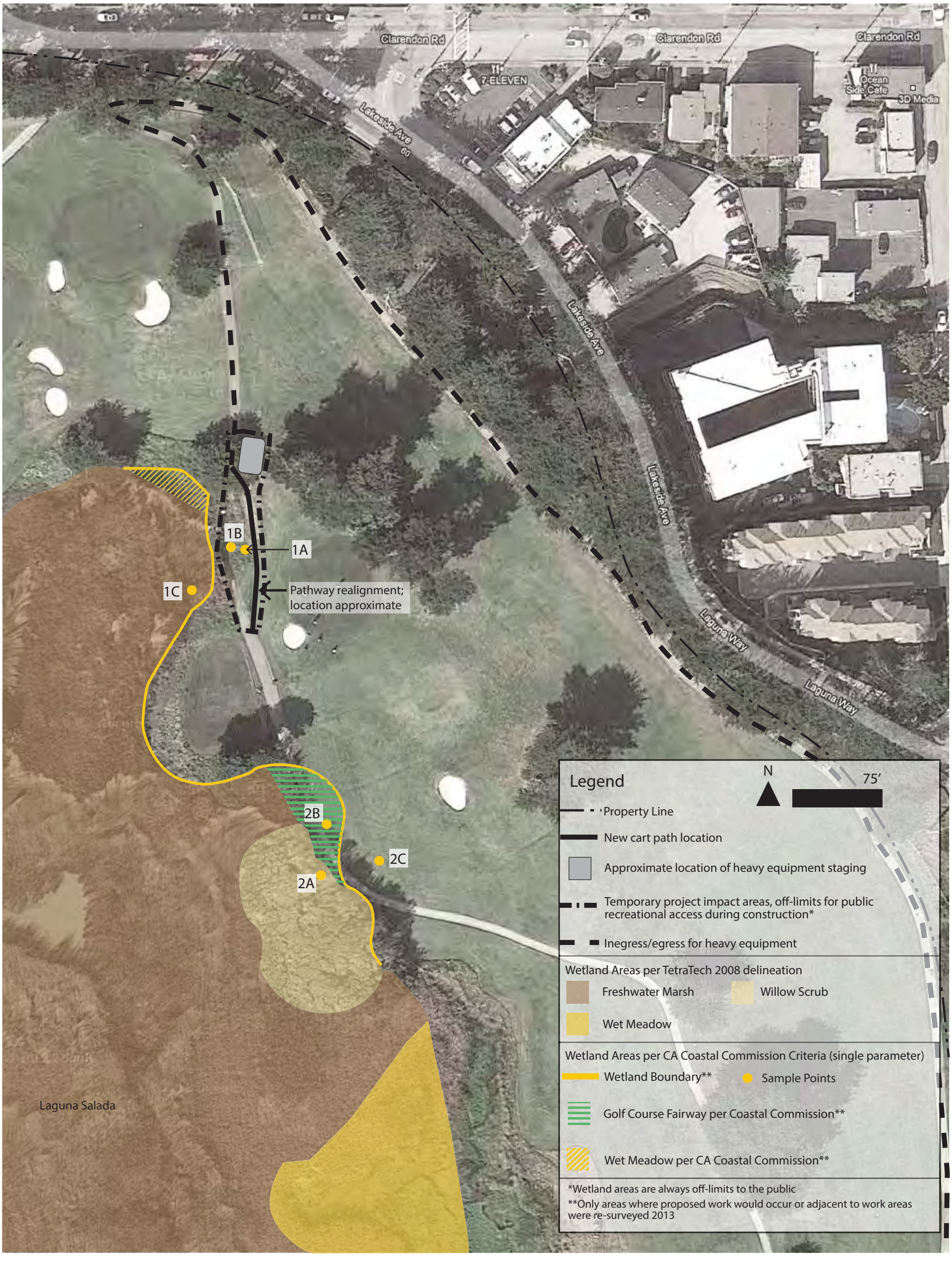
SHARP PARK PUMPHOUSE

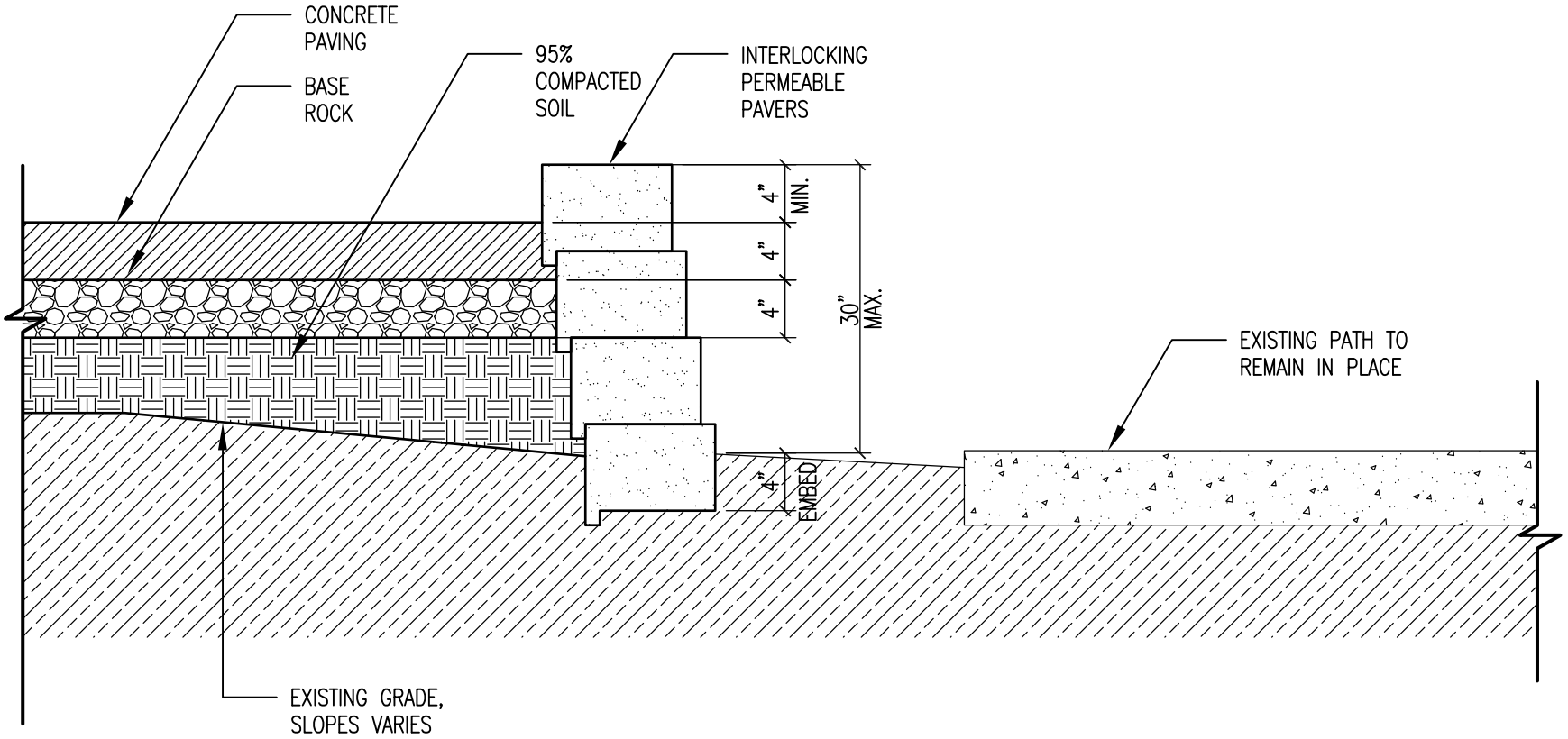
SAFETY & INFRASTRUCTURE IMPROVEMENTS
SEDIMENT AND TULE TAKE OFFS

DATE 5.8.13
SCALE 1"=100'

DRAWING #
7

Sharp Park, Pacifica, CA
Figure 3: Elements related to construction
12.26.13





CART PATH DETAIL

SF RECREATION AND PARKS
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SHARP PARK PUMPHOUSE

SAFETY & INFRASTRUCTURE IMPROVEMENTS

SEDIMENT AND TULE TAKE OFFS

DATE 2.13.13
SCALE 1"=1'

DRAWING # 6

Alternatives Analysis

No Project Alternative

The “no project” alternative would not meet the objectives of the project because: (i) it would allow sediment and vegetation to continue to build up in the vicinity of the pumphouse, which will make pump operations progressively less efficient over time and eventually foreclose pump operations; (ii) it would allow sediment and vegetation to remain in the connector channel and further sediment and vegetation to build up in the channel, which will inhibit the City’s ability to operate the pumps to manage water levels in Laguna Salada; (iii) it will require City personnel to continue to work in unsafe conditions at the pumphouse; (iv) by impairing pump operations, it will diminish or eliminate the ability of the City to manage water levels for the benefit of at-risk species and to reduce the number and severity of flood events; and (v) by foreclosing sediment and vegetation removal, it will bar the City from proceeding with California red-legged frog breeding habitat restoration. The “no project” alternative would impair recreational activity in the form of golfing, which has occurred on the site for several decades, a result that would contravene Coastal Act section 30221. It would also foreclose feasible habitat restoration in contravention of Coastal Act section 30231. There is no comparable public recreational facility on the coast in the region: The golf course precedes enactment of the Coastal Act by decades, offers very low green fees to a diverse user group, and provides a unique opportunity to experience the California coast.

Because the functions and values of the environmentally sensitive habitat areas on the project site are the result of active management, the absence of such management would lead to degradation of those functions and values. For example, failure to remove sediment from and control tule growth in Horse Stable Pond and Laguna Salada would degrade the value of those water bodies as California red-legged frog breeding habitat. And because California red-legged frogs are an important prey species for San Francisco garter snake, failure to remove sediment from and control tule growth would indirectly harm the local San Francisco garter snake population. The importance of such active management is demonstrated by the approach adopted by the National Park Service on the adjacent Golden Gate National Recreation Area lands, which included construction of seasonal ponds, vegetation management, pesticide use, and boardwalk construction.

Habitat Restoration Only Alternative

The habitat restoration only alternative would eliminate the following elements of the project: installation of steps down to the pumphouse from the access road and a fence to limit access; construction of a walkway around the pumphouse intake structure including six concrete support structures; and repair of two cart paths. Thus, this alternative would retain the sediment and vegetation components of the project only. This alternative would not meet the objectives of the project because it will require City

personnel to continue to work in unsafe conditions at the pumphouse and will increase the likelihood of off-path golf cart use.

Maintenance of the screens at the pumphouse intakes, including the removal of debris buildup, is necessary in order to allow for ongoing pump operations. Such maintenance can be necessary as frequently as daily during the rainy season, and it often occurs while the pumps are being operated during or immediately after storm events when poor visibility, slippery conditions, and high water levels present hazards to City personnel. Currently, there is no safe walking and working surface and access to the screens is only possible by lifting a heavy piece of chain link fence while clearing the screens. The safety and infrastructure improvement components of the project described above are essential to improve worker safety. Permanent fill associated with these components of the project will be minimal, totaling approximately six square feet that will be occupied by the six concrete support structures for the walkway around the pumphouse intake.

Relocation of two segments of cart path along the eastern edge of Laguna Salada is proposed. These segments are in low lying portions of the golf course adjacent to Laguna Salada and can flood. As a result, California red-legged frogs may deposit egg masses on the flooded paths, which will be at high risk of mortality as they will likely dry out before metamorphosis is completed. In addition, golfers are more likely to take carts off paths when those paths are flooded. Relocating the paths to a nearby upland location a greater distance from Laguna Salada will reduce substantially the likelihood the paths will flood and thereby yield the benefits described above.

Larger Capacity Pump Alternative

This alternative would involve proceeding with the project but also installing a large capacity pump to facilitate management of floodwaters both within the boundaries of Sharp Park and in adjacent areas including nearby residential areas. This alternative would reduce the risk and flooding due to large storm events. But pumping at high levels could have deleterious effects on the federally protected California red-legged frog (CRFL). In addition, it may be necessary to replace infrastructure, including the existing outfall pipe that runs through the seawall, in order to take advantage of the capacity of a larger pump. Furthermore, replacing the pump would not be cost effective.

There are two pumps in the pumphouse; the smaller pump is rated at 1,500 gallons per minute, and the larger is rated at 10,000 gallons per minute. During the breeding season most of the water level management is accomplished with operation of the smaller pump, which can effectively cycle on and off as water moves through the watershed, sometimes up to a few days after a rainfall event. The large pump is only used infrequently during heavy storm events and does not have the ability to cycle on and off like the smaller pump. The smaller pump can maintain a more constant water level throughout the season and is sized appropriately for smaller more frequent rainfall events. The drawdown rate of the existing large pump is not effective for managing water levels for the CRLF egg masses. If a larger capacity pump were to be installed it would replace the existing large capacity pump but would only be useful during heavy

storm events, a few times a year. The smaller pump would still be the primary pump used for water level management. In addition, together with the pump, it would likely be necessary to install new infrastructure to service the pump, including a new outfall pipe. This would increase the size and complexity of the project, and its impacts within the project area. It is not cost effective to install a larger capacity pump, which would be used even less frequently than the existing pump. Therefore, this alternative was determined to be impractical.

SAN FRANCISCO
PLANNING DEPARTMENT

Mitigated Negative Declaration

1650 Mission St.
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Date:	**January 17, 2014**; amended on January 9, 2014 (Amendments to the PMND are shown in deletions as ~~strikethrough~~; additions in double underline)
Case No.:	**2012.1427E**
Project Address:	**Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project**
Project Location:	Sharp Park
Project Sponsor:	San Francisco Recreation and Parks Department (SFRPD) Stacy Bradley, (415) 575-5609 stacy.bradley@sfgov.org
Staff Contact:	Kei Zushi - (415) 575-9036 kei.zushi@sfgov.org

PROJECT DESCRIPTION:

The project site is located within Sharp Park in the City of Pacifica in San Mateo County. Sharp Park is a public park, approximately 417 acres in size, that is owned and operated by the City and County of San Francisco's (CCSF's) Recreation and Park Department (SFRPD). The proposed project consists of: 1) construction of a perennial pond, approximately 1,600 sf in size, located approximately 400 to 500 feet southeast of Horse Stable Pond (HSP); 2) realignment of a portion of an existing golf cart path located west of the fairway for golf course hole number 14 and east of the tee box for golf course hole number 15; 3) removal of sediment and emergent vegetation within HSP and the connecting channel that links HSP with Laguna Salada (LS); 4) construction of a maintenance walkway approximately 4.6 feet in width at the existing HSP pumphouse; 5) replacement of a wooden retaining wall near the pumphouse with a concrete retaining wall at the existing HSP pumphouse; and 6) construction of steps from the access road to the existing HSP pumphouse.

The project would be implemented in two locations, which cover a total of 35,000 noncontiguous square feet (sf) within Sharp Park. The majority of work would be located on the southwest corner of the existing golf course, near HSP. One segment of an existing golf cart path is proposed to be realigned as part of this project. This golf cart path segment is located to the northeast of LS and to the southwest of Lakeside Avenue.

The proposed project is being constructed in accordance with a Biological Opinion issued by the U.S. Fish and Wildlife Service (USFWS) and is separate and independent from the proposed Significant Natural Resource Areas Management Plan (SNRAMP), which is currently undergoing separate environmental review.

The Approval by the San Francisco Recreation and Park Commission is the Approval Action for the whole of the proposed project.

FINDING:

This project could not have a significant effect on the environment. This finding is based upon the criteria of the Guidelines of the State Secretary for Resources, Sections 15064 (Determining Significant Effect), 15065 (Mandatory Findings of Significance), and 15070 (Decision to prepare a Negative Declaration), and the following reasons as documented in the Initial Evaluation (Initial Study) for the project, which is attached.

Mitigation measures are included in this project to avoid potentially significant effects. See pages 116 and 127.

In the independent judgment of the Planning Department, there is no substantial evidence that the project could have a significant effect on the environment.

SARAH B. JONES
Environmental Review Officer

January 17, 2014
Date of Adoption of Final Mitigated Negative Declaration

cc: Stacy Bradley, Project Contact
Historic Preservation Distribution List
Distribution List
Virna Byrd, M.D.F

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INITIAL STUDY

Case No. 2012.1427E – Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project

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A. PROJECT DESCRIPTION

Project Location and Site Characteristics

Sharp Park is a public park, approximately 417 acres in size, located in the City of Pacifica in San Mateo County that is owned and operated by the City and County of San Francisco's (CCSF's) Recreation and Park Department (SFRPD). It is bisected from north to south by the Pacific Coast Highway (PCH), with the project site located west of PCH. Sharp Park is bounded by the Pacific Ocean to the west. To the north and south, portions of Sharp Park are bordered by residential development. Sharp Park abuts portions of the Golden Gate National Recreation Area (GGNRA) to the south and east (see Figures 1 and 2). Sharp Park contains an 18-hole golf course, an archery range, a clubhouse, a remediated former rifle range, a parking lot, and extensive natural areas including an approximately 27-acre wetland complex consisting of Horse Stable Pond (HSP), Laguna Salada (LS), a channel and culverts that connect HSP to LS, and adjacent wetlands.

The SFRPD, as project sponsor, proposes to implement the project in two locations, which cover a total of 35,000 noncontiguous square feet (sf) within Sharp Park. The majority of work would be located on the southwest corner of the existing golf course, near HSP. One segment of an existing golf cart path is proposed to be realigned as part of this project. This golf cart path segment is located to the northeast of LS and to the southwest of Lakeside Avenue (see Figure 3).

The Sharp Park Golf Course is located within an 845-acre watershed.[1] HSP is located south of LS and consists of an open water pond and a fresh-to-brackish water wetland. It is connected to LS via an approximately 1,000-foot-long channel that was constructed to drain water from the lagoon to HSP, and together these three features form a wetland complex. In addition to water from LS, HSP receives water from Sanchez Creek from the east (see Figure 4). HSP is shallower and smaller than LS, and typical water depths range from one to three feet. Flood waters in the wetland complex are ~~drained~~removed by pumps located at the southwest corner of HSP, which pump water into the Pacific Ocean during the winter, when water levels in the pond become too high.

The LS wetland system is naturally maintained by groundwater during periods of low surface water inflow, such as during the summer. At these times, the water elevation in HSP and LS represents the groundwater table. Groundwater flow from the watershed to the ocean maintains HSP elevations above sea level. Over the course of the year, surface inflows to LS exceed groundwater inflows to LS by 600 percent. Some of the excess surface water inflow is lost to evaporation and uptake by plants, some flows as groundwater to the sea, and some is pumped to the ocean during periods of high inflow.[2]

There is a seawall located along the western boundary of Sharp Park. This seawall was originally constructed between 1941 and 1952 and eliminated the historic hydrologic connection between the Pacific Ocean and the wetland complex. The aforementioned pumps control water levels in HSP and may affect water levels in LS when the channel connecting the two water bodies creates a surface water connection between them. The existing pump system consists of a large pump

[1] U.S. Fish and Wildlife Service (USFWS). *In Reply Refer To: 08ESMF00-2012-F-0082-2, Formal Endangered Species Consultation on the Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project in San Mateo County, California*, October 2, 2012 ("Biological Opinion"). This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[2] Kamman Hydrology & Engineering, Inc. *Report for the Hydrologic Assessment and Ecological Enhancement Feasibility Study: Laguna Salada Wetland System, Pacifica, California, Prepared For: Tetra Tech, Inc.*, March 30, 2009 ("Hydrologic Assessment"). This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

(rated 10,000 gallons per minute) and a small pump (rated 1,500 gallons per minute) located in a pumphouse with pipes built through the seawall to an outfall. Operation of the flood control pump system is necessary to manage floodwaters both on Sharp Park and adjacent properties. During normal rainfall years, floodwaters into LS back up onto the golf course.[3,4]

Two factors adversely affect the operation of the pumps. First, pump operation is impaired by sediment buildup and vegetation growth around the pump intake structure and along the connecting channel between HSP and LS. Second, pump operation is impaired by the buildup of vegetation on the pump intake screens. In order for the pumps to function properly, the existing screens at the intake must be kept clear of vegetation buildup. The maintenance of the screens, including the removal of debris buildup, can be required as frequently as daily during the rainy season. Such maintenance often occurs while the pumps are being operated during or immediately after storm events when poor visibility, slippery conditions, and high water levels present hazards to maintenance workers. Currently, there is no safe walking and working surface, and maintenance workers have to lift a piece of chain link fence to access the screens for cleaning.[5]

In November 2008, a wetland delineation report was prepared in support of the proposed LS Wetland Restoration and Habitat Recovery Project.[6] The study area for the wetland delineation report included HSP, LS, and areas of the Sharp Park Golf Course adjacent to the lagoon. The report concluded that a total of 27.42 acres of waters of the U.S.[7] were delineated within the study area. Jurisdictional areas were classified into four habitat types: freshwater marsh, willow scrub, wet meadow, and unvegetated pond (open water) (see Sections E.13, Biological Resources for more information). In May 2013, another wetland delineation report was prepared by the SFRPD to evaluate wetlands located in the proposed project area that meet the California Coastal Commission (CCC)-only wetland criteria.[8,9]

There are several special-status species[10] that are known to occur on and near the project site. These species include the California red-legged frog (CRLF), San Francisco garter snake (SFGS),

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[3] Arup North America. *Sharp Park Sea Wall Evaluation*, February 5, 2010. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[4] USFWS. *Biological Opinion*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[5] Ibid.

[6] Tetra Tech, Inc. *Jurisdictional Waters of the US and Wetland Determination Report, Laguna Salada Wetland Restoration and Habitat Recovery Project*, November 2008 ("LS Wetland Determination Report"). This report is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[7] Under the Federal Clean Water Act (FCWA) Sections 404 and 401, "jurisdictional wetlands and waters of the U.S." include one of the following: 1) traditional navigable waters; 2) wetlands next to traditional navigable waters; 3) nonnavigable tributaries of traditional navigable waters that are relatively permanent, where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); or 4) wetlands that directly abut the tributaries described in Item 3), above. See Section E.13, Biological Resources, for more information about the definition of "jurisdictional wetlands and waters of the U.S."

[8] San Francisco Recreation and Park Department (SFRPD). *Single Parameter Wetland Delineation for the Sharp Park Pumphouse Safety, Infrastructure Improvement and Habitat Enhancement Project*, May 7, 2013 ("Single Parameter Wetland Delineation Report"). This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[9] See the discussion concerning the California Coastal Act under Section C, Compatibility with Existing Zoning and Plans, page 19, for the definition of CCC-only wetlands.

[10] See Section E.13, Biological Resources, for the definition of "Special-Status Species."

western pond turtle (WPT), salt marsh common yellowthroat, black-crowned night heron, and San Francisco dusky-footed woodrat. CRLF is listed as "threatened" under the Federal Endangered Species Act (FESA) and a California Species of Special Concern (SSC).[11,12] SFGS is listed as "endangered" under the FESA and classified as "endangered" and "fully protected" under the California Fish and Game Code.[13,14,15,16,17] The black-crowned night heron is a California Special Animal.[18] WPT, salt marsh common yellowthroat, and San Francisco dusky-footed woodrat are listed as a California SSC. The San Francisco dusky-footed woodrat is known to occur on the east side of PCH (see Section E.13, Biological Resources for more information).

Proposed Project

The proposed project includes elements that are required under a Biological Opinion issued by the U.S. Fish and Wildlife Service (USFWS)[19] and consists of: 1) construction of a perennial pond approximately 1,600 sf in size; 2) realignment of a portion of an existing golf cart path located west of the fairway for golf course hole number 14 and east of the tee box for golf course hole number 15; 3) removal of sediment and emergent vegetation within HSP and the connecting channel that links HSP with LS; 4) construction of a maintenance walkway approximately 4.6 feet in width; 5) replacement of a wooden retaining wall near the pumphouse with a concrete retaining wall; and 6) construction of steps from the access road to the existing HSP pumphouse (see Figures 5 and 6).

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[11] The Federal Endangered Species Act (FESA) defines "Threatened Species" as any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

[12] A Species of Special Concern (SSC) is a species, subspecies, or distinct population of an animal (fish, amphibian, reptile, bird, and mammal) native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

- is extirpated from the State or, in the case of birds, in its primary seasonal or breeding role;
- is listed as Federally-, but not State-, threatened or endangered; meets the State definition of threatened or endangered but has not formally been listed;
- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status;
- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status.

[13] The FESA defines "Endangered Species" as any species which is in danger of extinction throughout all or a significant portion of its range other than a species of the Class Insecta determined by the Secretary to constitute a pest whose protection under the provisions of the FESA would present an overwhelming and overriding risk to man.

[14] The California Fish and Game Code defines "Endangered Species" as a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease. Any species determined by the Fish and Game Commission as "endangered" on or before January 1, 1985, is an "endangered species."

[15] The classification of "Fully Protected" was the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals. amphibians and reptiles, birds and mammals. Most fully protected species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations.

[16] California Department of Fish and Wildlife (CDFW). *Fully Protected Animals*. Available online at: *http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/fully_pro.html*. Accessed July 19, 2013.

[17] CDFW. *State and Federally Listed Endangered & Threatened Animals of California*, January 2013. Available online at: *http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEAnimals.pdf*. Accessed July 19, 2013.

[18] "Special Animals" is a general term that refers to all of the taxa the California Natural Diversity Database (CNDDB) is interested in tracking, regardless of their legal or protection status.

[19] USFWS. *Biological Opinion*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

The primary purposes of the proposed construction of a pond, golf cart path realignment, and sediment and vegetation removal are to: 1) restore habitat in several locations within the wetland complex for CRLF and SFGS; and 2) remove impediments to water flow within the wetland complex. The primary purposes of the proposed improvements to the pumphouse are to: 1) enhance access to the pump intake structure and improve the safety conditions of workers operating and maintaining the pumps; and 2) enhance existing habitat for CRLF and SFGS.

The following is a description of each element of the proposed project:

1) **Construction of a perennial pond.** An approximately 1,600-sf perennial pond would be constructed to provide habitat for CRLF. The proposed pond would be located approximately 400 to 500 feet to the southeast of HSP within Sharp Park (see Figure 5). The SFRPD has tentatively identified two possible locations for the proposed pond. The final specific location would be determined in consultation with the USFWS. The proposed pond would be constructed by excavating up to five feet in depth in a similar manner to nearby ponds recently completed by GGNRA. Depending on the results of hydrologic surveys to be conducted as part of this project, the pond may be lined with clay bentonite to prolong water retention. The pond would be designed to capture and hold surface water runoff in the immediate vicinity of the pond and may also be fed by groundwater.

   Several types of plants would be removed and others planted in and near the proposed pond. The plants to be removed would primarily include invasive species such as poison hemlock *(Conium maculatum)*, mustard, and annual grasses; however, some areas containing common native upland species such as coyote brush (*Baccharis pilularis)* and California aster (*Symphyotrichum chiloensis*) may also be affected. The pond margins would be planted with wetland species such as common rush (*Juncus effuses*), common threesquare (*Schoenoplectus pungens*) and common silverweed (*Potentilla anserina*) which would provide suitable attachment sites for CRLF egg masses. The uplands surrounding the pond would be revegetated with the grassland-scrub mosaic species which may include coastal sagewort (*Artemesia pycnocephala*), sticky monkey flower (*Mimulus aurantiacus*), California aster and native grass species, which would provide high quality foraging and refuge habitat for CRLF and SFGS. The SFRPD would monitor the pond for CRLF breeding success by surveying for egg masses on an annual basis and would document habitat conditions for five years following pond construction.

2) **Golf cart path realignment.** One segment of an existing cart path, located west of the fairway for golf course hole number 14 and east of the tee box for golf course hole number 15, frequently floods, even during drought years. This golf cart path segment is located in low lying depression, which prevents surface water from draining into LS and causes surface water to pond on the path. This segment of the golf cart path, approximately 100 feet in length and seven feet in width, would be realigned to shift it 5 to 10 feet further away from habitat areas (see Figure 6). To maintain the natural look of the area adjacent to the cart path, the new path may be constructed using interlocking, permeable pavers.

3) **Removal of sediment and emergent vegetation within HSP and the connecting channel**. Sediment and emergent vegetation, including cattails (*Typha angustifolia*) and bulrush (*Scirpus americanus*), near the existing pumphouse would be removed in order to reduce obstructions to water flow into the pump intake structure and to enhance existing habitat for CRLF and SFGS (see Figure 5). HSP is approximately 5,900 sf in size, of which 2,350 sf is filled with cattails and bulrush. From this area, approximately 435 cubic yards (CYs) of sediment and emergent vegetation would be removed. The connecting channel

between HSP and LS is approximately 6,500 sf in size. This project would also remove approximately 480 CYs of sediment and emergent vegetation from the connecting channel. To facilitate the proposed sediment and emergent vegetation removal and to reduce potential impacts to CRLF, any of the following measures, or a combination of two or more of these measures, may be implemented in consultation with the USFWS: 1) lowering the water level of HSP and the connecting channel through the use of the existing pumps; 2) installing temporary barricades within the connecting channel to prevent the water from flowing into the work areas, or 3) utilizing suction hydraulic equipment to minimize the disturbance of sediments in the water.

The sediment and vegetation removal around the pumphouse would likely require establishing an equipment access route through the jurisdictional wetland on the north side of HSP. A compact multi-purpose aquatic vessel (i.e., an Aquamog) equipped with a long boom and clam shell or bucket type attachment that can reach sediment and vegetation may be used near the pumphouse. If it is determined in consultation with regulatory agencies that it is preferable to remove water from the work area around the pumphouse prior to sediment removal, then a small bobcat or similar equipment on tracks may be used to remove sediment. It is anticipated that an excavator or Grade-all stationed on the golf course would be used for the proposed sediment and emergent vegetation removal in the connecting channel.

Sediment and vegetation removed from both HSP and the connecting channel would be placed in an elevated dewatering container located in an adjacent cleared upland area or placed directly into a dump truck and transported to the former rifle range in the Upper Canyon of Sharp Park on the east side of PCH. The sediment and vegetation would be spread over flat grassland areas in the former rifle range. No dewatering vehicles or containers would be left overnight within work areas.

4) **Construction of a maintenance walkway**. The proposed maintenance walkway would be approximately 4.6 feet in width and wrap around the pump intake structure, and would be constructed in compliance with the California Uniform Building Code. The maintenance walkway would be made of wood and supported by approximately six concrete support structures to be placed in jurisdictional wetlands. The support structures for the proposed maintenance walkway would result in 1.2 CYs of fill in jurisdictional wetlands and waters of the U.S., which would require a permit from the U.S. Army Corps of Engineers (USACE). A new concrete slab (5 feet by 5 feet) and metal guardrail (3.5 feet in height and 3 feet in length) may be installed at the entrance door to the pumphouse. In addition, a secondary, metal debris screen would be installed at the pump intake structure in consultation with the USFWS. This screen would be metal mesh with holes measuring approximately one inch by one half inch.

5) **Replacement of an existing wooden retaining wall.** An existing wooden retaining wall located next to the pumphouse, approximately 12 feet in length and 3 feet in height, would be replaced with a new concrete retaining wall of the same size, in order to prevent upland soil from entering the water. The proposed retaining wall would be constructed in compliance with the California Uniform Building Code. The proposed retaining wall would result in 0.4 CYs of fill in jurisdictional wetlands and waters of the U.S., which would require a permit from the USACE (see Figure 5).

6) **Construction of steps.** The proposed project includes construction of 12 steps, approximately 3 feet in width and 14.3 feet in length, leading down the slope from the access road to the existing pumphouse. The proposed steps would be constructed in compliance with the California Uniform Building Code.

The proposed project would result in excavation up to a maximum of five feet below ground surface (bgs). Best Management Practices (BMPs) for erosion control would be implemented for all elements of the proposed project and may include placement of fiber rolls, silt fences, straw blankets, hydroseeding, and straw mulch/wood chips. In addition, the SFRPD would implement the following BMPs to control the spread of mosquito-borne disease as part of this project (see Impact HZ-2 for more information):

1. Educate staff about the most effective ways to avoid being bitten by mosquitoes;

2. Remove small water features that contain standing water or treat those features with *Bacillus thuringiensis israelis* a biological control agent for mosquito larvae, if the features were to remain and Public Health Services were to identify a potential health hazard; and

3. Encourage staff to drain any standing water in stored equipment or temporary depressions.

While the proposed activities associated with sediment and vegetation removal in HSP and the connecting channel and the native plant restoration associated with the construction of the pond are similar to those identified as long-term management goals in the SFRPD's proposed 2006 Significant Natural Resource Areas Management Plan (SNRAMP), this project is a separate and independent project to improve the habitat of the CRLF and SFGS in compliance with the USFWS Biological Opinion while improving the safety of workers who maintain the pumphouse. The proposed 2006 SNRAMP, which is currently undergoing environmental review, is a management plan intended to guide SFRPD's natural resource protection, habitat restoration, trail and access improvements, and maintenance activities over time and concerns all of the identified "natural areas" within the SFRPD's jurisdiction.

Although a neighborhood notice distributed on January 15, 2013 for the proposed project indicated that the project would include restoration of a half-acre upland habitat around the wetland complex, the Planning Department has since determined that the upland habitat restoration is separate, and has independent utility, from the proposed project. The upland habitat restoration, to remove invasive plant species and revegetate with native species on a total of 0.5 acres of upland area within Sharp Park, neither relies upon nor requires the approval of the proposed project. A Categorical Exemption (Planning Case No. 2013.1008E) was issued on August 5, 2013 concerning the upland habitat restoration pursuant to the California Environmental Quality Act (CEQA). The notice also indicated that two cart paths would be realigned. The SFRPD has decided to leave the southern cart segment in its current location and manually route carts onto the fairway as needed to avoid flooded areas.

A Biological Assessment[20] was prepared by the SFRPD and a Biological Opinion[21] was issued by the USFWS for the proposed project. At the request of the USFWS, the Biological Assessment and Biological Opinion included the proposed project listed above, as well as the ongoing operations and maintenance of the golf course.[22] Although ongoing golf course operations, such as pump

[20] SFRPD. *Biological Assessment, Sharp Park Safety, Infrastructure Improvement and Habitat Enhancement Project*, May 2, 2012 ("Biological Assessment"). This Biological Assessment was amended on August 16, 2012. These documents are available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[21] USFWS. *Biological Opinion*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[22] The proposed project is part of the project for which the Biological Opinion was issued by the USFWS. The proposed project, except for the construction of a 1,600-sf pond, is outlined under "Construction Action" on pages 5 and 6 of the

management and operation, mowing, and golf cart use, are discussed in the Biological Opinion, these ongoing operations and maintenance activities are not considered part of the proposed project for purposes of this CEQA analysis, but rather are considered part of the existing, or baseline, conditions. No changes to golf course operations and maintenance, including operations of the pumps, are proposed as part of this project.

Construction activities are required to be undertaken between June 1 and October 31 to minimize the proposed project's impact to CRLF and SFGS in accordance with the Biological Opinion. Construction is anticipated to occur for approximately 60 days over 18 months in the appropriate construction window in accordance with the Biological Opinion. Workers for the proposed project would include up to three to ten SFRPD employees and contractors.

The Biological Opinion includes a number of Conservation Measures and Terms and Conditions, intended to minimize the project's impacts to CRLF and SFGS. These Conservation Measures and Terms and Conditions are included as mitigation measures for this project (see Section E.13, Biological Resources for more information).

Project Approvals Required

The proposed project would require the following project approvals, with the Approval by the San Francisco Recreation and Park Commission identified as the Approval Action for the whole of the proposed project:

- Approval by the San Francisco Recreation and Park Commission
- FESA Section 7 formal consultation, Biological Opinion, and Incidental Take Statement Approval by the USFWS[23]
- California Endangered Species Act (CESA) consultation with the California Department of Fish and Wildlife (CDFW)[24] concerning fully protected species (i.e., SFGS)
- Federal Clean Water Act (FCWA) Section 404 Approval by the USACE
- FCWA Section 401 Water Quality Certification Approval by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB)
- Fish and Game Code Section 1602 Lake or Streambed Alteration Agreement Approval by the CDFW
- Coastal Development Permit Approval by the CCC

In addition, the proposed project may require the following project approval:

- ~~Approval of an amended~~ National Pollution Discharge Elimination System (NPDES) Permit by SFBRWQCB

Biological Opinion. The proposed construction of a 1,600-sf pond is outlined under "Conservation Measures for Golf Course Maintenance and Operations" on page 19 of the Biological Opinion.

[23] A Biological Opinion including an Incidental Take Statement has been issued by the USFWS for the proposed project.

[24] Formerly known as the California Department of Fish and Game (CDFG)

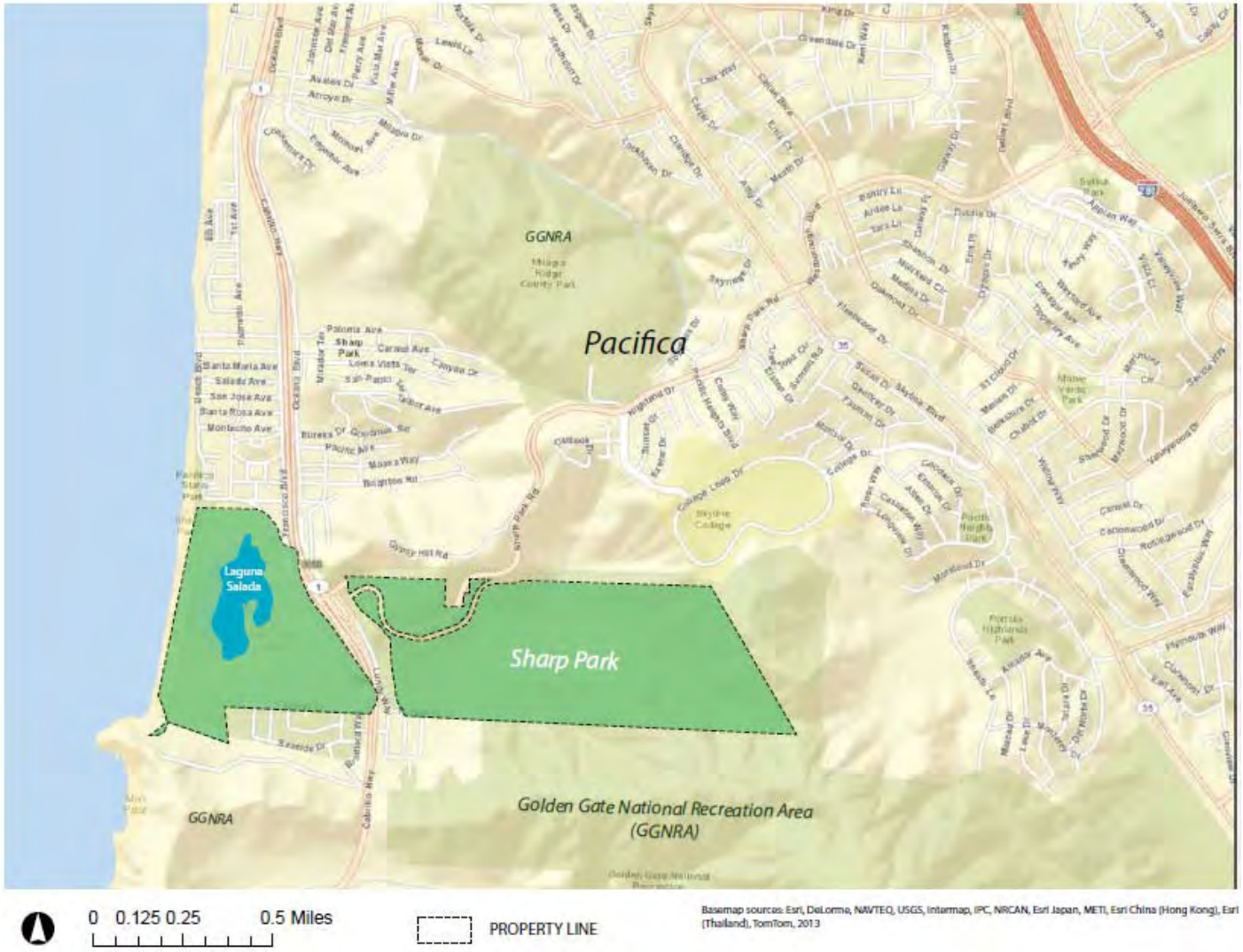

Figure 1. Vicinity Map

Source: San Francisco Recreation and Park Department

Figure 2. Map of Sharp Park and Golf Course

Source: San Francisco Recreation and Park Department

Figure 3. Location of Proposed Project

Source: San Francisco Recreation and Park Department

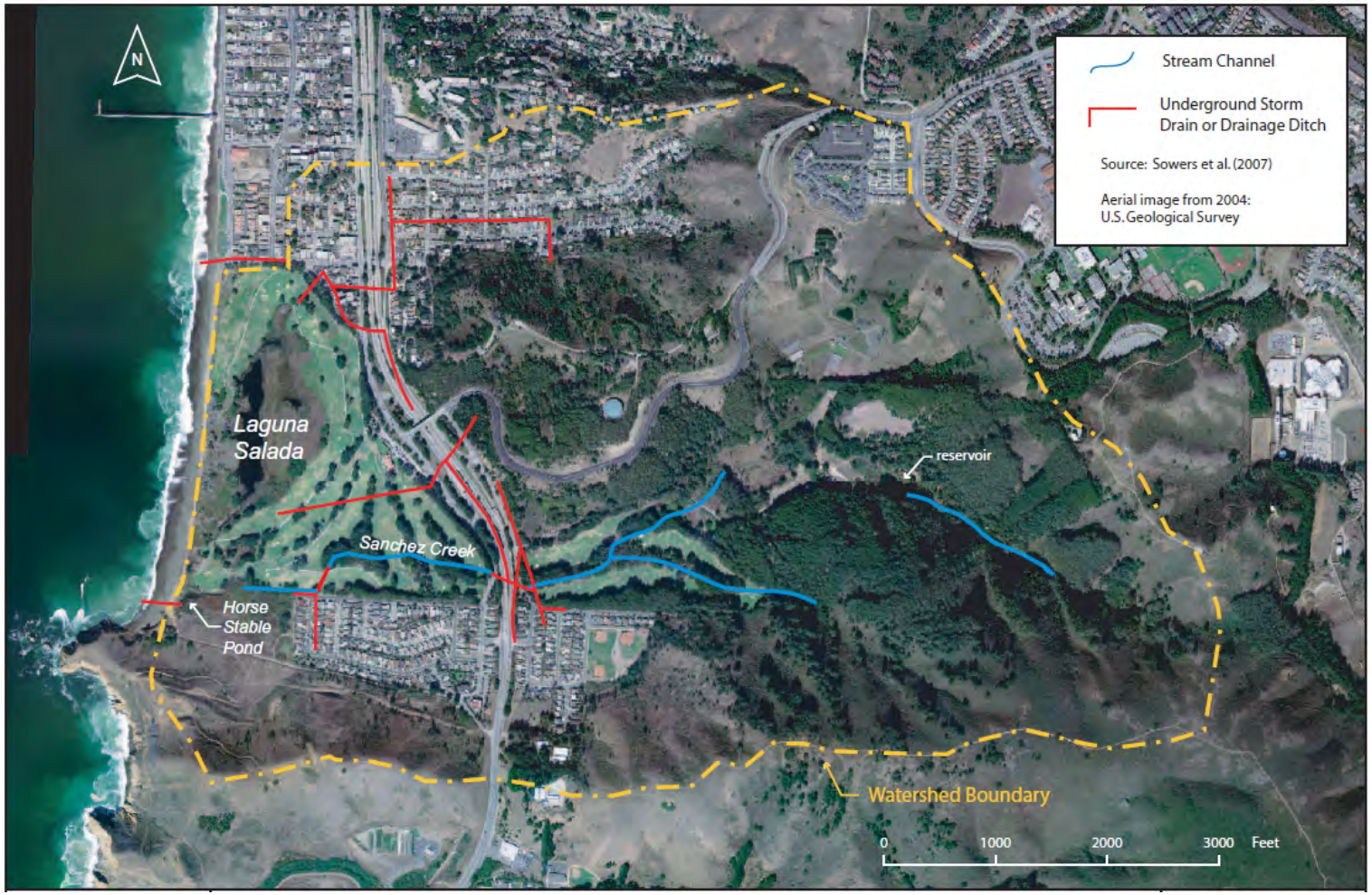

Figure 4. Drainage Network Map[25]

Source: Kamman Hydrology & Engineering, Inc.

[25] Kamman Hydrology & Engineering, Inc. *Hydrologic Assessment*. This report is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

Figure 5. Detail of Proposed Project near HSP

Source: San Francisco Recreation and Park Department

Figure 6. Detail of Proposed Golf Cart Path Realignments
Source: San Francisco Recreation and Park Department

B. PROJECT SETTING

Sharp Park is a public park, approximately 417 acres in size, located in the City of Pacifica in San Mateo County, that is owned and operated by the SFRPD. It is bisected from north to south by the PCH, and the proposed project site is located to the west of PCH. Sharp Park is bounded by the Pacific Ocean to the west. To the north and south, portions of Sharp Park are bordered by residential development. To the south and east, Sharp Park abuts portions of the GGNRA. Sharp Park contains an 18-hole golf course, an archery range, a clubhouse, a remediated former rifle range, a parking lot, and extensive natural areas including an approximately 27-acre wetland complex consisting of HSP, LS, a channel and culverts that connect HSP to LS, and adjacent wetlands.

C. COMPATIBILITY WITH EXISTING ZONING AND PLANS

	Applicable	*Not Applicable*
Discuss any variances, special authorizations, or changes proposed to the Planning Code or Zoning Map, if applicable.	☐	☒
Discuss any conflicts with any adopted plans and goals of the City or Region, if applicable.	☒	☐
Discuss any approvals and/or permits from City departments other than the Planning Department or the Department of Building Inspection, or from Regional, State, or Federal Agencies.	☒	☐

Plans and Policies

San Francisco Plans and Policies

San Francisco land use plans and policies are primarily applicable to projects within the jurisdictional boundaries of San Francisco, although in some cases they may apply to projects outside San Francisco. This information is relevant to the evaluation of impacts of the proposed project with respect to specific significance criteria under CEQA that require analysis of the compatibility of a proposed project with certain aspects of local land use plans and policies.

The SFRPD is guided by the San Francisco City Charter along with other applicable city codes, plans, and policies. These plans include the San Francisco General Plan, which sets forth the comprehensive, long-term land use policy for CCSF, and the San Francisco Sustainability Plan, which addresses the long-term sustainability of CCSF. The plans and policies applicable to the proposed project, as well as other relevant plans and policies, are discussed herein.

This section discusses the project's inconsistencies, if any, with applicable plans and policies that may result in physical environmental effects. If no inconsistencies are identified, the discussion lists the plans that were reviewed and states that no inconsistencies were identified.

Policy conflicts do not, in and of themselves, indicate a significant environmental effect within the meaning of CEQA, in that the intent of CEQA is to determine physical effects associated with a project. Many of the plans of CCSF and the other relevant jurisdictions contain policies that address multiple goals pertaining to different resource areas. To the extent that physical environmental impacts of a proposed project may result from conflicts with one of the goals related to a specific resource topic, such impacts are analyzed in this Initial Study in that respective topic section, such as Section E.7, Air Quality, and Section E.13, Biological Resources.

San Francisco General Plan

Although the General Plan was developed for lands within the jurisdictional boundaries of CCSF, its underlying goals apply to CCSF projects outside the boundaries of CCSF. The San Francisco General Plan provides general policies and objectives to guide land use decisions. The General Plan contains 10 elements (Commerce and Industry, Recreation and Open Space, Housing, Community Facilities, Urban Design, Environmental Protection, Transportation, Air Quality, Community Safety, and Arts) that set forth goals, policies, and objectives for the physical development of San Francisco. The compatibility of the proposed project with General Plan goals, policies, and objectives that do not relate to physical environmental issues will be considered by decision-makers as part of their decision whether to approve or disapprove the proposed project. No inconsistencies with the *San Francisco General Plan* were identified.

Proposition M – The Accountable Planning Initiative

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which added Section 101.1 to the *Planning Code* to establish eight Priority Policies. These policies, and the subsection of Section E of this Initial Study addressing the environmental issues associated with the policies, are: (1) preservation and enhancement of neighborhood-serving retail uses; (2) protection of neighborhood character (Topic 1, Land Use and Land Use Planning, Question 1c); (3) preservation and enhancement of affordable housing (Topic 3, Population and Housing, Question 3b, with regard to housing supply and displacement issues); (4) discouragement of commuter automobiles (Topic 5, Transportation and Circulation, Questions 5a, 5b, and 5f); (5) protection of industrial and service land uses from commercial office development and enhancement of resident employment and business ownership (Topic 1, Land Use and Land Use Planning, Question 1c); (6) maximization of earthquake preparedness (Topic 14, Geology and Soils, Question 14a through 14d); (7) landmark and historic building preservation (Topic 4, Cultural Resources, Question 4a); and (8) protection of open space (Topic 9, Wind and Shadow, Questions 9a and 9b; and Topic 10, Recreation, Questions 10a and 10c).

Prior to issuing a permit for any project which requires an Initial Study under the CEQA, prior to issuing a permit for any demolition, conversion, or change of use, and prior to taking any action that requires a finding of consistency with the General Plan, the City is required to find that the proposed project or legislation would be consistent with the Priority Policies. As noted above, the consistency of the proposed project with the environmental topics associated with the Priority Policies is discussed in Section E, Evaluation of Environmental Effects, of this Initial Study, providing information for use in the approval for the proposed project.

No inconsistencies with the General Plan Priority Policies were identified.

1995/2006 Significant Natural Resource Areas Management Plans

On January 19, 1995, the San Francisco Recreation and Park Commission approved the first SNRAMP. While San Francisco is by and large a densely developed urban area, fragments of unique plant and animal habitats, known as Significant Natural Resource Areas ("Natural Areas"), have been preserved within the parks of San Francisco and Pacifica that are managed by the SFRPD. The SNRAMP was developed to preserve, restore, and enhance the remnant Natural Areas and to promote environmental stewardship of these areas.

The proposed project is consistent with the adopted 1995 SNRAMP as it conforms with three of the overall Program Objectives: 1) determine management needs for natural resources, particularly those identified by other agencies as rare, threatened or endangered; 2) consult and coordinate with other city departments, agencies and groups with special expertise for implementation strategies; and 3) implement measures designed to address immediate problems. The proposed project was created in consultation with the USFWS, USACE and CDFW to protect

CRLF and SFGS while also implementing measures to improve the safety of workers around the pumphouse.

The project is also consistent with the following 1995 SNRAMP's General Policies and Management Actions listed under Vegetation, Wildlife, and Water Resources: 1) vegetation, by promoting indigenous plant species around the new pond, enhancing riparian areas in HSP and the connecting channel and preserving habitat which supports wildlife; 2) wildlife, by consulting with agencies such as the USFWS, USACE, and CDFW on habitat enhancement for CRLF and SFGS; 3) water resources, by maintaining and improving the water quality of the connecting channel and HSP and protecting this riparian zone from sedimentation. As such, this project is consistent with the 1995 SNRAMP.

Over the course of several years, the SFRPD updated and expanded the level of detail in the 1995 SNRAMP, ultimately resulting in a new SNRAMP, with a final draft plan published in February 2006. The San Francisco Recreation and Park Commission approved the final draft plan for CEQA evaluation in August 2006. The proposed 2006 SNRAMP contains detailed information on the biology, geology, and trails within 32 Natural Areas, 31 in San Francisco and one (Sharp Park) in Pacifica. The proposed 2006 SNRAMP is currently undergoing environmental review. A draft Environmental Impact Report ("Draft EIR") was published on August 31, 2011, and the Planning Department is currently preparing responses to comments received on the Draft EIR.

Sustainability Plan for San Francisco

The Sustainability Plan for San Francisco was endorsed by the San Francisco Board of Supervisors in 1997. Although the Board has not committed CCSF to perform the actions addressed in the plan, the plan serves as a blueprint for sustainability, with many of its individual proposals requiring further development and public comment should they be proposed for implementation. The underlying goals of the plan are to maintain the physical resources and systems that support life in San Francisco and to create a social structure that will allow such maintenance. It is divided into 15 topic areas, 10 that address specific environmental issues (Air Quality; Biodiversity; Energy, Climate Change and Ozone Depletion; Food and Agriculture; Hazardous Materials; Human Health; Parks, Open Spaces and Streetscapes; Solid Waste; Transportation; and Water and Wastewater), and five that are broader in scope and cover many issues (Economy and Economic Development; Environmental Justice; Municipal Expenditures; Public Information and Education; and Risk Management). Each topic area in the plan has a set of indicators that are to be used over time to determine whether San Francisco is moving in a sustainable direction in that particular area. The Biodiversity section, which includes 39 specific actions, addresses the goals of increased ecological understanding, protection, and restoration of remnant natural ecosystems; increased habitat value in developed and naturalistic areas; and collection, organization, and development of historic information on habitat and biodiversity.

The Sustainability Plan for San Francisco was developed to address San Francisco's long-term environmental sustainability, and it includes many of the goals and objectives of the 1995 SNRAMP. No inconsistencies with the Sustainability Plan for San Francisco were identified.

Regional Plans and Policies

San Francisco Bay Basin (Region 2) Water Quality Control Plan

The San Francisco Bay Basin (Region 2) Water Quality Control Plan contains water quality regulations adopted by the SFBRWQCB. It has been approved by the California State Water Resources Control Board, the Office of Administrative Law, and the U.S. Environmental

Protection Agency (USEPA).[26] It also contains statewide regulations adopted by the California Water Resources Control Board and other state agencies that refer to activities regulated by the board. No inconsistencies with the San Francisco Bay Basin (Region 2) Water Quality Control Plan were identified.

If the preferred method for sediment and emergent vegetation removal involves pumping water from HSP to lower the water level, the SFRPD would seek ~~modification of the existing~~ Section 401 and NPDES permits to be issued by the SFBRWQCB, as required by the SFBRWQCB. No inconsistencies with the San Francisco Bay Basin (Region 2) Water Quality Control Plan were identified.

Other Regional Plans and Policies

The five principal regional planning agencies and their policy documents that guide planning in the nine-county Bay Area are the Plan Bay Area,[27] the Bay Area Air Quality Management District's (BAAQMD's) 2010 Clean Air Plan, the Metropolitan Transportation Commission's (MTC's) Regional Transportation Plan – Transportation 2035, the SFBRWQCB's San Francisco Basin Plan, and the San Francisco Bay Conservation and Development Commission's (BCDC's) San Francisco Bay Plan. Due to the scope and nature of the proposed project, there would be no anticipated conflicts with regional plans.

California Coastal Act

The California Coastal Act (CCA) applies to development occurring in the coastal zone. The act limits development in wetlands and coastal waters to certain types of projects (restoration projects, for example, are included among the list of permitted projects) and stipulates criteria under which such projects may be permitted. Under the CCC's regulations, an area may be classified as a wetland ("CCA-only wetland") if it meets one or more of the three parameters required that define wetlands under Section 404 of the FCWA: hydric soils, hydrophytic vegetation, or wetland hydrology. A portion of Sharp Park near the LS wetland complex is in the Coastal Zone under the CCC jurisdiction.[28] The majority of the project activities would take place entirely within the CCC jurisdiction and require a coastal development permit from the CCC. The final location of the proposed pond would be determined in consultation with the CCC.

The CCA includes specific policies that address issues such as public access and recreation, lower cost visitor accommodations, terrestrial and marine habitat protection, visual resources, landform alteration, agricultural lands, commercial fisheries, industrial uses, water quality, offshore oil and gas development, transportation, development design, power plants, ports, and public works. The policies of the CCA are the statutory standards that apply to planning and regulatory decisions made by the CCC and by local governments pursuant to the CCA. The CCA's policies are implemented in part through local coastal programs, which include local government land use plans, zoning codes, and other implementing plans and ordinances.

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[26] San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). *Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin*. Available online at: *http://www.waterboards.ca.gov/rwqcb2/basin_planning.shtml*. Accessed May 16, 2013.

[27] Scott Edmondson, San Francisco Planning Department. *Email to Kei Zushi, San Francisco Planning Department, ABAG projections 2009*, July 23, 2013. This email is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[28] Darryl Rance, California Coastal Commission (CCC). *Memorandum sent to John R. Bock, Tetra Tech, Boundary Determination No. 08-2011, Sharp Park Restoration Plan, San Mateo County*, May 31, 2011. This memorandum is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

No inconsistencies with the CCA were identified (see Section E.1, Land Use and Land Use Planning for more information).

CRLF Recovery Plan

The Recovery Plan for CRLF[29] approved by the USFWS notes that the objective of the Recovery Plan is to delist CRLF. The Recovery Plan further states that the strategy for recovery of CRLF will involve: 1) protecting existing populations by reducing threats; 2) restoring and creating habitat that will be protected and managed in perpetuity; 3) surveying and monitoring populations and conducting research on the biology of and threats to the subspecies; and 4) reestablishing populations of the subspecies within its historic range. No inconsistencies with the Recovery Plan for CLRF were identified.

City of Pacifica Plans and Policies

Although the SFRPD and the proposed project in Sharp Park are not subject to City of Pacifica land use ordinances, plans, and policies, the following discussion is presented for informational purposes.

City of Pacifica Local Coastal Land Use Plan

The City of Pacifica's Local Coastal Land Use Plan (LUP) serves as the land use plan for the City of Pacifica's coastal zone and was written in accordance with the policies of the CCA. The LUP was adopted in 1980, and is undergoing an update. The LUP includes 33 Coastal Act policies, most of which are applicable to particular General Plan elements. The policies cover such topics as access, facilities, recreation, habitat protection, scenic and visual qualities, and cultural resources. No inconsistencies with the LUP were identified.

The majority of the project activities would take place entirely within the CCC jurisdiction and require a coastal development permit from the CCC. The final location of the proposed pond would be determined in consultation with the CCC.

Neighborhood Notification

A "Notification of Project Receiving Environmental Review" was sent out on January 15, 2013, to the owners of properties within 300 feet of the Sharp Park boundaries and to occupants of properties adjacent to the project site, as well as to other interested parties. The Planning Department received several letters in response to the notice. Respondents requested to receive environmental review documents and/or expressed concerns regarding the proposed project, which included: (1) impacts to CRLF and SFGS; (2) impacts to other special-status species and wetland habitats; and 3) historic resource impacts. These issues are addressed in the appropriate topic areas in Section E, Evaluation of Environmental Effects.

[29] USFWS, Region 1. *Recovery Plan for the California Red-legged Frog, (Rana aurora draytonii)*, Approved May 28, 2002. Available online at: *http://www.amphibians.org/wp-content/uploads/2013/07/California-Red-legged-Frog-Recovery-Plan.pdf*. Accessed December 17, 2013.

D. SUMMARY OF ENVIRONMENTAL EFFECTS

The proposed project could potentially affect the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental topic.

☐ Land Use	☒ Air Quality	☐ Geology and Soils
☐ Aesthetics	☐ Wind and Shadow	☒ Hydrology and Water Quality
☐ Population and Housing	☐ Recreation	☐ Hazards/Hazardous Materials
☒ Cultural and Paleo. Resources	☐ Utilities and Service Systems	☐ Mineral/Energy Resources
☐ Transportation and Circulation	☐ Public Services	☐ Agricultural Resources
☐ Noise	☒ Biological Resources	☒ Mandatory Findings of Significance

This Initial Study examines the proposed project to identify potential effects on the environment. For each item on the Initial Study Checklist, the evaluation has considered the impacts of the proposed project both individually and cumulatively. All items on the Initial Study Checklist that have been checked "Less than Significant with Mitigation Incorporated," "Less than Significant Impact," "No Impact," or "Not Applicable" indicate that, upon evaluation, staff has determined that the proposed project could not have a significant adverse environmental effect relating to that issue. A discussion is included for those items checked "Less than Significant with Mitigation Incorporated" and "Less than Significant Impact" and for most items checked "No Impact" or "Not Applicable." For all of the items checked "No Impact" or "Not Applicable" without discussion, the conclusions regarding potential significant adverse environmental effects are based upon field observation, staff experience and expertise on similar projects, and/or standard reference material available within the Planning Department, such as the Department's Transportation Impact Analysis Guidelines for Environmental Review, or the California Natural Diversity Database (CNDDB) and maps, published by the CDFW. The environmental topics checked above have been determined to be "Less than Significant with Mitigation Incorporated."

E. EVALUATION OF ENVIRONMENTAL EFFECTS

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
1. LAND USE AND LAND USE PLANNING— Would the project:					
a) Physically divide an established community?	☐	☐	☐	☒	☐
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐	☐
c) Have a substantial impact upon the existing character of the vicinity?	☐	☐	☒	☐	☐

Impact LU-1: The proposed project would not physically divide an established community. (No Impact)

Implementation of the proposed project would occur entirely within the boundaries of Sharp Park (see Figure 3), which is an existing recreation facility that includes a golf course and open space. There is no existing established community within Sharp Park. Although the proposed construction of a perennial pond would result in the conversion of a portion of Sharp Park to open water wetland habitat for CRLF and SFGS, (see Figure 5), the proposed project would not include construction of any features that would divide Sharp Park or any existing community. None of the proposed project activities would alter the overall existing land use of the project site or vicinity, and the project site would remain as a public park, with a golf course and open space, upon completion of construction activities. Therefore, the proposed project would have no impact with respect to the physical division of an established community.

Impact LU-2: The proposed project would be consistent with the applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. (Less than Significant)

Land use regulations applicable to the project include the CCSF General Plan and CCA. As discussed in Section C, Compatibility with Existing Zoning and Plans, the project would not conflict with the General Plan. In addition, the proposed project is not subject to the City of Pacifica or San Mateo County plans and policies.

In Section C, Compatibility with Existing Zoning and Plans, the CCA is discussed and the City of Pacifica Local Coastal LUP is addressed for informational purposes. The primary objective of the CCA is the protection of wetlands and other environmentally sensitive habitats, water quality, public access and recreation, low cost visitor facilities, and the scenic and visual qualities of coastal areas and the control of coastal erosion and other hazards.[30,31]

The proposed project would not restrict access to or within Sharp Park and would not affect low cost visitor facilities. As discussed in Section E.2, Aesthetics, none of the project elements would result in a significant impact to the visual quality of the nearby coastal areas. The proposed project would involve improvements to an existing pumphouse and habitat for CRLF and SFGS. The project would be subject to various mitigation measures to protect wetlands and other environmentally sensitive habits and water quality and minimize soil erosion and other hazards that could result from the proposed project (see Sections E.13, Biological Resources, E.14, Geology and Soils, E.15, Hydrology and Water Quality, and E.16, Hazards and Hazardous Materials, for more information).

A portion of Sharp Park near the LS wetland complex is in the Coastal Zone under the CCC jurisdiction.[32] The majority of the project activities would take place entirely within the CCC jurisdiction and require a coastal development permit from the CCC. The final location of the proposed pond would be determined in consultation with the CCC. Development within the coastal zone may not commence until a coastal development permit has been issued by the CCC.

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[30] CCC. *Program Overview*. Available online at: *http://www.coastal.ca.gov/whoweare.html*. Accessed July 19, 2013.

[31] CCC. *Laws, Regulations, and Legislative Information*. Available online at: *http://www.coastal.ca.gov/ccatc.html*. Accessed July 19, 2013.

[32] Darryl Rance, CCC. *Memorandum sent to John R. Bock, Tetra Tach, Boundary Determination No. 08-2011, Sharp Park Restoration Plan, San Mateo County*, May 31, 2011. This memorandum is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

Through its review of the coastal development permit, the CCC would ensure that the project would be consistent with the applicable provisions of the CCA.

In light of the above, the proposed project would be consistent with the San Francisco General Plan and CCA on balance, and therefore this impact is less than significant.

Impact LU-3: The proposed project would not have a substantial impact upon the existing character of the vicinity. (Less than Significant)

Sharp Park is an existing park, which includes a golf course and open space, including wetland habitat areas. It is bisected from north to south by PCH. To the north and south, portions of Sharp Park are bordered by residential development. Sharp Park is bounded by the Pacific Ocean to the west. The Mori Point GGNRA property borders the southwestern edge, and the Sweeney Ridge GGNRA property borders Sharp Park on the southeastern and eastern edges. The project site is primarily surrounded by open space and wetland habitat areas.

The proposed project would entail improvements to existing facilities and habitat areas within Sharp Park. The proposed improvements to the existing pumphouse and golf cart path realignment would be minor in scope, and would not alter the overall character of Sharp Park or its vicinity. The proposed project includes removal of emergent vegetation (cattails and bulrush) in HSP and the connecting channel to enhance habitat and establish native vegetation. This work would result in a reduction in the amount of vegetation in HSP and the connecting channel and could be noticeable to park visitors, but would not have a substantial impact on the existing character of Sharp Park. The proposed construction of a perennial pond would result in the conversion of a portion of Sharp Park to open water wetland habitat for CRLF and SFGS. The pond and associated wetland features would be aesthetically compatible with the existing character of the area. Project activities would not include construction of any features that would substantially affect the existing character of Sharp Park and its vicinity and Sharp Park would continue to be used as a park.

In light of the above, the proposed project would not result in any changes to the project site that could have a substantial impact on the character of Sharp Park or its vicinity, and this impact is less than significant.

Impact C-LU: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not make a considerable contribution to any cumulative significant land use impacts. (Less than Significant)

As of September 2013, there are no known past or present projects in the project vicinity that would interact with the proposed project to result in cumulative significant land use impacts. The Draft EIR prepared for the proposed 2006 SNRAMP, a reasonably foreseeable future project in the proposed project's vicinity, concluded that the proposed 2006 SNRAMP would not result in any significant land use impacts. A Categorical Exemption prepared for the Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E) concluded that the proposed restoration would not result in any significant effects on the environment, including land use impacts, and, thus, that project was appropriately exempt from CEQA under Section 15333 of the CEQA Guidelines.[33] Thus, no cumulative impact to land use within the project site vicinity exists to which this project could potentially contribute.

[33] San Francisco Planning Department. *Categorical Exemption, Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E)*, August 5, 2013. Available online at: http://www.sf-planning.org/index.aspx?page=3447. Accessed December 17, 2013.

Moreover, the proposed project would not divide any existing community, conflict with plans and policies established for protecting the environment, or affect the existing land use characteristics of Sharp Park or its surroundings. Therefore, the proposed project would not contribute to a cumulative impact on land use and land use planning, even if one existed.

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
2. AESTHETICS—Would the project:					
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and other features of the built or natural environment which contribute to a scenic public setting?	☐	☐	☒	☐	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area or which would substantially impact other people or properties?	☐	☐	☐	☒	☐

A visual quality analysis is somewhat subjective and considers the proposed project in relation to the surrounding visual character, heights and building types of surrounding uses, the project's potential to obstruct public scenic views, and its potential to create light and glare. A proposed project would have a substantial effect on the visual landscape if it were to cause a substantial demonstrable adverse change to the aesthetic value of the project site or its surroundings.

The intensity of the impact depends, in part, on viewers and their sensitivity to changes to scenic resources at the project site and its surroundings. Residents, for example, are normally sensitive to changes in their surroundings, as are those recreating. However, roadway travelers might not be as sensitive because changes to the environment are only viewed for a short period of time.

Sharp Park is bordered by the Pacific Ocean to the west and bisected by PCH. LS, HSP, and most of the Sharp Park Golf Course are on the western side of PCH; an archery range, the remaining golf course holes, and extensive canyon are on the eastern side. Sanchez Creek originates in the Upper Canyon of Sharp Park and approximately bisects the park in an east-west direction. Sharp Park is surrounded by open spaces, including Mori Point and Sweeney Ridge. The vegetation of Sharp Park is dominated by non-native (eucalyptus) forest and a golf course, but also contains areas with wetlands and scrub vegetation. Views of the project site are limited to the seawall, golf course, and GGNRA properties.

The proposed project does not include outdoor or indoor lighting or other components that would create new sources of light or glare. In addition, nighttime construction lighting would not be required because construction would be conducted between 7:00 a.m. and 5:00 p.m. Therefore, the project would result in no impact with respect to light and glare, and Question 2d is not discussed further.

Impact AE-1: The proposed project would not have a substantial adverse effect on scenic views and vistas. (Less than Significant)

A project would have a significant effect on scenic vistas if it would substantially degrade important public view corridors or obstruct scenic views from public areas viewable by a substantial number of people. View corridors are defined by physical elements such as buildings and structures that direct lines of sight and control view directions available to the public. The project site is adjacent to a golf course and open space, and therefore, no particular view corridors exist at or near the project site. Scenic views and vistas in the project site vicinity are limited to the seawall, golf course, and GGNRA properties.

The proposed project includes construction of steps and a maintenance walkway and replacement of an existing retaining wall around the existing pumphouse at HSP. These proposed structures would be constructed at locations lower in elevation than the existing nearby trails or access roads. In addition, these changes to the pumphouse are insignificant in scale and character and would not obstruct or restrict existing scenic views. Therefore, the proposed improvements would generally be unnoticeable to park visitors following project completion. The realigned golf cart path would be constructed at grade level and would not obstruct or restrict any scenic vistas. The proposed construction of a perennial pond would result in the conversion of a portion of Sharp Park to open water wetland habitat for CRLF and SFGS. The pond would be aesthetically compatible with the existing character of the areas and would not result in degradation of scenic views of the areas.

In summary, none of the proposed structures or other project improvements would substantially change existing scenic views and vistas. In light of the above, the proposed project's impact with respect to scenic views and vistas is less than significant.

Impact AE-2: The proposed project would not substantially damage any scenic resources. (Less than Significant)

Scenic resources are the visible physical features on a landscape (e.g., land, water, vegetation, animals, structures, and other features.) Changes to specific scenic resources of concern, such as vegetation, are described below. An existing access road located on top of the seawall, through which the primary project access would be provided, is not a designated scenic roadway.

While the visual setting of the project area would be temporarily altered by the presence of construction equipment such as a backhoe, Aquamog, long-arm excavator, and trucks, construction-related impacts would be short term and temporary and would not result in long-term adverse impacts to the scenic resources of the project area or Sharp Park as a whole.

Given the minor scope of the proposed project, scenic resources would not be substantially affected by the proposed project. The proposed changes to the pumphouse and golf cart path would be virtually unnoticeable to those recreating on publicly accessible areas including the seawall, Mori Point, and the golf course. Changes to HSP and the connecting channel resulting from the emergent vegetation (cattails and bulrush) removal would include diminished vegetation cover and may be noticeable to visitors. Over time, the progression of natural processes would reduce these impacts, and given the relatively minor scale of the vegetation removal work, this would not result in a significant impact to scenic resources. The proposed pond would blend in with the surrounding areas which are characterized by open space, shrubs, and wetland features.

In light of the above, the proposed project's impact to scenic resources is less than significant.

Impact AE-3: The proposed project would result in a change to the existing character of the project site, but this change would not degrade the visual character or quality of the site and its surroundings. (Less than Significant)

During the proposed project construction, equipment such as a backhoe, Aquamog, long-arm excavator, and trucks would be visible. The presence of construction equipment and construction activities would temporarily detract from the overall visual quality of the area. Less visible equipment would also be part of project construction and include, for example, workers weeding and constructing the proposed structures. Construction is anticipated to occur for approximately 60 days over 18 months in the appropriate construction window in accordance with the Biological Opinion. While the equipment and project activities would temporarily detract from the overall visual quality of the areas, the equipment and these types of activities are temporary and not considered completely out of place or new to Sharp Park because maintenance activities similar to those involved in the proposed project have been conducted on a regular basis. Therefore, there would be less-than-significant impacts on the visual character or quality of the area from the proposed construction.

The proposed project includes construction of steps and a maintenance walkway and replacement of an existing retaining wall around the pumphouse at HSP. These changes to the pumphouse would not constitute a substantial change in scale and character of the pumphouse. The proposed construction of a perennial pond would result in the conversion of a portion of Sharp Park to open water wetland habitat for CRLF and SFGS. The pond and associated wetland features would be aesthetically compatible with the existing character of the area and would not result in degradation of the visual character or quality of the areas.

In summary, although the project would result in small changes to the existing character of the project site, the project would not degrade the visual character or quality of the site and its surroundings. Therefore, this impact is less than significant.

Impact C-AE: The proposed project, in combination with past, present, and reasonably foreseeable future development in the site vicinity, would not make a considerable contribution to any cumulative significant aesthetics impacts. (Less than Significant)

The geographic context for the analysis of visual resources consists of Sharp Park and the immediate surroundings. As of September 2013, there are no known past or present projects in the project vicinity that would, in combination of the proposed project, result in cumulative significant aesthetics impacts. The Draft EIR prepared for the proposed 2006 SNRAMP, a reasonably foreseeable future project in the proposed project's vicinity, concluded that the proposed 2006 SNRAMP would not result in a significant impact with respect to aesthetics. A Categorical Exemption prepared for the Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E) concluded that the proposed restoration would not result in any significant effects on the environment, including aesthetics impacts, and, thus, that project was appropriately exempt from CEQA under Section 15333 of the CEQA Guidelines.[34] Thus, no cumulative aesthetics impact within the project vicinity exists to which this project could potentially contribute.

The proposed project would not substantially affect the visual character or quality of Sharp Park or its surroundings. The proposed project would not substantially damage any scenic resources. Therefore, the proposed project would not contribute to a cumulative impact on aesthetics.

[34] San Francisco Planning Department. *Categorical Exemption, Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E)*, August 5, 2013. Available online at: http://www.sf-planning.org/index.aspx?page=3447. Accessed December 17, 2013.

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
3. POPULATION AND HOUSING— Would the project:					
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐	☐
b) Displace substantial numbers of existing housing units or create demand for additional housing, necessitating the construction of replacement housing?	☐	☐	☐	☒	☐
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☐	☒

The proposed project involves improvements to existing facilities and creation of habitat for CRLF and SFGS. It would not displace any residential uses, thus Question 3c is not applicable.

Impact PH-1: The proposed project would not induce population growth on the project site or in its vicinity, either directly or indirectly. (Less than Significant)

The proposed project would not entail construction of new residences or businesses, and therefore would not result in any direct impacts related to growth inducement. Workers for the proposed project include up to three to ten individuals, including SFRPD employees and contractors. The proposed project would not be likely to attract new employees to San Francisco because the project only involves minor construction work, which typically does not provide wages high enough to induce relocation. Even if all of these individuals were to move to the San Francisco Bay Area for this project, the increase in the population would be considered insignificant compared to the overall population of the San Francisco Bay Area. Therefore, the project would not induce substantial population growth or create significant demand for additional housing, and this impact is less than significant.

Impact PH-2: The proposed project would not displace existing housing units, or substantial numbers of people, or create demand for replacement housing. (No Impact)

The proposed project would not result in the displacement of any housing units or residents. Therefore, the proposed project would not create demand for replacement housing and no impact with respect to the displacement of housing units or people would result from the proposed project.

Impact C-PH: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not make a considerable contribution to any cumulative significant population and housing impacts. (Less than Significant)

As of September 2013, there are no known past or present projects in the project vicinity that would, in combination of the proposed project, result in cumulative significant population or housing impacts. The Initial Study prepared for the proposed 2006 SNRAMP concluded that the proposed 2006 SNRAMP would not result in any significant impacts with respect to population or housing. A Categorical Exemption prepared for the Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E) concluded that the proposed restoration would not result in any significant effects on the environment, including population impacts, and, thus, that project was appropriately exempt from CEQA under Section 15333 of the CEQA Guidelines.[35] Thus, no cumulative impact to population or housing within the project vicinity exists to which this project could potentially contribute.

The proposed project would not induce any population growth, nor have significant physical environmental effects on population or housing demand. Therefore, the proposed project would not contribute to a cumulative impact on population and housing, even if one existed.

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
4. CULTURAL AND PALEONTOLOGICAL RESOURCES—Would the project:					
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5, including those resources listed in Article 10 or Article 11 of the San Francisco *Planning Code*?	☐	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐	☐

Historic Resources

As part of the analysis conducted to prepare the Draft EIR for the proposed 2006 SNRAMP, an historical resources evaluation (HRE) of the Sharp Park Golf Course and an Historic Resource Evaluation Response (HRER) for Sharp Park were completed.[36,37] In addition, an HRER has been

[35] San Francisco Planning Department. *Categorical Exemption, Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E)*, August 5, 2013. Available online at: http://www.sf-planning.org/index.aspx?page=3447. Accessed December 17, 2013.

[36] Tetra Tech, Inc. *Historical Resources Evaluation Report for the Sharp Park Golf Course, Part of the Natural Areas, City and County of San Francisco, Pacifica, San Mateo County*, January 2011. This report is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

prepared by the Planning Department for the proposed project.[38] Sharp Park is not listed on the state or national registries. The property is considered a "Category A" (Known Historic Resource) property for the purposes of the Planning Department's CEQA review based upon the previous reviews cited above.

Under CEQA, a property qualifies as a historic resource if it is "listed in, or determined to be eligible for listing in, the California Register of Historical Resources." To be a historical resource for the purpose of CEQA, a property must not only be shown to be significant under the California Register of Historical Resources criteria, but it must also retain historic integrity.[39]

The HRER prepared for this project found that Sharp Park appears eligible for listing on the California Register as a historic landscape for its significance under Criteria 1 (Events) and 3 (Architecture). The golf course's development is associated with the broader events of the golden age of golf in the U.S. and California. The course is also an important example of a seaside golf course designed by a master landscape architect, Alister Mackenzie.

The HRER for the proposed project states that the character-defining features of the property include:

- The original features and design of the clubhouse;
- The original features and design of the permanent maintenance building; and
- The original features and design of the golf course, including the 12 original holes (current holes 1, 2, 3, 8, 9, 10, 11, 13, 14, 15, 17, and 18), the original landscape features, and the cypress tree plantings that line the fairways.

Archeological Resources

As part of the analysis conducted to prepare the Draft EIR for the proposed 2006 SNRAMP, records searches were completed in June and October 2008 from the California Historical Resources Information System's Northwest Information Center (NWIC) at Sonoma State University (File Nos. 07-1792 and 08-0414).

Impact CP-1: The proposed project would not result in a substantial adverse change in the significance of historical architectural resources, including the Sharp Park historic landscape. (Less than Significant)

The HRER prepared for this project concluded that the proposed project would not result in any significant impacts to historic resources, and is summarized below. Furthermore, the work would comply with the Secretary of the Interior Standards for the Treatment of Historic Properties and the Guidelines for Rehabilitating Cultural Landscapes.

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[37] Shelley Caltagirone, San Francisco Planning Department. *Historic Resource Evaluation Response (HRER), Significant Natural Resource Areas Management Plan: Sharp Park Golf Course, Pacifica*, February 15, 2011. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[38] Shelley Caltagirone, San Francisco Planning Department. *Historic Resource Evaluation Response (HRER), Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project*, February 12, 2013. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[39] "Integrity" is defined as "the authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's period of significance." Historic integrity enables a property to illustrate significant aspects of its past.

The proposed improvements to the HSP pumphouse would not significantly alter the overall form of the pumphouse structure or affect the historic setting or character of Sharp Park. The existing pumphouse is not considered to be an historic character-defining feature. In addition, the proposed changes would maintain the existing character and the setting of hole number 12, which is an altered but contributing feature of the historic landscape.

The proposed perennial pond would be located to the southeast of HSP, along the southern edge of Sharp Park. This periphery location would ensure the preservation of the Sharp Park setting. The proposed pond would be in keeping with the existing character of the wetland area in this location. While the proposed project would involve the removal of emergent vegetation in the wetland complex areas, it would not result in disturbance to any historically significant plantings (i.e., the cypress tree plantings that line the fairways).

The existing circulation pattern of the course would remain essentially unchanged, except that one segment of an existing golf cart path, which is not a character-defining feature of the site, would be slightly re-routed near the tee box for hole number 15. Hole number 15 is a contributing feature of the historic landscape. However, this change would not significantly alter the character of a historic fairway or hole as it would only shift the path 5 to 10 feet east of its current location, essentially maintaining the existing route. In addition, this change would not result in removal of any historically significant material.

In light of the above, the proposed project would not result in a significant impact to historical resources.

Impact CP-2: The proposed project ~~w~~could result in damage to, or destruction of, as-yet unknown archeological remains, should such remains ~~exist beneath the~~ be present within soils affected by activities resulting from the proposed project ~~site~~. (Less than Significant with Mitigation)

When determining the potential for encountering archeological resources, relevant factors include the location, depth, and the extent of excavation proposed, as well as any recorded information on known resources in the area. An Environmental Planning Preliminary Archeological Review (PAR): Checklist has been prepared by the Planning Department's archeologist for the proposed project and is summarized below.

The PAR Checklist notes that there is no previous archeological documentation for the project site and that it is unknown to what extent grading or re-contouring has historically occurred within the project area or to what extent the current landscape is the result of human modifications as no geological or geotechnical studies were available for the review of this project.

The Sharp Park area is sensitive for prehistoric resources. A number of prehistoric shell midden sites (CA-SMA-162, CA-SMA-268, S-31602 and C-116) have been recorded/documented. CA-SMA-268 is a prehistoric shell midden settlement site that contained artifactual material, including obsidian projectile points, a groundstone pestle, chert debitage, and fire-cracked rock along Calera Creek to the southeast of the project site. There is a limestone quarry site near the coastal shoreline southwest of HSP. The limestone quarry was quarried by Mission neophytes working at the Mission Dolores assistencia of San Pedro y San Pablo to the east for whitewash and plaster for adobe structures at the assistencia, Mission Dolores and the Presidio de San Francisco. Ethnohistorically, the Aramai village of Timigtac is thought to have been located at Mori Point. CA-SFR-162, a prehistoric shell midden deposit is located just to the southwest of HSP. CA-SFR-162 may be a redeposited shell midden deposit. Finally, to the west of the

proposed project site is a recorded historical archeological feature associated with the Sharp Park Temporary Detention Station/Sharp Park State Relief Camp (1930s-1946).

~~Based on the above, the PAR Checklist concluded that the proposed project could have significant effects on archeological resources given the location of the project and the depth of excavation resulting from the project, which would be a maximum of five feet below ground surface (bgs), and that~~ Although the proposed project is expected to result in shallow sub-grade effects (three feet below ground surface (bgs) within wetland deposits and five feet bgs within non-wetland deposits) the project's ecological setting and the general sensitivity of the project vicinity for prehistoric sites create a reasonable concern that otherwise undocumented prehistoric deposits could be affected by the proposed project. Although the shallowness of the potential project effects renders the potential to affect prehistoric deposits low to moderate, mitigation of this potential by accidental discovery or archeological consultant monitoring requirements may not be sufficient if any prehistoric shell midden deposit has been stained as a result of organic or iron-sulfide processes. ~~I~~Implementation of **Mitigation Measure M-CP-2** requiring archeological testing below would reduce the potential ~~impacts~~ of the proposed project to adversely affect archeological resources to a less-than-significant level.

Mitigation Measure M-CP-2 - ~~Accidental Discovery~~ Archeological Testing

~~The following mitigation measure is required to avoid any potential adverse effect from the proposed project on accidentally discovered buried or submerged historical resources as defined in *CEQA Guidelines* Section 15064.5(a)(c). The project sponsor shall distribute the Planning Department archeological resource "ALERT" sheet to the project prime contractor; or to any project subcontractor (including demolition, excavation, grading, etc. firms) involved in soils disturbing activities within the project site. Prior to any soils disturbing activities being undertaken each contractor is responsible for ensuring that the "ALERT" sheet is circulated to all field personnel including, machine operators, field crew, supervisory personnel, etc. The project sponsor shall provide the Environmental Review Officer (ERO) with a signed affidavit from the responsible parties (prime contractor and subcontractor(s)) to the ERO confirming that all field personnel have received copies of the Alert Sheet.~~

~~Should any indication of an archeological resource be encountered during any soils disturbing activity of the project, the project Head Foreman and/or project sponsor shall immediately notify the ERO and shall immediately suspend any soils disturbing activities in the vicinity of the discovery until the ERO has determined what additional measures should be undertaken.~~

~~If the ERO determines that an archeological resource may be present within the project site, the project sponsor shall retain the services of an archaeological consultant from the pool of qualified archaeological consultants maintained by the Planning Department archaeologist. The archeological consultant shall advise the ERO as to whether the discovery is an archeological resource, retains sufficient integrity, and is of potential scientific/historical/cultural significance. If an archeological resource is present, the archeological consultant shall identify and evaluate the archeological resource. The archeological consultant shall make a recommendation as to what action, if any, is warranted. Based on this information, the ERO may require, if warranted, specific additional measures to be implemented by the project sponsor.~~

~~Measures might include: preservation in situ of the archeological resource; an archaeological monitoring program; or an archeological testing program. If an archeological monitoring program or archeological testing program is required, it shall be consistent with the Environmental Planning (EP) division guidelines for such programs. The ERO may also~~

~~require that the project sponsor immediately implement a site security program if the archeological resource is at risk from vandalism, looting, or other damaging actions.~~

~~The project archeological consultant shall submit a Final Archeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report.~~

~~Copies of the Draft FARR shall be sent to the ERO for review and approval. Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The EP division of the Planning Department shall receive one bound copy, one unbound copy and one unlocked, searchable PDF copy on CD of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest or interpretive value, the ERO may require a different final report content, format, and distribution than that presented above.~~

Based on a reasonable presumption that archeological resources may be present within the project site, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on buried or submerged historical resources. The project sponsor shall retain the services of an archaeological consultant from the rotational Department Qualified Archaeological Consultants List (QACL) maintained by the Planning Department archaeologist. The project sponsor shall contact the Department archeologist to obtain the names and contact information for the next three archeological consultants on the QACL. The archeological consultant shall undertake an archeological testing program as specified herein. In addition, the consultant shall be available to conduct an archeological monitoring and/or data recovery program if required pursuant to this measure. The archeological consultant's work shall be conducted in accordance with this measure at the direction of the Environmental Review Officer (ERO). All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Archeological monitoring and/or data recovery programs required by this measure could suspend construction of the project for up to a maximum of four weeks. At the direction of the ERO, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less than significant level potential effects on a significant archeological resource as defined in CEQA Guidelines Sect. 15064.5 (a)(c).

Consultation with Descendant Communities: On discovery of an archeological site[40] associated with descendant Native Americans, the Overseas Chinese, or other descendant group an appropriate representative[41] of the descendant group and the ERO shall be contacted. The representative of the descendant group shall be given the opportunity to monitor

[40] By the term "archeological site" is intended here to minimally included any archeological deposit, feature, burial, or evidence of burial.

[41] An "appropriate representative" of the descendant group is here defined to mean, in the case of Native Americans, any individual listed in the current Native American Contact List for the City and County of San Francisco maintained by the California Native American Heritage Commission and in the case of the Overseas Chinese, the Chinese Historical Society of America. An appropriate representative of other descendant groups should be determined in consultation with the Department archeologist.

archeological field investigations of the site and to consult with ERO regarding appropriate archeological treatment of the site, of recovered data from the site, and, if applicable, any interpretative treatment of the associated archeological site. A copy of the Final Archaeological Resources Report shall be provided to the representative of the descendant group.

Archeological Testing Program. The archeological consultant shall prepare and submit to the ERO for review and approval an archeological testing plan (ATP). The archeological testing program shall be conducted in accordance with the approved ATP. The ATP shall identify the property types of the expected archeological resource(s) that potentially could be adversely affected by the proposed project, the testing method to be used, and the locations recommended for testing. The purpose of the archeological testing program will be to determine to the extent possible the presence or absence of archeological resources and to identify and to evaluate whether any archeological resource encountered on the site constitutes an historical resource under CEQA.

At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to the ERO. If based on the archeological testing program the archeological consultant finds that significant archeological resources may be present, the ERO in consultation with the archeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include additional archeological testing, archeological monitoring, and/or an archeological data recovery program. No archeological data recovery shall be undertaken without the prior approval of the ERO or the Planning Department archeologist. If the ERO determines that a significant archeological resource is present and that the resource could be adversely affected by the proposed project, at the discretion of the project sponsor either:

A) The proposed project shall be re-designed so as to avoid any adverse effect on the significant archeological resource; or

B) A data recovery program shall be implemented, unless the ERO determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.

Archeological Monitoring Program. If the ERO in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented the archeological monitoring program shall minimally include the following provisions:

- The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the AMP reasonably prior to any project-related soils disturbing activities commencing. The ERO in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. In most cases, any soils- disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work, driving of piles (foundation, shoring, etc.), site remediation, etc., shall require archeological monitoring because of the risk these activities pose to potential archaeological resources and to their depositional context;
- The archeological consultant shall advise all project contractors to be on the alert for evidence of the presence of the expected resource(s), of how to identify the evidence of

the expected resource(s), and of the appropriate protocol in the event of apparent discovery of an archeological resource;

- The archeological monitor(s) shall be present on the project site according to a schedule agreed upon by the archeological consultant and the ERO until the ERO has, in consultation with project archeological consultant, determined that project construction activities could have no effects on significant archeological deposits;
- The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis;
- If an intact archeological deposit is encountered, all soils-disturbing activities in the vicinity of the deposit shall cease. The archeological monitor shall be empowered to temporarily redirect demolition/excavation/pile driving/construction activities and equipment until the deposit is evaluated. If in the case of pile driving activity (foundation, shoring, etc.), the archeological monitor has cause to believe that the pile driving activity may affect an archeological resource, the pile driving activity shall be terminated until an appropriate evaluation of the resource has been made in consultation with the ERO. The archeological consultant shall immediately notify the ERO of the encountered archeological deposit. The archeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to the ERO.

Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the monitoring program to the ERO.

Archeological Data Recovery Program. The archeological data recovery program shall be conducted in accord with an archeological data recovery plan (ADRP). The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archeological consultant shall submit a draft ADRP to the ERO. The ADRP shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the ADRP will identify what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical.

The scope of the ADRP shall include the following elements:

- *Field Methods and Procedures*. Descriptions of proposed field strategies, procedures, and operations.
- *Cataloguing and Laboratory Analysis*. Description of selected cataloguing system and artifact analysis procedures.
- *Discard and Deaccession Policy*. Description of and rationale for field and post-field discard and deaccession policies.
- *Interpretive Program*. Consideration of an on-site/off-site public interpretive program during the course of the archeological data recovery program.

- *Security Measures*. Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities.
- *Final Report*. Description of proposed report format and distribution of results.
- *Curation*. Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities.

Human Remains and Associated or Unassociated Funerary Objects. The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and Federal laws. This shall include immediate notification of the Coroner of the City and County of San Francisco and in the event of the Coroner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission (NAHC) who shall appoint a Most Likely Descendant (MLD) (Pub. Res. Code Sec. 5097.98). The archeological consultant, project sponsor, and MLD shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines. Sec. 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects.

Final Archeological Resources Report. The archeological consultant shall submit a Draft Final Archeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological testing/monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report.

Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Environmental Planning division of the Planning Department shall receive one bound, one unbound and one unlocked, searchable PDF copy on CD of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest in or the high interpretive value of the resource, the ERO may require a different final report content, format, and distribution than that presented above.

Impact CP-3: The proposed project would have the potential to destroy paleontological resources or other unique geological features, should such remains exist beneath the project site. (Less than Significant with Mitigation)

The proposed project would involve excavation of up to five feet bgs. It is possible that this depth may reach Pleistocene deposits that may contain paleontological resources or a unique geological formation; therefore, it is anticipated that excavation associated with the proposed project could encounter paleontological resources, potentially resulting in a significant impact. With the implementation of **Mitigation Measure M-CP-3**, as outlined below, the proposed project's impacts on paleontological resources would be less than significant.

Mitigation Measure M-CP-3 - Paleontological Training Program and Alert Sheet

To reduce the potential for the proposed project to result in a significant impact on paleontological resources, the SFRPD shall arrange for a paleontological training by a qualified paleontologist regarding the potential for such resources to exist in the project site and how to identify such resources. The training shall also include a review of penalties for looting and disturbance of these resources. An alert sheet shall be issued and shall include the following:

1. A discussion of the potential to encounter paleontological resources;

2. Instructions for reporting observed looting of a paleontological resource; and instruct that if a paleontological deposit is encountered within a project area, all soil-disturbing activities in the vicinity of the deposit shall cease and the ERO shall be notified immediately.

3. If an unanticipated paleontological resource is encountered during project activities, all project activities shall stop, and a professional paleontologist shall be hired to assess the potential paleontological resource and its significance. The findings shall be presented to the ERO, who shall determine the additional steps to be taken before work in the vicinity of the deposit is authorized to continue.

Impact CP-4: The proposed project could substantially disturb human remains, should such remains exist beneath the project site. (Less than Significant with Mitigation)

There is a possibility that intact burials exist within the project area footprint. Therefore, the proposed project has the potential to result in significant impacts to human remains. With the implementation of **Mitigation Measure M-CP-4** as outlined below, the proposed project's impacts to human remains would be less than significant.

Mitigation Measure M-CP-4 - Human Remains, Associated or Unassociated Funerary Objects

The treatment of human remains and of associated or unassociated funerary objects discovered during any ground-disturbing activity shall comply with applicable State and Federal Laws, including immediate notification to the San Mateo County Coroner and in the event of the Coroner's determination that the human remains are Native American remains, notification to the Native American Heritage Commission (NAHC) who shall appoint a Most Likely Descendant (MLD) (Pub. Res. Code Sec. 5097.98). The project archaeological consultant, SFRPD, and MLD shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines. Sec. 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, curation, possession, and final disposition of the human remains and associated or unassociated funerary objects.

Impact C-CP: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not make a considerable contribution to any cumulative significant impacts to cultural or paleontological resources. (Less than Significant with Mitigation)

Historic Resources

Potential cumulative impacts to historic resources caused by the proposed project and the proposed 2006 SNRAMP were evaluated in the HRER[42] prepared for this project.

At the time of writing, the Final EIR for the proposed 2006 SNRAMP has not been prepared. However, the Draft EIR for the proposed 2006 SNRAMP identified several significant historical resource impacts to the golf course at Sharp Park, which include the following:

- The closure of hole number 12 would cause a significant impact to the historic resource as the work would eliminate an original hole and fairway on the west side of the course. Its removal would significantly alter the original golf course design and boundaries.

- Modifying approximately 13 acres of the golf course to create upland habitat along the east side of the lagoon would require slightly shortening or narrowing hole numbers 10 and 13. This alteration would significantly alter the character of these original fairways. Therefore, the work would cause a significant impact to the historic resource.

- The recreation analysis of the Draft EIR prepared for the proposed 2006 SNRAMP proposes a mitigation measure (Option 1) that would create a new hole on the east side of PCH as a replacement for hole number 12. This would result in a total of 13 holes on the west side of the highway and five holes on the east side. This arrangement would not maintain the historic balance of holes on either side of the highway and would change the historic boundaries of the course. This would cause a significant impact to the original design of the historic resource.

- The recreation analysis of the Draft EIR prepared for the proposed 2006 SNRAMP proposes a mitigation measure (Option 2) that would create a new hole on the west side of PCH as a replacement for hole number 12. While the mitigation measure would change the layout of the holes, this alternative mitigation measure would restore some of the elements that Alister Mackenzie had implemented in his original design by placing the new holes in areas of the course where holes were historically placed. The proposed holes would also be in keeping with the historic boundaries of the golf course. Because of the restorative aspect of the work, this mitigation would cause a less-than-significant impact to the resource.

In summary, the proposed 2006 SNRAMP project would result in significant impacts to several character-defining features of the golf course, including hole numbers 10, 12, and 13. Because the proposed project would not cause any substantial adverse changes to the historic resource, the project would not contribute considerably to any cumulative impacts to historic resources in combination with the proposed 2006 SNRAMP project. A Categorical Exemption prepared for the Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E) concluded that the proposed restoration would not result in any significant effects on the environment, including historic resources impacts, and, thus, that project was appropriately exempt from CEQA under Section 15333 of the CEQA Guidelines.[43]

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[42] Shelley Caltagirone, San Francisco Planning Department. *Historic Resource Evaluation Response (HRER), Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project*, February 12, 2013. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[43] San Francisco Planning Department. *Categorical Exemption, Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E)*, August 5, 2013. Available online at: http://www.sf-planning.org/index.aspx?page=3447. Accessed December 17, 2013.

Archeological and Other Cultural Resources

The Draft EIR for the proposed 2006 SNRAMP concluded that with the implementation of mitigation measures the proposed 2006 SNRAMP would not result in any significant impacts to archeological and paleontological resources and human remains that could be present within Sharp Park. A Categorical Exemption prepared for the Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E) concluded that the proposed restoration would not result in any significant effects on the environment, including archeological resources and other cultural resources impacts, and, thus, that project was appropriately exempt from CEQA under Section 15333 of the CEQA Guidelines.[44]

As discussed above, the proposed project would have the potential to result in significant impacts, however, **Mitigation Measures M-CP-2**, **M-CP-3**, and **M-CP-4** would reduce the project's potential impact to archaeological resources, paleontological resources, and human remains to a less-than-significant level. Therefore, the proposed project would not contribute considerably to a cumulative impact associated with archeological resources, paleontological resources, or human remains.

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
5. TRANSPORTATION AND CIRCULATION— Would the project:					
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	☐	☐	☒	☐	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways (unless it is practical to achieve the standard through increased use of alternative transportation modes)?	☐	☐	☒	☐	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels, obstructions to flight, or a change in location, that results in substantial safety risks?	☐	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses?	☐	☐	☐	☒	☐

[44] San Francisco Planning Department. *Categorical Exemption, Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E)*, August 5, 2013. Available online at: http://www.sf-planning.org/index.aspx?page=3447. Accessed December 17, 2013.

Topics:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
e)	Result in inadequate emergency access?	☐	☐	☐	☒	☐
f)	Result in inadequate parking capacity that could not be accommodated by alternative solutions?	☐	☐	☒	☐	☐
g)	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., conflict with policies promoting bus turnouts, bicycle racks, etc.), or cause a substantial increase in transit demand which cannot be accommodated by existing or proposed transit capacity or alternative travel modes?	☐	☐	☒	☐	☐

Sharp Park is bisected from north to south by PCH (see Figure 1). Public streets located near the project site include: Francisco Boulevard; Bradford Way; Fairway Drive; an existing access road located on top of the seawall; Clarendon Road; Lakeside Avenue; and Laguna Way. The main project access would be provided via the existing access road located on top of the seawall.

The project site is not located near a public or private airport or within an airport land use plan area. Therefore, Question 5c would not apply to the proposed project.

Impact TR-1: The proposed project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, nor would the proposed project conflict with an applicable congestion management program, nor would it exceed any applicable level of service standards and travel demand measures. (Less than Significant)

The proposed project would not include any activities that would conflict with any applicable transportation or congestion management plan, ordinance, or policy. While vehicles would be used during project construction, the frequency of trips by these vehicles would be minimal. Workers for the proposed project would include approximately three to ten individuals, including SFRPD employees or contractors. The increase in the traffic volume resulting from the proposed project, which would be implemented over 18 months, would be negligible compared to the overall traffic volume in the project site vicinity or the San Francisco Bay Area. With the exception of the realigned golf cart path, the majority of the proposed improvements would be conducted in publicly inaccessible areas. Therefore, it is not anticipated that the proposed improvements would attract substantially more visitors. As such, the project would not be expected to generate a substantial number of additional visitors to the project site.

The proposed project would not be expected to generate substantially more traffic over existing levels following project construction. As a result, the proposed project would not increase traffic such that the project would result in exceedance of any level of service standard, and therefore this impact is less than significant.

Impact TR-2: The proposed project would not increase hazards as a result of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses. (No Impact)

The proposed project does not include any design features that would substantially increase traffic hazards (e.g., creating a new sharp curve or dangerous intersections), and would not

include any incompatible uses, as discussed above in Section E.1, Land Use and Land Use Planning. The proposed project does not include any changes to existing roadways, and involves minor realignment of an existing golf cart path. The realigned path would be substantially similar to the existing path in terms of width, shape, and material. Therefore, there would be no impacts associated with increased traffic hazards resulting from the proposed project.

Impact TR-3: The proposed project would not result in inadequate emergency access. (No Impact)

The proposed project would be implemented within the existing boundaries of Sharp Park, and would not result in any changes in access to adjacent facilities or residences or to Sharp Park itself. Therefore, no impact on emergency access would result from the proposed project.

Impact TR-4: The proposed project would not result in inadequate parking capacity that could not be accommodated by alternative solutions (Less than Significant)

The proposed project would not involve establishment of new land uses or a change in land use that would require additional parking spaces. As mentioned in Impact TR-1, it is not anticipated that the proposed improvements would attract substantially more visitors. As such, the project would not be expected to generate substantial parking demand and this impact is less than significant.

Impact TR-5: The proposed project would not conflict with adopted policies, plans or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such features. (Less than Significant)

The proposed project would be implemented within the existing boundaries of Sharp Park, and would not conflict with any adopted policies, plans or programs regarding public transit. Furthermore, the proposed project would not impact any bicycle or pedestrian facilities (see Figure 3). During the construction period, several equipment storage and staging areas would be established in the project area. None of these storage and staging areas would significantly affect movements of park users on the project site or the seawall. As part of the proposed project, one segment of an existing golf cart path, totaling approximately 100 feet in length, would be relocated to shift the path approximately 5 to 10 feet further away from habitat areas (see Figure 6). The golf cart path segment becomes inundated during seasonal flooding and covered with mud or grass. The proposed realignment would enhance the safety and usability of the path and this impact is less than significant. Another nearby segment of the golf cart path (to the south of the path segment proposed for realignment) floods seasonally as well. It was determined that this south segment would not be realigned as part of this project and golf carts would be manually routed around the flooded area as needed.

Impact C-TR: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not make a considerable contribution to any cumulative significant transportation impacts. (Less than Significant)

As of September 2013, there are no known past or present projects in the project vicinity that would, in combination of the proposed project, result in cumulative transportation impacts during the construction period of the proposed project. A Categorical Exemption prepared for the Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E) concluded that the proposed restoration would not result in any significant effects on the

environment, including transportation impacts, and, thus, that project was appropriately exempt from CEQA under Section 15333 of the CEQA Guidelines.[45]

The Initial Study prepared for the proposed 2006 SNRAMP, a reasonably foreseeable future project in the proposed project's vicinity, concluded that the proposed 2006 SNRAMP would not result in any significant transportation impacts to which this project could potentially contribute.

The proposed project would not result in any significant project-specific impacts to transportation and circulation. The number of trips generated as a result of the proposed project would be minimal. The project would not result in any significant impacts on transit, bicycle, and pedestrian facilities. Therefore, the proposed project would not contribute to a cumulative transportation impact.

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
6. NOISE—Would the project:					
a) Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐	☐
b) Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐	☐
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐	☐
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐	☐
e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	☐	☐	☐	☐	☒
f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☐	☒
g) Be substantially affected by existing noise levels?	☐	☐	☒	☐	☐

[45] San Francisco Planning Department. *Categorical Exemption, Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E)*, August 5, 2013. Available online at: http://www.sf-planning.org/index.aspx?page=3447. Accessed December 17, 2013.

The project site is not within an airport land use plan area, nor is it in the vicinity of a private airstrip. Therefore, Questions 6e and 6f are not applicable.

Impact NO-1: The proposed project would not result in a substantial permanent increase in ambient noise levels in the project vicinity, nor would it expose persons to noise levels and vibration in excess of standards established in the local general plan or noise ordinance. (Less than Significant)

There are no known or established noise standards applicable to the proposed project. With respect to project-generated traffic, generally, traffic must double in volume to produce a noticeable increase in average noise levels. Project-generated traffic during construction would not result in an audible change given the small scale of this project, which would involve a total of three to ten SFRPD employees and contractors. The proposed project involves improvements to existing facilities (primarily the existing pumphouse) and habitat. Once construction is complete, noise resulting from the project would be the same as under existing, or baseline, conditions. Further, the proposed project would not add any new source of permanent groundborne vibration or noise. As a result, the proposed project would not substantially increase ambient noise levels[46] or expose persons to substantial noise levels and vibration. Therefore, this impact is less than significant.

Impact NO-2: The proposed project would not result in a substantial temporary or periodic increase in ambient noise levels and vibration in the project vicinity. (Less than Significant)

During project implementation, construction equipment operation (a backhoe, Aquamog, long-arm excavator, and trucks) would temporarily increase noise levels and vibration in the project area and its vicinity, and could be considered an annoyance by occupants of nearby properties or visitors to Sharp Park. Construction noise and vibration levels would fluctuate depending on the construction phase, equipment type and duration of use, distance between noise source and receptor, and presence or absence of barriers. During construction, which is anticipated to occur for approximately 60 days over 18 months in the appropriate construction window in accordance with the Biological Opinion, there would be truck traffic to and from the site, delivering building materials and transporting material and debris removed from the project site. Potential noise impacts are expected to be discontinuous and of very short duration during the day time. Given the relatively minor scope of the proposed project, temporary and intermittent use of construction equipment would not be considered to result in substantial noise or vibration. As a result, the proposed project's impacts associated with noise and vibration would be less than significant.

Impact C-NO: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not make a considerable contribution to any cumulative significant noise impacts. (Less than Significant)

As of September 2013, there are no known past or present projects in the project vicinity that would, in combination of the proposed project, result in cumulative construction noise impacts during the construction period of the proposed project. The Initial Study prepared for the proposed 2006 SNRAMP, a reasonably foreseeable future project in the proposed project's vicinity, concluded that the proposed 2006 SNRAMP would not result in any significant impacts with respect to noise. Furthermore, the proposed project's construction activities would not overlap with those identified in the proposed 2006 SNRAMP. A Categorical Exemption prepared for the Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E)

[46] Ambient noise—the background noise in an area or environment, being a composite of sounds from many sources near and far.

concluded that the proposed restoration would not result in any significant effects on the environment, including noise impacts, and, thus, that project was appropriately exempt from CEQA under Section 15333 of the CEQA Guidelines.[47] Thus, no construction noise cumulative impact within the project vicinity exists to which this project could potentially contribute.

Even if a cumulative impact due to traffic noise were to result from future foreseeable residential and non-residential development in the vicinity, because the proposed project would not substantially increase traffic volumes, the project would not contribute considerably to any cumulative traffic-related increases in ambient noise. Therefore, the project's cumulative noise impacts are considered less than significant.

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
7. AIR QUALITY **Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:**					
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal, state, or regional ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐	☐

Setting

Sharp Park is located within the San Francisco Bay Area Air Basin (SFBAAB). The BAAQMD is the regional agency with jurisdiction over the nine-county SFBAAB, which includes San Francisco, Alameda, Contra Costa, Marin, San Mateo, Santa Clara, and Napa Counties and portions of Sonoma and Solano Counties. The BAAQMD is responsible for attaining and maintaining air quality in the SFBAAB within federal and state air quality standards, as established by the federal Clean Air Act (CAA) and the California Clean Air Act (CCAA),

[47] San Francisco Planning Department. *Categorical Exemption, Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E)*, August 5, 2013. Available online at: http://www.sf-planning.org/index.aspx?page=3447. Accessed December 17, 2013.

respectively. Specifically, the BAAQMD has the responsibility to monitor ambient air pollutant levels throughout the SFBAAB and to develop and implement strategies to attain the applicable federal and state standards. The CAA and the CCAA require plans to be developed for areas that do not meet air quality standards. The most recent air quality plan, the *2010 Clean Air Plan (CAP)*, was adopted by the BAAQMD on September 15, 2010. The *2010 CAP* updates the *Bay Area 2005 Ozone Strategy* in accordance with the requirements of the CCAA to implement all feasible measures to reduce ozone; provide a control strategy to reduce ozone, particulate matter, air toxics, and greenhouse gases in a single, integrated plan; and establishes emission control measures to be adopted or implemented. The *2010 CAP* contains the following primary goals:

- Attain air quality standards;
- Reduce population exposure and protect public health in the San Francisco Bay Area; and
- Reduce greenhouse gas emissions and protect the climate.

The proposed project consists of the following construction elements:

- Construction of steps (approximately 3 feet in width and 14.3 feet in length) from the access road to the existing HSP pumphouse;
- Construction of a maintenance walkway (approximately 4.6 feet in width);
- Replacement of a wooden retaining wall with a concrete retaining wall;
- Removal of sediment and emergent vegetation within HSP and the connecting channel that links HSP with LS;
- Construction of a perennial pond approximately 1,600 sf; and
- Realignment of a segment of the existing golf cart path.

Construction activities are required to be undertaken between June 1 and October 31 in accordance with the USFWS-issued Biological Opinion. Construction is anticipated to occur for approximately 60 days over 18 months in the appropriate construction window in accordance with the Biological Opinion. Upon completion of construction activities, short-term air pollutant emissions would cease. Ongoing maintenance activities that may result in emissions of air pollutants, including those from vehicle trips, would be substantially similar to existing levels and therefore operational air pollutant emissions would not measurably increase upon completion of the proposed project. Therefore, the following analysis focuses on construction-related air quality impacts that would result from implementation of the proposed project.

Impact AQ-1: The proposed project would not conflict with or obstruct implementation of the applicable air quality plan. (Less than Significant)

Air quality plans developed to meet federal requirements are referred to as State Implementation Plans. The CAA and CCAA require plans to be developed for areas designated as nonattainment (with the exception of areas designated as nonattainment for the state PM_{10} standard). As discussed above, on September 15, 2010, the BAAQMD, in cooperation with the Metropolitan Transportation Commission and the Association of Bay Area Governments (ABAG), adopted the *2010 Clean Air Plan* (*CAP*).[48] The *2010 CAP* represents the most current applicable air quality plan for the SFBAAB. Consistency with this plan is the basis for determining whether the proposed project would conflict with or obstruct implementation of an applicable air quality plan.

The *2010 CAP* includes stationary-source control measures to be implemented through BAAQMD regulations; mobile-source control measures to be implemented through incentive

[48] Bay Area Air Quality Management District (BAAQMD). *2010 Clean Air Plan*. Available online at: *http://www.baaqmd.gov/Divisions/Planning-and-Research/Plans/Clean-Air-Plans.aspx*. Accessed December 26, 2012.

programs and other activities; and transportation control measures to be implemented through transportation programs in cooperation with the Metropolitan Transportation Commission, local governments, transit agencies, and others. The *2010 CAP* represents the Bay Area's most recent triennial assessment of the region's strategy to attain the state one-hour ozone standard.

In determining whether the proposed project would conflict with the *2010 CAP*, the following analysis considers the degree to which the proposed project: (1) supports the primary goals of the *2010 CAP*; (2) is consistent with the 55 control measures listed in the *2010 CAP*; and (3) whether the project would hinder implementation of the *2010 CAP*.

The proposed project would not introduce a new land use that would induce traffic trips in numbers that would constitute a significant impact on the local roadway network, local transit lines, or local bicycle and pedestrian networks. During the project's approximately 60-day (over 18 months in accordance with the Biological Opinion) construction period, temporary and intermittent traffic impacts would result from truck movements to and from the project site. However, construction would be a temporary activity and would not result in long-term air pollutant emissions. Given the nature and relatively minor scope of the proposed project, the proposed project would be consistent with the *2010 CAP*, would not conflict with the primary goals of the plan, and would not disrupt, delay, or otherwise hinder implementation of the plan. Thus, the proposed project would not conflict with or obstruct implementation of the applicable air quality plan and this impact would be less than significant.

Impact AQ-2: The proposed project would result in significant fugitive dust emissions during construction. (Less than Significant with Mitigation)

Project-related excavation, grading, and other construction activities may cause wind-blown dust that could contribute particulate matter into the local atmosphere. These emissions are termed "fugitive dust." Although there are federal standards for air pollutants and implementation of state and regional air quality control plans, air pollutants continue to have impacts on human health throughout the country. Dust can be an irritant causing watering eyes or irritation to the lungs, nose, and throat. Depending on exposure, adverse health effects can occur due to this particulate matter in general and also due to specific contaminants such as lead or asbestos that may be constituents of soil. The current health burden of particulate matter demands that, where possible, public agencies take feasible available actions to reduce sources of particulate matter exposure.

Fugitive dust emissions are typically generated during construction phases. Studies have shown that the application of BMPs at construction sites significantly control fugitive dust.[49] Individual measures have been shown to reduce fugitive dust by anywhere from 30 to 90 percent.[50] The BAAQMD recommends that construction projects within the SFBAAB employ a set of BMPs to control fugitive dust emissions during construction and considers these projects to result in less-than-significant fugitive dust impacts.[51]

Construction associated with improvements to the pumphouse and wetland complex could generate fugitive dust during soil-disturbing activities including soil/vegetation removal, excavation, site grading, installation of proposed structures and realignment of the golf cart path.

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[49] Western Regional Air Partnership. 2006. *WRAP Fugitive Dust Handbook*. September 7, 2006. This document is available online at http://www.wrapair.org/forums/dejf/fdh/content/FDHandbook_Rev_06.pdf. Accessed February 16, 2012.

[50] BAAQMD, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October 2009, page 27.

[51] BAAQMD, *CEQA Air Quality Guidelines*, May 2011.

Although the proposed project would involve mostly wet soils and earthen access routes, unmitigated, fugitive dust generated by the proposed project could result in significant air quality impacts. Under such conditions, watering active construction areas would address most impacts from fugitive dust. **Mitigation Measure M-AQ-2**, below, requires the SFRPD to incorporate the following measures to reduce constructed-related fugitive dust emissions.

Mitigation Measure M-AQ-2 - Preparation and Implementation of a Dust Control Plan
The SFRPD shall comply with the following requirements to control fugitive dust:

- The SFRPD shall designate an individual to monitor compliance with dust control requirements identified in this mitigation measure;
- Water all active construction areas sufficiently to prevent dust from becoming airborne (without creating runoff) in any area of land clearing, earth movement, excavation, and other dust-generating activity. Watering shall occur as needed, and whenever wind speeds exceed 15 miles per hour. Reclaimed water shall be used whenever possible;
- Establish shutdown conditions based on wind, soil migration, and other factors;
- Limit the area subject to construction activities at any one time;
- During excavation and dirt-moving activities, wet sweep or vacuum the routes and paths where work is in progress at the end of the workday;
- Cover any inactive (no disturbance for more than seven days) stockpiles greater than ten cubic yards or 500 square feet of excavated materials, backfill material, import material, gravel, sand, road base, and soil with a 10 mil (0.01 inch), wildlife-friendly polyethylene plastic or equivalent tarp and brace it down or use other equivalent soil stabilization techniques;
- Limit the amount of soil in hauling trucks to the size of the truck bed, and secure the load with a tarpaulin;
- Enforce a 10-mile per hour (mph) speed limit for vehicles entering and exiting construction areas;
- All soil stockpiles, if any, shall be protected against wind and rainfall erosion at all times. Wildlife-friendly plastic sheeting or other similar material shall be used to cover soils and shall be securely anchored by sandbags or other suitable means. At no time shall any stockpiled materials be allowed to erode into any water body or drainage facility or onto any roadway; and
- Install and use wheel washers to clean truck tires.

The SFRPD shall prepare and submit a site-specific Dust Control Plan to the ERO for records. The Plan shall detail a protocol for project compliance with the above requirements.

Implementation of **Mitigation Measure M-AQ-2**, above, includes the BAAQMD-recommended BMPs and additional dust control measures and would reduce construction-related fugitive dust emissions to a less-than-significant level.

Impact AQ-3: The proposed project would emit criteria air pollutants during construction, but not at levels that would violate an air quality standard, contribute to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)

In accordance with the state and federal CAAs, air pollutant standards are identified for the following six criteria air pollutants: ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. These air pollutants are termed criteria air pollutants because they are regulated by developing specific public health- and welfare-based

criteria as the basis for setting permissible levels. In general, the SFBAAB experiences low concentrations of most pollutants when compared to federal or state standards. The SFBAAB is designated as either in attainment[52] or unclassified for most criteria pollutants with the exception of ozone, $PM_{2.5}$, and PM_{10},[53] for which these pollutants are designated as non-attainment under the state or federal standards. By its very nature, regional air pollution is largely a cumulative impact in that no single project is sufficient in size to, by itself, result in non-attainment of regional air quality standards. Instead, a project's individual emissions contribute to existing cumulative air quality impacts. If a project's contribution to cumulative air quality impacts is considerable, then the project's impact on air quality would be considered significant.[54]

As discussed above, the proposed project would contribute to regional criteria air pollutants during construction, but would not result in a measurable increase in emissions thereafter. Table 1, below, identifies air quality significance thresholds that are the basis for determining significant air quality impacts for the proposed project, followed by a discussion of each threshold. The thresholds identified in Table 1 are based on the BAAQMD's *Revised Draft Options and Justification Report, California Environmental Quality Act Air Quality Significance Thresholds*.[55] Projects that would result in criteria air pollutant emissions below these significance thresholds would not violate an air quality standard, contribute substantially to an air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants within the SFBAAB.

Table 1. Criteria Air Pollutant Significance Thresholds

Pollutant	**Construction Thresholds**
	Average Daily Emissions (lbs./day)
ROG	54
NO_x	54
PM_{10}	82 (exhaust)
$PM_{2.5}$	54 (exhaust)
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices

Ozone Precursors. As discussed above, the SFBAAB is currently designated as non-attainment for ozone and particulate matter (PM_{10} and $PM_{2.5}$). Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NO_x). The potential for a project to result in a cumulatively considerable net increase in criteria air pollutants, which may contribute to an existing or projected air quality violation, are based on the state and federal Clean Air Acts emissions limits for stationary sources. The federal New Source Review (NSR) program was created by the federal CAA to ensure that sources of air pollution are constructed in a manner that is consistent with attainment of federal health based ambient air quality standards. Similarly, to ensure that new

[52] "Attainment" status refers to those regions that are meeting federal and/or state standards for a specified criteria pollutant. "Non-attainment" refers to regions that do not meet federal and/or state standards for a specified criteria pollutant. "Unclassified" refers to regions where there is not enough data to determine the region's attainment status.

[53] PM_{10} is often termed "coarse" particulate matter and is made of particulates that are 10 microns in diameter or larger. $PM_{2.5}$, termed "fine" particulate matter, is composed of particles that are 2.5 microns or less in diameter.

[54] BAAQMD, *California Environmental Quality Act Air Quality Guidelines*, May 2011, page 2-1.

[55] BAAQMD, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October 2009.

stationary sources do not cause or contribute to a violation of an air quality standard, BAAQMD Regulation 2, Rule 2 requires that any new source that emits criteria air pollutants above a specified emissions limit must offset those emissions. For ozone precursors ROG and NO_x, the offset emissions level is an annual average of 10 tons per year (or 54 pounds (lbs.) per day).[56] These levels represent emissions by which sources of air pollution are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants.

Particulate Matter (PM_{10} and $PM_{2.5}$). For PM_{10} and $PM_{2.5}$, the emissions limit under the federal NSR is 15 tons per year. These emissions limits represent levels at which a source is not expected to have an impact on air quality.[57] Similar to ozone precursor thresholds identified above, these thresholds can be applied to the proposed project to evaluate the impact of the project's construction emissions on regional air quality.

Impact Analysis

Construction activities would emit criteria air pollutants from the combustion of fuel used by construction equipment, construction worker vehicles, and trucks delivering and removing materials to and from the site.

An evaluation of potential air quality impacts resulting from project construction activities was prepared using the California Emissions Estimator Model™ (CalEEMod), version CalEEMod.2011.1.[58] CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for quantifying criteria air pollutant emissions from the construction and operation of land use projects. CalEEmod contains the California Air Resources Board (ARB) Mobile Vehicle Emission Inventory Program 2007 and data specific to the SFBAAB. Construction equipment assumptions were provided by the SFRPD. Where specific information was unknown, default equipment, horsepower and operating hours were used, providing a conservative (i.e., worst case) estimate of criteria air pollutants. Results of the criteria air pollutant analysis are shown below in Table 2. These results reflect criteria air pollutant emissions that would result from both the improvements at the pumphouse and within the wetland complex.[59]

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[56] BAAQMD, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October 2009, page 17.

[57] *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October 2009, page 16.

[58] California Emissions Estimator Model (CalEEMod). Available online at: *http://www.caleemod.com/*. Accessed February 26, 2013.

[59] Detailed modeling assumptions and CalEEmod output sheets are available for public review as part of Case File No. 2012.1427E, at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103.

Table 2. Project Construction Emission and Air Quality Significant Thresholds

Air Pollutant	Construction Emissions (lbs./day)	
	Project Emissions	Significance Threshold
Reactive organic gases (ROG)	1.9	54
Nitrogen oxides (NO_x)	11.5	54
Coarse particulate matter (PM_{10})	1.2 (exhaust only)	82 (exhaust only)
Fine particulate matter ($PM_{2.5}$)	0.8 (exhaust only)	54 (exhaust only)

As shown in Table 2, the proposed project would result in construction emissions that are well below the applicable air quality significance thresholds. Therefore, the proposed project would not violate an air quality standard, contribute to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. Criteria air pollutant impacts would be less than significant.

Impact AQ-4: The proposed project would not expose sensitive receptors to substantial pollutant concentrations. (Less than Significant)

In addition to criteria air pollutants, individual projects may emit toxic air contaminants (TACs). TACs collectively refer to a diverse group of air pollutants that are capable of causing chronic (i.e., of long-duration) and acute (i.e., severe but of short-term) adverse effects to human health, including carcinogenic effects. Human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. The ARB identified diesel particulate matter (DPM) as a TAC in 1998, primarily based on evidence demonstrating cancer effects in humans.[60] Mobile sources such as trucks and buses are among the primary sources of diesel emissions, and concentrations of DPM are higher near heavily traveled roadways. The estimated cancer risk from exposure to diesel exhaust is much higher than the risk associated with any other TAC routinely measured in the region. Heavy-duty vehicles and equipment used during construction activities would result in emissions of DPM, an identified TAC.

Air pollution does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others. Land uses such as residences, schools, children's day care centers, hospitals, and nursing and convalescent homes are considered to be the most sensitive to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress or, as in the case of residential receptors, their exposure time is greater than for other land uses. Exposure assessment guidance typically assumes that residences would be exposed to air pollution 24 hours per day, 350 days per year, for 70 years. Therefore, assessments of air pollutant exposure to residents typically result in the greatest adverse health outcomes of all population groups.

[60] California Air Resources Board (ARB). *Fact Sheet, The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines,* October 1998.

The project area is located within Sharp Park, which includes a golf course, many trails/two , and passive recreational areas. The nearest sensitive receptors from the HSP area, in which the proposed sediment and emergent vegetation removal and other project activities would occur, are residential uses located approximately 600 feet east and southeast of the project site. The nearest sensitive receptors from the area, in which the proposed realignment of the golf cart path would take place, are residential uses located approximately 350 feet northeast of the project site.

Off-road equipment (which includes construction-related equipment) is a large contributor to DPM emissions in California, although since 2007, the ARB has found the emissions to be substantially lower than previously expected.[61] Newer and more refined emission inventories have substantially lowered the estimates of DPM emissions from off-road equipment such that off-road equipment is now considered the sixth largest source of DPM emissions in California.[62] This reduction in emissions is due, in part, to effects of the economic recession and refined emissions estimation methodologies. For example, revised particulate matter (PM) emission estimates for the year 2010, of which DPM is a major component of, have decreased by 83 percent from previous estimates for the SFBAAB.[63] Approximately half of the reduction can be attributed to the economic recession and approximately half can be attributed to updated assumptions independent of the economic recession (e.g., updated methodologies used to better assess construction emissions).[64]

Additionally, a number of federal and state regulations require cleaner off-road equipment. Specifically, both the USEPA and California have set emissions standards for new off-road equipment engines, ranging from Tier 1 to Tier 4. Tier 1 emission standards were phased in between 1996 and 2000 and Tier 4 Interim and Final emission standards for all new engines would be phased in between 2008 and 2015. To meet the Tier 4 emission standards, engine manufacturers will be required to produce new engines with advanced emission-control technologies. Although the full benefits of these regulations will not be realized for several years, the USEPA estimates that by implementing the federal Tier 4 standards, NO_x and PM emissions will be reduced by more than 90 percent.[65] Furthermore, California regulations limit maximum idling times to five minutes, which further reduces public exposure to DPM emissions.[66]

Moreover, construction activities do not lend themselves to analysis of long-term health risks because of their temporary and variable nature. As explained in the BAAQMD's *CEQA Air Quality Guidelines*:

> "Due to the variable nature of construction activity, the generation of TAC emissions in most cases would be temporary, especially considering the short amount of time such equipment is typically within an influential distance that would result in the exposure of sensitive receptors to substantial concentrations. Concentrations of mobile-source diesel PM emissions are typically reduced by 70 percent at a distance of approximately 500 feet (ARB 2005). In addition, current models and methodologies for conducting health risk assessments are

[61] ARB. *Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Proposed Amendments to the Regulation for In-Use Off-Road Diesel-Fueled Fleets and the Off-Road Large Spark-Ignition Fleet Requirements*, p.1 and p. 13 (Figure 4), October 2010.

[62] ARB. *Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Proposed Amendments to the Regulation for In-Use Off-Road Diesel-Fueled Fleets and the Off-Road Large Spark-Ignition Fleet Requirements*, October 2010.

[63] ARB. *In-Use Off-Road Equipment, 2011 Inventory Model*, Query accessed online, April 2, 2012, http://www.arb.ca.gov/msei/categories.htm#inuse_or_category.

[64] ARB. *Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Proposed Amendments to the Regulation for In-Use Off-Road Diesel-Fueled Fleets and the Off-Road Large Spark-Ignition Fleet Requirements*, October 2010.

[65] United State Environmental Protection Agency (USEPA). "Clean Air Nonroad Diesel Rule: Fact Sheet," May 2004.

[66] California Code of Regulations, Title 13, Division 3, § 2485.

associated with longer-term exposure periods of 9, 40, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities. This results in difficulties with producing accurate estimates of health risk."[67]

In summary, project-level analyses of construction activities have a tendency to produce overestimated assessments of long-term health risks. As discussed above, DPM is a component of PM_{10}, which is often used as a surrogate for estimating DPM emissions. As shown above in Impact AQ-3, the proposed project's DPM emissions would be well below the criteria air pollutant significance thresholds; on-road heavy-duty diesel vehicles and off-road equipment would be used only temporarily during the approximate 60-day (over 18 months in accordance with the Biological Opinion) construction duration and would not expose sensitive receptors to substantial air pollutants. Furthermore, the proposed project's construction contractors would be required to comply with California regulations limiting idling to no more than five minutes, which would further reduce nearby sensitive receptor's exposure to temporary and variable DPM emissions. Therefore, construction period TAC emissions would result in a less-than-significant impact to nearby sensitive receptors.

Impact AQ-5: The proposed project would not create objectionable odors affecting a substantial number of people. (Less than Significant)

Organic material in soil can decompose through anaerobic processes[68] and generate methane and hydrogen sulfide gases, which can then be released into the environment once soil is exposed. Soil excavation and soil/vegetation removal associated with the proposed project would be minimal and temporary, and therefore would not generate odors that would affect a substantial number of people. Similarly, equipment exhaust could occasionally emit odors attributed to gasoline combustion, but any such odors would be temporary, limited only to the approximately 60-day (over 18 months in accordance with the Biological Opinion) construction period, and would cease upon completion of construction activities. Therefore, the proposed project's construction activities would not create objectionable odors affecting a substantial number of people and odor impacts would be less than significant.

Impact C-AQ: The proposed project, in combination with past, present, and reasonably foreseeable future development in the project area, would not make a considerable contribution to any cumulative significant air quality impacts. (Less than Significant with Mitigation)

As described in Impact AQ-3, regional air pollution is by its very nature largely a cumulative impact. Emissions from past, present and future projects contribute to the region's adverse air quality on a cumulative basis. No single project by itself would be sufficient in size to result in regional nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulative adverse air quality impacts.[69] The project-level thresholds for criteria air pollutants are based on levels by which new sources are not anticipated to contribute to an air quality violation or result in a cumulatively considerable net increase in criteria air pollutants. Therefore, because the proposed project's construction criteria air pollutant impact (Impact AQ-3) would not exceed the project-level thresholds for criteria air pollutants, the

[67] BAAQMD, *CEQA Air Quality Guidelines*, May 2011, page 8-6.

[68] Anaerobic process means a process which only occurs in the absence of molecular oxygen.

[69] BAAQMD, *CEQA Air Quality Guidelines*, June 2010; and adopted Thresholds of Significance, June 2010, p. 2-1. Available online at: *http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA Guidelines.aspx*. Accessed April 18, 2012.

proposed project would not result in a cumulatively considerable contribution to regional air quality impacts.

The project's temporary and incremental increase in DPM emissions resulting from construction activities would be minor and would not contribute substantially to cumulative concentrations of DPM or other toxic air contaminants that could affect nearby sensitive land uses.

With regard to fugitive dust emissions, these emissions result in a localized air quality impact as larger particulate matter particles tend to settle out of the atmosphere relatively close to dust generating activities. Construction of the proposed project is not anticipated to occur in proximity to other construction activities such that cumulative fugitive dust impacts would occur. However, should other construction activities occur concurrently and in close proximity to the project's construction activities, there is a potential, although a relatively low potential, for significant cumulative fugitive dust impacts. The proposed project would be required to comply with **Mitigation Measure M-AQ-2**, reducing the project's contribution to any potential cumulative fugitive dust impact to a less-than-significant level.

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
8. GREENHOUSE GAS EMISSIONS— Would the project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐	☐
b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐	☐

Environmental Setting

Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHGs) because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHGs has been implicated as the driving force for global climate change. The primary GHGs are carbon dioxide, methane, nitrous oxide, ozone, and water vapor.

Individual projects contribute to the cumulative effects of climate change by emitting GHGs during demolition, construction, and operational phases. While the presence of the primary GHGs in the atmosphere is naturally occurring, carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) are largely emitted from human activities, accelerating the rate at which these compounds occur within earth's atmosphere. Emissions of carbon dioxide are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices and landfills. Black carbon has recently emerged as a major contributor to global climate change, possibly second only to CO_2. Black carbon is produced naturally and by human activities as a result of the incomplete combustion of fossil fuels, biofuels and biomass.[70]

[70] Center for Climate and Energy Solutions. *What is Black Carbon?*, April 2010. Available online at: *http://www.c2es.org/docUploads/what-is-black-carbon.pdf*. Accessed September 27, 2012.

N_2O is a byproduct of various industrial processes and has a number of uses, including use as an anesthetic and as an aerosol propellant. Other GHGs include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes. Greenhouse gases are typically reported in "carbon dioxide-equivalent" measures (CO_2E).[71]

There is international scientific consensus that human-caused increases in GHGs have and will continue to contribute to global warming. Many impacts resulting from climate change, including increased fires, floods, severe storms and heat waves, are occurring already and will only become more frequent and more costly.[72] Secondary effects of climate change are likely to include a global rise in sea level, impacts to agriculture, the state's electricity system, and native freshwater fish ecosystems, an increase in the vulnerability of levees in the Sacramento-San Joaquin Delta, changes in disease vectors, and changes in habitat and biodiversity.[73,74]

The California Air Resources Board (ARB) estimated that in 2009 California produced about 457 million gross metric tons of CO_2E ($MMTCO_2E$).[75] The ARB found that transportation is the source of 38 percent of the State's GHG emissions, followed by electricity generation (both in-state generation and imported electricity) at 23 percent and industrial sources at 18 percent. Commercial and residential fuel use (primarily for heating) accounted for nine percent of GHG emissions.[76] In the Bay Area, the transportation (on-road motor vehicles, off-highway mobile sources, and aircraft) and industrial/commercial sectors were the two largest sources of GHG emissions, each accounting for approximately 36 percent of the Bay Area's 95.8 $MMTCO_2E$ emitted in 2007.[77] Electricity generation accounts for approximately 16 percent of the Bay Area's GHG emissions followed by residential fuel usage at seven percent, off-road equipment at three percent and agriculture at one percent.[78]

Regulatory Setting

In 2005, in recognition of California's vulnerability to the effects of climate change, then-Governor Schwarzenegger established Executive Order S-3-05, which sets forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows: by 2010, reduce GHG emissions to 2000 levels (approximately 457 $MMTCO_2E$); by 2020, reduce emissions to 1990 levels (estimated at 427 $MMTCO_2E$); and by 2050 reduce statewide GHG emissions to 80 percent below 1990 levels (approximately 85 $MMTCO_2E$).

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[71] Because of the differential heat absorption potential of various GHGs, GHG emissions are frequently measured in "carbon dioxide-equivalents," which present a weighted average based on each gas's heat absorption (or "global warming") potential.

[72] California Climate Change Portal. Available online at: *http://www.climatechange.ca.gov.* Accessed September 25, 2012.

[73] California Climate Change Portal. Available online at: *http://www.climatechange.ca.gov.* Accessed September 25, 2012.

[74] California Energy Commission. California Climate Change Center. *Our Changing Climate 2012*. Available online at: *http://www.energy.ca.gov/2012publications/CEC-500-2012-007/CEC-500-2012-007.pdf*. Accessed August 21, 2012.

[75] ARB. *California Greenhouse Gas Inventory for 2000-2009— by Category as Defined in the Scoping Plan*. Available online at: *http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_00-09_2011-10-26.pdf*. Accessed August 21, 2012.

[76] ARB. *California Greenhouse Gas Inventory for 2000-2009— by Category as Defined in the Scoping Plan*. Available online at: *http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_00-09_2011-10-26.pdf*. Accessed August 21, 2012.

[77] BAAQMD. *Source Inventory of Bay Area Greenhouse Gas Emissions: Base Year 2007*, February 2010. Available online at: *http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/Emission%20Inventory/regionalinventory2007_2_10.ashx*. Accessed August 21, 2012.

[78] BAAQMD. *Source Inventory of Bay Area Greenhouse Gas Emissions: Base Year 2007, Updated: February 2010*. Available online at: *http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/Emission%20Inventory/regionalinventory2007_2_10.ashx*. Accessed August 21, 2012.

In response, the California legislature passed Assembly Bill No. 32 in 2006 (California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 requires ARB to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction from forecast emission levels).[79]

Pursuant to AB 32, ARB adopted a Scoping Plan in December 2008, outlining measures to meet the 2020 GHG reduction limits. The Scoping Plan is the State's overarching plan for addressing climate change. In order to meet these goals, California must reduce its GHG emissions by 30 percent below projected 2020 business as usual emissions levels, or about 15 percent from 2008 levels.[80] The Scoping Plan estimates a reduction of 174 million metric tons of CO_2E ($MMTCO_2E$) (about 191 million U.S. tons) from the transportation, energy, agriculture, forestry, and high global warming potential sectors, see Table 3, below. ARB has identified an implementation timeline for the GHG reduction strategies in the Scoping Plan.[81]

Table 3. GHG Reductions from the AB 32 Scoping Plan Sectors[82,83]

GHG Reduction Measures By Sector	GHG Reductions ($MMT\ CO_2E$)
Transportation Sector	62.3
Electricity and Natural Gas	49.7
Industry	1.4
Landfill Methane Control Measure (Discrete Early Action)	1
Forestry	5
High Global Warming Potential GHGs	20.2
Additional Reductions Needed to Achieve the GHG Cap	34.4
Total	**174**
Other Recommended Measures	
Government Operations	1-2
Methane Capture at Large Dairies	1
Additional GHG Reduction Measures:	
Water	4.8
Green Buildings	26
High Recycling/ Zero Waste • Commercial Recycling • Composting • Anaerobic Digestion • Extended Producer Responsibility • Environmentally Preferable Purchasing	9
Total	**41.8-42.8**

[79] Governor's Office of Planning and Research (OPR). *Technical Advisory- CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review*, June 19, 2008. Available online at: http://opr.ca.gov/docs/june08-ceqa.pdf. Accessed August 21, 2012.

[80] ARB. *California's Climate Plan: Fact Sheet*. Available online at: http://www.arb.ca.gov/cc/facts/scoping_plan_fs.pdf. Accessed August 21, 2012.

[81] ARB. *Assembly Bill 32: Global Warming Solutions Act*. Available online at: http://www.arb.ca.gov/cc/ab32/ab32.htm/. Accessed August 21, 2012.

[82] ARB. *Climate Change Scoping Plan*, December 2008. Available online at: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed August 21, 2012.

[83] ARB. *California's Climate Plan: Fact Sheet*. Available online at: http://www.arb.ca.gov/cc/facts/scoping_plan_fs.pdf. Accessed August 21, 2012.

The AB 32 Scoping Plan recommendations are intended to curb projected business-as-usual growth in GHG emissions and reduce those emissions to 1990 levels. Therefore, meeting AB 32 GHG reduction goals would result in an overall annual net decrease in GHGs as compared to current levels and accounts for projected increases in emissions resulting from anticipated growth.

The Scoping Plan also relies on the requirements of Senate Bill 375 (SB 375) to implement the carbon emission reductions anticipated from land use decisions. SB 375 was enacted to align local land use and transportation planning to further achieve the State's GHG reduction goals. SB 375 requires regional transportation plans, developed by Metropolitan Planning Organizations (MPOs), to incorporate a "sustainable communities strategy" in their regional transportation plans (RTPs) that would achieve GHG emission reduction targets set by ARB. SB 375 also includes provisions for streamlined CEQA review for some infill projects such as transit-oriented development. SB 375 would be implemented over the next several years and the Bay Area Metropolitan Transportation Commission's 2013 RTP, Plan Bay Area, would be its first plan subject to SB 375.

AB 32 further anticipates that local government actions will result in reduced GHG emissions. ARB has identified a GHG reduction target of 15 percent from current levels for local governments themselves and noted that successful implementation of the Scoping Plan relies on local governments' land use planning and urban growth decisions because local governments have the primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions.[84] The BAAQMD has conducted an analysis of the effectiveness of the region in meeting AB 32 goals from the actions outlined in the Scoping Plan and determined that in order for the Bay Area to meet AB 32 GHG reduction goals, the Bay Area would need to achieve an additional 2.3 percent reduction in GHG emissions from the land use driven sector.[85]

At a local level, the City has developed a number of plans and programs to reduce the City's contribution to global climate change. San Francisco's GHG reduction goals, as outlined in the 2008 Greenhouse Gas Reduction ordinance are as follows: by 2008, determine the City's GHG emissions for the year 1990, the baseline level with reference to which target reductions are set; by 2017, reduce GHG emissions by 25 percent below 1990 levels; by 2025, reduce GHG emissions by 40 percent below 1990 levels; and finally by 2050, reduce GHG emissions by 80 percent below 1990 levels. San Francisco's Greenhouse Gas Reduction Strategy documents the City's actions to pursue cleaner energy, energy conservation, alternative transportation and solid waste policies. As identified in the Greenhouse Gas Reduction Strategy, the City has implemented a number of mandatory requirements and incentives that have measurably reduced GHG emissions including, but not limited to, increasing the energy efficiency of new and existing buildings, installation of solar panels on building roofs, implementation of a green building strategy, adoption of a zero waste strategy, a construction and demolition debris recovery ordinance, a solar energy generation subsidy, incorporation of alternative fuel vehicles in the City's transportation fleet (including buses), and a mandatory recycling and composting ordinance.

The Greenhouse Gas Reduction Strategy concludes that San Francisco's policies and programs have resulted in a reduction in GHG emissions below 1990 levels, exceeding statewide AB 32

[84] ARB. *Climate Change Scoping Plan*. December 2008. Available online at: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed August 21, 2012.

[85] BAAQMD. *California Environmental Quality Act Guidelines Update, Proposed Thresholds of Significance*, December 2009. Available online at: http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/Proposed%20Thresholds%20of%20Significance%20Dec%207%2009.ashx. Accessed September 25, 2012.

GHG reduction goals. San Francisco's communitywide 1990 GHG emissions were approximately 6,201,949 $MTCO_2E$. As stated above, San Francisco GHG emissions in 2010 were 5,299,757 $MTCO_2E$, which is a 14.5 percent reduction in GHG emissions compared to 1990 levels. The reduction has largely come from the electricity sector, from 2,032,085 $MTCO_2E$ (year 1990) to 1,333,959 $MTCO_2E$ (year 2010), and waste sector, from 472,646 $MTCO_2E$ (year 1990) to 244,625 $MTCO_2E$ (year 2010).[86]

Impact C-GG: The proposed project would generate greenhouse gas emissions, but not in levels that would result in a significant impact on the environment or conflict with any policy, plan, or regulation adopted for the purpose of reducing greenhouse gas emissions. (Less than Significant)

The most common GHGs resulting from human activity associated with land use decisions are CO_2, CH_4, and N_2O.[87] Individual projects contribute to the cumulative effects of climate change by directly or indirectly emitting GHGs during construction and operational phases. As discussed in Section E.7, Air Quality, ongoing maintenance activities that result in operational GHG emissions (e.g., vehicle trips, etc.) are expected to be substantially similar to existing levels, and therefore operational GHG emissions would not measurably increase upon project completion. This analysis therefore focuses on GHG emissions that would be emitted during construction activities.

The project's construction activities would contribute to temporary increases in GHGs emissions. During construction, which is anticipated to occur for approximately 60 days over 18 months in the appropriate construction window in accordance with the Biological Opinion, GHGs would emitted from the combustion of fuel used for construction equipment, vehicles used for worker commuting, and trucks transporting materials to and from the project site.

CO_2E emissions from project construction activities were quantified using the CalEEMod modeling software (version CalEEMod.2011.1).[88] Results of this analysis indicate that the proposed project would emit 30 $MTCO_2E$ during construction. While neither the BAAQMD, nor any other jurisdiction, has identified quantifiable thresholds for construction period GHG emissions, the BAAQMD, in their 2011 CEQA Air Quality Guidelines, did identify an operational GHG threshold of 1,100 $MTCO_2E$ per year. Estimated construction emissions would be well below this level and would cease upon completion of construction activities. Thus, GHG emissions from the proposed project would result in a less-than-significant impact.

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
9. WIND AND SHADOW—Would the project:					

[86] San Francisco Department of Environment (SFDOE). *San Francisco Community -Wide Carbon Emissions by Category, Excel spreadsheet provided via email between Pansy Gee, SFDOE and Wade Wietgrefe, San Francisco Planning Department*, June 7, 2013.

[87] OPR. *Technical Advisory- CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review*, June 19, 2008. Available at the Office of Planning and Research's website at: *http://www.opr.ca.gov/ceqapdfs/june08-ceqa.pdf*. Accessed March 3, 2010.

[88] CalEEMod. Available online at: *http://www.caleemod.com/*. Accessed February 26, 2013.

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
a) Alter wind in a manner that substantially affects public areas?	☐	☐	☐	☒	☐
b) Create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas?	☐	☐	☐	☒	☐

Impact WS-1: The proposed project would not alter wind in a manner that substantially affects public areas. (No Impact)

The proposed project would not include construction of any above-ground structures that would alter wind patterns. The proposed project would not remove any structures or trees in a way that would result in substantial changes in wind patterns on the project site or in its vicinity. Therefore, the proposed project would not substantially alter wind patterns on the project site and in its vicinity, and no wind impact would result from the proposed project.

Impact WS-2: The proposed project would not create new shadow in a manner that could substantially affect outdoor recreation facilities or other public areas. (No Impact)

No new above-ground structures would be constructed except for the minor structures to be constructed around the pumphouse and realigned golf course path segment. Given the height and scale of these structures, no new shadow that would affect the use or enjoyment of Sharp Park would result from the proposed project. As a result, no shadow impact would result from the proposed project.

Impact C-WS: the proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not make a considerable contribution to any cumulative significant impacts related to wind or shadow. (Less than Significant)

As of September 2013, there are no known past or present projects in the project vicinity that would, in combination of the proposed project, result in cumulative wind or shadow impacts during the construction period of the proposed project. The Draft EIR prepared for the proposed 2006 SNRAMP, a reasonably foreseeable future project in the proposed project's vicinity, addressed potential ground-level wind hazards and windthrow risks resulting from tree removal and concluded that the proposed 2006 SNRAMP would not result in any significant impacts with respect to wind. The Initial Study prepared for the proposed 2006 SNRAMP concluded that the proposed 2006 SNRAMP would not result in any significant impacts with respect to shadow. A Categorical Exemption prepared for the Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E) concluded that the proposed restoration would not result in any significant effects on the environment, including wind and shadow impacts, and, thus, that project was appropriately exempt from CEQA under Section 15333 of the CEQA Guidelines.[89] Therefore, no cumulative wind or shadow impact within the project vicinity exists to which this project could potentially contribute.

[89] San Francisco Planning Department. *Categorical Exemption, Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E)*, August 5, 2013. Available online at: http://www.sf-planning.org/index.aspx?page=3447. Accessed December 17, 2013.

The proposed project, as discussed above, would not substantially alter wind on the project site and in its vicinity and would have no impacts on shadow. Therefore, the proposed project would not contribute to a cumulative wind or shadow impact, even if one existed.

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
10. RECREATION—Would the project:					
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	☐	☐	☒	☐	☐
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒	☐
c) Physically degrade existing recreational resources?	☐	☐	☒	☐	☐

Impact RE-1: The proposed project would not physically degrade existing recreational resources or increase the use of existing neighborhood parks or other recreational facilities, such that substantial physical deterioration of the facilities would occur or be accelerated. (Less than Significant)

The proposed project would not close or substantially modify any portion of the Sharp Park Golf Course. The proposed project involves improvements to existing facilities and creation of habitat for CRLF and SFGS at Sharp Park. Most of the proposed activities, except for the realignment of the golf cart path segment, would occur in areas that are not used for recreation or are off limits to the public.

The realignment of the golf cart path segment would take approximately 5 days to complete. Given the small scale of this project and SFRPD's intent to provide continuous play during construction, the proposed project would not substantially affect recreational resources on the project site or in its vicinity, and therefore would not result in physical deterioration of Sharp Park or result in increased use of nearby parks.

In light of the above, this impact is less than significant.

Impact RE-2: The proposed project would not require construction or expansion of recreational facilities that would have an adverse physical effect on the environment. (No Impact)

The proposed project would not result in new uses that would increase the demand for parks or recreational facilities. Therefore, the proposed project would not require construction or expansion of recreational facilities, and would have no impact.

Impact C-RE: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not make a considerable contribution to any cumulative significant recreation impacts. (Less than Significant)

The Draft EIR prepared for the proposed 2006 SNRAMP, a reasonably foreseeable future project in the proposed project's vicinity, concluded that the proposed 2006 SNRAMP in combination with the GGNRA Dog Management Plan would result in a significant and unavoidable cumulative impact with respect to recreation as a result of closure of Dog Play Areas. However, dogs are not now, and will not under proposed project conditions, be allowed at Sharp Park, so none of the significant recreation impacts identified in the Draft EIR for the proposed 2006 SNRAMP would combine with any element of the proposed project to result in a cumulatively considerable recreation impact.

A Categorical Exemption prepared for the Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E) concluded that the proposed restoration would not result in any significant effects on the environment, including recreation impacts, and, thus, that project was appropriately exempt from CEQA under Section 15333 of the CEQA Guidelines.[90]

As discussed above, the proposed project would not generate additional demand for parks or recreational facilities. Therefore, the proposed project would not contribute to a cumulative impact with respect to recreation.

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
11. UTILITIES AND SERVICE SYSTEMS—Would the project:					
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒	☐
d) Have sufficient water supply available to serve the project from existing entitlements and resources, or require new or expanded water supply resources or entitlements?	☐	☐	☒	☐	☐
e) Result in a determination by the wastewater treatment provider that would serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐	☐

[90] San Francisco Planning Department. *Categorical Exemption, Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E)*, August 5, 2013. Available online at: http://www.sf-planning.org/index.aspx?page=3447. Accessed December 17, 2013.

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒	☐

Impact UT-1: Implementation of the proposed project would not significantly affect wastewater collection and treatment facilities or exceed wastewater treatment requirements of the SFRWQCB, and would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities. (No Impact)

The project would not generate wastewater or stormwater, and therefore would not result in the construction of new wastewater or stormwater facilities or the expansions of existing facilities. Therefore, no impact would result from the proposed project with respect to wastewater collection or treatment facilities.

Impact UT-2: the proposed project would not require expansion or construction of new water supply or treatment facilities. (Less than Significant)

The project would likely require water for cleaning of construction equipment and may use water during construction to control fugitive dust as discussed in Section E.7, Air Quality. Additionally, the project could require water for irrigation of plants to ensure successful establishment (approximately once a month between June and September). Water would be provided by the existing golf course water source, which is municipal water provided by the North Coast County Water District.

The demand for such water use can be fully met by existing water supply capacity and would not require new or expanded water supply resources. Therefore, the proposed project's impacts on water supply would be less than significant.

Impact UT-3: The proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. (Less than Significant)

Minor quantities of solid waste and recyclable material would be generated during the construction of the proposed project. The sediment and vegetation removed from the site would be transported to the former rifle range site, on the east side of PCH, within Sharp Park. A small amount of construction debris would be generated from the demolition of the retaining wall and would be disposed of at a landfill with sufficient capacity that would be selected by the project contractor. As such, the project would not substantially impact landfill capacity.

Impact UT-4: The proposed project would follow all applicable statutes and regulations related to solid waste. (No Impact)

The proposed project would follow all applicable statutes and regulations related to solid waste, and therefore no impact would result from the proposed project.

Impact C-UT: the proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not make a considerable contribution to any cumulative significant impacts related to utilities or service systems. (Less than Significant)

As of September 2013, there are no known past or present projects in the project vicinity that would, in combination of the proposed project, result in cumulative impacts with respect to utilities and service systems. The Draft EIR prepared for the proposed 2006 SNRAMP, a reasonably foreseeable future project in the proposed project's vicinity, concluded that the proposed 2006 SNRAMP would not result in any significant impacts with respect to utilities or service systems.

The Final Draft Supplemental Initial Study/Mitigated Negative Declaration was prepared by the North Coast County Water District concerning the amended Sharp Park Recycled Water Project, which consists of construction of infrastructure necessary to provide tertiary treated water from Calera Creek Water Recycling Plant to irrigation sites in the Sharp Park area. The Final Draft Supplemental Initial Study/Mitigated Negative Declaration determined that with implementation of mitigation measures the amended Sharp Park Recycled Water Project would not result in any significant impacts.[91]

A Categorical Exemption prepared for the Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E) concluded that the proposed restoration would not result in any significant effects on the environment, including utilities and service systems impacts, and, thus, that project was appropriately exempt from CEQA under Section 15333 of the CEQA Guidelines.[92] Thus, no cumulative impact to utilities or service systems within the project vicinity exists to which this project could potentially contribute.

The proposed project would not require a substantial amount of water and would not result in any significant impacts on utilities or service systems in the project area. Existing service management plans address anticipated growth in the region. The proposed project would not contribute to a cumulative impact on utilities and service systems, even if one existed.

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
12. PUBLIC SERVICES— Would the project:					

[91] North Coast County Water District. *Draft Supplemental Initial Study/Mitigated Negative Declaration, North Coast County Water District Water Recycling Storage Tank Location Project*, July 2007. This document is available online at: *http://www.nccwd.com/Draft%20Supplemental%20July%202007.pdf*. Accessed August 29, 2013.

[92] San Francisco Planning Department. *Categorical Exemption, Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E)*, August 5, 2013. Available online at: *http://www.sf-planning.org/index.aspx?page=3447*. Accessed December 17, 2013.

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
a) Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any public services such as fire protection, police protection, schools, parks, or other services?	☐	☐	☐	☒	☐

Impact PS-1: The proposed project would not increase demand for fire protection or police service to an extent that would result substantial adverse impacts associated with the provision of such service. (No Impact)

The proposed project does not include any new habitable structures which would require fire protection and police services. Workers for the proposed project would consist of SFRPD employees and contractors, totaling approximately three to ten individuals. Potential increases in visitor use levels as a result of an improved Sharp Park, if any, would be adequately served by the existing capabilities of service providers. Therefore, no impact to fire protection or police service would result from the proposed project.

Impact PS-2: The proposed project would not indirectly generate new students, and would not require new or physically altered school facilities. (No Impact)

The project does not propose any new habitable structures, and therefore would not generate new students. Therefore, the project would not require a new school or expansion of school facilities and no impact to public schools would result from the proposed project.

Impact C-PS: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not make a considerable contribution to any cumulative significant effects related to public services. (No Impact)

As of September 2013, there are no known past or present projects in the project vicinity that would, in combination of the proposed project, result in impacts to public. The Initial Study prepared for the proposed 2006 SNRAMP concluded that the proposed 2006 SNRAMP would not result in any significant impacts with respect to public services. A Categorical Exemption prepared for the Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E) concluded that the proposed restoration would not result in any significant effects on the environment, including public services impacts, and, thus, that project was appropriately exempt from CEQA under Section 15333 of the CEQA Guidelines.[93] Thus, no cumulative impact to public services within the project vicinity exists to which this project could potentially contribute.

Public service providers accommodate growth within their service areas by responding to forecasted population growth and land use changes. The proposed project would have no

[93] San Francisco Planning Department. *Categorical Exemption, Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E)*, August 5, 2013. Available online at: http://www.sf-planning.org/index.aspx?page=3447. Accessed December 17, 2013.

impacts to public services. Therefore, the proposed project would not contribute to a cumulative impact on public services, even if one existed.

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
13. BIOLOGICAL RESOURCES— Would the project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐	☐

Regulatory Setting

Endangered Species Act

The FESA (16 United States Code [USC], 1531-1543) was enacted in 1973. Under the FESA, the Secretary of the Interior and the Secretary of Commerce have the authority to list a species as threatened or endangered (16 USC Section 1533[c]). The FESA is administered by both the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) and the USFWS. NOAA NMFS is responsible for the protection of FESA-listed marine species, including marine fish, most marine mammals, and anadromous fish. The USFWS has

jurisdiction over listed wildlife, plant, and commercial fish species and proposed or candidate species.

Pursuant to the requirements of the FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any FESA-listed threatened or endangered species may be present in the project site and determine whether the proposed project would have a potentially-significant impact on such species. In addition, the agency is required to determine whether the proposed project is likely to jeopardize the continued existence of[94] any species listed or proposed to be listed under the FESA or result in the destruction or adverse modification of critical habitat designated or proposed to be designated for such species (16 USC Section 1536). If so, project-related impacts to these species or their habitats would be considered significant and would require mitigation.

Section 9 of the FESA lists those actions that are prohibited, including take[95] of listed species of fish and wildlife. "Take" of listed species can be authorized through either the Section 7 consultation process for actions undertaken by federal agencies, or through the Section 10 permit process for actions undertaken by non-federal agencies where a Section 404 permit or other federal approval is not required.

Federal actions include activities that are on federal land, conducted by a federal agency, funded by a federal agency, or authorized by a federal agency (including issuance of federal permits and licenses). Under Section 7, the federal agency conducting, funding, or permitting an action (the federal lead agency) must consult the NOAA NMFS or USFWS, as appropriate, to ensure that the proposed action will not jeopardize endangered or threatened species or destroy or adversely modify designated critical habitat. Regulations governing interagency cooperation under Section 7 are found at 50 Code of Federal Regulations (CFR), Part 402.

If a proposed project "may affect" a listed species or designated critical habitat, the project sponsor is required to prepare a Biological Assessment evaluating the nature and severity of the expected effect. In response, the NOAA NMFS or USFWS issues a Biological Opinion with a determination that the proposed action may either jeopardize the continued existence of one or more listed species (jeopardy finding), result in the destruction or adverse modification of critical habitat (adverse modification finding), not jeopardize the continued existence of any listed species (no jeopardy finding), or not result in adverse modification of critical habitat (no adverse modification finding). The Biological Opinion issued by the NOAA NMFS or USFWS may stipulate discretionary "reasonable and prudent" conservation measures, and if the project would not jeopardize a listed species, the NOAA NMFS or USFWS issues an incidental take statement to authorize the proposed activity. Projects that would result in a "take" of a federally-listed threatened or endangered species would be required to obtain authorization from NOAA NMFS or USFWS through an incidental take permit.

The proposed improvements to the existing pumphouse and sediment and emergent vegetation removal activities would require a Section 404 permit pursuant to the FCWA, as described below. The USACE is the federal agency that issues a permit under Section 404 of the FCWA and thus

[94] "Jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of the species. 50 Code of Federal Regulations (C.F.R) §402.02.

[95] FESA defines "take" as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns, such as breeding, feeding, or sheltering. "Harass" is further defined as actions that create the likelihood of injury to listed species to an extent that significantly disrupts normal behavior patterns, which include breeding, feeding, and sheltering.

establishes a federal nexus with the FESA, requiring Section 7 consultation. The SFRPD has already consulted with the USFWS under the Section 7 consultation process, and the USFWS issued a Biological Opinion in October, 2012 concerning the proposed project.[96]

Clean Water Act

The FCWA (33 USC, 1251-1376) was enacted as an amendment to the Federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants into waters of the U.S. The FCWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

Waters of the U.S. are areas subject to federal jurisdiction pursuant to Section 404 of the FCWA. In order to be protected under the FCWA Sections 404 and 401, wetlands and other waters of the U.S. must be classified as one of the following:[97]

- Traditional navigable waters;
- Wetlands next to traditional navigable waters;
- Nonnavigable tributaries of traditional navigable waters that are relatively permanent, where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); or
- Wetlands that directly abut the tributaries described in the previous bullet.

The USACE would decide jurisdiction over the following waters, based on a fact-specific analysis, to determine whether they have a significant nexus with a traditional navigable water:[98]

- Nonnavigable tributaries that are not relatively permanent;
- Wetlands next to nonnavigable tributaries that are not relatively permanent; or
- Wetlands next to but that do not directly abut a relatively permanent nonnavigable tributary.

Waters of the U.S. are typically divided into two types: 1) wetlands and 2) other waters of the U.S. Wetlands are "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 Section 328.3[b], 40 CFR Section 230.3). To be considered subject to federal jurisdiction, a wetland must normally support hydrophytic vegetation (plants growing in water or wet soils), hydric soils, and wetland hydrology.[99] Other waters of the U.S. are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for the three wetland parameters (33 CFR Section 328.4).

Under FCWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the U.S. must obtain certification from the state in which the discharge would originate or, if appropriate, from the interstate water

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[96] USFWS. *Biological Opinion*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[97] U.S. Amy Corps of Engineers (USACE). *Revised Guidance on Clean Water Act Jurisdiction Following the Supreme Court Decision in Rapanos v. U.S. and Carabell v. U.S.*, December 2, 2008. Available online at: http://www.usace.army.mil/missions/civilworks/regulatoryprogramandpermits/relatedresources/cwaguidance.aspx. Accessed May 17, 2013.

[98] Ibid.

[99] USACE. *Corps of Engineers Wetland Delineation Manual*, January 1987. Available online at: http://el.erdc.usace.army.mil/elpubs/pdf/wlman87.pdf. Accessed May 17, 2013.

pollution control agency with jurisdiction over affected water at the point where the discharge would originate. The California Regional Water Quality Control Boards (RWQCBs) administer this certification. Therefore, all projects that have a federal component and that may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with FCWA Section 401.

FCWA Section 402 authorizes the USEPA to regulate water quality in California by controlling the discharge of pollutants to water bodies from point sources (a municipal or industrial discharge at a specific location or pipe) and nonpoint sources (diffuse runoff of water from adjacent land uses) through the NPDES. Federal regulations issued in November 1990 and revised in 2003 expanded the authority of the California State Water Resources Control Board to permit stormwater discharges from municipal storm sewer systems, industrial processes, and construction sites that disturb areas larger than one acre. Within the San Francisco limits, NPDES permits are administered by the SFBRWQCB.

FCWA Section 404 regulates the discharge of dredged and fill materials into waters of the U.S. Applicants must obtain a permit from the USACE for discharges of dredged or fill material into waters of the U.S., including wetlands, before proceeding with a proposed activity. The USACE may issue either an individual permit evaluated on a case-by-case basis or a general permit evaluated at a program level for a series of related activities. General permits are preauthorized and are issued to cover multiple instances of similar activities expected to cause only minimal adverse environmental effects. Nationwide permits (NWPs) are a type of general permit issued to cover particular activities that would result in the deposition of fill material into waters of the U.S. Each NWP specifies particular conditions that must be met for the NWP to apply to a particular project. Waters of the U.S. in the project area are under the jurisdiction of the San Francisco District of the USACE.

Implementing regulations by the USACE are found at 33 CFR, Parts 320-330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines and were developed by the USEPA in conjunction with the USACE (40 CFR, Part 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

The proposed project would require a Section 404 CWA NWP for the proposed work within the jurisdictional wetlands.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC, 703-711) implements a treaty signed by the United States, Canada, Mexico, and Japan that makes it unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, or kill migratory birds. The law also applies to the removal of nests (such as swallow nests on bridges) occupied by migratory birds during the breeding season. The MBTA states that it is unlawful to take these species, their nests, their eggs, or their young anywhere in the United States.

California Endangered Species Act (CESA)

CESA (Fish & Game Code Section 2050, et seq.), which is administered by the CDFW,[100] prohibits the take[101] of plant and animal species designated by the Fish and Game Commission as either threatened or endangered in the State of California. Section 2081 of CESA allows the CDFW to

[100] Formally known as the CDFG

[101] "Take" in the context of CESA means to hunt, pursue, kill, or capture a listed species, as well as any other actions that may result in adverse impacts when attempting to take individuals of a listed species. The take prohibitions also apply to candidates for listing under CESA.

authorize exceptions to the state's prohibition against take of a listed species, such as for educational, scientific, or management purposes. Private developers whose projects do not involve a state lead agency under CEQA may not take a listed species without formally consulting with the CDFW and agreeing to strict measures and standards for protection of listed species.

Species in the project area, CRLF, WPT**,** salt marsh common yellowthroat, and San Francisco dusky-footed woodrat are not formally designated as threatened or endangered under the CESA, but are considered a California SSC. No formal consultation with the CDFW under the CESA is required for this project.

California Fish and Game Code

Sections 1600-1616

Under these sections of the Fish and Game Code, CDFW jurisdiction is determined to occur within the water body of any natural river, stream, or lake. The term stream, which includes creeks and rivers, is defined in Title 14, CCR, Section 1.72. The applicant is required to notify CDFW before constructing any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occur during the environmental review process. When a fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resource. These modifications are formalized in a Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project. The proposed project would require a Streambed Alteration Agreement from the CDFW.

Sections 3511, 4700, 5515, and 5050

The classification of fully protected species was the state's initial effort to identify and provide additional protection to those animals that were rare or that faced possible extinction. Lists were created for fish, amphibians and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under either the state or federal endangered species act or both, although there are several exceptions, including the golden eagle. The Fish and Game Code sections dealing with fully protected species state that these species "...may not be taken or possessed at any time and no provision of this code or any other law would be construed to authorize the issuance of permits or licenses to take any fully protected" species, although take may be authorized for necessary scientific research. This language arguably makes the "fully protected" designation the strongest and most restrictive regarding the take of these species. In 2003, the code sections dealing with fully protected species were amended to allow the CDFW to authorize the taking of those species for necessary scientific research, including efforts to recover fully protected, threatened, or endangered species.

SFGS is a fully protected species under the CESA and the proposed project, which is designed to enhance habitat for this species and its primary food source, CRLF, constitutes a recovery action pursuant to the Fish and Game Code. The SFRPD is required to consult with the CDFW prior to implementation of the proposed project.

Sections 3503 and 3513

Section 3503 prohibits the take and possession of any bird egg or nest, except as otherwise provided by the Fish and Game Code or subsequent regulations. Further, Section 3513 provides for the adoption of the MBTA's provisions. As with the MBTA, this state code offers no statutory or regulatory mechanism for obtaining an incidental take permit for the loss of nongame migratory birds. The administering agency for these sections is the CDFW.

Environmental Setting

The proposed project would be implemented entirely within Sharp Park (see Figure 3). Sharp Park provides habitat which supports several special-status species and high natural resource and recreational values that include Sanchez Creek, a free-flowing creek, LS, a large brackish lake, and associated wetlands including HSP and the connecting channel. It is situated between two regionally significant open spaces, Milagra and Sweeney Ridges. Sharp Park also provides: regionally important wildlife habitat and connections between habitat, attractive habitat for resident and migratory birds, and significant stands of coastal scrub habitat.

The information contained in this section is based on the information contained in the Biological Assessment[102] prepared by the SFRPD for this project, the Biological Opinion issued by the USFWS in October 2012 for this project, and two wetland delineation reports[103,104] prepared in November 2008 and May 2013.

Special-Status Species

The analysis of special-status species in this Initial Study addresses all special-status species anticipated to occur within the project area. For the purposes of this Initial Study, the term "special-status species" includes species that are: 1) legally protected by the FESA, CESA, or MBTA; or 2) locally significant sensitive species, including species on the National Audubon Society's Watch List or those under threat of local extirpation, as determined by the Yerba Buena chapter of the California Native Plant Society (CNPS) or the Golden Gate chapter of the National Audubon Society. State and federally listed species known to occur or that have been recorded historically in the project vicinity are presented in Table 4, below.

Legally protected species include species that are federally listed as endangered, threatened, or candidate species,[105] that are state listed as endangered, rare, threatened, California fully protected, or SSC, or that are listed in the MBTA. Protected species also include those listed as 1A or 1B on the CNPS plant list; that is, the 1A list is for plants presumed extirpated in California, and the 1B list is for plants that are rare, threatened, or endangered in California and elsewhere. No special-status plant species that are required to be addressed under CEQA Guidelines 15380[106] are known to occur within the project area.

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[102] SFRPD. *Biological Assessment*. This Biological Assessment was amended on August 16, 2012. These documents are available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[103] Tetra Tech, Inc. *LS Wetland Determination Report*. This report is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[104] SFRPD. *Single Parameter Wetland Delineation Report*. This document is available for as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[105] "Candidate species" are plants and animals for which the USFWS has sufficient information on their biological status and threats to propose them as endangered or threatened under the FESA, but for which development of a proposed listing regulation is precluded by other higher priority listing activities.

[106] CEQA Guidelines Section 15380 provides that a plant or animal species may be treated as rare or endangered even if it is not on one of the official lists but otherwise meets the criteria for an endangered or rare species (e.g., it is likely to become endangered in the foreseeable future). For this reason, this Initial Study also addresses locally significant species, which include species on CNPS List 2A (plants presumed extirpated in California, but more common elsewhere), CNPS List 2B (plants rare, threatened, or endangered in California, but more common elsewhere), CNPS List 3 (plants about which more information is needed), and CNPS List 4 (plants of limited distribution).

The species from all lists are important for local conservation efforts and thus are analyzed in this Initial Study. However, impacts to federal, state, and CNPS 1A and 1B listed species are given additional consideration because of their protected status by federal and/or state laws.

The Biological Opinion issued by the USFWS for the proposed project concluded that the proposed project would not be likely to adversely affect the mission blue butterfly (*Icaricia icarioides missionensis*) given that the project site is located at least 0.5 miles away from mission blue butterfly habitat and the mission blue butterfly is not expected to occur in the intervening areas.[107] The former rifle range site, to which the removed sediment and debris would be transported, is located approximately 0.4 miles from the closest known potential habitat for the mission blue butterfly.[108] Therefore, this Initial Study concludes that no impact would result from the proposed project. Thus, this species is not addressed further in this Initial Study.

The CNDDB reports the occurrence of the bumblebee scarab beetle (*Lichnanthe ursina*) within Sharp Park. This species is not federally listed, but was a candidate for listing in the early 1990s. According to the CNDDB, specimens were collected from dunes near LS and although the collection date is unknown, the population is presumed to be extant. The larval stage of this species lives in sand layers, while the adult phase prefers coastal dunes. As the proposed project would affect a very limited extent of coastal dune areas of Sharp Park and would not occur in the beach areas, it would not have a substantial impact on this species.

In addition to those species listed in Table 4, a number of bird species breed or occur at Sharp Park. Some of these bird species are designated as Species of Local Concern by the Golden Gate Audubon Society including: American goldfinch; American kestrel; band-tailed pigeon; black-crowned night heron; clark's grebe; gadwall; great horned owl; hairy woodpecker; hutton's vireo; pacific-slope flycatcher; pied-billed grebe; purple finch; red-shouldered hawk; red-tailed hawk; say's phoebe; steller's jay; swainson's thrush; tree swallow; and violet-green swallow.[109] Some of these bird species inhabit primarily forests or woodlands, which are a substantial distance away from the project area. Others may nest in the wetland and coastal scrub habitats present in the project area.

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[107] USFWS. *Biological Opinion*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[108] Lisa Wayne, SFRPD. *Email to Kei Zushi, San Francisco Planning Department, MBB: Sharp Park,* July 16, 2013. This email is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[109] EIP Associates (EIP). *Final Draft 2006 SNRAMP, Sharp Park, February 2006.* Available online at: *http://sfrecpark.org/parks-open-spaces/natural-areas-program/significant-natural-resource-areas-management-plan/snramp/*. Accessed September 11, 2013.

Table 4. Listed species that could potentially occur in the Project Area[110,111,112]

Common Name	*Scientific Name*	Federal/State/ CNPS Status	Habitat	Likelihood of Occurrence/Notes on Occurrence
Reptiles and Amphibians				
California red-legged frog	*Rana aurora draytonii*	FT/SSC/--	Lowlands and foothills in or near permanent sources of deep water, with dense, shrubby, or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development.	C/ Recently observed at Sharp Park.
San Francisco garter snake	*Thamnophis sirtalis elegans*	FE/SE, SFP/--	Freshwater marshes, ponds, and slow-moving streams. Prefers dense cover and water depths of at least one foot.	C/ Reported near HSP in 2008.
Western pond turtle	*Clemmys marmorata*	--/SSC/--	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs basking sites and upland habitat for egg-laying.[113]	C/ Presumed to occur at Sharp Park.
Birds				
Salt marsh common yellowthroat	*Geothlypis trichas sinuosa*	--/SSC/--	Saltwater and freshwater marshes. Requires thick cover for foraging and dense vegetation for nesting.[114]	C/ Presently occurs at Sharp Park.

[110] USFWS. *Biological Opinion*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[111] USFWS. *Species*. Available online at: *http://www.fws.gov/species/*. Accessed July 11, 2013.

[112] CDFG. *California Natural Diversity Database, Special Animals (898 Taxa)*, January 2011. Available online at: *http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/spanimals.pdf*. Accessed July 11, 2013.

[113] Swaim Biological Incorporated. *Sharp Park Wildlife Surveys and Special Status Reptile and Amphibian Restoration Recommendations*, December 4, 2008 ("Sharp Park Wildlife Surveys"). This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[114] Shuford, W. D., and Gardali, T., editors, Western Field Ornithologists and CDFG. *California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California, Studies of Western Birds No. 1*, February 2008. Available online at: *https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentVersionID=19854*. Accessed July 12, 2013.

Black-crowned night heron	*Nycticorax nycticoraz*	--/SA/--	Foothills and lowlands. Nesting takes place in thick-foliaged trees, dense fresh or brackish emergent wetlands, or dense shrubbery or vines near aquatic feeding areas.[115]	P/ Presently occurs at Sharp Park.
Mammals				
San Francisco dusky-footed woodrat	*Neotoma fuscipes annectens*	--/SSC/--	Riparian and oak woodland forests with dense understory cover or thick chaparral habitat.[116]	U/ Observed in Sharp Park, only on the east side of PCH.
Insects				
Myrtle's silverspot butterfly	*Speyeria zerene myrtleae*	FE/--/--	Coastal dunes, coastal prairie, and coastal scrub at elevations ranging from sea level to 1,000 feet, and as far as three miles inland. The adult butterflies prefer areas protected from onshore winds. Critical factors in the distribution of this species include presence of the presumed larval host plant, western dog violet (*Viola adunca*), and availability of nectar sources for adults.[117]	U/ The CDFW's Natural Diversity Database indicates that this species was extirpated. By the late 1970s populations of this species south of the Golden Gate Bridge were believed to be extinct and extant populations were known only from Marin County at the Point Reyes National Seashore.[118]
San Bruno elfin butterfly	*Callophrys mossii bayensis*	FE/--/--	Coastal chaparral, on steep north facing slopes, and in the fog-belt of the mountains near San Francisco Bay. This species closely follows the narrow, fragmented distribution of its larval host	U/ There are no rocky substrates or grassland habitats that contain the host plant for this species in the project area or its vicinity.

[115] CDFW. *Stanislaus River Report, Black-crowned Night Heron*. Available online at: http://www.dfg.ca.gov/delta/reports/stanriver/sr437.asp. Accessed July 11, 2013.

[116] H. T. Harvey & Associates. *Junipero Serra Traffic Calming Project Biological Resources Project, Project No. 3283-01*, September 26, 2011. This document is available for review as part of Case File No. 2012.1247E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[117] USFWS. *Recovery Plan for Seven Coastal Plants and the Myrtle's Silverspot Butterfly*, September 29, 1998. Available online at: http://ecos.fws.gov/docs/recovery_plan/980930d.pdf. Accessed July 11, 2013.

[118] Ibid.

			plant, broadleaf stonecrop *(Sedum spathulifolium)*.[119]	
Bay checkerspot butterfly	*Euphydryas editha bayensis*	FT/--/--	Native grasslands on very large serpentine outcrops; secondary or "satellite" habitat islands of smaller serpentine outcrops with native grassland; and "tertiary" habitat areas, where both larval food plants occur on soils not derived from serpentine, but which have similarities to serpentine-derived soils.[120]	U/ There is no serpentine grassland habitat or grasslands supporting larval food plants of the bay checkerspot butterfly in the project area or its vicinity.
Plants				
San Francisco Bay spineflower	*Chorizanthe cuspidata var. cuspidata*	--/--/CNPS List 1B	Barren, disturbed sites on loose mineral soils. This species has been found in coastal prairie, coastal dune, coastal scrub, and coastal bluff scrub habitats. It occurs in Sonoma, Marin, San Francisco, San Mateo, and possibly Santa Clara counties; it is believed to have been extirpated in Alameda County.[121]	U/ Last observed in 1925 in Sharp Park. Presumed extirpated from Sharp Park.[122]

[119] USFWS. *San Bruno Elfin Butterfly and Mission Blue Butterfly, 5-year Review: Summary and Evaluation*, February 2010. Available online at: *http://ecos.fws.gov/docs/five_year_review/doc3216.pdf*. Accessed July 11, 2013.

[120] USFWS. *Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area*, September 30, 1998. Available online at: *http://ecos.fws.gov/docs/recovery_plan/980930c_v2.pdf*. Accessed July 11, 2013.

[121] Michael Wood, California Native Plant Society (CNPS), Yerba Buena Chapter. *Focus on Rarities (from the quarterly Yerba Buena Chapter Newsletter), San Francisco Bay spineflower*, September 1997. Available online at: *http://www.cnps-yerbabuena.org/experience/focus_on_rarities.html#pageTop*. Accessed July 11, 2013.

[122] CDFG. *Natural Diversity Database. Chorizanthe cuspidata var. cuspidate, San Francisco Bay spineflower*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

Federal Status

FE = Endangered. Species in danger of extinction throughout all or a significant portion of its range.

FT = Threatened. Species likely to become endangered within foreseeable future throughout all or a significant portion of its range.

California State Status

SE = Endangered. Species whose continued existence in California is jeopardized.

SSC = Species of Special Concern

SFP = State Fully Protected under Sections 3511 and 4700 of the Fish and Game Code.

SA = Special Animal

California Native Plant Society

1A = Plants presumed extirpated in California

1B = Plants that are rare, threatened, or endangered in California and elsewhere

2A = Plants presumed extirpated in California, but more common elsewhere

2B = Plants rare, threatened, or endangered in California, but more common elsewhere

3 = Plants about which more information is needed

4 = Plants of limited distribution (a watch list)

LS = Locally Significant

Occurrence

P = Potential

C = Confirmed

U = Unlikely

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The following provides a description of the biology of special-status species that are known to occur on the project site or in its vicinity.

San Francisco Garter Snake

SFGS was listed as an endangered species under the FESA on March 11, 1967 and was listed as endangered by the State of California in 1971. SFGS is a fully protected species under California law. Historically, SFGSs occurred in scattered wetland areas on the San Francisco Peninsula from approximately the San Francisco County line south along the eastern and western bases of the Santa Cruz Mountains, at least to the Upper Crystal Springs Reservoir, and along the coast south to Año Nuevo Point in San Mateo County, and Waddell Creek in Santa Cruz County, California. Currently, the species has been reduced to only six significant populations in San Mateo County and northern Santa Cruz County. These sites include Pescadero Marsh, Año Nuevo, the San Francisco State Fish and Game Refuge, San Francisco Airport/Milbrae, Sharp Park Golf Course at Laguna Salada, and Cascade Ranch. There are two significant components to SFGS habitat, which include: 1) ponds that support CRLF and Pacific tree frogs; and 2) surrounding upland habitat that supports burrowing mammals such as Botta's pocket gopher and California vole. The preferred habitat of SFGS is vegetated ponds with an open water component near open hillsides where they can sun themselves, feed, and find cover in rodent burrows. SFGS avoids brackish marsh areas because their preferred prey base, primarily CRLF and Pacific tree frogs, have low tolerance to saline conditions. Adult SFGS sometimes overwinters and aestivates (passes the summer in a state of torpor) in rodent burrows during summer months when the ponds are dry. Mating occurs during both the spring and fall, but principally during the first few warm days of March.[123]

California Red-legged Frog

CRLF is a federally listed threatened species and California SSC. CRLF was listed as a threatened species on May 23, 1996. A Recovery Plan was published for CRLF on September 12, 2002. The historic range of CRLF extended from the vicinity of Elk Creek in Mendocino County, California, along the coast inland to the vicinity of Redding in Shasta County, California, and southward to northwestern Baja California, Mexico. CRLF predominately inhabits permanent water sources such as streams, lakes, marshes, natural and manmade ponds, and ephemeral drainages in valley bottoms and foothills up to 4,921 feet in elevation. They also inhabit ephemeral creeks, drainages, and ponds with minimal riparian and emergent vegetation. CRLF breeds from November to April, although earlier breeding records have been reported in southern localities. Breeding generally occurs in still or slow-moving water often associated with emergent vegetation, such as cattails, tules or overhanging willows. Sheltering habitat for CRLF potentially includes all aquatic, riparian, and upland areas within the range of the species and includes any landscape feature that provides cover, such as animal burrows, boulders or rocks, organic debris such as downed trees or logs, and industrial debris. CRLF does not have a distinct breeding migration. Dispersal distances are typically less than 0.5 miles, with a few individuals moving up to 1 to 2 miles.[124,125]

Western Pond Turtle

While the federal government does not list WPT, WPT is a California SSC. Historically, this species was relatively continuously distributed in most Pacific slope drainages, from Klickitat County, Washington, along the Columbia River to northern Baja California, Mexico. In

[123] USFWS. *Biological Opinion*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[124] CDFG. *Amphibian and Reptile Species of Special Concern in California*, 1994. Available online at: *http://www.dfg.ca.gov/wildlife/nongame/publications/docs/herp_ssc.pdf*. Accessed April 9, 2013.

[125] USFWS. *Biological Opinion*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

California, it was historically present in most Pacific slope drainages between the Oregon and Mexican borders. WPT requires still or slow water. This aquatic turtle usually leaves the aquatic site to reproduce and aestivates, and overwinters. WPT may overwinter on land or in water, or they may remain active in water during the winter. Mating typically occurs in late April or early May, but may occur year-round.[126]

Salt Marsh Common Yellowthroat

The salt marsh common yellowthroat is one of 12 subspecies of the common yellowthroat recognized north of Mexico, and is listed as a California SSC. This subspecies is in decline due to loss of wetlands. The salt marsh common yellowthroat feeds on invertebrates and seeds, and is known as one of the three most frequent hosts of the cowbird, which lays its own eggs in the nests of other bird species.[127]

Black-crowned Night Heron

The black-crowned night heron is designated as a Special Animal by the CDFW. This bird species is a fairly common year-long resident of the foothills and lowlands throughout most of California. Nesting takes place in thick-foliaged trees, dense fresh or brackish emergent wetlands, or dense shrubbery or vines near aquatic feeding areas. The black-crowned night heron feeds primarily at night. Foraging is conducted largely along the margins of lacustrine, riverine, and fresh and saline emergent wetlands.[128]

San Francisco Dusky-footed Woodrat

The San Francisco dusky-footed woodrat occurs in a variety of woodland and scrub habitats throughout the South Bay and the adjacent central coast range, south to the Pajaro River in Monterey County. Woodrats prefer riparian and oak woodland forests with dense understory cover or thick chaparral habitat. Dusky-footed woodrats build large, complex nests of sticks and other woody debris, which may be maintained by a series of occupants for several years. Woodrats are also very adept at making use of human-made structures and can nest in electrical boxes, pipes, wooden pallets, and even portable storage containers. While the San Francisco dusky-footed woodrat is described as a generalist omnivore, individuals may specialize on local plants that are available for forage. The breeding season for dusky-footed woodrats begins in February and sometimes continues through September, with females bearing a single brood of one to four young per year.[129]

Migratory Fish and Birds

Some small fish species, such as sculpin, have been observed in LS and HSP. Other species such as mosquitofish may also occur. Many migratory birds use some areas of Sharp Park for foraging, nesting, and perching habitat.

Wildlife Corridors

Sharp Park is bordered in part by undeveloped areas, including Sweeney and Milagra Ridges, which allows it to serve as a relatively undisturbed corridor for wildlife, particularly birds. Sharp Park's connectivity to high-quality natural habitats also allows it to support medium size and

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[126] Swaim Biological Incorporated. *Sharp Park Wildlife Surveys*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[127] Ibid.

[128] CDFW. *Stanislaus River Report, Black-crowned Night Heron*. Available online at: *http://www.dfg.ca.gov/delta/reports/stanriver/sr437.asp*. Accessed July 11, 2013.

[129] H. T. Harvey & Associates. *Junipero Serra Traffic Calming Project Biological Resources Project, Project No. 3283-01*, September 26, 2011. This document is available for review as part of Case File No. 2012.1247E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

large mammals, including numerous general wildlife species, such as the black-tailed deer, bobcat, common porcupine, coyote, and mountain lion.

Native Wildlife Nursery Sites

Many areas in Sharp Park support potential or confirmed native bird nesting habitat and potential breeding habitat for other wildlife species. Native birds that may nest within this portion of Sharp Park include waterbirds, songbirds, and raptors and include such habitats as wetlands, grasslands, riparian scrub, and coastal scrub.

Habitat Types

Several different types of wetlands are present within Sharp Park, such as free-flowing creeks, open water, wet meadow, willow scrub, and fresh-to-brackish water marsh. Habitat types within or adjacent to the project area include coastal scrub, non-native grasslands, and wetlands. The area in which the proposed pond would be constructed is generally characterized as coastal scrub. The areas near the former rifle range site on the east side of PCH are generally covered with non-native grasslands.

Areas that meet the USACE criteria for wetlands or other waters of the U.S. may be protected under Section 1600 of the California Fish and Game Code and thus may be regulated by the CDFW. In addition, these areas are considered wetlands and thus are protected under the CCA. The USEPA and USACE assert jurisdiction over the following waters:[130]

- Traditional navigable waters;
- Wetlands next to traditional navigable waters;
- Nonnavigable tributaries of traditional navigable waters that are relatively permanent, where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); or
- Wetlands that directly abut the tributaries described in the previous bullet.

Under the CCA, an area is classified as a wetland if it meets only one of the three parameters required by Section 404 of the FCWA definition of a wetland: hydric soils, hydrophytic vegetation, or wetland hydrology.[131] Some wetlands may also meet criteria as "waters of the state" and be regulated by the SFBRWQCB.

In November 2008 a wetland delineation report was prepared for the LS wetland complex. Most of the wetlands delineated were characterized as freshwater marsh (19.56 acres), followed by wet meadow (2.44 acres) and willow scrub (0.93 acres).[132] These areas meet the USACE criteria for classification as wetlands. The unvegetated open water (4.49 acres) meets the USACE criteria for "other waters of the U.S.," due to the presence of an ordinary high water mark. In March 2009, the USACE confirmed this wetland delineation report.[133] All of these wetlands also meet the CCA criteria.

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[130] USACE. *Revised Guidance on Clean Water Act Jurisdiction Following the Supreme Court Decision in Rapanos v. U.S. and Carabell v. U.S.*, December 2, 2008. Available online at: *http://www.usace.army.mil/missions/civilworks/regulatoryprogramandpermits/relatedresources/cwaguidance.aspx*. Accessed May 17, 2013.

[131] USACE. *Corps of Engineers Wetland Delineation Manual*, January 1987. Available online at: *http://el.erdc.usace.army.mil/elpubs/pdf/wlman87.pdf*. Accessed May 17, 2013.

[132] Tetra Tech, Inc. *LS Wetland Determination Report*. This report is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[133] USACE. *Letter to Ms. Kelly Bayer, Tetra Tech, Inc., Subject: File Number 2009-00044S*, March 9, 2009. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

Another wetland delineation report was prepared in May 2013 that evaluated wetlands located within the proposed project area that meet the CCA-only criteria.[134] The May 2013 wetland delineation report found that the proposed project would not affect any CCA-only wetlands. The acreage of each jurisdictional habitat type within the LS wetland complex is shown in Table 5, below.

Table 5. Wetland Habitat Types in LS Wetland Complex[135,136]

Habitat Type	Determination	Jurisdiction	Area (Acres)
Freshwater marsh	Wetlands	USACE/CCA	19.56
Willow scrub	Wetlands	USACE/CCA	0.93
Wet meadow	Wetlands	USACE/CCA	2.44
Unvegetated pond	Other Waters of the U.S.	USACE/CCA	4.49
Total wetlands/waters			**27.46**

Project Impacts

USFWS's Biological Opinion

A Biological Assessment was prepared by the SFRPD for the proposed project to facilitate a consultation, pursuant to Section 7 of the FESA.[137] Based on this Biological Assessment, the USACE's October 25, 2011 request for the initiation of formal consultation with the USFWS, numerous phone calls and emails between the SFRPD and USFWS, and other information available to the USFWS, the USFWS prepared and issued a Biological Opinion regarding this project under the authority of the FESA.[138] The Biological Opinion describes the proposed project,[139] evaluates the potential effect of the proposed project on CRLF and SFGS, and identifies Conservation Measures that would reduce impacts to federally-listed species.[140] The Biological

[134] SFRPD. *Single Parameter Wetland Delineation Report*. This document is available for as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[135] Tetra Tech, Inc. *LS Wetland Determination Report*. This report is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[136] SFRPD. *Single Parameter Wetland Delineation Report*. This document is available for as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[137] SFRPD. *Biological Assessment*. This Biological Assessment was amended on August 16, 2012. These documents are available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[138] USFWS. *Biological Opinion*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[139] The proposed project is part of the project for which the Biological Opinion was issued by the USFWS. The proposed project, except for the construction of a 1,600-sf pond, is outlined under "Construction Action" on pages 5 and 6 of the Biological Opinion. The proposed construction of a 1,600-sf pond is outlined under "Conservation Measures for Golf Course Maintenance and Operations" on page 19 of the Biological Opinion.

[140] The Biological Opinion issued by the USFWS included the proposed project, as well as the ongoing operations and maintenance of the golf course. Although ongoing golf course operations and maintenance activities, such as pump

Opinion concluded that the proposed project would not be likely to jeopardize the continued existence of the CRLF or SFGS based on the Conservation Measures to be implemented as part of the project. These Conservation Measures are intended to minimize the likelihood or potential for take of individual CRLF and SFGS.

An Incidental Take Statement is also included in the Biological Opinion.[141] The Incidental Take Statement provides the maximum amount of incidental take of CRLF and SFGS anticipated for the proposed project, effects of the take, and terms and conditions related to the Incidental Take Statement. The proposed project is subject to these Terms and Conditions. According to the Incidental Take Statement, the USFWS anticipates, even with implementation of the Conservation Measures as outlined on pages 11 through 13 of the Biological Opinion, that:

1) All CRLF in the 0.624-acre area[142] within the HSP construction site will be subject to incidental take in the form of harassment and capture;
2) In total one CRLF adult will be subject to incidental take in the form of death or injury as a result of construction activities;[143]
3) All SFGS in the 0.624-acre construction area will potentially be harassed as a result of ground disturbing activities, and take of this species is expected to be in the form of harassment and no SFGS is expected to be killed or injured as a result of construction activities; and
4) All SFGS and CRLF in the restoration[144] area footprint will be subject to incidental take in the form of harassment as a result of the direct effects of removal of plants, revegetation activities, and other activities associated with pond construction.

Impact BIO-1: The proposed project would not conflict with an adopted habitat conservation plan or natural community plan. (Less than Significant)

The only adopted conservation or management plan applicable to Sharp Park is the 1995 SNRAMP. The proposed 2006 SNRAMP is currently under environmental review and has not yet been adopted. As discussed in Section C, Compatibility with Existing Zoning and Plans, the project would not conflict with the 1995 or the proposed 2006 SNRAMP. Therefore, this impact is less than significant.

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management and operation, mowing, and golf cart use, are discussed in the Biological Opinion, these ongoing operations and maintenance activities are not considered part of the proposed project for purposes of this CEQA analysis, but rather are considered part of the existing, or baseline, conditions.

[141] "Incidental Take" is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the FESA provided that such taking is in compliance with the Incidental Take Statement.

[142] The 0.624-acre area includes the areas where the "Construction Activities" would take place. "Construction Activities" in the Biological Opinion include all of the elements of the proposed improvements to the pumphouse (construction of steps and a maintenance walkway and replacement of the existing wooden retaining wall), removal of sediment and emergent vegetation in HSP and the connecting channel, and realignment of the existing golf cart paths.

[143] "Construction Activities" in the Biological Opinion include all of the elements of the proposed improvements to the pumphouse (construction of steps and a maintenance walkway and replacement of the existing wooden retaining wall), removal of sediment and emergent vegetation in HSP and the connecting channel, realignment of the existing golf cart paths.

[144] "Restoration" includes the proposed creation of a perennial pond per Conservation Measure 32 of the Biological Opinion and the restoration of one half acre of upland habitat per Conservation Measure 29 of the Biological Opinion. See page 37 of the Biological Opinion for more information. A Categorical Exemption (Planning Case No. 2013.1008E) was issued on August 5, 2013 concerning the restoration of one half acre of upland habitat.

Impact BIO-2: The proposed project could have a substantial adverse effect, either directly or through habitat modifications, on special-status species. (Less than Significant with Mitigation)

The proposed project includes improvements to existing facilities and enhancement and creation of habitat for CRLF and SFGS. The project's potential impacts to each of the special-status species that are known or have the potential to occur at the project site are addressed below.

California Red-legged Frog and San Francisco Garter Snake

Potential effects of the proposed project to CRLF and SFGS are addressed in the Biological Opinion prepared by the USFWS.[145] The jeopardy analysis in the Biological Opinion relies on four components: 1) the status of the species, which evaluates CRLF's and SFGS's range-wide conditions, the factors responsible for that condition, and their survival and recovery needs; 2) the environmental baseline, which evaluates the condition of these species in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of these species; 3) the effects and action, which determines the direct and indirect effects of the proposed federal action and the effects of any interrelated or interdependent activities on these species; and 4) cumulative effects, which evaluate the effects of future, non-federal activities in the action area on them.

The Biological Opinion noted that because CRLF and SFGS have been observed throughout the project site, the effects of the construction activities to wetland and upland habitat and to individual CRLF and SFGS will be throughout the 0.624-acre construction footprint. Injury, exposure disorientation and disruption of normal behaviors will likely result from: 1) excavation of sediments and vegetation as part of the golf cart path realignments; 2) the removal and/or disturbance of vegetation, sediments, and cover sites including animal burrows, boulders o~~r~~ r rocks, organic debris such as downed trees or logs in HSP and the connecting channel; 3) construction of a maintenance walkway around the pumphouse at HSP; and 4) soil disturbance and fill associated with replacement of the wooden retaining wall with a concrete retaining wall at HSP. Construction noise, vibration, and increased human activity during the construction may interfere with normal behaviors such as feeding, sheltering, movement between refugia and foraging grounds, and other essential behaviors. This can result in avoidance of areas that have suitable habitat and can cause disturbance to the species. Direct effects may include injury or mortality from being crushed by earth moving equipment, construction debris, and worker foot traffic. Work activities, including noise and vibration, may result in adverse effects to CRLF and SFGS by causing them to leave the work area. This disturbance may increase the potential for predation and desiccation.

The Biological Opinion further states that, as demonstrated at Mori Point, the proposed creation of a pond can benefit CRLF and SFGS and that the proposed removal of emergent vegetation (cattails and bulrush) would improve breeding habitat for CRLF. Although ultimately serving as a long-term conservation measure for CRLF and SFGS, these activities may also result in adverse effects to both species during construction. Short-term direct and indirect adverse effects to CRLF and SFGS are likely to be minimized, provided that the SFRPD constructs the pond following the scope and design of the existing GGNRA ponds at Mori Point.

The Biological Opinion concluded that the proposed project would not be likely to jeopardize the continued existence of the CRLF or SFGS with implementation of conservation measures

[145] USFWS. *Biological Opinion*, Pages 30 through 32, 37, and 38. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

included in the Biological Opinion. These conservation measures, along with the applicable Terms and Conditions included in the Incidental Take Statement, would minimize the likelihood of potential for take of individual CRLF and SFGS and are included in **Mitigation Measure M-BIO-2a**, as outlined below.[146]

The proposed project would also be subject to the Terms and Conditions related to the Incidental Take Statement issued by the USFWS for this project. To be exempt from the prohibitions of Section 9 of the FESA, the USACE and the SFRPD shall ensure compliance with these Terms and Conditions. The Terms and Conditions include measures intended to minimize the impact of incidental take on CRLF and SFGS.

The measures included in the Terms and Conditions in the Biological Opinion that are applicable to the proposed project are incorporated in **Mitigation Measure M-BIO-2a**, as outlined below.

Mitigation Measure M-BIO-2a - Protection of CRLF, SFGS, and WPT

1. All sensitive habitats outside the construction site shall be avoided during and following project implementation. All biologists working on the project and their roles shall be approved by the USFWS and CDFW[147] based on their qualifications. All approved biologists shall be part of the Project Implementation Team. The SFRPD shall designate one of the USFWS/CDFW-approved biologists to oversee and coordinate all avoidance and survey tasks of the Project Implementation Team. Prior to the commencement of any project-related construction activity, an approved biological monitor shall flag the sensitive areas and/or the limits of the construction site with suitable markers that are easily discernible by construction equipment operators. No construction equipment or personnel shall enter the sensitive areas designated for avoidance by the project;

2. The lead USFWS/CDFW-approved biological monitor shall be present at all planning meetings prior to project implementation. A USFWS/CDFW-approved biological monitor shall present an educational program at one or more such meetings regarding the listed species and their habitats. Every person who works on project implementation shall receive this education program and sign a form indicating they have attended and agree to abide by the terms and conditions being implemented to avoid take of listed species and/or habitat. A USFWS/CDFW-approved biological monitor shall be present at the site during all construction activities including, but not limited to, vegetation and sediment removal, placement of concrete support structures for the walkway, replacement of the retaining wall and pathway repair. The biological monitor shall have the authority to stop work temporarily in order to protect the listed species or the flagged sensitive areas;

3. Prior to commencement of any construction activities and daily prior to construction each day, a USFWS/CDFW-approved biological monitor shall survey the site for listed species. A USFWS/CDFW-approved biologist shall also oversee the installation of exclusion fencing in segments or fully enclosing components of the construction site as appropriate. The biological monitor shall inspect the integrity of the exclusion fencing on a daily basis;

4. During the proposed sediment and vegetation removal activities, if required, up to three biological monitors shall be present to: 1) monitor the area of vegetation or sediment

[146] The conservation measures in the Biological Opinion have been modified to include measures to protect WPT and included in Mitigation Measure M-BIO-2a.

[147] Formally known as CDFG

removal; 2) observe the material as it is transferred to the shoreline; and 3) inspect material as it is loaded into a container/dump bed that will allow the water in the excavated sediment to drain out before removal from the site;

5. Biological monitors shall complete a daily monitoring log that records information on compliance and construction activities as well as avoidance measures implemented each day during the project. Each monitor shall submit a daily monitoring report from to the lead biologist before the start of the next construction day. Photographic documentation of project activities shall accompany each daily monitoring log. Within 60 days of completion of the project, the SFRPD shall submit a report to the USFWS and CDFW documenting compliance with the terms and conditions and avoidance of unauthorized take of species or habitat;

6. No earthmoving or soil disturbing work shall occur starting October 31 and ending June 1, the breeding season for CRLF and the season when SFGS are less active on the site;

7. Terrestrial vegetation in undisturbed areas around HSP and the connecting channel shall be cleared by manual means to a height of four inches (or a height that allows visibility of the ground) under the supervision of an approved biological monitor and checked for the presence of CRLF, SFGS, and WPT;

8. Prior to ground disturbing activities associated with construction, including the use of staging or vehicle access areas or the removal or placement of fill or construction materials, rodent burrows in the construction site shall be hand excavated by a USFWS/CDFW-approved biologist until the burrow terminates or until a maximum depth of 30 centimeters;

9. Vehicle speeds in the project area shall not exceed 10 miles an hour. The USFWS/CDFW-approved biological monitor shall inspect for CRLF, SFGS, and WPT underneath any vehicle that is parked for 30 minutes or more prior to moving the vehicle. All construction personnel shall inspect under their tires and vehicle if it is in idle for more than five minutes and has not been inspected by the on-site monitor. Vehicles accessing the construction site shall be limited to the minimum necessary to complete the project. Project personnel shall park personal vehicles at a staging area located away from all aquatic habitats or areas of sensitive upland habitat;

10. Any workers on the site that observe any frog, snake, or turtle shall immediately report their findings to the on-site biological monitor and immediately suspend work that may be harmful to the individual. The monitor shall identify the animal if it has not left the area. If a CRLF, SFGS, or WPT is observed in the work area, it shall be relocated by a USFWS/CDFW-approved biological monitor to the nearest suitable aquatic habitat out of harm's way. Work may only recommence if CRLF, SFGS, and WPT move out of harm's way or the animal is relocated by the biological monitor. Work may not recommence until the biological monitor has returned to the work area and gives approval;

11. Only USFWS/CDFW-approved personnel shall be allowed to capture or attempt to capture and move CRLF, SFGS, WPT, or other non-listed wildlife (e.g., treefrogs, small rodents) in the work area;

12. Erosion control best management practices (silt fences, coir rolls, straw bales) shall be employed as part of the dewatering of sediments after removal and while soils are exposed. The erosion control measures shall not include netting, plastic or natural monofilament netting or other materials that may entrap CRLF, SFGS, or WPT;

13. After completion of the project, the access routes in the wetland shall be revegetated with appropriate native plants and erosion control measures, as described in Measure 12, as outlined above, shall be installed on exposed soils with slopes of 3:1 or greater;

14. All construction activities shall occur in uplands and on the golf course. Stockpiling and staging areas shall be located in the uplands and in areas cleared for species and the golf course. Construction materials (bricks, boards, shoring, concrete forms, etc.) shall be elevated approximately four to six inches above ground to minimize the potential for species to take cover under these items. If feasible, materials shall be staged on a trailer/truck bed to avoid contact with the ground. Construction materials shall be brought to on-site staging areas as close to the time they are needed as possible;

15. The SFRPD shall minimize the potential for harm, harassment, injury, and death of federally listed wildlife species resulting from project-related activities including implementation of the Conservation Measures in the Biological Opinion;

16. If requested, during or upon completion of construction activities, the SFRPD shall ensure the USFWS, CDFW, or their authorized agents have immediate access to the project area. The on-site biologist and/or a representative from the USACE/SFRPD shall accompany USFWS personnel on an on-site inspection of the project area(s) to review project effects to CRLF and SFGS and their habitat;

17. The SFRPD shall ensure compliance with the Reporting Requirements of the Biological Opinion;

18. During the course of construction activities, biological monitors may determine that relocation of a CRLF or SFGS is necessary for the safety of individual animals. If it is determined that a SFGS needs to be moved, the USFWS shall be contacted for further guidance. Individuals shall be relocated to appropriate sites away from disturbance on Sharp Park property;

19. Within nine months of issuance of the Biological Opinion, the SFRPD shall develop, for the USFWS review and approval, a monitoring plan for the new perennial pond. The plan shall include monitoring of: 1) the use of the pond by all life stages of CRLF and SFGS, 2) the amount of emergent vegetation and open water available, and 3) how effective barriers are at preventing entry by people and off-leash dogs. If predators become established in the pond they shall be immediately removed and the USFWS shall be notified; and

20. Implementation of the pond monitoring plan shall begin immediately following the construction of the new pond.

In response to the Neighborhood Notice circulated on January 15, 2013, some of the commenters raised concerns related to impacts to CRLF and SFGS and their habitat resulting from acid sulfate soils being disturbed in the water during the proposed removal of sediment and emergent vegetation in HSP and the connecting channel and culverts that link HSP and LS. During implementation of sediment and vegetation removal work, sediment present at the bottom of the water would be disturbed, resulting in a temporary suspension of sediment in the water column. Although unlikely, these sediments may contain sulfides and other components which, once disturbed or suspended in the water column, could have adverse impacts to special-status species, their habitat, or water quality.

When exposed to dissolved or atmospheric oxygen, sulfides transform to sulfuric acid, which in turn results in the formation of acid sulfate soils. An increase in the amount of exposed acid sulfate soils in water bodies generally causes a decrease of the pH of water (an increase in acidity of the water) and a decrease in the amount of dissolved oxygen in the water, causing anoxic conditions[148] in which resuspension of anoxic hydrogen sulfide sediments may result in pulses of low oxygen conditions in HSP. This could cause mortality of CRLF larvae and juveniles.[149]

Anoxic sediments containing sulfides have associated bacteria like *Thiobacillus* sp. that reduce sulfur. Bacterial respiration near the bottom of a waterbody can modify oxygen concentrations in overlying water causing some level of anoxia. When this condition occurs, the pH of the water begins to decline resulting in an acidic environment. Depletion of oxygen in the water column is mediated by the rate of photosynthesis during peak portions of a day. The degree to which water becomes acidified depends on the length of time that sulfides are suspended in the water column and the amount of sulfides in the water column. In general, the longer that sulfidic soils are suspended in the water column, the more chance there is for acidic conditions to occur. Even if acid sulfate soils are present, the suction hydraulic equipment could be used to minimize suspension of sediments relative to other sediment removal methods, and sulfides will settle out of the water column quickly. Therefore, anoxic conditions are expected to be localized and short-term. CRLF larvae and juveniles are likely to escape these small, short-lived anoxic zones as they dissipate with settling of the sediment and dilution by the pond.[150,151]

The Biological Opinion[152] issued by the USFWS concluded that the proposed project would not jeopardize the continued existence of the CRLF or SFGS with the implementation of the Conservation Measures included in the Biological Opinion, which limit the construction to June 1 through October 31 and include measures to protect species, such as pre-construction avoidance and survey tasks, site monitoring by USFWS/CDFW-approved biologists during construction activities, limitations on vehicle speeds in the project area, erosion control measures, and others. The Biological Opinion concluded that the Conservation Measures, which limit the construction period to June 1 through October 31, would minimize the likelihood that adult or juvenile CRLF would be present and would reduce potential adverse effects on CRLF.

A literature search indicates that very little research has been done on acid sulfate soils in the San Francisco Bay Area. One case in which acid sulfate soils have arisen as a concern is at the Bair Island tidal marsh restoration area, in Redwood City, California. In that case, the main concern was that sediments that had been excavated and stockpiled for re-use at the site contained

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[148] "Anoxic condition" means a condition in which hydrogen ion availability increases and binds with sulfides mobilized from sediments.

[149] Harry Gibbons and Robert Plotnikoff, Tetra Tech, Inc. *Technical Memorandum, Revised Review of Acid Sulfate Soils, Potential Release Mechanism, and Risk of Release in the Horse Stable Pond and Connecting Channel Sediment Removal Project.* August 27, 2013 ("Acid Sulfate Soils Technical Memorandum"). This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[150] Robert Plotnikoff, Tetra Tech, Inc. *Email to Stacy Bradley, SFRPD, Suggested Change to the MND,* December 3, 2013. This email is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[151] Robert Plotnikoff, Tetra Tech, Inc. *Email to Alexis Ward, SFRPD and David Munro, Tetra Tech, Inc., Sharp Park,* December 30, 2013. This email is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[152] USFWS. *Biological Opinion*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

sulfides that converted to sulfates as the sediments dried out. Re-use of these materials could result in acidic and hypoxic conditions. Since materials excavated at the LS wetlands complex would not be re-used as part of the project, hypoxic conditions would not result from re-use of dried sediments as part of the proposed project. Specific case studies of instances where acid sulfate soils effects have occurred in Bay Area restoration sites have not been identified.[153]

Removal of sediment in the connecting channel between HSP and LS, similar to the proposed sediment removal, was reported to have occurred more than 10 years ago. At that time, no effects that would normally be associated with acid sulfate soils, including acidification of waters and sediment surfaces, were identified. At the time of the previous removal, it was reported that the bottom of HSP was lined with gravel. The previous sediment removal activity removed sediments that had accumulated after the seawall, which eliminated saline water input into the wetland complex, was constructed. Because the sediment to be removed as part of the proposed project is likely to have only accumulated since the last removal activity, it is unlikely that acid sulfate soils would exist in the excavated sediments. The construction of the seawall eliminated saline water input into the wetland complex. Sources of these sediments include input from the watershed during storms, as well as accumulated organic matter from dead and decaying vegetation in the watershed complex. This means that these sediments accumulated without the saline conditions that allow acid sulfate soils to form, and can be eliminated as a contributor to acid sulfate soils conditions.[154] This supports the conclusion that the proposed sediment and vegetation removal would not likely result in substantial disturbance of acid sulfate soils in the water column, which may in turn result in a significant impact to special-status species.

Environmental effects that may occur from excavating sediments in the presence of acid sulfate soils may include one or more of the following: 1) increase in sulfuric acid; 2) decline in pH; 3) increase in dissolved metal concentrations (aluminum, iron, and arsenic); and 4) increased incidence of hypoxia.[155] Any of the above effects could result in significant impacts (e.g., effects that could jeopardize the continued existence of a population of special-status species or effects to water quality beyond thresholds indicated in state or federal water quality standards) to special-status species or water quality. In order to ensure that hypoxic conditions do not materialize and to mitigate such conditions in the unlikely event that they do occur, **Mitigation Measure M-BIO-2b** as outlined below would be implemented by the SFRPD during construction to reduce the potential for adverse impacts to special-status species as a result of acid sulfate soils and other components. **Mitigation Measure M-BIO-2b** requires that sediment core sampling tests be conducted and specific remediation measures be implemented by the SFRPD if results of the sediment core sampling tests reveal the need for such remediation measures prior to commencement of any on-site work related to the removal of sediment and emergent vegetation in HSP or the connecting channel and culverts that link HSP and LS. **Mitigation Measure M-BIO-2b** requires that a toxics pathway analysis be conducted for potential risks and toxicities to species that may be affected by localized increases in acidity, hypoxia, or dissolved metals concentration should the potential for acid sulfate soils and anoxic conditions be present. This method for analyzing potential for bioaccumulation of toxics in the environment is a recommended approach for determining risk to wildlife and plants.[156] Pathway analysis is used to

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[153] Harry Gibbons and Robert Plotnikoff, Tetra Tech, Inc. *Acid Sulfate Soils Technical Memorandum*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[154] Harry Gibbons and Robert Plotnikoff, Tetra Tech, Inc. *Acid Sulfate Soils Technical Memorandum*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[155] Ibid.

[156] USEPA. *Framework for Metals Risk Assessment, EPA 120/R-07/001,* March 2007. Available online at: *http://www.epa.gov/raf/metalsframework/pdfs/metals-risk-assessment-final.pdf*. Accessed July 17, 2013.

determine environmental conditions that would mobilize toxics and increase exposure that could have chronic or acute effects.

Mitigation Measure M-BIO-2b - Protection of Special-Status Species and Water Quality from Acid Sulfate Soils and Other Components

Prior to commencement of any on-site work related to the proposed removal of sediment and emergent vegetation in HSP or the connecting channel and culverts that link HSP and LS, sediment core sampling tests shall be conducted in the manner specified in this mitigation measure.

The result of the sediment core sampling tests and remediation measures recommended by a qualified SFRPD biological/hydrological consultant, if any, shall be submitted to the USFWS and CDFW for review and approval prior to commencement of any on-site remediation work or sediment/vegetation removal work at HSP or the connecting channel and culverts. If the USFWS or CDFW determines, based on the results of the sediment core sampling tests, that remediation measures are required, the SFRPD shall submit a remediation and monitoring plan to all applicable resource agencies for review and approval prior to implementation of the remediation measures. Copies of all correspondence with the resource agencies shall be submitted to the ERO for review. The sediment core sampling tests shall include the following elements:

1. Work Plan

   A Work Plan for sediment core sampling tests shall be prepared by a qualified SFRPD biological/hydrological consultant and submitted to the USFWS and CDFW for review and comment prior to commencement of any on-site work related to the sampling tests. The Work Plan shall describe, at a minimum, compliance with ~~Item~~Tasks 2 through 6 of this mitigation measure. Copies of all correspondence with the ~~resource~~responsible agencies shall be submitted to the ERO for review.

2. Sampling of Sediment Cores

   The sampling test shall include collection of, at minimum, one sediment core from HSP, two from the connecting channel, and one from LS. The exact locations of sampling shall be determined pursuant to the work plan developed in accordance with ~~Item~~Task 1, above. Sample sediment cores shall include the soils between the current surface sediment level and approximately two to three feet below the current surface. This depth shall be at least one foot below the proposed depth of the future sediment-water interface.

3. Analysis of Sediment Cores and Estimation of the Potential for Formation of Acid Sulfate Soils

   The sediment cores shall be analyzed every five centimeters over the first 20 centimeters of core depth and then every 10 centimeters for the remainder of the core length for the following components: Total Organic Carbon (TOC), carbonate/bicarbonate, sulfate, sulfide, sulfites, pH, calcium, sodium, iron, aluminum, chloride, conductivity, redox potential, refractory organics, organic nitrogen, total phosphorus, ammonia, nitrate+nitrite nitrogen, soluble reactive phosphorus, organic phosphorus, loosely-sorbed phosphorus, iron-phosphorus, iron-phosphorus, aluminum-phosphorus, and calcium-phosphorus. Sediment core chemistry shall be analyzed to assess the potential reduction

of sulfate to form hydrogen sulfate, iron sulfides, and reduction buffering capacity relative to acid-neutralizing capacity.

In addition, sediment oxygen demand (SOD) in the sediment cores shall be measured. Results shall be compared to the total oxidizable organic material, which would be estimated from the difference of TOC and refractory organic carbon (labile carbon). These results shall be used in the analysis of potential for formation of anoxic conditions within the newly restored HSP and connecting channel.

Sediment cores shall be analyzed based on Toxicity Reference Values (TRVs) from the USEPA and Screening Quick Reference Tables (SQuiRT) from the NOAA.[157] A draft summary of potential toxics shall be provided to the USFW, CDFW, and ERO for review and, if needed, revision will be made to the toxicity ranges appropriate for use in analyzing the sediment cores.

The potential for formation of acid sulfate soils and anoxic conditions in the water column shall be estimated based on this analysis and in coordination with the USFWS and CDFW. If this analysis determines that acid sulfate soils could be present in this location, the SFRPD shall perform a toxic pathway analysis[158] to determine the appropriate remediation measures. The analysis results and determination shall be submitted to the USFWS, CDFW, and ERO for review.

4. Toxics Pathway Analysis

Should the potential for acid sulfate soils and anoxic conditions be present, a toxics pathway analysis shall be conducted for potential risks and toxicities to species that may be affected by localized increases in acidity, hypoxia, or dissolved metals concentration. During this Task, toxicity standards shall be established by the USFWS, CDFW, and ERO based on the results of ~~Item~~Tasks 2 and 3 above, site-specific hydrologic conditions including water exchange and dissolved oxygen levels, the species that are known to be present, and literature review. The results of this task shall be submitted to the USFWS and CDFW and any applicable ~~resource~~responsible agencies for review and approval. Copies of all correspondence with the ~~resource~~responsible agencies shall be submitted to the ERO for review.

Should the results of the sediment core tests reveal that there has been an appreciable increase in the amount of nitrogen and related compounds in the sediment cores, any necessary measures to remediate such compounds shall be undertaken in accordance with Task 5, below. The SFRPD shall hire a qualified biological/hydrological consultant to prepare a remediation and monitoring plan which shall be submitted to the USFWS and CDFW for review and approval. Copies of all correspondence with the resource agencies shall be submitted to the ERO for review.

5. Remediation

If results of the sediment core chemistry analysis reveal the potential for reduction of sulfate to form hydrogen sulfate, iron sulfides, and its reduction in buffering capacity relative to acid-neutralizing capacity, or if the toxics pathway analysis indicates that their

[157] The National Oceanic and Atmospheric Administration (NOAA), Office of Response and Restoration. *SQuiRT Cards*. Available online at: *http://response.restoration.noaa.gov/cpr/sediment/squirt/squirt.html*. Accessed July 17, 2013.

[158] A toxics pathway analysis identifies potential risks and toxicities to species that may be affected by localized increases in acidity, hypoxia, or dissolved metals concentration.

presence could potentially result in substantial stress to special-status species, the SFRPD shall implement remediation measures, as approved by the USFWS and CDFW.

Remediation measures could include, but are not limited to:

a. Addition of lime to neutralize any acid that exists or which may form during the sediment removal process;

b. Injection of sodium nitrate to oxidize the sediments, thereby satisfying the sediment oxygen demand; or

c. Use of suction hydraulic sediment removal that reduces re-suspension of any form of sediments.

Depending on the severity of the condition (e.g., hypoxia), the remediation measure selected for implementation would be the least intensive beginning with Item a, when signs of hypoxia are present, to the most intensive with Item c, when hypoxia is persistent and/or widespread. The SFRPD shall select the remediation measure in consultation with the USFWS and CDFW. The remediation measure shall be selected based on immediate threats to species and sensitive life stages present during occurrence of the hypoxic condition.

6. Monitoring

During sediment and vegetation removal in HSP and the connecting channel and culverts, pH levels immediately above the sediment shall be monitored by the SFRPD to ensure that implementation of the proposed project would not adversely affect special-status species.[159] To ensure that residual acid sulfates in the water column would not adversely impact special-status species, pH levels in HSP and the connecting channel shall be monitored by the SFRPD for a period of six weeks after the proposed sediment and vegetation removal is completed. A remediation measure, such as addition of lime or injection of sodium nitrate, shall be implemented if the monitoring warrants such a remediation measure to protect special-status species based on the toxicity standards that are established in accordance with Task 4 above.[160]

To facilitate the proposed sediment and emergent vegetation removal and to reduce potential impacts to CRLF, the water level of HSP and the connecting channel may be lowered through the use of the existing pumps in consultation with the USFWS and CDFW. If water levels in HSP or LS fall below sea level and beach groundwater levels, then saline groundwater may flow into the lagoon from the beach.[161] CRLF cannot breed when salinity levels exceed approximately four

[159] pH is an indicator of anoxic conditions at the sediment-surface water interface. Under anoxic conditions, hydrogen ion availability increases and binds with sulfides mobilized from sediments. Rates of transformation of sulfur are mediated by microorganisms in both the sediments and surface water. Suspension of hydrogen sulfide (H_2S) in the water column is oxidized in surface water to form sulfuric acid (H_2SO_4).

[160] David Munro, Tetra Tech, Inc. *Email to Stacy Bradley, SFRPD, Sharp Park Appeal: M-BIO-2b - Post Construction Monitoring*, January 7, 2014. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[161] USFWS. *Biological Opinion*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

parts per thousand (ppt).[162] Although salinity levels may increase in HSP, the construction period would be short and would not correspond to the breeding season of CRLF. After construction is complete, winter storm runoff would result in substantial freshwater inputs to the wetland complex, causing any increased salinity levels to return to baseline levels. Therefore, the potential impacts to CRLF associated with increased salinity levels would be temporary and would occur outside the breeding season for CRLF, and would not be considered significant.

To facilitate the proposed sediment and emergent vegetation removal and to reduce potential impacts to CRLF, suction hydraulic equipment may be used in consultation with the USFWS and CDFW to minimize the disturbance of sediments in the water. While generally resulting in a higher percentage of water in the excavated materials than a clamshell dredge, the use of suction hydraulic equipment generally results in less turbidity and overall disturbance at the point of use than a clamshell. In sensitive environments, the use of suction hydraulic equipment is often preferred provided that the excavated materials and residual water are properly handled so they do not result in a significant impact on the environment. If suction hydraulic equipment is to be used as part of this project, the slurry that is created by suction hydraulic equipment would go into a settling area until the sediments settle out and the decant water can be tested for its acidity. If the result of such testing indicates that the water is pH neutral, it would either be released into HSP or pumped into the Pacific Ocean.[163,164] Should any permit be required by the SFBRWQCB for the discharge of the water into the Pacific Ocean as part of this project, the SFRPD will seek such a permit and comply with any conditions that may be attached to the permit. In light of the above, the use of suction hydraulic equipment as part of the proposed sediment and vegetation removal would not result in any significant impacts on the environment.

The Biological Opinion discusses the possibility of CRLF mortality through entrainment (individuals being pulled along with water and trapped against screening or pulled into the pumps) of egg masses and individual larvae at the pumps (see pages 33 and 34 in the Biological Opinion). The Biological Opinion further discusses the restoration actions and conservation measures that the SFRPD is committing to in order to reduce these effects and protect the species. The Biological Opinion concludes that this project, including the conservation measures, the uplands restoration work, and the continued operations and maintenance of the golf course, is not likely to jeopardize the continued existence of CRLF or SFGS. The conservation measures set forth in the Biological Opinion and incorporated into the project description and mitigation measures would reduce the adverse effects of the proposed construction and operations and maintenance activities on the survival and recovery of CRLF and SFGS. As a result, the proposed installation of secondary screen would not result in significant impacts to CRLF or SFGS.

Although construction activities could result in temporary impacts to CRLF and SFGS that are considered significant as discussed above, implementation of **Mitigation Measures M-BIO-2a** and **M-BIO-2b** would reduce the project's impacts to CRLF and SFGS to a less-than-significant level.

Western Pond Turtle

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[162] Swaim Biological Incorporated. *Sharp Park Wildlife Surveys*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[163] David Munro, Tetra Tech. *Email to Stacy Bradley, SFRPD, Feedback on MND Appeal*, November 26, 2013. This email is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[164] David Munro, Tetra Tech. *Email to Stacy Bradley, SFRPD, Revised Text*, November 26, 2013. This email is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

Impacts to WPT from the proposed project would be similar to those described above for CRLF. However, because the restoration activities would occur during the WPT nesting season, the magnitude of those impacts would be potentially greater for this species. Temporary impacts from construction activities would result in the disturbance of feeding, breeding, aestivation sites and dispersal behaviors. The removal of nonnative vegetation may disturb western pond turtles sheltering within the plants as well as remove basking sites along the wetland banks. Increased sedimentation could adversely affect shallow water habitat for hatchlings as well as basking sites along the banks. These effects of the proposed project would result in significant impacts to WPT.

Implementation of **Mitigation Measures M-BIO-2a** and **M-BIO-2b**, as outlined above, would reduce short-term impacts to WPT resulting from the proposed project to a less-than-significant level.

San Francisco Dusky-footed Woodrat

The San Francisco dusky-footed woodrat, which inhabits forests with moderate canopy and moderate to dense understory, is known to occur in the Upper Canyon at Sharp Park. As part of the proposed project, the sediment and vegetation removed from HSP and the connecting channel would be transported by trucks to a remediated former rifle range site on the east side of PCH. Habitat for the San Francisco dusky-footed woodrat occurs in the non-native forest and riparian areas surrounding the former rifle range site. Although habitat exists in the surrounding area, disposal of the sediment and vegetation would occur in the non-native grassland area, which is located well away from the San Francisco dusky-footed woodrat habitat. Therefore, there would be no impact to this species or its habitat. While additional truck trips would occur in the area, potentially resulting in greater noise, the area currently receives intermittent vehicular traffic and the level of additional noise and disturbance along with the distance between the disposal site and habitat for the San Francisco dusky-footed woodrat would not result in a significant impact on this species. Therefore, the proposed project would result in less-than-significant impacts to the San Francisco dusky-footed woodrat.

Salt Marsh Common Yellowthroat and Black-Crowned Night Heron

Construction activities associated with the proposed project could also result in the temporary disturbance to the salt marsh common yellowthroat from an increase in noise, vehicle traffic, and human presence. The salt marsh common yellowthroat uses saltwater or freshwater marsh habitat with dense vegetation for nesting, cover, and foraging. The proposed project may result in temporary impacts to this species through the disturbance and loss of nesting habitat from sediment and emergent vegetation removal activities. These impacts would be considered a significant impact. Similar temporary impacts to the black-crowned night heron could occur as a result of the proposed project. Implementing **Mitigation Measure M-BIO-2c** as outlined below, requires that all vegetation removal activities be conducted outside the breeding season for bird species (February 1 through August 31, as designated by the CDFW), unless a breeding bird survey is conducted prior to vegetation removal activities and determines that no nesting birds are present. If active nests (or large abandoned stick nests) are discovered as part of the breeding bird survey, a 150-foot-radius avoidance buffer would be centered on the nest sites to prevent the nesting birds from being disturbed by construction activities.

In addition, there would be permanent loss of some nesting habitat as vegetated areas are converted to open water. However, the overall area of fresh-to-brackish water marsh habitat that

would be removed represents approximately one percent[165] of the total habitat present in the LS wetland complex for these bird species. Furthermore, the fresh-to-brackish water marsh would likely re-establish through natural succession over time. Because the impact area represents a small portion of the total habitat in the LS wetland complex and ample habitat would remain in adjacent areas at Sharp Park, the proposed project would not result in a significant permanent impact to nesting and other habitat of the salt marsh common yellowthroat or black-crowned night heron.

With implementation of **Mitigation Measure M-BIO-2c**, the proposed project would result in less-than-significant impacts to the salt marsh common yellowthroat and black-crowned night heron.

Mitigation Measure M-BIO-2c - Protection of Bird Species

Vegetation removal activities shall be conducted outside the breeding season (February 1 to August 31), unless the following specific conditions are met: a breeding bird survey by a qualified biologist has been conducted prior to any vegetation removal activities. If active nests (or large abandoned stick nests) of a sensitive species are discovered, a 150-foot-radius avoidance buffer shall be centered on the nest site(s) to prevent nesting birds from being disturbed by power tools or other equipment. Weeds may be pulled by hand no closer than 50 feet from the nest.

Locally Significant Bird Species

As discussed above, a number of bird species, considered Species of Local Concern by the Golden Gate Audubon Society, breed or occur at Sharp Park. These bird species include: American goldfinch; American kestrel; band-tailed pigeon; black-crowned night heron; clark's grebe; gadwall; great horned owl; hairy woodpecker; hutton's vireo; pacific-slope flycatcher; pied-billed grebe; purple finch; red-shouldered hawk; red-tailed hawk; say's phoebe; steller's jay; swainson's thrush; tree swallow; and violet-green swallow. Some of these species primarily inhabit forests or woodlands. Nonetheless, all of these species or their nests could potentially be present in the project area.

Locally significant bird species including those listed above may occur in the project area or their habitat may be affected by the proposed project as a result of vegetation removal and an increase in noise, vehicle traffic, and human presence during construction activities. Impacts to locally significant bird species would be similar to those described above for the salt marsh common yellowthroat and black-crowned night heron. If nesting of locally significant bird species is present, in compliance with the MBTA, the SFRPD would be required to avoid damaging or removing the nests of any migratory bird species. Implementation of **Mitigation Measure M-BIO-2c** as outlined above, and compliance with the MBTA, would reduce the project's impacts on such bird species to a less-than-significant level.

Impact BIO-3: The project could interfere with the movement of native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (Less than Significant with Mitigation)

[165] Based on the wetland delineation report prepared by Tetra Tech in November 2008, a total of approximately 19.56 acres (approximately 852,033 sf) of freshwater marsh were delineated in the LS wetland complex. Based on the wetland delineation report prepared by the SFRPD in May 2013, a total of approximately 8,612 sf of freshwater marsh would be permanently impacted by the proposed project. Therefore, the proposed project would permanently impact approximately one percent of the total freshwater marsh present in the LS wetland complex.

Migratory Corridors and Nursery Sites

Sharp Park is bordered in part by undeveloped areas, including Sweeney Ridge, Mori Point, and Milagra Ridge, which allows it to serve as a relatively undisturbed corridor for wildlife, particularly birds. No special-status fish are known to occur in LS, HSP, or the connecting channel. Many migratory birds use some areas of Sharp Park for foraging, nesting, and perching habitat.

The potential impacts on wildlife movement, migratory corridors, and nursery sites as a result of the proposed project would include the temporary disturbance from human presence as well as the disturbance of foraging and nesting habitat from vegetation removal and construction of the proposed pond. These activities may result in localized and temporary impacts to wildlife movement due to equipment and human presence and the amount of disturbance from earthmoving activities and removal of sediment and vegetation, which could be considered a significant impact. However, the proposed project would ultimately result in long-term beneficial impacts on wildlife movement by improving habitat quality for native species and allowing for greater habitat connectivity between Sharp Park and contiguous areas.

Implementation of **Mitigation Measures M-BIO-2a, M-BIO-2b, and M-BIO-2c** as outlined above and **M-BIO-4a** and **M-BIO-4b** as outlined below would minimize the potential temporary impacts to wildlife movement within the LS wetland complex by implementing protection measures to avoid and minimize impacts to special-status species as well as wetland and riparian areas. These measures require pre-construction surveys, worker education programs, biological monitoring, exclusion fencing, and consultation with the USFWS and CDFW. With implementation of **Mitigation Measures M-BIO-2a**, **M-BIO-2b**, **M-BIO-2c**, **M-BIO-4a,** and **M-BIO-4b**, the project's impacts on fish and wildlife movement, migratory corridors, and nursery sites would be less than significant.

Impact BIO-4: The proposed project would not have a substantial adverse effect on sensitive natural communities. (Less than Significant with Mitigation)

The sensitive natural communities present within the project site include coastal scrub, non-native grasslands, and wetland habitats.[166]

Coastal Scrub and Non-native Grasslands

The proposed creation of a perennial pond would convert some of the areas currently characterized as coastal scrub with native and invasive species to open water wetland habitat for CRLF and SFGS. The areas surrounding the perennial pond would be replanted with native coastal scrub vegetation where appropriate. Removal of invasive vegetation is expected to result in an overall benefit to native coastal scrub habitat. As a result, this impact to the coastal scrub community would be less than significant.

No native grasslands would be affected by the proposed project. Sediment and emergent vegetation removed from HSP and the connecting channel would be transported to and spread at the former rifle range site on the east side of PCH. The former rifle range site is characterized by non-native grasslands, and therefore disposal of sediment and vegetation at this site would not affect native grasslands.

Wetlands and Waters of the U.S.

[166] Tetra Tech, Inc. *LS Wetland Determination Report*. This report is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

The project would result in a permanent impact to wetland habitat as a result of the construction of a maintenance walkway at the HSP pumphouse and replacement of the retaining wall. The support structures for the proposed maintenance walkway and replaced retaining wall would result in 1.2 CYs and 0.4 CYs, respectively, of permanent fill in wetlands and waters of the U.S.[167]

As previously mentioned, a wetland delineation report was prepared in 2008 to delineate the USACE/CCC jurisdictional wetlands[168] in the LS wetland complex. In addition, the May 2013 wetland delineation report evaluates the proposed project's impacts to CCC-only wetlands located in the proposed project area as part of the requirements for the Coastal Development Permit required by the CCC for this project (see Figure 7).[169] Elements of the proposed project that may affect either the USACE/CCC jurisdictional wetlands and/or waters of the U.S. include:[170]

- Removal of sediment and emergent vegetation (cattails and bulrush) within HSP and the connecting channel that links HSP and LS;
- Construction of a maintenance walkway; and
- Replacement of a wooden retaining wall with a concrete retaining wall at the pumphouse.

The May 2013 wetland delineation report concluded that no wetlands would be affected by the proposed construction of steps at the HSP pumphouse, construction of a 1,600-sf perennial pond, or realignment of a segment of the golf cart path segment.[171] The area of each type of wetland or waters of the U.S. that would be permanently affected and created as part of the proposed project, and the area of each type of wetland that would be temporarily affected by the proposed project are shown in Tables 6 and 7, respectively, and discussed below.

The May 2013 wetland delineation report found that a total of 8,612 sf of freshwater marsh (USACE/CCA jurisdictional wetlands) would be permanently affected by the proposed sediment and emergent vegetation removal in HSP and the connecting channel, construction of a maintenance walkway at the pumphouse, and replacement of a retaining wall at the pumphouse. Of the 8,612 sf of affected freshwater marsh, 8,600 sf would be converted to open water wetlands as part of this project and 12 sf represents a permanent loss of wetlands that would result from the construction of the footings for the proposed walkway and replacement of the existing retaining wall at the pumphouse.

The proposed emergent vegetation (cattails and bulrush) removal would result in conversion of a portion of the existing vegetated wetland to open water habitat, consistent with historical conditions of the wetland complex which previously provided productive CRLF and SFGS habitat. Over the years, cattails and bulrush have encroached into the historically open water habitat, converting this habitat to freshwater marsh and/or wet meadow and limiting its value as breeding habitat for CRLF. Removing accumulated sediment and encroaching vegetation would reverse the effects of a trend that would eventually result in the conversion of the remaining open

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[167] USFWS. *Biological Opinion*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[168] See pages 59 and 60 of this Initial Study for the definitions of USACE/CCC jurisdictional wetlands.

[169] SFRPD. *Single Parameter Wetland Delineation Report*. This document is available for as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[170] Ibid.

[171] The May 2013 wetland delineation report included realignment of two golf cart path segments. The project has since been modified to realign only one golf cart path segment (north segment) and maintain the other golf cart path segment (south segment) at its current location. The May 2013 wetland delineation report identified that no wetlands would be affected by the proposed alignment of the north golf cart path segment.

water to vegetated wetland and ultimately conversion of those wetlands to upland. The proposed conversion of wetland to open water habitat would not result in a loss of waters of the U.S., and would be consistent with the historical conditions of wetland complex.

The proposed project includes construction of a new 1,600-sf perennial pond and would result in 8,600 sf of open water habitat in HSP. This means that a total of 10,200 sf of wetlands and/or waters of the U.S. would be created as part of this project. Therefore, the proposed project would result in a net increase of 1,588 sf of wetlands and/or waters of the U.S. within the project site, and would not result in a significant permanent impact to wetlands.

The proposed project would also temporarily affect a total of 3,700 sf of USACE/CCA jurisdictional wetlands and/or waters of the U.S. The 3,700 sf includes 3,000 sf of open water habitat, which would remain as open water habitat upon the completion of the proposed sediment and emergent vegetation removal in HSP, and 700 sf of freshwater marsh, which would be affected by the access areas required for the sediment and emergent removal activities in HSP. Most of these areas temporarily affected during construction would be protected by all applicable BMPs during construction and revegetated with native plant species upon the project completion. Nevertheless, these temporary impacts to wetlands could be considered significant. Implementation of **Mitigation Measures M-BIO-4a** and **M-BIO-4b**, as outlined below, would ensure that these temporary impacts would be reduced to a less-than-significant level.

As discussed in Impact BIO-2, temporary impacts to wetlands resulting from the proposed sediment and emergent vegetation removal in HSP and the connecting channel could include impacts due to the potential presence of acid sulfate soils or other components in HSP and the connecting channel or anoxic conditions potentially caused by the sediment removal activities. Implementation of **Mitigation Measure M-BIO-2b** would reduce these temporary impacts to a less-than-significant level.

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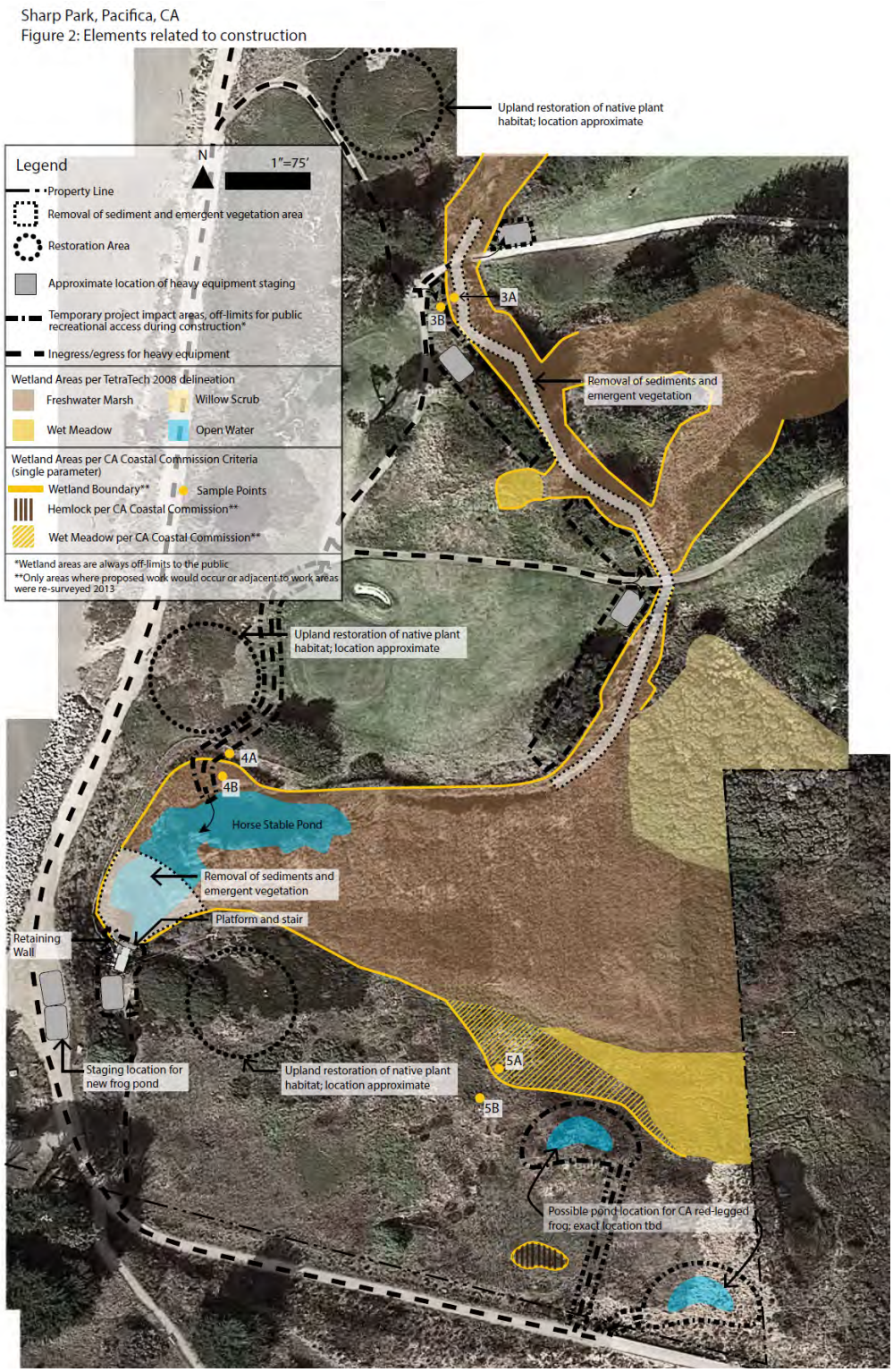

Figure 7. Affected Wetlands and Waters of the U.S. near HSP[172]
Source: San Francisco Recreation and Park Department

[172] SFRPD. *Single Parameter Wetland Delineation Report*. This document is available for as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

Table 6. Permanently Affected Wetlands and Waters of the U.S.[173]

Affected Area - Permanent		Created (Post Construction) - Permanent	
Habitat Type	**Area (square feet)**	**Habitat Type**	**Area (square feet)**
Freshwater marsh	8,612	Open water	8,600
Total	**8,612**	Freshwater marsh / Open Water (new pond)	1,600
		Total	**10,200**
		Net Increase	**1,588**

Table 7. Temporarily Affected Wetlands and Waters of the U.S.[174]

Affected Area - Temporary	
Habitat Type	**Area (square feet)**
Freshwater marsh	700
Open water	3,000
Total	**3,700**

[173] SFRPD. *Single Parameter Wetland Delineation Report*. This document is available for as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[174] Ibid.

As discussed above, implementation of the project would result in temporary impacts to wetlands, which could be considered a significant impact. Implementation of **Mitigation Measures M-BIO-2b**, **M-BIO-4a**, and **M-BIO-4b** as outlined below would reduce these temporary impacts to a less-than-significant level. Prior to implementing the proposed project, the SFRPD would be required to obtain a Section 404 permit from the USACE, a Section 401 water quality certification from SFBRWQCB, a coastal development permit from the CCC, and a lake or streambed alteration agreement from the CDFW. These resource agencies may require measures to protect wetlands in addition to **Mitigation Measures M-BIO-4a** and **M-BIO-4b**.

Mitigation Measure M-BIO-4a - Protection of Wetlands and Natural Habitat

The SFRPD shall obtain all applicable permits from the SFBRWQCB, CCC, USACE, and CDFW to protect wetlands and natural habitat. Measures identified in these permits shall be applied, in addition to the following measures, unless otherwise specified by resource agencies:

1. In areas where work is not directly taking place, a minimum 100-foot buffer surrounding all wetlands, ponds, streams, drainages, and other aquatic habitats located on or within 100 feet of the project site shall be clearly designated on the final project construction plans and marked on the site with wildlife-friendly orange construction fencing or silt fencing. If the area is on a slope, silt fencing or other comparable management measures will be installed to prevent polluted runoff, as well as equipment, from entering the buffer area. Signs shall be installed every 100 feet on or adjacent to the buffer fence that read, "Environmentally Sensitive Area – Keep Out." Fencing and management measures shall be installed and inspected prior to project implementation and maintained throughout the restoration period. No equipment mobilization, grading, clearing, storage of equipment or machinery, vehicle or equipment washing, or similar activity, may occur until a representative of the SFRPD has inspected and approved the fencing and/or management measures installed around these features;

2. Vehicle and equipment operators shall use existing access roads and shall remain outside of wetlands and riparian areas that are not directly associated with the proposed project. Project construction and staging areas shall be delineated with construction fencing and shall avoid wetland habitat to the maximum extent feasible; and

3. All vehicles shall be brought in clean and free of weeds to prevent the spread or introduction of invasive plant species. Vehicles and equipment shall be fueled, maintained, and parked at least 100 feet from wetlands. Each morning, operators shall inspect all equipment that requires the use of fuel or fluids for leaks.

Mitigation Measure M-BIO-4b - Wetland Mitigation Plan for Temporarily Affected Areas

Consistent with the requirements for a Section 401 water quality certification permit, the SFRPD shall prepare a wetland mitigation plan for temporarily effected wetlands. Additionally, because the proposed project includes habitat restoration (i.e., construction of a perennial pond), the CCC may require an objective performance evaluation to determine project success which would include a monitoring program and methods for evaluating performance, which could be accomplished through implementation of the wetland mitigation plan. The wetland mitigation plan shall include, at a minimum, a description of the following:

- Proposed project's physical and biological impacts;
- Mitigation goals;

- Mitigation work plan;
- Management and maintenance plan;
- Success criteria and performance indicators;
- Monitoring plan; and
- Site protection measures.

The components of the above mitigation plan may be altered, supplemented, or deleted during the SFBRWQCB's review process, as the SFBRWQCB has final authority over the terms of the water quality certification.

Impact C-BIO: The proposed project, combined with past, present, and reasonably foreseeable future projects in the vicinity, would not make a considerable contribution to any cumulative significant biological resources impacts. (Less than Significant with Mitigation)

The Draft EIR prepared for the proposed 2006 SNRAMP, a reasonably foreseeable future project in the proposed project's vicinity, concluded that the proposed 2006 SNRAMP in combination with the GGNRA Dog Management Plan would result in a significant and unavoidable cumulative impact related to special-status plant and wildlife species. The Draft EIR for the proposed 2006 SNRAMP concluded that with mitigation measures the proposed 2006 SNRAMP would not result in any significant biological impacts. A Categorical Exemption prepared for the Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E) concluded that the proposed restoration would not result in any significant effects on the environment, including biological resources impacts, and, thus, that project was appropriately exempt from CEQA under Section 15333 of the CEQA Guidelines.[175]

As discussed above, the proposed project with identified mitigation would not result in any significant biological impacts. Therefore, the proposed project's contribution to cumulative biological resources impacts would be reduced to less than significant with incorporation of **Mitigation Measures M-BIO-2a**, **M-BIO-2b**, **M-BIO-2c**, **M-BIO-4a**, and **M-BIO-4b**.

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
14. GEOLOGY AND SOILS— Would the project:					
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					

[175] San Francisco Planning Department. *Categorical Exemption, Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E)*, August 5, 2013. Available online at: http://www.sf-planning.org/index.aspx?page=3447. Accessed December 17, 2013.

Topics:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
	i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☐	☐	☐	☒	☐
	ii) Strong seismic ground shaking?	☐	☐	☐	☒	☐
	iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒	☐
	iv) Landslides?	☐	☐	☐	☒	☐
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐	☐
c)	Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐	☐
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?	☐	☐	☐	☒	☐
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☐	☒
f)	Change substantially the topography or any unique geologic or physical features of the site?	☐	☐	☒	☐	☐

Question 14e would not be applicable because the project does not involve the use of any septic systems.

Impact GE-1: The proposed project would not result in exposure of people and structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, expansive soils, seismic ground-shaking, liquefaction, lateral spreading, or landslides. (No Impact)

The proposed project does not involve the construction of any residences or inhabitable structures. The proposed project would involve construction of minor structures such as steps and a maintenance walkway and replacement of an existing retaining wall near the existing pumphouse at HSP. All of these structures would be constructed in compliance with the California Uniform Building Code. The topography of the project site is relatively flat. The proposed project would not expose people or structures to substantial adverse effects involving the rupture of a known earthquake fault or strong seismic shaking. Ground rupture most commonly occurs along preexisting faults. No known active faults cross Sharp Park, and the project site is not within an Alquist-Priolo Earthquake Hazard Zone. While there is a potential for strong ground shaking at the project site due to a nearby earthquake fault line, the proposed project would not increase the likelihood that people or structures would experience adverse

effects from strong ground shaking. Therefore, no impact would result from the proposed project.

Impact GE-2: The proposed project would not result in substantial loss of topsoil or erosion. (Less than Significant)

The proposed project includes minor improvements to existing facilities and the creation of habitat in Sharp Park. Ground disturbance resulting from these construction activities can expose soils to erosion, resulting in a loss of topsoil. However, the magnitude of loss of topsoil or erosion is not expected to be substantial given the minor scope and nature of the proposed project. Therefore, this impact is less than significant. BMPs for erosion control would be implemented for all elements of the proposed project, such as installation of fiber rolls, silt fences, straw blankets, hydroseeding, and straw mulch/wood chips, and these measures would further ensure that the project would not result in a substantial loss of topsoil or erosion.

Impact GE-3: The proposed project would not result in substantial impacts to site topographical features. (Less than Significant)

The proposed project would not substantially change the topography of the project site. Unique geologic features generally include picturesque rock outcrops and some of the last remaining sand dune systems. While the proposed project includes construction of an approximately 1,600-sf pond, this would not be considered a significant change in the topography of the site given the size and depth (approximately 5 feet) of the pond. Therefore, the proposed project would not result in substantial impacts with respect to changes in topographical features at the project site. Therefore, this impact is less than significant.

Impact C-GE: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would not make a considerable contribution to any cumulative significant impacts related to geology and soils. (Less than Significant)

Geology impacts are generally site-specific and do not have cumulative effects with other projects. There are no known past, present, or future projects that in combination with the proposed project could result in cumulatively significant impacts to geology or soil resources. Thus, the project would not contribute to a cumulative impact on geology or soils.

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
15. HYDROLOGY AND WATER QUALITY— Would the project:					
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐	☐

Topics:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐	☐
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion of siltation on- or off-site?	☐	☐	☒	☐	☐
d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☒	☐	☐
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐	☐
f)	Otherwise substantially degrade water quality?	☐	☒	☐	☐	☐
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map?	☐	☐	☐	☐	☒
h)	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒	☐
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐	☐
j)	Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒	☐

Question 15g is not applicable to the proposed project because the project would not involve the construction of any residences or inhabitable structures.

Setting

Climate

The climate in the San Francisco Bay Area is generally characterized as a Mediterranean pattern of cool and mild temperatures along the coast, with higher temperatures inland, cool wet winters, and relatively warm dry summers. Pacifica receives an average of approximately 29.5 inches of precipitation a year, mostly between October and April. Average monthly temperatures range from 50.5 degrees Fahrenheit in January to 62.0 degrees in September.[176]

Regional Hydrology

Pacifica is in the San Francisco Bay watershed, U.S. Geological Survey (USGS) hydrologic unit code 18050004. The California State Water Resources Control Board and the nine RWQCBs manage water quality in California and administer federal water pollution control laws. The state board administers water rights and water pollution control, while the RWQCBs conduct planning, permitting, and enforcement. Within this context, Pacifica is in the San Francisco Bay Basin, which is administered by the SFBRWQCB. The SFBRWQCB has developed a water quality control plan (Basin Plan) for the San Francisco Bay region, dividing the basin into several hydrologic planning areas. Most of San Francisco and Pacifica are in the San Mateo Coastal Hydrologic Planning Area.[177]

Laguna Salada and Horse Stable Pond

The Sharp Park Golf Course is located within an 845-acre watershed.[178] HSP is located south of LS and consists of an open water pond and a freshwater wetland. It is connected to LS via an approximately 1,000-foot-long channel that was constructed to drain water from the lagoon to HSP, and together these three features form a wetland complex. In addition to water from LS, HSP receives water from Sanchez Creek from the east (see Figure 4). HSP is shallower and smaller than LS, and typical water depths range from one to three feet. Flood waters in the wetland complex are ~~drained~~removed by pumps at HSP, which pump water into the Pacific Ocean during the winter, when water levels in HSP become too high.

The LS wetland system is naturally maintained by groundwater during periods of low surface water inflow, such as during the summer. At these times, the water elevation in HSP and LS represents the groundwater table. Groundwater flow from the watershed to the ocean maintains the pond elevations above sea level. Over the course of the year, surface inflows to LS exceed groundwater inflows to LS by 600 percent. Some of the excess surface water inflow is lost to evaporation and uptake by plants, some flows as groundwater to the sea, and some is pumped to the ocean during periods of high inflow.[179]

A hydrologic assessment report was prepared in 2009 for the SFRPD to improve the understanding of the hydrologic processes that affect the distribution of ecological habitats in the LS wetland system and flooding of the adjacent golf course.[180] The assessment characterized the variability of water level functions from year to year in the LS wetland system. Results from a water budget investigation reveal that the system is supplied with adequate water to fill HSP

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[176] U.S. Climate Data, *Climate, Pacifica, California.* Available online at: http://www.usclimatedata.com/climate.php?location=USCA0822. Accessed July 11, 2013.

[177] SFBRWQCB. *Basin Planning*. Available online at: http://www.waterboards.ca.gov/rwqcb2/basin_planning.shtml. Accessed July 22, 2013.

[178] USFWS. *Biological Opinion*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[179] Kamman Hydrology & Engineering, Inc. *Hydrologic Assessment*. This report is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[180] Ibid.

even in dry years. Variability of water levels in the wetlands from year to year is low due to the operation of the pumping station. Early spring water levels in the ponds are consistent among dry, normal, and wet water years because the water level is controlled by the pumping station. Dry season losses due to evapotranspiration and seepage do not likely vary much year to year. Surface water flows associated with winter storms provide the primary source of water into the wetland system. Groundwater inflow exceeds groundwater outflow (seepage); as a result, groundwater inflows contribute to the overall water budget of the system, and dry season water level recession occurs at a slightly slower rate than would be expected due to evapotranspiration losses alone.[181]

As part of the hydrological assessment, the seasonal variation of salinity in the wetland system was also monitored to characterize conditions and to assess potential impacts of saltwater encroachment. Salinity is a concern because of its potential to affect the survival of sensitive species that use this wetland habitat. During the monitoring period, salinity in HSP ranged between 0.7 and 2.5 ppt. Salinity in LS appears uniform and well mixed.[182]

Flood Hazard Zones

Flood hazard zones in Sharp Park are identified in the Flood Insurance Rate Maps (FIRMs) published by the Federal Emergency Management Agency (FEMA) in 2012.[183,184] The FIRMs identify LS, HSP, and the lower reach of Sanchez Creek (labeled as Sharp Park Creek in the FIRMs) as Zone A (areas with a 1-percent annual chance of flooding). A larger area that includes a portion of the golf course southeast of LS is identified as Zone X (areas of 0.2-percent annual chance flood; areas of 1-percent annual chance flood with average depth of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1-percent annual chance flood).

Sharp Park is subject to the CCSF Floodplain Management Program as outlined in San Francisco Administrative Code Sections 2A.280 through 2A.285.

Sea Level Rise

In 2006, the California Climate Change Center reported a historic sea-level rise of seven inches in the last century and projected an additional rise of 22–35 inches by the end of this century. Since that time numerous other studies have published projected ranges of 7–23 inches, 20–55 inches, and 32–79 inches of sea-level rise for this same period, with the differences in these projections attributable to different methodologies used and how well or whether glacier ice melt is included in the calculations.[185] Sea level rise could increase flooding potential in coastal areas. Sea level rise and climate change may also alter seasonal and long-term ocean levels and wave energy,

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[181] Ibid.

[182] Ibid.

[183] Federal Emergency Management Agency (FEMA). *Flood Insurance Rate Map (FIRM), San Mateo County, California, and Incorporated Areas, Panel 38 of 510, Map Number 06081C0038E*, Effective Date October 16, 2012. This map is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[184] FEMA. *Flood Insurance Rate Map (FIRM), San Mateo County, California, and Incorporated Areas, Panel 126 of 510, Map Number 06081C0126E*, Effective Date October 16, 2012. This map is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[185] California Natural Resources Agency. *2009 California Climate Adaptation Strategy, A Report to the Governor of the State of California in Responses to Executive Order S-13-2008*. Available online at: http://resources.ca.gov/climate_adaptation/. Accessed July 13, 2013.

potentially reversing shallow groundwater gradients between the lagoon and ocean and allowing more sea water to migrate into the LS wetland complex.[186]

Impact HY-1: The proposed project would not violate water quality standards or otherwise substantially degrade water quality. (Less than Significant with Mitigation)

The proposed construction activities would involve excavation up to five feet bgs. Excavation could release sediment and other constituents of soil into local water bodies, if uncontrolled, would result in significant water quality impacts. Best Management Practices (BMPs) for erosion control would be implemented for all elements of the proposed project, such as installation of fiber rolls, silt fences, straw blankets, hydroseeding, and straw mulch/wood chips. These BMPs would ensure that ground-disturbing activities associated with the proposed project would not result in a substantial increase in the amount of sediment in runoff from the site which may ultimately discharge to surface water bodies.

As discussed in Section E.13, Biological Resources, **Mitigation Measure M-BIO-4a** requires that the SFRPD obtain all applicable permits from the SFBRWQCB, CCC, USACE, and CDFW to protect wetlands and natural habitat. This would further ensure that impacts to wetland habitat and water quality would be reduced to a less-than-significant level. A post-construction monitoring program would also be designed and implemented, as described in **Mitigation Measure M-BIO-4b**, which would ensure that erosion control measures and revegetation efforts meet standards and success criteria as determined in consultation with the SFBRWQCB.

To facilitate the proposed sediment and emergent vegetation removal activities in HSP and the connecting channel and to reduce potential impacts to CRLF, the water level in HSP or the connecting channel may be lowered through the use of the existing pumps in consultation with the USFWS, CDFW, and/or SFBRQWCB. This would result in a temporary increase in the amount of water discharged to the Pacific Ocean during the project construction. ~~Discharge at Sharp Park is authorized under an existing NPDES permit issued to CCSF. The SFRPD would seek modification to the NPDES permit in consultation with the SFBRWQCB so that activities associated with the proposed project are reflected in the NPDES permit, if necessary. In addition, the SFRPD would seek an amendment to an existing Section 401 permit issued by the SFBRWQCB to reflect the proposed project, if required by the SFBRWQCB.~~ No permit is required for discharges from Sharp Park's pumphouse into the Pacific Ocean because both the LS wetlands complex and the Pacific Ocean are considered "waters of the United States" under the FCWA. As such, as long as nothing is added to the water, no permit is required to discharge from one water of the U.S. to another. Should any permit be required by the SFBRWQCB for the proposed project, SFRPD will seek such a permit and comply with any conditions that may be attached to the permit.

During the implementation of the sediment and emergent vegetation removal activities, sediment present at the bottom of HSP and the connecting channel would be disturbed, resulting in a temporary suspension of sediment to the water column. Although unlikely, these sediments may contain sulfides and other components which, once disturbed or suspended in the water column, could have adverse impacts to special-status species, their habitat, or water quality. When exposed to dissolved or atmospheric oxygen, sulfides transform to sulfuric acid, which in turn results in the formation of acid sulfate soils. An increase in the amount of exposed acid sulfate soils in water bodies generally causes a decrease in the pH of water (an increase in acidity of the water) and a decrease in the amount of dissolved oxygen in the water, causing anoxic conditions

[186] Kamman Hydrology & Engineering, Inc. *Hydrologic Assessment*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

in which resuspension of anoxic hydrogen sulfide sediments may result in pulses of low oxygen conditions in HSP which could cause mortality of CRLF larvae and juveniles.[187] With implementation of **Mitigation Measure M-BIO-2b**, potential impacts to water quality resulting from acid sulfate soils, other chemical components, or anoxic conditions would be reduce to a less-than-significant level.

The proposed perennial pond, approximately 1,600 sf in area, would be constructed in consultation with USFWS, and all necessary permits from the CCC would be obtained. As of writing of this Initial Study, there are two potential locations for this pond. Both of them are located within Sharp Park, approximately 400 to 500 feet southeast of the existing pumphouse at HSP (see Figure 5). The water in the proposed pond would be supplied through surface water runoff and, depending on the location of the pond, through groundwater. Given the above, the proposed construction of the pond would result in a less-than-significant impact with respect to water quality.
In summary, with identified mitigation, the proposed project would not result in any significant water quality impacts.

Impact HY-2: The proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. (Less than Significant)

No groundwater would be used for the proposed project, except that the proposed 1,600-sf pond may be designed to be fed by groundwater. The pond would be constructed by excavating up to five feet bgs. The pond would occupy a small area and the overall topography and drainage patterns surrounding the pond site, which gently slopes toward HSP, would not be altered. The amount of water retained in the pond would not be substantial compared with the total amount of water present in the area watershed at a given moment. In addition, the proposed pond would capture some of the surface runoff water or groundwater that would otherwise flow into HSP as it would be constructed in an area located higher in elevation than HSP.

In light of the above, the project would not result in substantial depletion of groundwater supplies or interference with groundwater recharge, and this impact is less than significant.

Impact HY-3: The proposed project would not result in altered drainage patterns that would cause substantial erosion or flooding or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. (Less than Significant)

None of the proposed project activities would substantially increase impervious surfaces or would contribute runoff water that would exceed the capacity of an existing or planned stormwater drainage system. Therefore, the proposed project would have a less-than-significant impact with respect to the creation of, or the contribution to, runoff water.

The proposed project would not substantially alter drainage patterns on the project site or in its vicinity. As part of the proposed project, a 1,600-sf pond would be constructed to establish habitat for CRLF. This pond would be constructed by excavating upland habitat, and is expected to retain surface water runoff, which would reduce the potential for flooding. Given the above, the proposed pond would result in a less-than-significant impact with respect to altered drainage patterns or flooding.

[187] Harry Gibbons and Robert Plotnikoff, Tetra Tech, Inc. *Acid Sulfate Soils Technical Memorandum*. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

Impact HY-4: The proposed project would not expose people, housing, or structures, to substantial risk of loss due to flooding. (Less than Significant)

The golf course floods whenever the pumps at HSP are not able to keep up with the inflow from the watershed. Because the watershed east of PCH is much larger than the golf course, most of the runoff from the watershed drains via Sanchez Creek to HSP. As water levels rise in HSP, water flows through the connecting channel into LS.

The capacity of HSP and the connecting channel would be slightly increased as a result of the proposed sediment and emergent vegetation removal activities, but the increase in capacity would be small compared to the amount of runoff generated by a moderate to large storm. Therefore, changes to HSP and the connecting channel would not substantially alter the frequency of flooding, which is regulated primarily by the rate at which the pumps at HSP are able to discharge water to the ocean and by the intensity of rainfall in the watershed that governs the rate at which water is delivered to HSP via Sanchez Creek.

As part of the proposed project, steps and a maintenance walkway would be constructed and the existing retaining wall would be replaced at the HSP pumphouse. While these proposed structures would not be subject to building permit requirements of the City of Pacifica, San Francisco Department of Building Inspection (DBI), or any other agencies, the SFRPD would design and construct these structures in accordance with the California Uniform Building Code.

The existing pumphouse is located outside the Special Flood Hazard Areas (SFHAs), which are the areas subject to inundation by the 1-percent annual chance flood. The 1-percent annual chance flood (100-year flood), also known as the base flood, is a flood that has a one percent chance of being equaled or exceeded in any given year.[188] The water level at the pumphouse and to a lesser extent throughout the entire wetland system is determined by rainfall and management of the pumps. Water levels are managed in the rainy season to ensure the protection of the CRLF egg masses. Typically, water levels in the wetland complex rise throughout the winter as egg masses are deposited and the pumps are adjusted upwards. Sometimes large storm events exceed the capacity of the pumps and water backs up on the golf course, however, it is very unlikely that the pumphouse itself would become inundated by flooding.[189] Furthermore, the proposed structures would not impede the flow of floodwater in a way that increases the elevation of floodwaters upstream. Therefore, the proposed project would result in a less-than-significant impact with respect to flooding.

In light of the above, the proposed project would not expose people, housing, or structures, to substantial risk of loss due to flooding, and this impact is less than significant.

Impact HY-5: The proposed project would not expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow. (No Impact)

The proposed project would not attract a significant number of visitors to Sharp Park or result in construction of dwelling units. The proposed project would have a less-than-significant impact

[188] FEMA. *Flood Insurance Rate Map (FIRM), San Mateo County, California, and Incorporated Areas, Panel 126 of 510, Map Number 06081C0126E*, Effective Date October 16, 2012. This map is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[189] Lisa Wayne, SFRPD. *Email to Kei Zushi, San Francisco Planning Department, FEMA 100-year flood map*, April 29, 2013. This email is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

with regard to exposing people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow.

The San Francisco General Plan Community Safety Elements describes tsunamis as follows:[190]

> "Tsunamis are large waves in the ocean generated by earthquakes, coastal or submarine landslides, or volcanoes. Damaging tsunamis are not common on the California coast. Most California tsunamis are associated with distant earthquakes (most likely those in Alaska or South America and recently in Japan), not with local earthquakes. Devastating tsunamis have not occurred in historic times in the Bay Area. Because of the lack of reliable information about the kind of tsunami runups that have occurred in the prehistoric past, there is considerable uncertainty over the extent of tsunami run-up that could occur. There is ongoing research into the potential tsunami run-up in California"

Sharp Park is within a tsunami inundation area.[191] Overtopping of the seawall can be expected should a tsunami occur simultaneously with a severe storm event during high tide.[192] None of the proposed project activities would increase the likelihood that people or structures would be exposed to a significant risk of loss, injury, or death due to inundation by seiche, tsunami, or mudflow. Therefore, the proposed project would have a less-than-significant impact with regard to this criterion.

Impact C-HY: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not make a considerable contribution to any cumulative significant effects related to hydrology or water quality. (Less than Significant with Mitigation)

As discussed above, in 2006, the California Climate Change Center reported a historic sea-level rise of seven inches in the last century and projected an additional rise of 22–35 inches by the end of this century. Since that time numerous other studies have published projected ranges of sea-level rise for this same period, with the differences in these projections attributable to different methodologies used and how well or whether glacier ice melt is included in the calculations.[193] The exact magnitude of sea level rise near the project site is unknown. Among the cumulative effects on water resources resulting from sea level rise are increased frequency of flooding of low-lying areas, increased salt water intrusion in coastal wetlands, increased coastal erosion, and increased potential for contamination of receiving waters because of inundation of areas containing hazardous substances. One approach to mitigating these and similar long-term cumulative effects is to move vulnerable development and activities out of low-lying coastal areas and to encourage coastal and shoreline uses, such as open space, that can accommodate sea level rise. The proposed project would not substantially affect existing uses on the project site and the project site would remain as open space. None of the proposed project activities would be

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[190] City and County of San Francisco. *General Plan, Community Safety Element*, October, 2012. Available online at: *http://www.sf-planning.org/ftp/General_Plan/Community_Safety_Element_2012.pdf*. Accessed June 6, 2013.

[191] California Department of Conservation. *San Mateo County Tsunami Inundation Maps*. Available online at: *http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/SanMateo/Documents/Tsunami_Inundation_SouthSanFrancisco_PacificCoast_Quad_SanMateo.pdf*. Accessed July 19, 2013.

[192] Arup North America. *Sharp Park Sea Wall Evaluation*, February 5, 2010. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[193] California Natural Resources Agency. *2009 California Climate Adaptation Strategy, A Report to the Governor of the State of California in Responses to Executive Order S-13-2008*. Available online at: *http://resources.ca.gov/climate_adaptation/*. Accessed July 13, 2013.

anticipated to contribute to the effects of sea level rise. Therefore, the proposed project would not contribute considerably to any cumulative impact associated with sea level rise.

As of September 2013, there are no known past or present projects in the project vicinity that would, in combination of the proposed project, result in cumulative hydrology or water quality impacts. The Draft EIR prepared for the proposed 2006 SNRAMP, a reasonably foreseeable future project in the proposed project's vicinity, concluded that the proposed 2006 SNRAMP would not result in any significant impacts with respect to hydrology or water quality. A Categorical Exemption prepared for the Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E) concluded that the proposed restoration would not result in any significant effects on the environment, including hydrology and water quality impacts, and, thus, that project was appropriately exempt from CEQA under Section 15333 of the CEQA Guidelines.[194] Thus, no cumulative impact to hydrology or water quality within the project vicinity exists to which this project could potentially contribute.

The proposed project would not have a significant impact on hydrology or water quality with the implementation of **Mitigation Measures M-BIO-2b**, **M-BIO-4a**, and **M-BIO-4b**. Thus, the project would not contribute considerably to a cumulative impact to hydrology or water quality, even if one existed.

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
16. HAZARDS AND HAZARDOUS MATERIALS Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒	☐

[194] San Francisco Planning Department. *Categorical Exemption, Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E)*, August 5, 2013. Available online at: http://www.sf-planning.org/index.aspx?page=3447. Accessed December 17, 2013.

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐	☐
h) Expose people or structures to a significant risk of loss, injury or death involving fires?	☐	☐	☒	☐	☐

Question 16c is not applicable because the project site is not within one-quarter mile of an existing or proposed school. The project site is not located near a public or private airport or within an airport land use plan area. Therefore, Questions 16e and 16f do not apply to the proposed project.

Impact HZ-1: The proposed project would not create a significant hazard through routine transport, use, disposal, handling or emission of hazardous materials. (No Impact)

The proposed project includes improvements to existing facilities and creation of habitat and would not involve routine transport, use, disposal, handling or emission of hazardous materials.[195] Therefore, no impact would result from the proposed project with respect to the routine transport, use, disposal, handling or emission of hazardous materials.

Impact HZ-2: Implementation of the proposed project activities would not result in a significant increase in the mosquito or tick population. (Less than Significant)

San Mateo County Mosquito and Vector Control District (SMCMVCD) provides mosquito and insect control at Sharp Park. The SMCMVCD has programs for the control of mosquitoes and ticks, including mosquito-borne diseases such as the West Nile virus. The SMCMVCD's integrated pest management for mosquito control includes a preventive approach, underground source control, and mosquito control within pools, ponds, fountains, marshes, and creeks. The SMCMVCD's integrated management includes controlling mosquitoes in their immature stages before emerging as biting adults. Further the SMCMVCD programs include a Lyme disease program, a tick prevention and removal program, and a tick-borne diseases program.[196]

[195] Section 25501(h) of the California Health and Safety Code defines "Hazardous materials" as materials that, because of their quantity, concentration, or physical or chemical characteristics, pose a substantial present or potential hazard to human health and safety or to the environment if released to the workplace or environment.

[196] San Mateo County Mosquito and Vector Control District (SMCMVCD). Available online at: *http://www.smcmad.org/index.htm*. Accessed July 11, 2013.

The SMCMVCD mainly uses the following mosquito larva treatments:[197]

- BVA-2 Oil: A refined petroleum distillate that breaks down in a few days. It is applied to the surface of standing water and causes mosquito larvae to drown.

- Methoprene: A juvenile growth hormone that is targeted specific to mosquito larvae. It mimics the growth hormone produced in a developing larva. They stop producing the hormone when they pupate. When methoprene is applied to the water, it keeps the larvae in a juvenile stage.

- *Bacillus thuringensis israelis* (Bti): A bacteria that is toxic to mosquito larvae. The bacteria cause the stomach lining of mosquito larvae to rupture and ultimately killing the mosquito larvae.

- Mosquito fish (*Gambusia affinis*): These fish eat mosquito larvae. This is known to be a reliable biological control method.

The proposed improvements to the existing pumphouse would not change the depth or shape of water bodies. Therefore, these improvements would not create new areas of standing water that could lead to an increase the mosquito or tick population. As such, the proposed improvements to the pumphouse would have no impact on public health relative to mosquitoes and ticks.

Increased depths of HSP and the connecting channel as a result of the proposed sediment removal activities and a new perennial pond constructed as part of this project could increase the mosquito population in that area. The SMCMVCD would continue to control mosquitoes at the project site. The SFRPD would coordinate with the SMCMVCD in the implementation of the proposed sediment and emergent vegetation removal activities and the construction of the pond to minimize the potential for developing mosquito breeding habitat.

Over the past several years, sediments have accumulated in HSP and the connecting channel and enhanced the growth of cattails; cattail and tule stands provide ideal habitat for tule mosquitoes. The proposed project activities include removal of cattails and bulrush, which would reduce the habitat of tule mosquitoes. In addition, the SMCMVCD would continue to implement the Integrated Pest Management (IPM) program to control Lyme disease and tick-borne diseases.

The SFRPD proposes to implement the following BMPs to control the spread of mosquito-borne disease as part of this project.

1. Educate staff about the most effective ways to avoid being bitten by mosquitoes;

2. Remove small water features that contain standing water or treat those features with *Bacillus thuringiensis israelis* a biological control agent for mosquito larvae, if the features were to remain and Public Health Services were to identify a potential health hazard; and

3. Encourage staff to drain any standing water in stored equipment or temporary depressions.

In light of the above, the proposed project would result in a less-than-significant impact from mosquitoes or ticks.

[197] SMCMVCD. *Preventative Approach*. Available online at: *http://www.smcmad.org/preventative_control.htm*. Accessed July 11, 2013.

Impact HZ-3: Implementation of the proposed project would not create a significant hazard through the use of pesticides for vegetation control. (No Impact)

No herbicides or pesticides would be used as part of this project. Therefore, no impact would result from the proposed project.

Impact HZ-4: The proposed project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (Less than Significant)

The proposed project could result in accidental release of hazardous materials into the environment. The proposed project would require the use of motor vehicles and motorized equipment for the project activities around HSP and the connecting channel. Hazardous materials likely to be used during the project construction activities include fuel, oil, solvents, and lubricants for equipment and equipment maintenance. Similar motor vehicles and motorized equipment are regularly used at Sharp Park for the ongoing maintenance work and there have been no known incidents at Sharp Park that resulted in release of a substantial amount of hazardous materials from motor vehicles and motorized equipment. Hazardous materials would be used in marginal quantities as part of this project and would be stored outside the project site. Any activities involving hazardous materials and hazardous waste[198] would be conducted in accordance with strict health and safety standards mandated by the Occupational Safety and Health Administration (OSHA). Therefore, the proposed project would result in less-than-significant impacts from accidental releases of hazardous materials.

Impact HZ-5: Implementation of the proposed project activities would not result in substantial fire hazard impacts. (Less than Significant)

Motorized equipment used during construction would increase the risk of fire. Workers involved in the proposed project activities would carry fire extinguishers in their trucks and would use appropriate fire prevention and suppression measures during construction. Therefore, the proposed project would result in less-than-significant impacts from fire hazards.

Impact C-HZ: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not make a considerable contribution to any cumulative significant impacts related to hazardous materials. (Less than Significant with Mitigation)

As of September 2013, there are no known past or present projects in the project vicinity that would, in combination of the proposed project, result in cumulative hazardous materials impacts during the construction period of the proposed project. The Draft EIR prepared for the proposed 2006 SNRAMP, a reasonably foreseeable future project in the proposed project's vicinity, concluded that the proposed 2006 SNRAMP would not result in any significant impacts with respect to hazardous materials. A Categorical Exemption prepared for the Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E) concluded that the proposed

[198] "Hazardous waste" is defined as any material that is relinquished, recycled, or inherently waste-like and falls under Title 22 of the California Code of Regulations. Division 4.5, Chapter 11, contains regulations for classifying hazardous wastes. A waste is considered hazardous if it causes human health effects, has the ability to burn, causes severe burns or damages materials, or causes explosions or generates toxic gases, in accordance with the criteria established in Article 3. Article 4 lists specific hazardous wastes, and Article 5 identifies specific waste categories, including hazardous wastes, as defined by the Resource Conservation and Recovery Act, non-Resource Conservation and Recovery Act hazardous wastes, extremely hazardous wastes, and special wastes.

restoration would not result in any significant effects on the environment, including hazards and hazardous materials impacts, and, thus, that project was appropriately exempt from CEQA under Section 15333 of the CEQA Guidelines.[199] Thus, no cumulative impact to hazardous materials within the project vicinity exists to which this project could potentially contribute.

Impacts from hazards are generally site-specific, and typically do not result in cumulative impacts. The proposed project would not have a significant impact with respect to hazardous materials on the project site or in its vicinity. Thus, the proposed project would not contribute considerably to a cumulative hazardous materials impact, even if one existed.

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
17. MINERAL AND ENERGY RESOURCES— Would the project:					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☐	☒
c) Encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner?	☐	☐	☒	☐	☐

The project site is designated Mineral Resource Zone 1 (MRZ-1) by the California Division of Mines and Geology (CDMG) under the Surface Mining and Reclamation Act of 1975.[200] This designation indicates the area where there is adequate geologic information which indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. This zone is applied where well developed lines of reasoning, based on economic-geologic principles and adequate data, indicate that the likelihood for occurrence of significant mineral deposits is nil or slight.[201]

There are no operational mineral resource recovery sites in the project site or its immediate vicinity whose operations or accessibility would be affected by the construction or operation of the proposed project. Therefore, questions 16a and 16b are not applicable to this project.

[199] San Francisco Planning Department. *Categorical Exemption, Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E)*, August 5, 2013. Available online at: http://www.sf-planning.org/index.aspx?page=3447. Accessed December 17, 2013.

[200] California Division of Mines and Geology (CDMG). *Mineral Land Classification Map, San Mateo and San Francisco Counties by Melvin C. Stinson, Michael W. Manson, and John J. Pioppert*, 1982. This map is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

[201] CDMG. *Guideline for Classification and Designation of Mineral Lands*. Available online at: http://www.conservation.ca.gov/smgb/Guidelines/Documents/ClassDesig.pdf. Accessed April 8, 2013.

Impact ME-1: Implementation of the proposed project would not encourage activities which would result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner. (Less than Significant)

During the project construction, fuel (diesel and gasoline) would be consumed by motorized equipment and by trucks and other construction equipment including a backhoe, Aquamog, and long-arm excavator. Use of these fuels by the project work crews are expected to be minor in amount. Given the minor scope of the proposed project, use of energy and fuels by the proposed project is expected to be less than significant.

Impact C-ME: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would not make a considerable contribution to any cumulative significant impacts related to energy or minerals. (Less than Significant)

As of September 2013, there are no known past or present projects in the project vicinity that would, in combination of the proposed project, result in energy or mineral impacts. The Initial Study prepared for the proposed 2006 SNRAMP concluded that the proposed 2006 SNRAMP would not result in any significant impacts with respect to energy or minerals. A Categorical Exemption prepared for the Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E) concluded that the proposed restoration would not result in any significant effects on the environment, including mineral and energy resources impacts, and, thus, that project was appropriately exempt from CEQA under Section 15333 of the CEQA Guidelines.[202] Thus, no cumulative impact to energy or minerals within the project vicinity exists to which this project could potentially contribute.

The project-generated demand for electricity would be negligible in the context of overall demand within Sharp Park and its vicinity. Therefore, the proposed project would not contribute to a cumulative energy or minerals impact, even if one existed.

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
18. AGRICULTURE AND FOREST RESOURCES—Would the project					
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☐	☒

[202] San Francisco Planning Department. *Categorical Exemption, Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E)*, August 5, 2013. Available online at: http://www.sf-planning.org/index.aspx?page=3447. Accessed December 17, 2013.

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined by Public Resources Code Section 4526)?	☐	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or forest land to non-forest use?	☐	☐	☐	☐	☒

Because no farmland or forest land is present within the project site, Questions relevant to impacts to agricultural resources and forest land are not applicable to the proposed project.

The project site is located entirely within Sharp Park within the City of Pacifica. The California Department of Conservation's Farmland Mapping and Monitoring Program identifies the project site as either "Urban and Built-up Land" or "Other Land."[203]

"Urban and Built-up Land" is defined as "land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel and commonly include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures.

"Other Land" is defined as "land not included in any other mapping category; commonly include low density rural developments, brush, timber, wetland, and riparian areas; not suitable for livestock grazing, confined livestock, poultry, or aquaculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres; and include vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres."

Because the project site does not contain agricultural uses and is not zoned for such uses, the proposed project would not convert any prime farmland, unique farmland, or Farmland of Statewide Importance to non-agricultural use, and it would not conflict with existing zoning for agricultural land use or a Williamson Act contract, nor would it involve any changes to the environment that could result in the conversion of farmland. There is likewise no forest land on the project site.

As of September 2013, there are no known past or present projects in the project vicinity that would, in combination of the proposed project, result in agriculture or forest resources impacts during the construction period of the proposed project. The Draft EIR prepared for the proposed 2006 SNRAMP concluded that the proposed 2006 SNRAMP would not result in any significant impacts with respect to agriculture or forest resources. A Categorical Exemption prepared for the Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E) concluded that the proposed restoration would not result in any significant effects on the environment,

[203] California Department of Conservation, *San Mateo County Important Farmland 2010*, October 2011. Available online at: *ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2010/smt10.pdf*. Accessed March 29, 2013.

including agriculture and forest resources impacts, and, thus, that project was appropriately exempt from CEQA under Section 15333 of the CEQA Guidelines.[204] Thus, no cumulative impact to agriculture or forest resources within the project vicinity exists to which this project could potentially contribute.

The proposed project would have no impacts to agricultural or forest resources, and would not contribute to cumulative agriculture or forest resources impact, even if one existed.

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
19. MANDATORY FINDINGS OF SIGNIFICANCE—Would the project:					
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐	☐
b) Have impacts that would be individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☒	☐	☐	☐
c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐	☐

As discussed above, with the implementation of the mitigation measures the proposed project is anticipated to have only less-than-significant impacts in the environmental topics discussed. The foregoing analysis identifies potentially significant impacts to archeological resources, paleontological resources, human remains, air quality, biological resources, and hydrology and water quality. These potentially significant impacts would be mitigated though implementation of mitigation measures as described below and more fully within Section F of this Initial Study.

As discussed in Section E.4, Cultural and Paleontological Resources, it is possible that below-ground archeological and paleontological resources and human remains may be present within the project site. Any potential significant impacts to archeological and paleontological resources and human remains resulting from soil-disturbing activities would be reduced to a less-than-

[204] San Francisco Planning Department. *Categorical Exemption, Sharp Park Upland Habitat Restoration (Planning Department Case No. 2013.1008E)*, August 5, 2013. Available online at: http://www.sf-planning.org/index.aspx?page=3447. Accessed December 17, 2013.

significant level with the implementation of **Mitigation Measures M-CP-2**, **M-CP-3**, and **M-CP-4**, which include measures to address accidental discovery of archeological and paleontological resources and human remains.

As discussed in Section E.7, Air Quality, construction associated with the proposed project activities could generate fugitive dust during soil-disturbing activities including sediment and emergent vegetation removal activities, excavation, site grading, installation of proposed structures, and realignment of golf cart path. Although the proposed project would involve mostly wet soils, unmitigated, fugitive dust generated by the proposed project could result in significant air quality impacts. Any potential significant impacts with respect to fugitive dust would be reduced to a less-than-significant level with the implementation of **Mitigation Measure M-AQ-2**, which addresses the control and suppression of fugitive dust.

Additionally, as discussed in Section E.13, Biological Resources, it is possible that the proposed project could result in a significant impact to special-status species including, but not limited to, CRLF, SFGS, WPT, salt marsh common yellowthroat, and black-crowned night heron. **Mitigation Measures M-BIO-2a**, **M-BIO-2b**, and **M-BIO-2c** would reduce the impacts to a less-than-significant level. It is also possible that the proposed project would result in significant impacts to the wetlands in the project area or its vicinity. With the implementation of **Mitigation Measures M-BIO-4a** and **M-BIO-4b**, such potential significant impacts would be reduced to a less-than-significant level. Accordingly, the proposed project would not result in a significant impact to biological resources.

Furthermore, as discussed in Section E. 15, Hydrology and Water Quality, the proposed project could result in significant impacts to water quality resulting from acid sulfate soils, other chemical components, or anoxic conditions. With the implementation of **Mitigation Measure M-BIO-2b**, this impact would be reduced to a less-than-significant level.

Cumulative projects in the project site vicinity primarily include the proposed 2006 SNRAMP as discussed in Section E of this Initial Study. With incorporation of identified mitigation measures, the proposed project would not result in a considerable contribution to any cumulatively significant impacts.

In light of the above, the proposed project would not result in any significant impacts.

F. MITIGATION MEASURES AND IMPROVEMENT MEASURES

Mitigation Measure M-CP-2 - ~~Accidental Discovery~~ Archeological Testing

~~The following mitigation measure is required to avoid any potential adverse effect from the proposed project on accidentally discovered buried or submerged historical resources as defined in *CEQA Guidelines* Section 15064.5(a)(c). The project sponsor shall distribute the Planning Department archeological resource "ALERT" sheet to the project prime contractor; or to any project subcontractor (including demolition, excavation, grading, etc. firms) involved in soils disturbing activities within the project site. Prior to any soils disturbing activities being undertaken each contractor is responsible for ensuring that the "ALERT" sheet is circulated to all field personnel including, machine operators, field crew, supervisory personnel, etc. The project sponsor shall provide the Environmental Review Officer (ERO) with a signed affidavit from the responsible parties (prime contractor and subcontractor(s)) to the ERO confirming that all field personnel have received copies of the Alert Sheet.~~

~~Should any indication of an archeological resource be encountered during any soils disturbing activity of the project, the project Head Foreman and/or project sponsor shall immediately notify the ERO and shall immediately suspend any soils disturbing activities in the vicinity of the discovery until the ERO has determined what additional measures should be undertaken.~~

~~If the ERO determines that an archeological resource may be present within the project site, the project sponsor shall retain the services of an archaeological consultant from the pool of qualified archaeological consultants maintained by the Planning Department archaeologist. The archeological consultant shall advise the ERO as to whether the discovery is an archeological resource, retains sufficient integrity, and is of potential scientific/historical/cultural significance. If an archeological resource is present, the archeological consultant shall identify and evaluate the archeological resource. The archeological consultant shall make a recommendation as to what action, if any, is warranted. Based on this information, the ERO may require, if warranted, specific additional measures to be implemented by the project sponsor.~~

~~Measures might include: preservation in situ of the archeological resource; an archaeological monitoring program; or an archeological testing program. If an archeological monitoring program or archeological testing program is required, it shall be consistent with the Environmental Planning (EP) division guidelines for such programs. The ERO may also require that the project sponsor immediately implement a site security program if the archeological resource is at risk from vandalism, looting, or other damaging actions.~~

~~The project archeological consultant shall submit a Final Archeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report.~~

~~Copies of the Draft FARR shall be sent to the ERO for review and approval. Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The EP division of the Planning Department shall receive one bound copy, one unbound copy and one unlocked, searchable PDF copy on CD of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest or~~

~~interpretive value, the ERO may require a different final report content, format, and distribution than that presented above.~~

Based on a reasonable presumption that archeological resources may be present within the project site, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on buried or submerged historical resources. The project sponsor shall retain the services of an archaeological consultant from the rotational Department Qualified Archaeological Consultants List (QACL) maintained by the Planning Department archaeologist. The project sponsor shall contact the Department archeologist to obtain the names and contact information for the next three archeological consultants on the QACL. The archeological consultant shall undertake an archeological testing program as specified herein. In addition, the consultant shall be available to conduct an archeological monitoring and/or data recovery program if required pursuant to this measure. The archeological consultant's work shall be conducted in accordance with this measure at the direction of the Environmental Review Officer (ERO). All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Archeological monitoring and/or data recovery programs required by this measure could suspend construction of the project for up to a maximum of four weeks. At the direction of the ERO, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less than significant level potential effects on a significant archeological resource as defined in CEQA Guidelines Sect. 15064.5 (a)(c).

Consultation with Descendant Communities: On discovery of an archeological site[205] associated with descendant Native Americans, the Overseas Chinese, or other descendant group an appropriate representative[206] of the descendant group and the ERO shall be contacted. The representative of the descendant group shall be given the opportunity to monitor archeological field investigations of the site and to consult with ERO regarding appropriate archeological treatment of the site, of recovered data from the site, and, if applicable, any interpretative treatment of the associated archeological site. A copy of the Final Archaeological Resources Report shall be provided to the representative of the descendant group.

Archeological Testing Program. The archeological consultant shall prepare and submit to the ERO for review and approval an archeological testing plan (ATP). The archeological testing program shall be conducted in accordance with the approved ATP. The ATP shall identify the property types of the expected archeological resource(s) that potentially could be adversely affected by the proposed project, the testing method to be used, and the locations recommended for testing. The purpose of the archeological testing program will be to determine to the extent possible the presence or absence of archeological resources and to identify and to evaluate whether any archeological resource encountered on the site constitutes an historical resource under CEQA.

At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to the ERO. If based on the archeological testing program the archeological consultant finds that significant archeological resources may be present, the ERO in consultation with the archeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include additional archeological testing,

[205] By the term "archeological site" is intended here to minimally included any archeological deposit, feature, burial, or evidence of burial.

[206] An "appropriate representative" of the descendant group is here defined to mean, in the case of Native Americans, any individual listed in the current Native American Contact List for the City and County of San Francisco maintained by the California Native American Heritage Commission and in the case of the Overseas Chinese, the Chinese Historical Society of America. An appropriate representative of other descendant groups should be determined in consultation with the Department archeologist.

archeological monitoring, and/or an archeological data recovery program. No archeological data recovery shall be undertaken without the prior approval of the ERO or the Planning Department archeologist. If the ERO determines that a significant archeological resource is present and that the resource could be adversely affected by the proposed project, at the discretion of the project sponsor either:

A) The proposed project shall be re-designed so as to avoid any adverse effect on the significant archeological resource; or

B) A data recovery program shall be implemented, unless the ERO determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.

Archeological Monitoring Program. If the ERO in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented the archeological monitoring program shall minimally include the following provisions:

- The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the AMP reasonably prior to any project-related soils disturbing activities commencing. The ERO in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. In most cases, any soils- disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work, driving of piles (foundation, shoring, etc.), site remediation, etc., shall require archeological monitoring because of the risk these activities pose to potential archaeological resources and to their depositional context;
- The archeological consultant shall advise all project contractors to be on the alert for evidence of the presence of the expected resource(s), of how to identify the evidence of the expected resource(s), and of the appropriate protocol in the event of apparent discovery of an archeological resource;
- The archeological monitor(s) shall be present on the project site according to a schedule agreed upon by the archeological consultant and the ERO until the ERO has, in consultation with project archeological consultant, determined that project construction activities could have no effects on significant archeological deposits;
- The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis;
- If an intact archeological deposit is encountered, all soils-disturbing activities in the vicinity of the deposit shall cease. The archeological monitor shall be empowered to temporarily redirect demolition/excavation/pile driving/construction activities and equipment until the deposit is evaluated. If in the case of pile driving activity (foundation, shoring, etc.), the archeological monitor has cause to believe that the pile driving activity may affect an archeological resource, the pile driving activity shall be terminated until an appropriate evaluation of the resource has been made in consultation with the ERO. The archeological consultant shall immediately notify the ERO of the encountered archeological deposit. The archeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to the ERO.

Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the monitoring program to the ERO.

Archeological Data Recovery Program. The archeological data recovery program shall be conducted in accord with an archeological data recovery plan (ADRP). The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archeological consultant shall submit a draft ADRP to the ERO. The ADRP shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the ADRP will identify what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical.

The scope of the ADRP shall include the following elements:

- *Field Methods and Procedures*. Descriptions of proposed field strategies, procedures, and operations.
- *Cataloguing and Laboratory Analysis*. Description of selected cataloguing system and artifact analysis procedures.
- *Discard and Deaccession Policy*. Description of and rationale for field and post-field discard and deaccession policies.
- *Interpretive Program*. Consideration of an on-site/off-site public interpretive program during the course of the archeological data recovery program.
- *Security Measures*. Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities.
- *Final Report*. Description of proposed report format and distribution of results.
- *Curation*. Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities.

Human Remains and Associated or Unassociated Funerary Objects. The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and Federal laws. This shall include immediate notification of the Coroner of the City and County of San Francisco and in the event of the Coroner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission (NAHC) who shall appoint a Most Likely Descendant (MLD) (Pub. Res. Code Sec. 5097.98). The archeological consultant, project sponsor, and MLD shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines. Sec. 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects.

Final Archeological Resources Report. The archeological consultant shall submit a Draft Final Archeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological testing/monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report.

Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Environmental Planning division of the Planning Department shall receive one bound, one unbound and one unlocked, searchable PDF copy on CD of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest in or the high interpretive value of the resource, the ERO may require a different final report content, format, and distribution than that presented above.

Mitigation Measure M-CP-3 - Paleontological Training Program and Alert Sheet

To reduce the potential for the proposed project to result in a significant impact on paleontological resources, the SFRPD shall arrange for a paleontological training by a qualified paleontologist regarding the potential for such resources to exist in the project site and how to identify such resources. The training shall also include a review of penalties for looting and disturbance of these resources. An alert sheet shall be issued and shall include the following:

1. A discussion of the potential to encounter paleontological resources;

2. Instructions for reporting observed looting of a paleontological resource; and instruct that if a paleontological deposit is encountered within a project area, all soil-disturbing activities in the vicinity of the deposit shall cease and the ERO shall be notified immediately.

3. If an unanticipated paleontological resource is encountered during project activities, all project activities shall stop, and a professional paleontologist shall be hired to assess the potential paleontological resource and its significance. The findings shall be presented to the ERO, who shall determine the additional steps to be taken before work in the vicinity of the deposit is authorized to continue.

Mitigation Measure M-CP-4 - Human Remains, Associated or Unassociated Funerary Objects

The treatment of human remains and of associated or unassociated funerary objects discovered during any ground-disturbing activity shall comply with applicable State and Federal Laws, including immediate notification to the San Mateo County Coroner and in the event of the Coroner's determination that the human remains are Native American remains, notification to the Native American Heritage Commission (NAHC) who shall appoint a Most Likely Descendant (MLD) (Pub. Res. Code Sec. 5097.98). The project archaeological consultant, SFRPD, and MLD shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines. Sec. 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, curation, possession, and final disposition of the human remains and associated or unassociated funerary objects.

Mitigation Measure M-AQ-2 - Preparation and Implementation of a Dust Control Plan

The SFRPD shall comply with the following requirements to control fugitive dust:

- The SFRPD shall designate an individual to monitor compliance with dust control requirements identified in this mitigation measure;
- Water all active construction areas sufficiently to prevent dust from becoming airborne (without creating runoff) in any area of land clearing, earth movement, excavation, and other dust-generating activity. Watering shall occur as needed, and whenever wind speeds exceed 15 miles per hour. Reclaimed water shall be used whenever possible;
- Establish shutdown conditions based on wind, soil migration, and other factors;
- Limit the area subject to construction activities at any one time;
- During excavation and dirt-moving activities, wet sweep or vacuum the routes and paths where work is in progress at the end of the workday;
- Cover any inactive (no disturbance for more than seven days) stockpiles greater than ten cubic yards or 500 square feet of excavated materials, backfill material, import material, gravel, sand, road base, and soil with a 10 mil (0.01 inch), wildlife-friendly polyethylene plastic or equivalent tarp and brace it down or use other equivalent soil stabilization techniques;
- Limit the amount of soil in hauling trucks to the size of the truck bed, and secure the load with a tarpaulin;
- Enforce a 10-mile per hour (mph) speed limit for vehicles entering and exiting construction areas;
- All soil stockpiles, if any, shall be protected against wind and rainfall erosion at all times. Wildlife-friendly plastic sheeting or other similar material shall be used to cover soils and shall be securely anchored by sandbags or other suitable means. At no time shall any stockpiled materials be allowed to erode into any water body or drainage facility or onto any roadway; and
- Install and use wheel washers to clean truck tires.

The SFRPD shall prepare and submit a site-specific Dust Control Plan to the ERO for records. The Plan shall detail a protocol for project compliance with the above requirements.

Mitigation Measure M-BIO-2a - Protection of CRLF, SFGS, and WPT

1. All sensitive habitats outside the construction site shall be avoided during and following project implementation. All biologists working on the project and their roles shall be approved by the USFWS and CDFW[207] based on their qualifications. All approved biologists shall be part of the Project Implementation Team. The SFRPD shall designate one of the USFWS/CDFW-approved biologists to oversee and coordinate all avoidance and survey tasks of the Project Implementation Team. Prior to the commencement of any project-related construction activity, an approved biological monitor shall flag the sensitive areas and/or the limits of the construction site with suitable markers that are easily discernible by construction equipment operators. No construction equipment or personnel shall enter the sensitive areas designated for avoidance by the project;

2. The lead USFWS/CDFW-approved biological monitor shall be present at all planning meetings prior to project implementation. A USFWS/CDFW-approved biological monitor shall present an educational program at one or more such meetings regarding the listed species and their habitats. Every person who works on project implementation shall receive this education program and sign a form indicating they have attended and agree

[207] Formally known as CDFG

to abide by the terms and conditions being implemented to avoid take of listed species and/or habitat. A USFWS/CDFW-approved biological monitor shall be present at the site during all construction activities including, but not limited to, vegetation and sediment removal, placement of concrete support structures for the walkway, replacement of the retaining wall and pathway repair. The biological monitor shall have the authority to stop work temporarily in order to protect the listed species or the flagged sensitive areas;

3. Prior to commencement of any construction activities and daily prior to construction each day, a USFWS/CDFW-approved biological monitor shall survey the site for listed species. A USFWS/CDFW-approved biologist shall also oversee the installation of exclusion fencing in segments or fully enclosing components of the construction site as appropriate. The biological monitor shall inspect the integrity of the exclusion fencing on a daily basis;

4. During the proposed sediment and vegetation removal activities, if required, up to three biological monitors shall be present to: 1) monitor the area of vegetation or sediment removal; 2) observe the material as it is transferred to the shoreline; and 3) inspect material as it is loaded into a container/dump bed that will allow the water in the excavated sediment to drain out before removal from the site;

5. Biological monitors shall complete a daily monitoring log that records information on compliance and construction activities as well as avoidance measures implemented each day during the project. Each monitor shall submit a daily monitoring report from to the lead biologist before the start of the next construction day. Photographic documentation of project activities shall accompany each daily monitoring log. Within 60 days of completion of the project, the SFRPD shall submit a report to the USFWS and CDFW documenting compliance with the terms and conditions and avoidance of unauthorized take of species or habitat;

6. No earthmoving or soil disturbing work shall occur starting October 31 and ending June 1, the breeding season for CRLF and the season when SFGS are less active on the site;

7. Terrestrial vegetation in undisturbed areas around HSP and the connecting channel shall be cleared by manual means to a height of four inches (or a height that allows visibility of the ground) under the supervision of an approved biological monitor and checked for the presence of CRLF, SFGS, and WPT;

8. Prior to ground disturbing activities associated with construction, including the use of staging or vehicle access areas or the removal or placement of fill or construction materials, rodent burrows in the construction site shall be hand excavated by a USFWS/CDFW-approved biologist until the burrow terminates or until a maximum depth of 30 centimeters;

9. Vehicle speeds in the project area shall not exceed 10 miles an hour. The USFWS/CDFW-approved biological monitor shall inspect for CRLF, SFGS, and WPT underneath any vehicle that is parked for 30 minutes or more prior to moving the vehicle. All construction personnel shall inspect under their tires and vehicle if it is in idle for more than five minutes and has not been inspected by the on-site monitor. Vehicles accessing the construction site shall be limited to the minimum necessary to complete the project. Project personnel shall park personal vehicles at a staging area located away from all aquatic habitats or areas of sensitive upland habitat;

10. Any workers on the site that observe any frog, snake, or turtle shall immediately report their findings to the on-site biological monitor and immediately suspend work that may be harmful to the individual. The monitor shall identify the animal if it has not left the area. If a CRLF, SFGS, or WPT is observed in the work area, it shall be relocated by a USFWS/CDFW-approved biological monitor to the nearest suitable aquatic habitat out of harm's way. Work may only recommence if CRLF, SFGS, and WPT move out of harm's way or the animal is relocated by the biological monitor. Work may not recommence until the biological monitor has returned to the work area and gives approval;

11. Only USFWS/CDFW-approved personnel shall be allowed to capture or attempt to capture and move CRLF, SFGS, WPT, or other non-listed wildlife (e.g., treefrogs, small rodents) in the work area;

12. Erosion control best management practices (silt fences, coir rolls, straw bales) shall be employed as part of the dewatering of sediments after removal and while soils are exposed. The erosion control measures shall not include netting, plastic or natural monofilament netting or other materials that may entrap CRLF, SFGS, or WPT;

13. After completion of the project, the access routes in the wetland shall be revegetated with appropriate native plants and erosion control measures, as described in Measure 12, as outlined above, shall be installed on exposed soils with slopes of 3:1 or greater;

14. All construction activities shall occur in uplands and on the golf course. Stockpiling and staging areas shall be located in the uplands and in areas cleared for species and the golf course. Construction materials (bricks, boards, shoring, concrete forms, etc.) shall be elevated approximately four to six inches above ground to minimize the potential for species to take cover under these items. If feasible, materials shall be staged on a trailer/truck bed to avoid contact with the ground. Construction materials shall be brought to on-site staging areas as close to the time they are needed as possible;

15. The SFRPD shall minimize the potential for harm, harassment, injury, and death of federally listed wildlife species resulting from project-related activities including implementation of the Conservation Measures in the Biological Opinion;

16. If requested, during or upon completion of construction activities, the SFRPD shall ensure the USFWS, CDFW, or their authorized agents have immediate access to the project area. The on-site biologist and/or a representative from the USACE/SFRPD shall accompany USFWS personnel on an on-site inspection of the project area(s) to review project effects to CRLF and SFGS and their habitat;

17. The SFRPD shall ensure compliance with the Reporting Requirements of the Biological Opinion;

18. During the course of construction activities, biological monitors may determine that relocation of a CRLF or SFGS is necessary for the safety of individual animals. If it is determined that a SFGS needs to be moved, the USFWS shall be contacted for further guidance. Individuals shall be relocated to appropriate sites away from disturbance on Sharp Park property;

19. Within nine months of issuance of the Biological Opinion, the SFRPD shall develop, for the USFWS review and approval, a monitoring plan for the new perennial pond. The plan shall include monitoring of: 1) the use of the pond by all life stages of CRLF and SFGS, 2) the amount of emergent vegetation and open water available, and 3) how

effective barriers are at preventing entry by people and off-leash dogs. If predators become established in the pond they shall be immediately removed and the USFWS shall be notified; and

20. Implementation of the pond monitoring plan shall begin immediately following the construction of the new pond.

Mitigation Measure M-BIO-2b - Protection of Special-Status Species and Water Quality from Acid Sulfate Soils and Other Components

Prior to commencement of any on-site work related to the proposed removal of sediment and emergent vegetation in HSP or the connecting channel and culverts that link HSP and LS, sediment core sampling tests shall be conducted in the manner specified in this mitigation measure.

The result of the sediment core sampling tests and remediation measures recommended by a qualified SFRPD biological/hydrological consultant, if any, shall be submitted to the USFWS and CDFW for review and approval prior to commencement of any on-site remediation work or sediment/vegetation removal work at HSP or the connecting channel and culverts. If the USFWS or CDFW determines, based on the results of the sediment core sampling tests, that remediation measures are required, the SFRPD shall submit a remediation and monitoring plan to all applicable resource agencies for review and approval prior to implementation of the remediation measures. Copies of all correspondence with the resource agencies shall be submitted to the ERO for review. The sediment core sampling tests shall include the following elements:

1. Work Plan

   A Work Plan for sediment core sampling tests shall be prepared by a qualified SFRPD biological/hydrological consultant and submitted to the USFWS and CDFW for review and comment prior to commencement of any on-site work related to the sampling tests. The Work Plan shall describe, at a minimum, compliance with Items 2 through 6 of this mitigation measure. Copies of all correspondence with the resource agencies shall be submitted to the ERO for review.

2. Sampling of Sediment Cores

   The sampling test shall include collection of, at minimum, one sediment core from HSP, two from the connecting channel, and one from LS. The exact locations of sampling shall be determined pursuant to the work plan developed in accordance with Item 1, above. Sample sediment cores shall include the soils between the current surface sediment level and approximately two to three feet below the current surface. This depth shall be at least one foot below the proposed depth of the future sediment-water interface.

3. Analysis of Sediment Cores and Estimation of the Potential for Formation of Acid Sulfate Soils

   The sediment cores shall be analyzed every five centimeters over the first 20 centimeters of core depth and then every 10 centimeters for the remainder of the core length for the following components: Total Organic Carbon (TOC), carbonate/bicarbonate, sulfate, sulfide, sulfites, pH, calcium, sodium, iron, aluminum, chloride, conductivity, redox potential, refractory organics, organic nitrogen, total phosphorus, ammonia, nitrate+nitrite nitrogen, soluble reactive phosphorus, organic phosphorus, loosely-sorbed,

phosphorus, iron-phosphorus, iron-phosphorus, aluminum-phosphorus, and calcium-phosphorus. Sediment core chemistry shall be analyzed to assess the potential reduction of sulfate to form hydrogen sulfate, iron sulfides, and reduction buffering capacity relative to acid-neutralizing capacity.

In addition, sediment oxygen demand (SOD) in the sediment cores shall be measured. Results shall be compared to the total oxidizable organic material, which would be estimated from the difference of TOC and refractory organic carbon (labile carbon). These results shall be used in the analysis of potential for formation of anoxic conditions within the newly restored HSP and connecting channel.

Sediment cores shall be analyzed based on Toxicity Reference Values (TRVs) from the USEPA and Screening Quick Reference Tables (SQuiRT) from the NOAA.[208] A draft summary of potential toxics shall be provided to the USFW, CDFW, and ERO for review and, if needed, revision will be made to the toxicity ranges appropriate for use in analyzing the sediment cores.

The potential for formation of acid sulfate soils and anoxic conditions in the water column shall be estimated based on this analysis and in coordination with the USFWS and CDFW. If this analysis determines that acid sulfate soils could be present in this location, the SFRPD shall perform a toxic pathway analysis[209] to determine the appropriate remediation measures. The analysis results and determination shall be submitted to the USFWS, CDFW, and ERO for review.

4. Toxics Pathway Analysis

   Should the potential for acid sulfate soils and anoxic conditions be present, a toxics pathway analysis shall be conducted for potential risks and toxicities to species that may be affected by localized increases in acidity, hypoxia, or dissolved metals concentration. During this Task, toxicity standards shall be established by the USFWS, CDFW, and ERO based on the results of Items 2 and 3 above, site-specific hydrologic conditions including water exchange and dissolved oxygen levels, the species that are known to be present, and literature review. The results of this task shall be submitted to the USFWS and CDFW and any applicable resource agencies for review and approval. Copies of all correspondence with the resource agencies shall be submitted to the ERO for review.

   Should the results of the sediment core tests reveal that there has been an appreciable increase in the amount of nitrogen and related compounds in the sediment cores, any necessary measures to remediate such compounds shall be undertaken in accordance with Task 5, below. The SFRPD shall hire a qualified biological/hydrological consultant to prepare a remediation and monitoring plan which shall be submitted to the USFWS and CDFW for review and approval. Copies of all correspondence with the resource agencies shall be submitted to the ERO for review.

5. Remediation

   If results of the sediment core chemistry analysis reveal the potential for reduction of sulfate to form hydrogen sulfate, iron sulfides, and its reduction in buffering capacity

[208] NOAA, Office of Response and Restoration. *SQuiRT Cards*. Available online at: *http://response.restoration.noaa.gov/cpr/sediment/squirt/squirt.html*. Accessed July 17, 2013.

[209] A toxic pathway analysis identifies potential risks and toxicities to species that may be affected by localized increases in acidity, hypoxia, or dissolved metals concentration.

relative to acid-neutralizing capacity, or if the toxics pathway analysis indicates that their presence could potentially result in substantial stress to special-status species, the SFRPD shall implement remediation measures, as approved by the USFWS and CDFW.

Remediation measures could include, but are not limited to:

a. Addition of lime to neutralize any acid that exists or which may form during the sediment removal process;

b. Injection of sodium nitrate to oxidize the sediments, thereby satisfying the sediment oxygen demand; or

c. Use of suction hydraulic sediment removal that reduces re-suspension of any form of sediments.

Depending on the severity of the condition (e.g., hypoxia), the remediation measure selected for implementation would be the least intensive beginning with Item a, when signs of hypoxia are present, to the most intensive with Item c, when hypoxia is persistent and/or widespread. The SFRPD shall select the remediation measure in consultation with the USFWS and CDFW. The remediation measure shall be selected based on immediate threats to species and sensitive life stages present during occurrence of the hypoxic condition.

6. Monitoring

During sediment and vegetation removal in HSP and the connecting channel and culverts, pH levels immediately above the sediment shall be monitored by the SFRPD to ensure that implementation of the proposed project would not adversely affect special-status species.[210] To ensure that residual acid sulfates in the water column would not adversely impact special-status species, pH levels in HSP and the connecting channel shall be monitored by the SFRPD for a period of six weeks after the proposed sediment and vegetation removal is completed. A remediation measure, such as addition of lime or injection of sodium nitrate, shall be implemented if the monitoring warrants such a remediation measure to protect special-status species based on the toxicity standards that are established in accordance with Task 4 above.[211]

Mitigation Measure M-BIO-2c - Protection of Bird Species

Vegetation removal activities shall be conducted outside the breeding season (February 1 to August 31), unless the following specific conditions are met: a breeding bird survey by a qualified biologist has been conducted prior to any vegetation removal activities. If active nests (or large abandoned stick nests) of a sensitive species are discovered, a 150-foot-radius avoidance buffer shall be centered on the nest site(s) to prevent nesting birds from being disturbed by power tools or other equipment. Weeds may be pulled by hand no closer than 50 feet from the nest.

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[210] pH is an indicator of anoxic conditions at the sediment-surface water interface. Under anoxic conditions, hydrogen ion availability increases and binds with sulfides mobilized from sediments. Rates of transformation of sulfur are mediated by microorganisms in both the sediments and surface water. Suspension of hydrogen sulfide (H_2S) in the water column is oxidized in surface water to form sulfuric acid (H_2SO_4).

[211] David Munro, Tetra Tech, Inc. *Email to Stacy Bradley, SFRPD, Sharp Park Appeal: M-BIO-2b - Post Construction Monitoring*, January 7, 2014. This document is available for review as part of Case File No. 2012.1427E at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.

Mitigation Measure M-BIO-4a - Protection of Wetlands and Natural Habitat

The SFRPD shall obtain all applicable permits from the SFBRWQCB, CCC, USACE, and CDFW to protect wetlands and natural habitat. Measures identified in these permits shall be applied, in addition to the following measures, unless otherwise specified by resource agencies:

1. In areas where work is not directly taking place, a minimum 100-foot buffer surrounding all wetlands, ponds, streams, drainages, and other aquatic habitats located on or within 100 feet of the project site shall be clearly designated on the final project construction plans and marked on the site with wildlife-friendly orange construction fencing or silt fencing. If the area is on a slope, silt fencing or other comparable management measures will be installed to prevent polluted runoff, as well as equipment, from entering the buffer area. Signs shall be installed every 100 feet on or adjacent to the buffer fence that read, "Environmentally Sensitive Area – Keep Out." Fencing and management measures shall be installed and inspected prior to project implementation and maintained throughout the restoration period. No equipment mobilization, grading, clearing, storage of equipment or machinery, vehicle or equipment washing, or similar activity, may occur until a representative of the SFRPD has inspected and approved the fencing and/or management measures installed around these features;

2. Vehicle and equipment operators shall use existing access roads and shall remain outside of wetlands and riparian areas that are not directly associated with the proposed project. Project construction and staging areas shall be delineated with construction fencing and shall avoid wetland habitat to the maximum extent feasible; and

3. All vehicles shall be brought in clean and free of weeds to prevent the spread or introduction of invasive plant species. Vehicles and equipment shall be fueled, maintained, and parked at least 100 feet from wetlands. Each morning, operators shall inspect all equipment that requires the use of fuel or fluids for leaks.

Mitigation Measure M-BIO-4b - Wetland Mitigation Plan for Temporarily Affected Areas

Consistent with the requirements for a Section 401 water quality certification permit, the SFRPD shall prepare a wetland mitigation plan for temporarily effected wetlands. Additionally, because the proposed project includes habitat restoration (i.e., construction of a perennial pond), the CCC may require an objective performance evaluation to determine project success which would include a monitoring program and methods for evaluating performance, which could be accomplished through implementation of the wetland mitigation plan. The wetland mitigation plan shall include, at a minimum, a description of the following:

- Proposed project's physical and biological impacts;
- Mitigation goals;
- Mitigation work plan;
- Management and maintenance plan;
- Success criteria and performance indicators;
- Monitoring plan; and
- Site protection measures.

The components of the above mitigation plan may be altered, supplemented, or deleted during the SFBRWQCB's review process, as the SFBRWQCB has final authority over the terms of the water quality certification.

G. PUBLIC NOTICE AND COMMENT

A "Notification of Project Receiving Environmental Review" was sent out on January 15, 2013, to the owners of properties within 300 feet of the Sharp Park boundaries and to occupants of properties adjacent to the project site, as well as to other interested parties. The Planning Department received several letters in response to the notice. Respondents requested to receive environmental review documents and/or expressed concerns regarding the proposed project, which included: (1) impacts to CRLF and SFGS; (2) impacts to other special-status species and wetland habitats; and 3) historic resource impacts. These issues are addressed in the appropriate topic areas in Section E, Evaluation of Environmental Effects.

H. DETERMINATION

On the basis of this initial study:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

DATE: January 9th, 2014

Victoriya Wise for

Sarah B. Jones
Environmental Review Officer

for
John Rahaim
Director of Planning

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I. INITIAL STUDY PREPARERS

Initial Study Authors

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STATE OF CALIFORNIA—NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., *GOVERNOR*

CALIFORNIA COASTAL COMMISSION

45 FREMONT STREET, SUITE 2000
SAN FRANCISCO, CA 94105- 2219
VOICE (415) 904- 5200
FAX (415) 904- 5400
TDD (415) 597-5885

MEMORANDUM

May 31, 2011

To: John R. Bock, Tetra Tech, 555 Market Street, 15th Floor, San Francisco, CA 94205

From: Darryl Rance, GIS/Mapping Program

✓Cc: Renee Ananda, North Central Coast District Office

Subject: Boundary Determination No. 08-2011, Sharp Park Restoration Plan, San Mateo County.

A boundary determination has been requested for the Sharp Park Restoration Plan, City of Pacifica, San Mateo County.

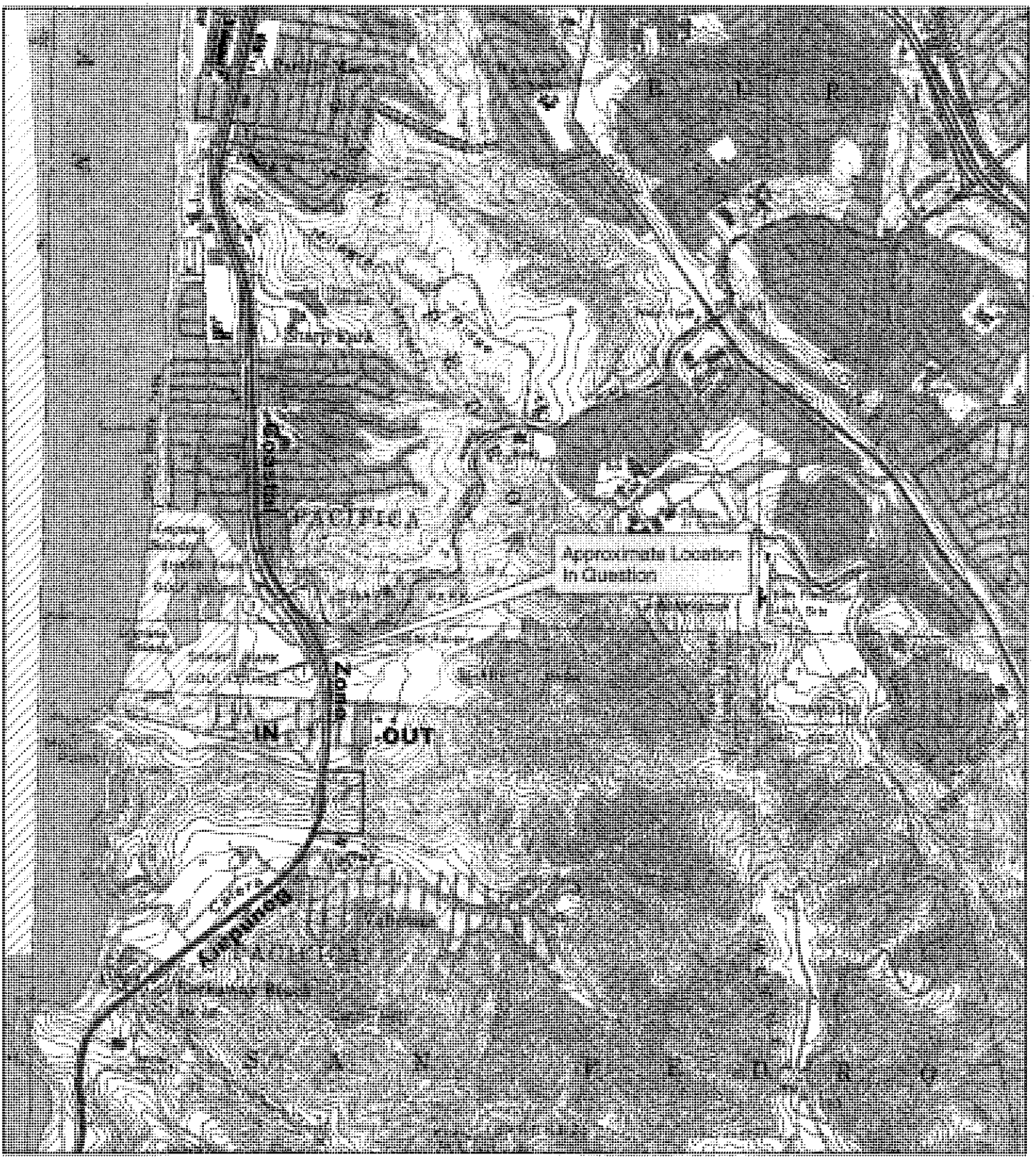
Enclosed is a copy of a portion of the Coastal Zone Boundary Map Nos. 60 & 61 (San Francisco South & Montara Mountain Quadrangles) with the approximate location of the subject property indicated. See Exhibit 1. Also included is a Management Areas and Trail Plan exhibit with the Coastal Commission permit jurisdiction identified. See Exhibit 2.

Based on the information provided and available in our office, the subject property appears to be bisected by the Coastal Zone Boundary and the Coastal Commission Permit Jurisdiction boundary in the manner indicated on Exhibit 2.

Development that is proposed within the Coastal Commission permit jurisdiction would require coastal development permit authorization from the California Coastal Commission. The Coastal Commission's permit jurisdiction is based on the existence of tidelands, submerged lands and public trust lands. The information available indicates that the area in question appears to be located, in part, on (former) tidelands, submerged land and land that maybe subject to the public trust. Based on this information the Coastal Commission is asserting jurisdiction over development activities associated with the Restoration Plan as shown on Exhibit 2.

Please contact me at (415) 904-5335 if you have any questions regarding this determination.

Enclosures



BD 08-2011
Sharp Park Resoration Plan
San Mateo County

Portion of Coastal Zone Boundary
Map Nos. 60 & 61 (San Francisco South
& Montara Mountain Quadrangles)

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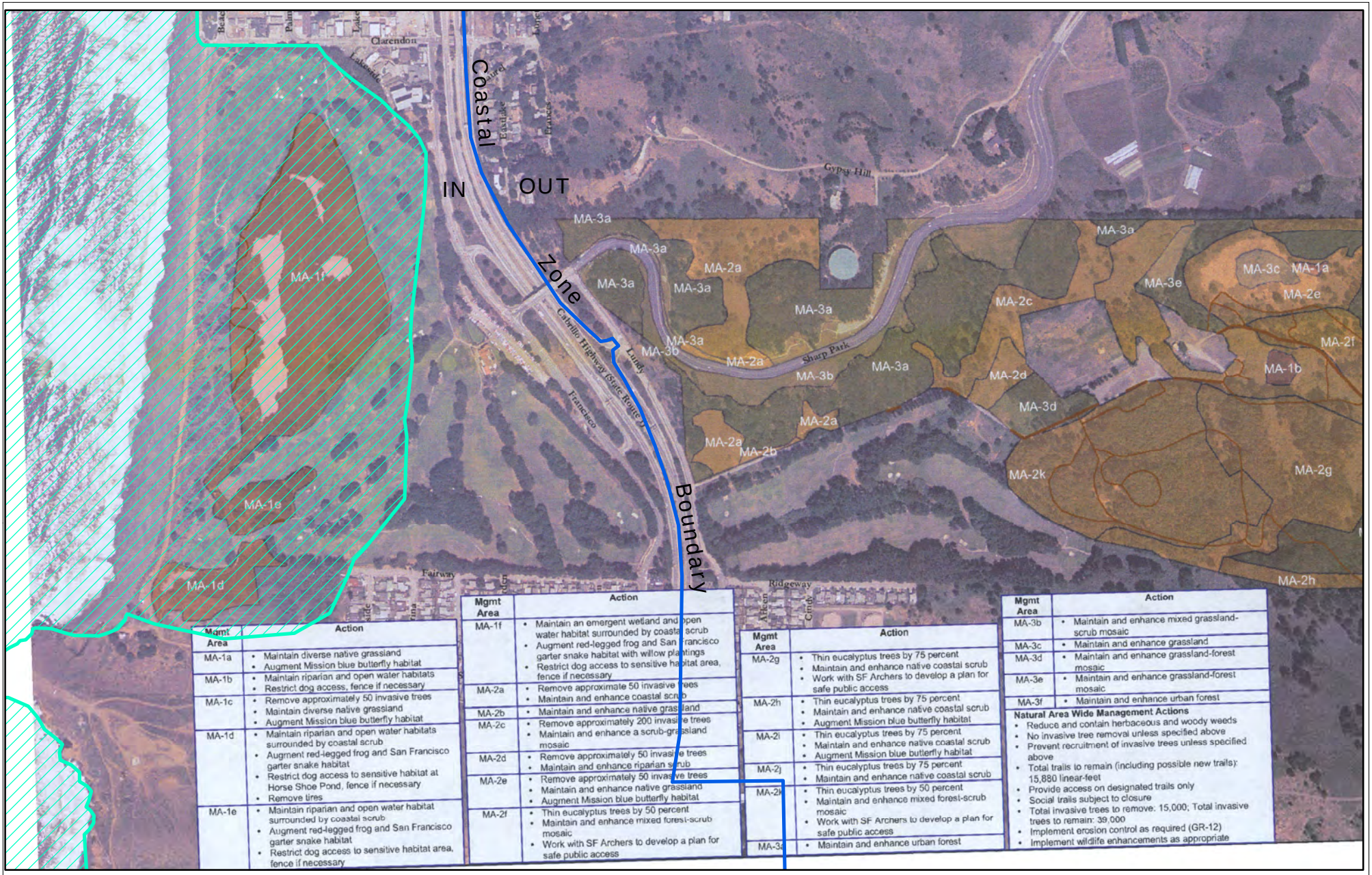
CALIFORNIA COASTAL COMMISSION
Technical Services Division

For Illustrative purposes only.

Exhibit 1
DAR/JVC 05/2011



Mgmt Area	Action
MA-1a	• Maintain diverse native grassland • Augment Mission blue butterfly habitat
MA-1b	• Maintain riparian and open water habitats • Restrict dog access, fence if necessary
MA-1c	• Remove approximately 50 invasive trees • Maintain diverse native grassland • Augment Mission blue butterfly habitat
MA-1d	• Maintain riparian and open water habitats surrounded by coastal scrub • Augment red-legged frog and San Francisco garter snake habitat • Restrict dog access to sensitive habitat at Horse Shoe Pond, fence if necessary • Remove tires
MA-1e	• Maintain riparian and open water habitat surrounded by coastal scrub • Augment red-legged frog and San Francisco garter snake habitat • Restrict dog access to sensitive habitat area, fence if necessary

Mgmt Area	Action
MA-1f	• Maintain an emergent wetland and open water habitat surrounded by coastal scrub • Augment red-legged frog and San Francisco garter snake habitat with willow plantings • Restrict dog access to sensitive habitat area, fence if necessary
MA-2a	• Remove approximate 50 invasive trees • Maintain and enhance coastal scrub
MA-2b	• Maintain and enhance native grassland
MA-2c	• Remove approximately 200 invasive trees • Maintain and enhance a scrub-grassland mosaic
MA-2d	• Remove approximately 50 invasive trees • Maintain and enhance riparian scrub
MA-2e	• Remove approximately 50 invasive trees • Maintain and enhance native grassland • Augment Mission blue butterfly habitat
MA-2f	• Thin eucalyptus trees by 50 percent • Maintain and enhance mixed forest-scrub mosaic • Work with SF Archers to develop a plan for safe public access

Mgmt Area	Action
MA-2g	• Thin eucalyptus trees by 75 percent • Maintain and enhance native coastal scrub • Work with SF Archers to develop a plan for safe public access
MA-2h	• Thin eucalyptus trees by 75 percent • Maintain and enhance native coastal scrub • Augment Mission blue butterfly habitat
MA-2i	• Thin eucalyptus trees by 75 percent • Maintain and enhance native coastal scrub • Augment Mission blue butterfly habitat
MA-2j	• Thin eucalyptus trees by 75 percent • Maintain and enhance native coastal scrub
MA-2k	• Thin eucalyptus trees by 50 percent • Maintain and enhance mixed forest-scrub mosaic • Work with SF Archers to develop a plan for safe public access
MA-3a	• Maintain and enhance urban forest

Mgmt Area	Action
MA-3b	• Maintain and enhance mixed grassland-scrub mosaic
MA-3c	• Maintain and enhance grassland
MA-3d	• Maintain and enhance grassland-forest mosaic
MA-3e	• Maintain and enhance grassland-forest mosaic
MA-3f	• Maintain and enhance urban forest

Natural Area Wide Management Actions

- Reduce and contain herbaceous and woody weeds
- No invasive tree removal unless specified above
- Prevent recruitment of invasive trees unless specified above
- Total trails to remain (including possible new trails): 15,880 linear-feet
- Provide access on designated trails only
- Social trails subject to closure
- Total invasive trees to remove: 15,000; Total invasive trees to remain: 39,000
- Implement erosion control as required (GR-12)
- Implement wildlife enhancements as appropriate

BD 08-2011
Sharp Park Restoration Plan
San Mateo County

Coastal Commission Permit Jurisdiction

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CALIFORNIA COASTAL COMMISSION
Technical Services Division

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2-12-014 Exhibit 5
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Exhibit 2
SAR/JVC 05/2011

WILD Equity
INSTITUTE
Building a healthy and sustainable global community for people and the plants and animals that accompany us on Earth

February 6, 2015

Stephanie Rexing
Coastal Planner
California Coastal Commission
North Central Coast and Central Coast District Office
725 Front Street, Suite 300
Santa Cruz, CA 95060

RE: Environmentally Sensitive Habitat Area and Coastal Development Permit Application at Sharp Park

Dear Ms. Rexing:

The Wild Equity Institute, its members and staff, and preeminent members in herpetology, coastal ecology and hydrology have reviewed the Sharp Park Pumphouse and Safety Infrastructure and Improvements Project ("Project") and the related Coastal Development Permit application by the San Francisco Recreation and Parks Department ("SFRPD"). These reviews indicate that the California Coastal Commission (Commission) should designate the Laguna Salada wetland complex at Sharp Park as an Environmentally Sensitive Habitat Area ("ESHA") for the California Red-Legged Frog ("CRLF") and the San Francisco Garter Snake ("SFGS") as defined by the California Coastal Act of 1976.[1] Furthermore, the Project violates the Coastal Act's restrictions on wetland dredging, and the Commission must deny a permit for this Project.

I. The Wetlands are Environmentally Sensitive Habitat Areas

A. Background

The Coastal Act states that "[e]nvironmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas."[2] The Act, as well as Pacifica Zoning Code Section 9-4.4302, defines an "environmentally sensitive area" as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activity or developments."[3]

[1] Pub. Res. Code § 30000 *et seq.*
[2] *Id.* § 30240.
[3] *Id.* § 30107.5.

The presence of the CRLF and SFGS, their dependence on the habitat within Sharp Park, and the noted potential and actual effects on those species by human activities oblige the Commission to designate the Sharp Park as an ESHA as part of the Coastal Development Permit review process for the Project. Because the project site meets the Coastal Act and Pacifica definitions of ESHA and ESHA must be protected from significant disruption including development,[4] the Coastal Development Permit should be denied.

B. The Species are Rare

The species' rarity is indicated by their designations as threatened (in the case of the CRLF) and endangered (SFGS) under the Federal Endangered Species Act.[5]

The San Francisco Garter Snake "has been reduced to only six significant populations in San Mateo County and northern Santa Cruz County."[6] There may be only one to two thousand SFGS remaining in the wild today, with a mean total population of 443 in coastal San Mateo County.[7] The population is so low that it is often difficult to collect enough data to obtain reliable population estimates. At Sharp Park, where the population was once deemed abundant, there are likely only a few dozen animals remaining.

The California Red-Legged Frog has lost 70 percent of its historic range [8] and 90 percent of its population. It is currently found only in select coastal drainages from Marin County to Baja California, with few isolated populations in the Sierra Nevada and Transverse ranges.[9]

C. The Rare Species are Present in Sharp Park

The CRLF and SFGS have been documented using aquatic and upland habitats within Sharp Park, satisfying the first part of the test.

The SFGS' preferred habitats are wetlands and marshes with access to upland areas.[10] Sharp Park contains these features, and biologists have documented the presence of SFGS at Sharp Park since they began surveying the site. Wade Fox, who conducted the earliest known surveys for SFGS at Sharp Park, believed the animals found there to be the purest (i.e. contain the fewest number of intermediates) individuals of any population he surveyed.[11] Unfortunately the SFGS population at Sharp Park has been declining due to the activities that are inter-related and inter-dependent with the Project.

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[4] Coastal Commission Staff Report on Appeal A-2-PAC-05-018 (2006)(denying CDP for North Pacifica LLC based on ESHA designation).
[5] *See* 61 Fed. Reg. 25813 [May 23, 1996] [CRLF]; 32 Fed. Reg. 4001 [March 11, 1967] [SFGS].
[6] Biological Opinion at p. 24.
[7] Halstead, Brian J. et al, "Demography of the San Francisco Gartersnake in Coastal San Mateo County, California" 2 J. of Fish and Wildlife Management, 41 [June 2011].
[8] Biological Opinion at p. 20.
[9] *Id.* at p. 20-21
[10] United States Fish and Wildlife Service Biological Opinion for Sharp Park Safety, Infrastructure Improvement, and Habitat Restoration Project at p. 25 [October 2, 2012] [hereinafter "Biological Opinion"].
[11] Fox, W., 1943-1953 Species Accounts: Amphibians, Reptiles, Birds, Mammals [1953].

The CRLF uses aquatic, riparian and upland habitats. It breeds in aquatic habitats during the fall, winter and spring rains. A female will lay eggs while they are being fertilized by a male, and attach them to emergent vegetation near the high water mark.[12] The CRLF is the SFGS' primary food source, thus the CRLF's "survival is important to the survival" of the SFGS.[13] Unfortunately CRLF are being taken by activities that are inter-related and inter-dependent with the Project; especially, pumping and artificial water management.

Sharp Park contains several water features that provide habitat for these species, including Laguna Salada, Horse Stable Pond, and Sanchez Creek. Laguna Salada is a fresh to brackish lagoon fed by seasonal rains, and connected by a small channel to Horse Stable Pond from the north. Sanchez Creek is a channelized creek that runs into Horse Stable Pond from the east.

D. The Species are Extremely Vulnerable to Human Activity

Human activity, including this Project as well as the routine maintenance and operation of the golf course, not only has the potential to disturb and degrade these species' populations, it has actually done so repeatedly.

The Commission may use the Pacifica Local Coastal Land Use Plan ("Pacifica LUP") as guidance to determine whether the Project complies with the Coastal Act, as it has noted in the past.[14] The Local Coastal Land Use Plan recognizes the Sharp Park Golf Course as supporting the SFGS and that dredging of water features could harm the Snake.[15] Further, the species' particular habitat requirements for optimal breeding and foraging will be placed at risk from dredging, which will be especially problematic to juvenile and young-of-year CRLF.[16] The Pacifica LUP also recognizes that these species are extremely vulnerable to development activities by calling for a series of mitigation measures to benefit listed species.[17]

The Project is intended to help mitigate flooding of the golf course. Not only does the Project itself have negative consequences for the rare species present at Sharp Park, but recent documents state clearly that operations of the golf course generally can and will likely harm this species. The United States Fish and Wildlife Service noted in its Biological Opinion for this Project that "[t]he ongoing golf course maintenance and operation activities have the potential to cause adverse effects to" the species.[18] Such threats to the CRLF include the desiccation (drying out after being exposed to air) of the Frog's egg masses due to the operation of the pump house, salinity intrusion, alteration of the pH levels of the lagoon, and the use of golf carts and lawnmowers.[19] At least one

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[12] Biological Opinion at p. 21-22.
[13] Letter from Todd Steiner, Earth Island Institute to United States Fish and Wildlife Service, "Final Report for Endangered Species Permit PRT-753153 at p. 1 [December 30, 1992]
[14] California Coastal Commission, Final Adopted Findings: Coastal Development Permit Action, Whole Energy Fuels Corp, E-07-011 at p. 12 [June 11, 2008].
[15] City of Pacifica, Local Coastal Land Use Plan at p. C-41 [March 24, 1980, with subsequent amendments].
[16] ESA-PWF, Peter Baye, Ph.D. and Dawn Reis Ecological Studies, "Conceptual Restoration Plan and Feasibility Assessment: Laguna Salada, Pacifica, California" (February 9, 2011), Appendix C "Laguna Salada Ecological Assessment, section 1.2.1; Tetra Tech, Inc., Swaim Biological, and Nikels Golf Group, "Sharp Park Conceptual Restoration Alternatives Report" (November 2009) at p. 49.
[17] Pacifica Local Coastal Land Use Plan, *supra* note 15 at p. C-42.
[18] Biological Opinion. at p. 32.
[19] Biological Opinion. at p. 29-36.

SFGS has been killed by a lawnmower,[20] and it is likely that more are killed by golf course activities.[21] Moreover, declines in local CRLF populations are also a threat to the SFGS population.[22]

Increasing pump house operations, an obvious consequence of the Project, will impact these species. Further unnecessary stress resulting from the Project should not be tolerated by government agencies responsible for protecting natural resources. The main threat to the CRLF is not the loss of breeding habitat – as the Project application implies – but rather the survivorship rates of the frog egg masses.[23] CRLF breed prolifically at Sharp Park, with hundreds of egg masses observed annually over the past several years. However, these CRLF egg masses have, on multiple occasions, been left stranded in open air by golf course pumping operations, killing them. When the golf course floods, the operators will pump water from Horse Stable Pond through Sharp Park's seawall, into the ocean. This lowers the water levels and leaves egg masses exposed to the air. For example, during the 2011-12 winter, at least 47 egg masses were left stranded, fragmented or otherwise killed at Sharp Park, approximately 32% of all egg masses at the time.[24]

The application documents claim that removing vegetation will create more open-water habitat for the CRLF, and indirectly provide more food resources for SFGS. These statements are unsupported. No data support the hypothesis that open water/marsh edge is a significant limiting factor for Frog breeding at Laguna Salada's wetland complex. The Project provides no basis for assuming the dredging will increase frog breeding, because it has not and cannot demonstrate that there are adult CRLF that are presently prevented from breeding by the lack of available breeding habitat.

Furthermore, the Project will also remove vegetation that the Frog requires for cover habitat, which is essential to the conservation of the species,[25] exposing the CRLF to threats from predators and likely increasing mortality rates.[26] Because mortality, not fecundity, is a documented problem facing local CRLF populations, transforming the CRLF's cover habitat into breeding habitat is not supportable.

The purpose of removing this vegetation is to improve flow to the pump house. Increasing flood-control efficiency will only exacerbate the problem of egg mass exposure by increasing the frequency of fluctuating water levels, threatening survivorship.[27] Thus, the project will exacerbate the human activity that currently harms the CRLF on the site.

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[20] Biological Opinion at p. 29
[21] Fox, W., *supra* note XX at p. 2.
[22] Biological Opinion at p. 26.
[23] Nagano, C., Formal Consultation on the Mori Point Restoration and Trail Plan in the Golden Gate National Recreation Area in the City of Pacifica, San Mateo County, California at p. 22 [2006].
[24] Campo, J., L. Wayne, K. Swaim, E. Britt, S. Young, N. Reeder, D. Tannaci. 2012. Egg Mass Data Sheets at p. 1-4.
[25] Critical Habitat Designation for the California Red-Legged Frog, 75 FR 12815, 12834 (2010).
[26] Goude, C., Acting Field Supervisor, U.S. Fish and Wildlife Service, Sacramento Field Office, Sacramento, CA. "Consultation for the Proposed Sharp Park Golf Course Storm Drain Repair Project, Pacifica, San Mateo County, California" at p. 8 (2008).
[27] Baye and Reis, *supra* note 17 at 1.2.1. CRLF Life History Information.

In addition to the threats from expanded pump house operations, dredging Sharp Park's wetlands and waters may also cause hypoxia, a depletion of oxygen that imposes a risk of mortality to amphibian larvae, according to hydrology expert Dr. Peter Baye.[28] The water column on which frog larvae (tadpoles) depend is especially vulnerable to this reaction during the warmer months,[29] when the Project will take place.

E. The Perennial Pond Cannot Be Considered Replacement for the ESHA.

As a condition of the United States Fish and Wildlife Service issued Incidental Take Statement, the SFRPD is required to construct a perennial pond as breeding habitat for the CRLF.[30] It is unclear whether the FWS believes that this pond is necessary to replace habitat that the Project will likely damage. The merits of the peripheral pond as habitat notwithstanding,[31] as shown above, this Project will lower survivorship rates of the CRLF in the ESHA. As such, the new pond will in effect replace the current habitat in Sharp Park. This would be an improper justification for the Commission to grant a Coastal Development Permit.

The Project, as proposed, would allow for destruction of the habitat the CRLF requires for its egg masses, and create a man-made habitat outside of the designated wetlands[32] that will serve as a de facto replacement. Whether the pond is successful in mitigating impacts to the frogs is irrelevant; using it to justify destruction of ESHA is impermissible under California law. *Bolsa Chica Land Trust v. Superior Court*, 71 Cal. App. 4th 493, 499 (1999)(" The Coastal Act does not permit destruction of an environmentally sensitive habitat area (ESHA) simply because the destruction is mitigated offsite.")

F. The Laguna Salada Wetland Complex Should Be Protected.

As described above, the Project will impact rare species and their habitat as well as water quality at Sharp Park. Because the significant areas discussed above should be designated as ESHA at Sharp Park and there should be no depletion of ESHA for the proposed activities, the current CDP application should be denied. As demonstrated by the *Bolsa Chica* case, ESHA cannot be disturbed unless it is established that "there is such an acute need for development... in and around the [ESHA] that it cannot be accommodated elsewhere." *Bolsa Chica Land Trust v. Superior Court*, 71 Cal. App. 4th 493, 509 (1999). Wild Equity contends that the Project impermissibly impacts ESHA because there appears to be a feasible alternative that avoids these impacts, but that alternative has not been considered by SFRPD.

The Laguna Salada wetland complex must be afforded the utmost protection and Project elements that avoid these permanent impacts to ESHA must be implemented. The Pacifica Local Coastal Land Use Plan Policy 18 protects ESHA from "any significant disruption of habitat values," and states that development in adjacent areas shall "prevent impacts which would significantly

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[28] Letter from Peter R. Baye, Ph.D., Coastal Ecologist, Botanist to Ken Zushi, San Francisco Planning Department at p. 13 [January 29, 2013] [attachment A].
[29] *Id.* at p. 15.
[30] Biological Opinion, Condition 32 at p. 19.
[31] Such ponds are a key element of the Laguna Salada restoration concept advocated by Wild Equity Institute. Baye and Reis, *supra* note 17, Executive Summary.
[32] *See* Project Application, Figure 2, showing the wetland boundary, and the location of the new pond.

degrade such areas, and shall be compatible with the continuance of such habitat areas."[33] Thus, ESHA at Sharp Park must be afforded the utmost protection and Project elements that avoid these permanent impacts to the Laguna Salada wetland complex, both as a wetland and as an ESHA, must be implemented.

II. The Proposed Wetland Dredging Violates the Coastal Act.

The stated purpose of the Project is to "ensure the ongoing operation of the flood control pumps, worker safety when operating and maintaining the pumps and realignment of two small portions of cart pathways to avoid flooding."[34] However, both the Coastal Act and the Pacifica LUP only allows dredging of wetlands in limited circumstances, stating "[t]he diking, filling, or dredging of . . . wetlands . . . shall be permitted *where there is no feasible less damaging alternative*, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited" to several categories, none of which are applicable to the Project under both laws.[35] Furthermore, the Pacifica LUP specifically requires protection of the Laguna Salada wetland complex, stating that "the habitat shall be protected and enhanced by professional management to facilitate propagation of the San Francisco garter snake" and that development in the area "shall be regulated not to disrupt the habitat" and should protect[] water quality degradation from human intrusion, among other protections."[36]

Although wetland dredging is only permitted when there is no feasible less damaging alternative, there is a feasible and less damaging alternative that SFRPD did not adequately assess. Experts such as Greg Kamman, the hydrologist retained by SFRPD to analyze Sharp Park's hydrology, and regional wetland and wildlife experts Dr. Peter Baye and Dawn Reis have proposed a feasible alternative to the Project that would address both the Coastal Act's wetlands dredging limitations and the ESHA violation: allowing the wetland complex's water levels to rise higher than the aquatic vegetation can tolerate. This would reduce the amount of aquatic vegetation in the wetland complex without harming the Frog, and would not require regular dredging. But the Project proponents have not considered the environmental consequences of increasing the pumping rate, nor does it adequately consider alternatives to the project.[37]

In addition, because the area fits into the ESHA criteria, Coastal Act Section 30240(a) prohibits "significant disruption of habitat values." Under the Coastal Act, ESHA is afforded the strongest possible protection under the Coastal Act. The Coastal Act strictly prohibits destruction of ESHA, regardless of mitigation, so the destruction cannot be offset. While the Project application claims it

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[33] *Id.* at C-8.
[34] Project Application at p. 2.
[35] Public Resources Code § 30233(a); Pacifica Local Coastal Land Use Plan, *supra* note 15 at p. C-6-7, Policy 14 (emphasis added).
[36] Pacifica Local Coastal Land Use Plan, *supra* note 15 at p. C-101.
[37] The SFRPD's Alternatives Analysis in the CDP application is inadequate. The analysis states "Because the functions and values of the environmentally sensitive habitat areas on the project site are the result of active management, the absence of such management would lead to degradation of those functions and values." SFRPD CDP Application, Alternatives Analysis. However, the SFRPD fails to note that the overgrowth of vegetation in the wetlands is likely the result of pumping water out of the lagoon in the first place. In addition, as stated below, there no evidence in the application that open water/marsh edge is a limiting factor for CRLF breeding.

will be "beneficial" to the habitats of the CRLF and SFGS,[38] the Project's main purpose – to alter the current conditions of the wetlands to increase the efficiency of the pump house – is not a restoration activity, and therefore the Commission may not permit the proposed wetland dredging requested by the Applicant.[39]

The cart paths flood because they run through lagoon wetlands that are kept at artificially low levels and mowed into golf turf.[40] An artificial coastal embankment (levee) prevents natural lagoon drainage resulting in a managed coastal lagoon wetland complex.[41] Operation of the pump house is necessary to prevent this flooding. To ensure the continued operation of the pumps, SFRPD proposes to dredge Laguna Salada.[42]

The Project application merely concludes that the species will benefit from the expansion of open water. However, there is no evidence in the application that open water/marsh edge is a limiting factor for CRLF breeding. Nor is there any other reason why the Project will provide a benefit to the species. As explained above, it is CRLF low survivorship rates that provide the greatest threat to the CRLF population at Sharp Park, not a lack of breeding habitat. Removing vegetation that the Frog uses for cover, and increasing water pumping rates will harm the species.[43]

Conclusion

The Project as proposed, without adequate analysis of any environmentally superior alternatives, fails to adhere to the requirements of the Coastal Act and violates state and local laws preventing degradation of ESHA, therefore a CDP permit for the Project must be denied.[44]

The CRLF and the SFGS use the Project area's Laguna Salada wetland complex as habitat. The species are respectively listed as threatened and endangered under the Federal Endangered Species Act because of their rarity and potential for extinction. Human activity, including the proposed Project and the inter-related and inter-dependent operations of Sharp Park Golf Course, threaten both species. The Commission's permitting process related to the Project must therefore consider Sharp Park an ESHA, and the permitting decision must make the protection of these species a priority. The Commission should also recognize that the Project's purpose is incompatible with the Coastal Act's requirements for dredging wetlands. As such, the Commission should deny the Coastal Development Permit.

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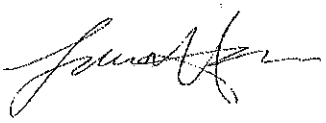
[38] Project Application at p. 3.
[39] If the Commission does consider this a restoration project, and furthermore considers it to be the least environmentally damaging one, it must clearly explain why, because Commission findings must be supported by "substantial evidence" and those findings must "support the agency's decision." *Sierra Club v. California Coastal Com.*, (1993) 19 Cal.App.4th 547, 556 [citing *Topanga Assn. for a Scenic Community v. County of Lost Angeles* (1974) 11 Cal.3d 506, 514-515].
[40] Baye and Reis, *supra* note 17 at p. 4-5.
[41] *Id.* at p. 4.
[42] Project Application at p. 4.
[43] *See* Exhibit A, Wild Equity's Appeal of the Preliminary Mitigated Negative Declaration for the Sharp Park Pumphouse and Safety Infrastructure and Improvements Project.
[44] Baye, and Reis, *supra* note 17, at p. 25.

Thank you for your consideration of these matters.

Sincerely,



Laura Horton

WILD Equity
INSTITUTE

Building a healthy and sustainable global community for people and the plants and animals that accompany us on Earth

New Information from the U.S. Fish and Wildlife Service Proves that a full EIR for the Sharp Park Golf Course Pumphouse Project is Required

- The Wild Equity Institute, the Sierra Club's San Francisco Bay Chapter, the Center for Biological Diversity, the National Parks Conservation Association, Golden Gate Audubon, and others ask you to vote for a full Environmental Impact Report for the Sharp Park Pumphouse Project on March 25 at 3pm.
- The Pumphouse Project proposes to destroy aquatic vegetation within Sharp Park's Laguna Salada wetland complex, which is the most biologically important part of the most ecologically sensitive landscape managed by SFRPD.
- World renowned experts, including the hydrologist SFRPD hired to describe Sharp Park's hydrology, have all explained that this project will cause significant direct and cumulative effects on the environment by releasing acids into the wetland system and increasing the rate wetlands are drained.
- In its memo to the Board, the Planning Department claims that these significant environmental effects will be mitigated through coordination with, and strict adherence to, the U.S. Fish and Wildlife Service's commands to protect endangered wildlife.
- **But on March 19, 2014, U.S. Fish and Wildlife reviewed RPD's mitigation proposal for the first time, and found that it includes many provisions that it cannot and will not be able to conduct.** Assistant Field Director Cay Goode of the U.S. Fish and Wildlife Service confirmed this through email on March 20, 2014 (see attachment).
- Specifically, the mitigation proposed for the release of acids into the wetland complex have never been reviewed or approved by U.S. Fish and Wildlife, and the agency is on record that it does not have the capacity to conduct these extensive mitigation measures.
- Fortunately experts have proposed a feasible alternative to SFRPD's proposal: let the wetland waters rise in the spring and summer seasons so that the aquatic vegetation, which only grows in shallow water, will be drowned out and eliminated.
- This alternative will meet the project objective of eliminating the aquatic vegetation permanently, will not release acids into the wetland complex, and **will not increase flood risks for the golf course at all: winter floodwater management would not be impacted by this alternative.**
- In contrast, SFRPD's proposal will have significant cumulative effects: the increase in wetland drainage rates will keep spring and summer water levels low, causing the vegetation to grow back. This intensive construction project will thus be required again and again: yet SFRPD has not considered the cumulative effect of this ongoing activity.
- Moreover, SFRPD staff has refused to analyze this benign alternative, and has not presented it to the Commission or this Board for consideration.
- The Board deserves to have this less harmful alternative reviewed before it approves such a controversial project in SFRPD's most ecologically important asset, and only a full EIR will provide that opportunity.

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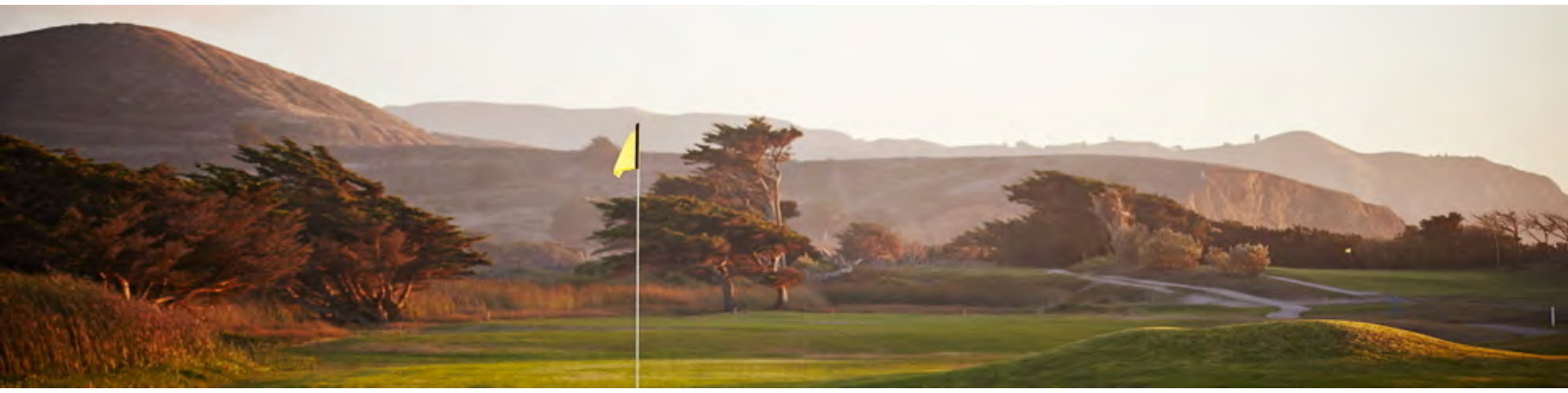

March 10, 2015

California Coastal Commission
Headquarters Office
45 Fremont St., #2000
San Francisco, CA. 941-5-2219

Re: CDP No. 2-12-104 / Sharp Park Pump House, etc. Project
Commission Hearing, San Rafael, CA., April 15-17, 2015

San Francisco Public Golf Alliance Urges Approval
Of Coastal Development Permit at Sharp Park

Dear Coastal Commission,

San Francisco Public Golf Alliance and its 6,500-plus members, representing users of the historic, low-cost public Sharp Park Golf Course, strongly support San Francisco's application for a Coastal Development Permit for the Sharp Park Pump House Project.

The Project would provide badly-needed infrastructure upgrade and habitat enhancement for the popular, 83-year-old course, which serves a broad and diverse clientele of public golfers in San Francisco and its Peninsula, and is one of only two low-priced 18-hole courses in San Mateo County. This is the current phase of Sharp Park renovation planning and work that began in the 1990's, with now far more than $10 Million already expended, and with approvals and funding from all levels of government -- local, state, and federal.

1. Sharp Park is a Unique Low-Cost Public Recreation Resource, Coastal Access, and Historic Treasure.

Sharp Park Golf Course, designed by legendary architect Dr. Alister MacKenzie[1], is: (1) one of the very lowest-priced golf courses in the Bay Area[2]; (2) San Francisco's most heavily-played municipal course[3]; (3) recognized by the San Francisco Planning Department as an "historic resource" under CEQA[4]; (4) designated an "historic site" by the City of Pacifica General Plan[5] and by that city's Historical Society[6]; (5) designated a nationally-significant "At-Risk Cultural Landscape" by the Washington D.C.-based Cultural Landscape

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[1] Dr. MacKenzie was the first golf architect inducted into the World Golf Hall of Fame, and was the architect of several of the world's most highly-esteemed courses, including Augusta National (home of the annual Masters Tournament) and the Cypress Point Club at Monterey, CA. World Golf Hall of Fame, "Alister MacKenzie": http://www.worldgolfhalloffame.org/alister-mackenzie/ (Copy attached as **Exhibit 1.**) Sharp Park is one of only a handful of municipal courses in the world built by Dr. MacKenzie, and his only public seaside links.

[2] A chart compiled by the San Francisco Recreation and Park Department and presented in November, 2009 to the Park, Recreation, and Open Space Advisory Committee – the Department's citizens' advisory committee – shows that Sharp Park's greens fees are among the very lowest for 18-hole public courses in the San Francisco Bay Area. San Francisco Recreation & Park Department, Chart: https://dl.dropboxusercontent.com/u/30028085/SFRPD.Survey.Bay.Area.Golf.Fees.2009.pdf. (Copy attached as **Exhibit 2.**)

[3] In Fiscal Year (July 1-June 30) 2013-2014, 45,622 18-hole rounds were played at Sharp Park, while San Francisco's two other municipal 18-hole courses, Harding Park and Lincoln Park, had 45,318 and 38,137 rounds, respectively. See San Francisco Recreation & Park Department, Golf Revenue & Expenditure Report, For FY 13-14: https://dl.dropboxusercontent.com/u/30028085/%2713-%2714%20Actuals.pdf (Copy attached as **Exhibit 3.**)

[4] San Francisco Planning Dept., Historic Resource Evaluation Response ("HRER"), February 15, 2011, at Page 2: http://www.sfpublicgolf.com/LiteratureRetrieve.aspx?ID=92666. (Copy attached as **Exhibit 4.**)

[5] The golf course is designated a Pacifica "Historic Site" in the Pacifica General Plan, Historic Preservation Element and Historic Sites Map, at pages 95 and 95a: http://www.cityofpacifica.org/civica/filebank/blobdload.asp?BlobID=3443. (Copy attached as **Exhibit 5.**)

[6] The City of Pacifica's official historian, the Pacifica Historical Society, by Resolution dated June 14, 2011, designated Sharp Park Golf Course a Pacifica "historical and cultural resource": http://www.sfpublicgolf.com/LiteratureRetrieve.aspx?ID=88128 (Copy attached as **Exhibit 6.**)

Foundation[7]; and (6) recognized by Golfweek magazine as one of the "Top 50" municipal golf courses in America.[8]

The stunningly beautiful seaside links is located adjacent to Salada Beach in Pacifica, on land gifted to San Francisco for public recreational use by the Estate of Honora Sharp. Before it was a golf course, the land had been agricultural fields[9] surrounding Laguna Salada, a brackish lagoon whose name means "salty lake" in Spanish, lying in a coastal valley denoted "Salt Valley" on the 1892 US Geological Survey topographic map.[10] The golf course was built for the City of San Francisco in 1930-1932 by Dr. MacKenzie, working with his associate Chandler Egan[11] and with John McLaren, father of San Francisco's parks system, who according to a contemporaneous San Francisco Chronicle report, "transformed [Lake Salada] from a salt water marsh into a picturesque fresh-water pool."[12]

2. The US Fish & Wildlife Service, Corps of Engineers, and SF Bay RWQCB Have Already Approved the Project.

In addition to golfers, Sharp Park today provides habitat for the federally-protected California red-legged frog and San Francisco garter snake, freshwater species which inhabit wetlands and surrounding areas adjacent to some of the golf fairways. Responding

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[7] Cultural Landscape Foundation, "Sharp Park Golf Course Threatened With Closure," About TCLF, At Risk Landscapes: http://tclf.org/landslides/sharp-park-golf-course-threatened-closure; http://tclf.org/about; http://tclf.org/landslide/about (Copies attached as **Exhibit 7**)

[8] Golfweek, Best Municipal Courses (2014)(Sharp Park rated No. 50): http://golfweek.com/news/2014/jun/25/golf-courses-municipal-golfweeks-best-travel/ (Copy attached as **Exhibit 8.**)

[9] See early-20th century photo of artichoke fields surrounding Laguna Salada at Salada Beach, looking north towards Mt. Tamalpais at the horizon: https://dl.dropboxusercontent.com/u/30028085/SFPGA.Artichokes.Sharp.early.20.cent..pdf (Copy attached as **Exhibit 9.**)

[10] See USGS topographic map (1892) showing Laguna Salada, Salt Valley, and Calera Valley: https://dl.dropboxusercontent.com/u/30028085/SFPGAUSGS1892Topo.pdf (Copy attached as **Exhibit 10.**)

[11] See S.F. Chronicle, Feb. 26, 1930, "H. Chandler Egan Praises Possibilities...": https://dl.dropboxusercontent.com/u/30028085/SFPGASFChron22630%2CEgan%20Praises.pdf (reporting that Egan would supervise construction of MacKenzie's design). (Copy attached as **Exhibit 11.**)

[12] San Francisco Chronicle, Feb. 23, 1930, "Chandler Egan Will Inspect Sharp Park..": https://dl.dropboxusercontent.com/u/30028085/SFPGA.SF.Chron.ca.2.23.30.Egan%20at%20Sharp.pdf: "More than half of the holes border on Lake Salada, which John McLaren, superintendent of parks, transformed from a salt water marsh into a picturesque fresh-water pool." (Copy attached as **Exhibit 12.**)

to environmental concerns, the San Francisco Recreation and Park Department (SFRPD) sought U.S. Army Corps of Engineers and U.S. Fish & Wildlife Service approval for the City's Pump House Project, which includes continued operation and minor modifications to the golf course, together with habitat recovery measures for the frog and snake. Following a 17-month study, the USFWS on October 2, 2012 issued its Biological Opinion approving the Project, subject to numerous conditions and mitigations.[13]

> "It is the Service's biological opinion that the Sharp Park Safety, Infrastructure Improvement and Habitat Enhancement Project, as proposed, **is not likely to jeopardize the continued existence of the California red-legged frog or San Francisco garter snake.** We based this conclusion on the variety of Conservation Measures that will be implemented throughout the life of the proposed action to minimize the likelihood or potential for take of individual California red-legged frogs and San Francisco garter snakes. These measures include, but are not limited to, creation of a perennial pond, habitat restoration west of Laguna Salada, invasive plant control in the vicinity of Horse Stable Pond, and limitation of off-trail habitat depredation around Laguna Salada."[14]

Significantly, the Fish & Wildlife Service noted that the frog and snake were unknown at Sharp Park before the golf course was built: **"Little is known about the history of San Francisco garter snake and California red-legged frog in the action area prior to the completion of Sharp Park Golf Course in 1932. The species were first documented in the action area in 1946."**[15],[16]

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[13] Biological Opinion Letter, October 2, 2012, U.S. Fish & Wildlife Service to Jane M. Hicks, U.S. Army Corps of Engineers, at pages 13-19: https://dl.dropboxusercontent.com/u/30028085/USFWS%20BiOp.pdf (Copies of relevant pages attached as **Exhibit 13**.)

[14] Id., at p. 38 (emphasis added).

[15] Id., at p. 28 (emphasis added).

[16] A 1992 report commissioned by San Francisco and the State of California Coastal Conservancy, and authored by Philip Williams & Associates, entitled "Laguna Salada Enhancement Plan," concluded: "Given the saline nature of the pond [Laguna Salada], it is not likely to have supported the San Francisco garter snake, which feeds on freshwater frogs." https://dl.dropboxusercontent.com/u/30028085/SFPGA.PWilliams.Laguna.Salada.Plan.1992f.pdf (At pages 2-3 and Fig. 2.) (Copies of relevant pages attached as **Exhibit 16**.)

The Fish & Wildlife Service specifically mandated that the City complete construction of the new perennial frog pond within two years and nine months of the Biological Opinion, which is to say, by July, 2015.[17]

The San Francisco Board of Supervisors approved the Pump House Project on March, 25, 2014[18], following unanimous approvals in January, 2014 by both the San Francisco Planning Commission,[19] and the Recreation and Park Commission.[20]

The Project was subsequently approved on February 5, 2014 by the U.S. Army Corps of Engineers, which **set March 18, 2017 as the deadline for commencement of work under the permit.**[21] The San Francisco Bay Regional Water Quality Control Board on June 25, 2014 then issued a Clean Water Act Section 401 Certification letter for the Project.[22]

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[17] Biological Opinion Letter, supra (note 13), **Exhibit** 16, at p. 19, fn. 6.

[18] San Francisco Board of Supervisors, March 25, 2014, Motion No. M14-039: https://sfgov.legistar.com/View.ashx?M=F&ID=2952903&GUID=29926E90-097F-4F34-BFE1-26579EE3DCBB (Copy attached as **Exhibit 18.**)

[19] Minutes of San Francisco Planning Commission Meeting, January 16, 2014, Agenda Item No. 11: http://www.sf-planning.org/index.aspx?page=3770 (Copies of relevant pages attached as **Exhibit 19.**)

[20] See Agenda, San Francisco Recreation and Park Commission, January 23, 2014: https://dl.dropboxusercontent.com/u/30028085/SharpParkRecParkCommAgnda12314_00000.pdf, Item No. 11. (Copies of relevant pages attached as **Exhibit 20.**) The Commission's vote approving the Project is recorded on video at SF Government TV, January 23, 2014, Agenda Item No. 11, at 1:54:00 – 1:56:10: http://sanfrancisco.granicus.com/MediaPlayer.php?view_id=91&clip_id=19192&meta_id=373217

[21] Letter, February 5, 2014, U.S. Army Corps of Engineers to San Francisco Recreation and Park Department ("Corps of Engineers letter"), at page 2: https://dl.dropboxusercontent.com/u/30028085/SharpPark.Corps.Eng%27rs.Permit.2.5.14.pdf (Copy attached as **Exhibit 21.**)

[22] San Francisco Bay RWQCB, CWA Section 401 Certification letter, June 25, 2014: https://dl.dropboxusercontent.com/u/30028085/RWQCB.Sh.Pk.Certif%27n.6.25.14.pdf (Copy attached as **Exhibit 22.**)

3. The Pump House Project is the Current Phase of Renovation Planning and Work at Sharp Park Golf Course That Began in the Early 1990's, with Studies, Approvals, And Millions of Public Dollars Already Expended By Local, State, and Federal Agencies.

Planning for the renovation of Sharp Park Golf Course began with the 1992 "Laguna Salada Resource Enhancement Plan," commissioned by the State of California Coastal Conservancy and City and County of San Francisco, which prescribed dredging Laguna Salada and Horse Stable Pond and other measures to recover endangered species habitat, while preserving the golf course. The goals of that plan specifically included "Manage[ment of] **public access** to promote views of the site and use which is **compatible with** the natural resource values of the site and with **the golf course operation."**[23]

In the late 1990's, initially funded with a planning grant from the California State Water Resources Control Board, planning began for the Pacifica Recycled Water Project, to replace the course's decrepit potable freshwater irrigation system with a new recycled water system linked to the nearby Pacifica sewage treatment plant.[24] The $10 Million project, funded jointly by the Federal Government, San Francisco PUC, and Pacifica's North Coast County Water District ("NCCWD"), was designed for the golf course to use 78% of the Project's annual output.[25],[26]

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[23] Philip Williams & Associates, June, 1992, "Laguna Salada Enhancement Plan," supra, at footnote 16 and **Exhibit 16** (at pages 1, 35).

[24] UC Davis, Online Data Resources of California, Pacifica Sharp Park Recycled Water Project: http://ice.ucdavis.edu/education/esp179/?q=node/594 (Copy attached as **Exhibit 24**.)

[25] San Mateo County Times, July 8, 2009, "Pacifica Golf Course, Parks, to Use Recycled Water": http://www.insidebayarea.com/sanmateocountytimes/localnews/ci_12787178 (Copy attached as **Exhibit 25**.)

[26] San Francisco Water, Power, Sewer, Project List, "Pacifica Recycled Water Project": http://sfwater.org/bids/projectDetail.aspx?prj_id=325 (Copy attached as **Exhibit 26.1**.) The December, 2004 "Pacifica Regional Water Project Facilities Planning Report," authored by Kennedy/Jenks Consultants for the North Coast County Water District and pursuant to a planning grant from the State Water Resources Control Board, reported that the Draft Plan for the Project was approved in October, 2004 by the State WRCB, and that 75% of the Project's water – 41.8 million out of projected 55.5 million gallon annual Project capacity – was designed to be used for irrigating the Sharp Park Golf Course: http://www.sfwater.org/modules/showdocument.aspx?documentid=2481 (See Report, Pages 1, 23, 24, and 25, at Table 6.) (Copies of relevant pages attached hereto as **Exhibit 26.2**.)

The San Francisco PUC Commission unanimously approved the Pacifica Recycled Water Project at the conclusion of an October 28, 2008 public hearing, at which the only public comment was in support, from Jennifer Cleary of Clean Water Action.[27]

At the Coastal Commission's February 5, 2009 meeting, Executive Director Peter M. Douglas reported a waiver of Coastal Development Permit for the project by the Coastal Commission's North Central Coast District, De Minimis Waiver 2-08-022-W.[28]

The Pacifica Recycled Water Project was then unanimously reapproved by both the SF Public Utilities Commission on November 9, 2010 and the SF Recreation and Park Commission on January 20, 2011.[29]

Construction has now been completed, and in late Summer and early Fall, 2014, the new recycled water irrigation system was installed at the golf course, and is now operational on the four golf holes – Nos. 4, 5, 6, and 7 – east of the Coast Highway.[30]

Previously, on October 8, 2008, Coastal Commission Executive Director Peter M. Douglas issued a Waiver of Coastal Development Permit, No. 20-08-015-W, to the City and County of San Francisco, for replacement of the culvert pipes which carry flood

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[27] See the SF Government TV video of the San Francisco PUC Commission public meeting October 28, 2008, Agenda Item No. 11, where the Commission unanimously adopted Resolution 08-0194, authorizing the joint agreement with Pacifica: http://sanfrancisco.granicus.com/ViewPublisher.php?view_id=22, at 00:57:16-1:03:31. Mr. Brent Plater (who now heads the Wild Equity Institute) raised no objection at the October 28, 2008 SFPUC Commission hearing, although he had previously objected in the course of February, 2007 public hearings by the North Coast County Water District. See UC Davis, Online Data Resources of California, Pacifica Sharp Park Recycled Water Project, supra, footnote 24 and **Exhibit 24**, at p. 4; and see San Francisco Examiner, February 5, 2007, "Pacifica Water Tank Infuriates Activists": http://www.sfexaminer.com/sanfrancisco/pacifica-water-tank-infuriates-activists/Content?oid=2156277 (Copy attached as **Exhibit 27**.)

[28] Coastal Commission, North Central Coast District, De Minimis Waiver 2-08-022-W: http://documents.coastal.ca.gov/reports/2009/2/Th8-2-2009.pdf (Copy attached as **Exhibit 28**.)

[29] See the SF Government TV video record of the San Francisco Public Utilities Commission public meeting on November 9, 2010 (Agenda Items Nos. 11 and 12): http://sanfrancisco.granicus.com/mediaplayer.php?view_id=22&clip_id=11078, at 3:27:35-42; and San Francisco Recreation and Park Commission public meeting on January 20, 2011 (Agenda Item 9, Resolution 1101-009): http://sanfrancisco.granicus.com/ViewPublisher.php?view_id=91, at 1:09:31-47.

[30] Pacifica Tribune, Nov. 4, 2014, "Recycled Water Now Used on Sharp Park…": http://www.mercurynews.com/pacifica/ci_26864797/recycled-water-now-used-sharp-park-golf-course (Copy attached as **Exhibit 30**.}

waters from the Sharp Park Pump House through the sea wall to discharge at Salada Beach.[31]

4. The Federal Court in 2012 Dismissed the Opponents' Endangered Species Act Lawsuit.

A Federal Court lawsuit to enjoin golf at Sharp Park, brought under the Endangered Species Act by environmentalist groups led by Wild Equity Institute, was dismissed on December 6, 2012 by District Court Judge Susan Illston, on grounds that the lawsuit was mooted by the Fish & Wildlife Service's Biological Opinion and accompanying Incidental Take Statement.[32]

5. There is Broad Local, National, and International Support For Saving and Renovating Sharp Park Golf Course.

Sharp Park Golf Course serves residents of both San Francisco and San Mateo Counties, of all ethnicities, ages, genders, persuasions, and income levels. It is one of only two reasonably-priced public golf courses in all of San Mateo County.

Long known as "the poor man's Pebble Beach," Sharp Park is a mere 15-minute freeway ride from San Francisco's southern neighborhoods, and has historically been a favorite of low-income golfers, seniors, students, and minorities. In 1955, Sharp Park hosted the inaugural championship tournament of the Western States Golf Association, one of America's oldest and largest African-American golfing societies.[33] Sharp Park is a favorite venue of Senior and ethnic minority golf associations, such as Mabuhay Golf

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[31] Coastal Commission, North Central Coast District, Waiver 2-08-015-W, For Sharp Park Storm Drain Outfall Repair/Replacement, Oct. 8, 2008: http://documents.coastal.ca.gov/reports/2008/10/W9-10-2008.pdf (Copy attached as **Exhibit 31**.)

[32] *Wild Equity Institute, Center for Biological Diversity, et al, vs. City and County of San Francisco*, U.S. Dist.Ct., N.D. California, No. C 11-00958 SI; Order Granting Defendants' Motion to Dismiss, etc., Dec. 6, 2012: https://dl.dropboxusercontent.com/u/30028085/Sharp.Park.Order.Dismissal.12.6.12.pdf (Copy attached as **Exhibit 32.1**.) The case is currently on appeal to the U.S. Court of Appeals for the Ninth Circuit, where oral argument was heard on March 11, 2015. See Calendar of Oral Argument: http://www.ca9.uscourts.gov/calendar/view.php?hearing=March%20-%20James%20R.%20Browning%20U.S.%20Courthouse,%20San%20Francisco&dates=9-13,%2017,18&year=2015 (Copy of relevant page attached hereto as Exhibit **32.2**.)

[33] See letter from Nathaniel Jackson, President, Bay Area Golf Club of Northern California, October 5, 2011: http://www.sfpublicgolf.com/LiteratureRetrieve.aspx?ID=93952 (Copy attached as **Exhibit 33**.)

Club[34], Sons in Retirement[35], Mexican American Golf Association[36], and Golden Hill Golf Club[37], all of which have written letters supporting saving and renovating Sharp Park.

The San Francisco Recreation and Park Department's November, 2009 Sharp Park Conceptual Alternatives Report, which recommended habitat recovery together with retaining the 18-hole golf course at Sharp Park[38], was endorsed in December, 2009 by a 14-1 vote of PROSAC -- the SF Rec and Park citizen's advisory committee,[39] and then by a unanimous vote of the SF Recreation and Park Commission.[40]

San Francisco Mayor Edwin Lee on December 19, 2011 vetoed a Board of Supervisors ordinance that would have transferred Sharp Park management to the Golden Gate National Recreation Area, which had announced it would not operate a golf course; in his veto message, Mayor Lee called for a "mutually beneficial partnership" with San Mateo County, "to implement an environmentally responsible approach

---

[34] Mabuhay Golf Club, Letter, March 29, 2011: https://dl.dropboxusercontent.com/u/30028085/SFPGAMabuhayLtr32911.pdf (Copy attached as **Exhibit 34.**)

[35] Sons in Retirement, Letter, June 2, 2010: https://dl.dropboxusercontent.com/u/30028085/SFPGA.SIRS.Letter.Sharp%20Park.6.2-10.pdf (Copy attached as **Exhibit 35.**)

[36] Mexican American Golf Association, San Jose Chapter, Letter, March 5, 2011: https://dl.dropboxusercontent.com/u/30028085/SFPGAMAGALtr3511.pdf (Copy attached as **Exhibit 36.**)

[37] Golden Hill Golf Club, Letter, June 17, 2011: https://dl.dropboxusercontent.com/u/30028085/SFPGAGoldenHillLtr61711.pdf (Copy attached as **Exhibit 37.**)

[38] Tetra-Tech, Sharp Park Conceptual Alternatives Report, November, 2009: http://sfmea.sfplanning.org/2005.0912E_DEIR6.pdf (at pages 4-5 and 46-60) (Copies of relevant pages attached as **Exhibit 38.**) This November, 2009 Report was essentially an update of the State of California Coastal Conservancy's 1992 Plan (see footnotes 16 and 23, supra, and **Exhibit 16**), and came to many of the same conclusions and recommendations.

[39] Park, Recreation, and Open Space Advisory Committee (PROSAC), Resolutions [Nos. 1 and 2], adopted Dec. 1, 2009, submitted to Rec & Park Commission on Dec. 3, 2009: http://sfpublicgolf.com/LiteratureRetrieve.aspx?ID=44912 (Copy attached as **Exhibit 39.1.**) And see PROSAC Minutes, Dec. 1, 2009, at page 4: https://dl.dropboxusercontent.com/u/30028085/SharpParkPROSACResol%27ns12109_00000.pdf (Copy attached as **Exhibit 39.2.**)

[40] San Francisco Recreation and Park Commission Minutes, Dec. 17, 2009, Agenda Item No. 11 (at p. 18), Resolution No. 0912-018: https://dl.dropboxusercontent.com/u/30028085/SharpParkRPDCommissnMinutes121709_00000.pdf (Copies of relevant pages attached as **Exhibit 40.**)

to species and habitat protection," while keeping the golf course open.[41]

By Resolution 071787, adopted January 24, 2012, the San Mateo County Board of Supervisors directed the County Manager to engage in negotiations with the City and County of San Francisco for the management and operation of Sharp Park Golf Course.[42]

Because Sharp Park is both a popular, low-cost Bay Area public links and an internationally-known Alister MacKenzie golf shrine, its preservation and renovation are important to golfers and golf organizations around the Bay Area, California, and the World. The United States Golf Association[43], both the Northern California and Southern California Golf Associations[44], the World Golf Foundation[45], The Alister MacKenzie Society of Great Britain and Ireland[46], Congresswoman Jackie Speier[47], the County of San Mateo[48], and the cities of Pacifica[49] and San Bruno[50] have all urged San Francisco to save and preserve Sharp Park Golf Course.

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[41] San Francisco Mayor Edwin Lee, Letter to Board of Supervisors, December 19, 2011: https://dl.dropboxusercontent.com/u/30028085/SharpParkVeto.pdf (Copy attached as **Exhibit 41**.)

[42] San Mateo County Board of Supervisors, Resolution No. 071787, January 24, 2012: https://dl.dropboxusercontent.com/u/30028085/Sharp%20Park%20Golf%20%20Course%20Resolution%20071787.pdf (Copy attached as **Exhibit 42**.)

[43] Letter to Hon. Ed Lee from USGA Executive Director Mike Davis, Dec. 14, 2011: http://www.sfpublicgolf.com/LiteratureRetrieve.aspx?ID=98152 (Copy attached as **Exhibit 43**.)

[44] California Alliance for Golf, letter, September 28, 2009: http://sfpublicgolf.com/LiteratureRetrieve.aspx?ID=43245 (Copy attached as **Exhibit 44**.)

[45] World Golf Foundation, letter, July 23, 2009: http://sfpublicgolf.com/LiteratureRetrieve.aspx?ID=43233 (Copy attached as **Exhibit 45**.)

[46] Alister MacKenzie Society of Great Britain and Ireland, Letter, April 28, 2009: file:///C:/Users/Richard/Downloads/MacKenzie+Society.pdf (Copy attached as **Exhibit 46**.)

[47] Letter, Congresswoman Jackie Speier to San Francisco Mayor Ed Lee and Board of Supervisors, October 7, 2011: http://www.sfpublicgolf.com/LiteratureRetrieve.aspx?ID=95697 (Copy attached as **Exhibit 47**.)

[48] San Mateo County Board of Supervisors, Resolution G69145, December 18, 2007: http://sharppark.savegolf.net/data/smbos_res.pdf (Copy attached as **Exhibit 48**.)

[49] Pacifica City Council, Resolution 63-2007, December 10, 2007: http://sharppark.savegolf.net/data/cop_res.pdf (Copy attached as **Exhibit 49**.)

The Chambers of Commerce of both San Francisco[51] and Pacifica[52] support San Francisco's plan to preserve Sharp Park Golf Course, while enhancing habitat for the endangered frog and snake.

CONCLUSION: It is Time to Move Forward At Sharp Park With Habitat Recovery and Infrastructure Improvements. The Coastal Commission Should Approve a Coastal Development Permit for the Sharp Park Pump House Project.

After extensive study and public discussion, the City of San Francisco seeks to move forward with thoughtful and laudable efforts to preserve and improve this public golf treasure, retain its low-cost public coastal access, improve its habitat values, and reduce its environmental footprint.

The more than 6,500 members of the San Francisco Public Golf Alliance commend San Francisco and its Recreation and Park Department for their diligent effort to find a balanced approach to enhance habitat for endangered species, while preserving and renovating its beautiful, historic, and affordable public golf course at Sharp Park.

---

[50] Letter, San Bruno Mayor Jim Ruane to Hon. Ed Lee, Dec. 22, 2011: http://www.sfpublicgolf.com/LiteratureRetrieve.aspx?ID=97744 (Copy attached as **Exhibit 50**.)

[51] Letter, San Francisco Chamber of Commerce Sr. Vice President Jim Lazarus to Hon. Ed Lee, Dec. 14, 2011: http://www.sfpublicgolf.com/LiteratureRetrieve.aspx?ID=115827 (Copy attached as **Exhibit 51**.)

[52] Letter, Pacifica Chamber of Commerce to Pacifica Mayor Mary Ann Nihart, March 26, 2011: http://www.sfpublicgolf.com/LiteratureRetrieve.aspx?ID=86069 (Copy attached as **Exhibit 52**.)

And we respectfully urge the Coastal Commission to approve San Francisco's application for a Coastal Development Permit, and allow the Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project to move forward.

Respectfully submitted,

s/
Richard Harris
San Francisco Public Golf Alliance

cc: Ed Lee, Mayor, City and County of San Francisco
Dennis Herrera, San Francisco City Attorney
Congresswoman Jackie Speier
San Mateo County Board of Supervisors
Pacifica Mayor Karen Irvin
Pacifica City Council
Philip Ginsburg, General Manager, SF Recreation & Park Dept.
Lisa Wayne, Natural Areas Coordinator, SF Rec & Park Dept.
John Maltbie, County Manager, County of San Mateo
Vaughn Kezirian, Ex. Dir., Northern California Golf Association
Kevin Heaney, Ex. Dir., Southern California Golf Association
Lyn Nelson, Chair, San Francisco Mayor's Women's Golf Council
Jeff Volosing, President, Sharp Park Golf Club
Lisa Villasenor, Captain, Sharp Park Business Women's Golf Club
Mike Davis, Exec. Dir., U.S. Golf Association
Steve Mona, Exec. Dir., World Golf Foundation
Gene Zenardi, Alister MacKenzie Society
Jim Lazarus, Sr. Vice Pres., San Francisco Chamber of Commerce
Courtney Conlon, Pacifica Chamber of Commerce
Nathaniel Jackson, President, Bay Area Golf Club
Gwendolyn Brown, President, Spear Golf Club
Greg Roja, President, Mabuhay Golf Club
Gabriel De La Torre, President, MAGA, San Jose Chapter
John Major, Big SIR, Sons in Retirement
Jim Emery, San Francisco Deputy City Attorney
Sally Stephens, Chair, SF Dog

COUNTY OF SAN MATEO
COUNTY MANAGER'S OFFICE

John L Maltbie
County Manager/
Clerk of the Board

County Government Center
400 County Center, 1st Floor
Redwood City, CA 94063
650-363-4121 T
650-363-1916 F
www.smcgov.org

March 19, 2015

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MAR 25 2015
CALIFORNIA
COASTAL COMMISSION

California Coastal Commission
Headquarters Office
45 Fremont St., #2000
San Francisco, CA. 941-5-2219

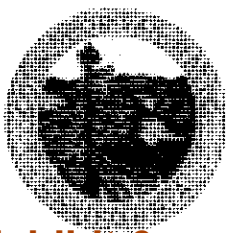
Subject: CDP No. 2-12-104 / Sharp Park Pump House Project

Dear Coastal Commission,

The San Mateo County Board of Supervisors, representing county residents using the historic, public Sharp Park Golf Course, strongly support the City/County of San Francisco's application for a Coastal Development Permit for the Sharp Park Pump House Project.

The Pump House Project would provide a needed infrastructure upgrade and significant habitat enhancement for the popular, 83-year-old course. Sharp Park Golf Course serves residents of both San Francisco and San Mateo Counties, of all ethnicities, ages, genders, and income levels. It is one of only two public golf courses in all of San Mateo County. This project is one of several planned phases, beginning in the 1990's, for the renovation and habitat improvements needed at Sharp Park. To date, more than $10 Million has already been expended, with approvals and funding from all levels of government -- local, state, and federal.

In addition to golfers, Sharp Park today provides habitat for the federally protected California red-legged frog and San Francisco garter snake, freshwater species that inhabit wetlands and surrounding areas adjacent to some of the golf fairways. Responding to environmental concerns, the San Francisco Recreation and Park Department received U.S. Army Corps of Engineers and U.S. Fish & Wildlife Service approval for the City's Pump House Project, which includes continued operation and minor modifications to the golf course, together with habitat recovery measures for the frog and snake.



The County of San Mateo respectfully urges the Coastal Commission to approve San Francisco's application for a Coastal Development Permit, and allow the Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project to move forward.

Sincerely,

John L. Maltbie
County Manager / Clerk of the Board

cc: Honorable Members, Board of Supervisors
Peggy Jensen, Deputy County Manager
David Holland, Special Projects Coordinator

Lyn Nelson
2100 Winged Foot Road
Half Moon Bay, CA 94019
lyngolfs@gmail.com

RECEIVED
MAR 2 7 2015
CALIFORNIA
COASTAL COMMISSION

March 20, 2015

California Coastal Commission
Headquarters Office
45 Fremont St., #2000
San Francisco, CA. 941-5-2219

Re: Urging Approval of San Francisco's Permit Application
CDP No. 2-12-104 / Sharp Park Pump House, etc. Project
Commission Hearing, San Rafael, CA., April 15-17, 2015

Dear Coastal Commission Members,

My name is Lyn Nelson, I am currently President of the San Francisco Mayor's Women's Golf Council, and have a 35-year career in golf management, most recently as CEO of the Northern California Golf Association and Vice President of the California Alliance for Golf. I am writing to share my support of San Francisco's Coastal Development Permit Application for the Pump House Project at Sharp Park Golf Course.

Sharp Park is a very significant golf property on the San Mateo County Coast, for many reasons. For me personally, Sharp Park is significant because this course was my initial experience with the game of golf, when as a 10-year-old I used to caddy at this beautiful golf course for my father.

Every golfer should experience Sharp Park, because it represents not only the history, but also the beauty and the greatest architecture of the game. Its fairways greens and bunkers are 83 years old, but still show the classic architecture of Alister MacKenzie, one of golf's greatest course designers. Sharp Park is an iconic seaside links, whose golf holes are built in the sand by the ocean. The seaside links is the oldest form of golf course, and the great Scottish courses where the game originated are seaside links – courses like St Andrews and North Berwick. But public seaside courses are extremely rare in America, and I know of only two in California – Sharp Park and Pacific Grove on the

Monterey Peninsula. Sharp Park represents the true history and character of the game, in a picturesque natural setting by the Pacific seashore.

Matching the pedigree, the beautiful setting, and the clsssic landscape architecture at Sharp Park is the clientele which plays golf there. Sharp Park is a cultural melting pot of players of every ability, age, gender, ethnicity, and economic background, who pay very affordable greens fees to enjoy a walk on the links in the ocean air.

I was at Sharp Park a few weeks ago, studying the layout of the golf course for a couple of hours without a club in my hand. I had the pleasure of talking to players out on the course. There were foursomes of women, men and women, men, young adults, kids, all smiling and all enjoying a facility that provided an opportunity to spend a few hours walking and playing a game that has spanned the centuries. Sharp Park has existed for 83 years in this way, and should be allowed to continue.

The City of San Francisco now seeks a Coastal Development Permit to recover habitat for frogs and snakes in the wetlands which adjoin the golf course, while continuing the golf operations and maintenance at Sharp Park. I urge the Coastal Commission to approve San Francisco's Coastal Development Permit application, so that this unique 83-year-old public golf course can continue to provide healthful, outdoor, seaside recreation for future generations.

In 17 years this property will celebrate it's 100th Anniversary, on that date, I hope to have a 10 year old caddy for me that day and hope that golf is as inspiring to them as it has been for me. Please allow this legacy property to continue.

Respectfully,

Lyn Nelson

cc: San Francisco Mayor Ed Lee [mayoredwinlee@sfgov.org]
Pacifica Mayor Karen Ervin [ErvinK@ci.pacifica.ca.us]
San Mateo County Board of Supervisors [jmaltbie@smcgov.org]
Congresswoman Jackie Speier [brian.perkins@mail.house.gov]
San Francisco Recreation and Park General Manager Phil Ginsburg
[phil.ginsburg@sfgov.org]

PACIFICA
CHAMBER of COMMERCE
& VISITOR CENTER
A *Pretty* Cool Place

March 23, 2015

California Coastal Commission
45 Fremont St., #2000
San Francisco, CA. 941-5-2219

Re: Pacifica Chamber of Commerce Urges Commission to Approve
San Francisco's Sharp Park Pump House Project, No. CDP 2-12-104

Dear Coastal Commission,

The Pacifica Chamber of Commerce supports the City and County of San Francisco's Coastal Development Permit application No CDP 2-12-104, for the Sharp Park Pump House Project, for habitat recovery work together with worker safety and infrastructure improvements at the golf course.

Sharp Park Golf Course is a unique and historic resource and Pacifica community asset, and the Pacifica Chamber of Commerce has over the past many years consistently supported the golf course and encouraged efforts to renovate its aging infrastructure.

Pacifica's North Coast County Water District, in partnership with the San Francisco PUC, recently extended a recycled water irrigation system to the golf course, at a combined local, state, and federal cost of over $10 Million. This was part of coordinated Sharp Park Golf Course renovation efforts going back to a joint 1992 City of San Francisco/California Coastal Conservancy study, which by now include approvals and permits for the Pump House Project from the U.S. Fish & Wildlife Service, US Corps of Engineers, the Bay Area RWQCB, and the San Francisco Board of Supervisors, Public Utilities Commission, and Planning and Recreation and Park departments.

We urge the Coastal Commission to now approve San Francisco's CDP application, so that the Pump House Project can move forward without further delay.

Yours very truly,

Courtney Conlon, CEO
Pacifica Chamber of Commerce

cc: Pacifica Mayor Karen Ervin
Pacifica City Council
San Mateo County Board of Supervisors
San Francisco Mayor Ed Lee
Phil Ginsburg, General Manager, San Francisco Recreation & Park Department
Congresswoman Jackie Speier

650.355.4122 · Info@PacificaChamber.com · www.PacificaChamber.com
225 Rockaway Beach Ave. Suite #1 · Pacifica, CA 94044

CITY OF PACIFICA
170 Santa Maria Avenue • Pacifica, California 94044-2506
www.cityofpacifica.org

Scenic Pacifica
Incorporated Nov. 22, 1957

March 23, 2015

California Coastal Commission
Headquarters Office
45 Fremont St., #2000
San Francisco, CA. 941-5-2219

Re: CDP No. 2-12-104 / Sharp Park Pump House, etc. Project
Commission Hearing, San Rafael, CA., April 15-17, 2015

Dear Coastal Commissioners,

By unanimous vote at its regularly-scheduled public meeting on March 23, 2015, the Pacifica City Council directed me to write this letter of support for City and County of San Francisco's Coastal Development Permit application for the Sharp Park Pump House Project, and urging the Coastal Commission to approve San Francisco's permit application.

Sharp Park Golf Course is a unique and significant Pacifica cultural and historical resource – designated a "Pacifica Historic Site" in the Pacifica General Plan, and declared to be a "significant cultural and historical resource" by Pacifica's official historian, the Pacifica Historical Society. The golf course also provides low-cost public recreation and coastal access to a broad cross-section of golfers and other residents and visitors of San Francisco and San Mateo Counties.

San Francisco and Pacifica agencies have worked together since the 1990s, on a recently-completed, $10-plus-million-dollar recycled water irrigation system primarily designed to serve the Sharp Park Golf Course, which in late 2014 began delivering irrigation water to the course.

The Pump House Project proposed by the property owner, the City and County of San Francisco, would provide badly-needed infrastructure improvement and maintenance, together with habitat enhancement for endangered species, to this historically and culturally significant public recreational facility.

The City of Pacifica, its General Plan, and City Council, has long been on record in favor of maintaining the historic 18-hole Sharp Park Golf Course. By this letter, the City Council confirms the City of Pacifica's continuing support for keeping and renovating the 18-hole Sharp Park Golf Course, while simultaneously enhancing habitat for endangered species. The City and County of San Francisco's Pump House Project strikes what we believe to be an appropriate and compatible balance between these twin goals.

We note that several residents of Pacifica monitor the levels of water in Horse Stable Pond, using the gauge attached to the pump house. The water levels in Horse Stable Pond are important for the reproduction of the Red Legged Frog. We ask that their access to the gauge not be restricted by construction activity, nor any fencing or locked gates in the completed project.

The City of Pacifica respectfully urges the Coastal Commission to approve the Coastal Development Permit for the City and County of San Francisco's Pump House Project.

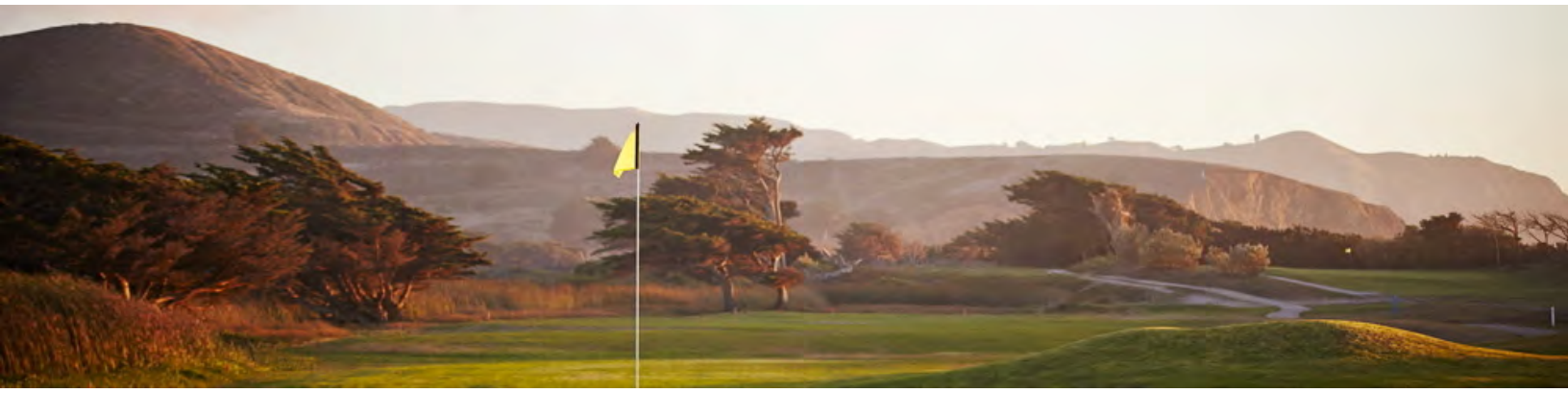
Sincerely,

LORIE TINFOW
City Manager

cc: Pacifica City Council Members
Mr. Phil Ginsburg, General Manager, San Francisco Recreation & Park Department
San Francisco Mayor Edwin Lee
San Mateo County Board of Supervisors
Congresswoman Jackie Speier

SAN FRANCISCO
PUBLIC GOLF ALLIANCE

235 Montgomery St., Suite 400, San Francisco, CA 94104 • 415-290-5718 • info@sfpublicgolf.org



March 25, 2015

California Coastal Commission
Headquarters Office
45 Fremont St., #2000
San Francisco, CA. 941-5-2219

Re: CDP No. 2-12-104 / Sharp Park Pump House, etc. Project
Commission Hearing, San Rafael, CA., April 15-17, 2015

San Francisco Public Golf Alliance Urges Approval
Of Coastal Development Permit at Sharp Park

Ninth Circuit Court of Appeals Dismisses Wild Equity Appeal
From U.S. District Court's Dismissal
Of Endangered Species Act Lawsuit at Sharp Park,
D.C. No. 3:11-cf-00958-SI

Dear Coastal Commission,

This is further to our letter to you, dated March 10, in which we advised you, among other things, that the United States District Court, Northern District of California, had on December 6, 2012 dismissed as moot a lawsuit to halt golf at Sharp Park, brought by Wild Equity Institute and others under the U.S. Endangered Species Act. *Wild Equity Institute, Center for Biological Diversity, et al, vs. City and County of San Francisco,* U.S. Dist. Ct., N.D. California, No. C 11-00958 SI. We further advised you, at footnote

32, and Exhibit 32.2 of our March 10 letter, that Wild Equity had appealed the decision to the U.S. Court of Appeals for the Ninth Circuit, which held oral argument on the matter on March 11 2015.

This is now to advise you that the Ninth Circuit has dismissed the appeal, in an unpublished memorandum opinion, dated March 25, 2015, available on the Ninth Circuit's website, at: http://cdn.ca9.uscourts.gov/datastore/memoranda/2015/03/25/13-15046.pdf . A hard copy of that opinion is attached hereto as Exhibit A.

Respectfully submitted,

s/
Richard Harris
San Francisco Public Golf Alliance

encl.

cc (w/encl.):
Ed Lee, Mayor, City and County of San Francisco
Dennis Herrera, San Francisco City Attorney
Congresswoman Jackie Speier
San Mateo County Board of Supervisors
Pacifica Mayor Karen Irvin
Pacifica City Council
Philip Ginsburg, General Manager, SF Recreation & Park Dept.
Lisa Wayne, Natural Areas Coordinator, SF Rec & Park Dept.
John Maltbie, County Manager, County of San Mateo
Vaughn Kezirian, Ex. Dir., Northern California Golf Association
Kevin Heaney, Ex. Dir., Southern California Golf Association
Chris Thomas, President, California Alliance for Golf
Lyn Nelson, Chair, San Francisco Mayor's Women's Golf Council
Jeff Volosing, President, Sharp Park Golf Club
Lisa Villasenor, Captain, Sharp Park Business Women's Golf Club
Mike Davis, Exec. Dir., U.S. Golf Association
Steve Mona, Exec. Dir., World Golf Foundation
Gene Zenardi, Alister MacKenzie Society
Jim Lazarus, Sr. Vice Pres., San Francisco Chamber of Commerce
Courtney Conlon, Pacifica Chamber of Commerce
Nathaniel Jackson, President, Bay Area Golf Club
Gwendolyn Brown, President, Spear Golf Club
Greg Roja, President, Mabuhay Golf Club
Gabriel De La Torre, President, MAGA, San Jose Chapter
John Major, Big SIR, Sons in Retirement
Jim Emery, San Francisco Deputy City Attorney
Sally Stephens, Chair, SF Dog

March 26, 2015

California Coastal Commission
Headquarters Office
45 Fremont St., #2000
San Francisco, CA. 941-5-2219

Re: CDP No. 2-12-104/Sharp Park Pump House Project
Commission Hearing, San Rafael, April 15-17, 2015

Northern California Golf Association Supports
San Francisco's Coastal Development Permit Application
For Sharp Park Pump House Project

Dear Coastal Commission,

The Northern California Golf Association ("NCGA") respectfully asks the Coastal Commission to grant San Francisco's permit application for the Sharp Park Pump House Project, to provide much-needed infrastructure improvement to the 83-year-old Sharp Park Golf Course, while at the same time upgrading the habitat for the California red-legged frog and San Francisco garter snake.

San Francisco's project meets the Coastal Act's goal of striking a reasonable balance between the needs for protection of significant coastal resources – in this case, low and moderate-cost public recreation, and both historic and natural resources.

Sharp Park is a unique, highly significant golf course and historic resource, whose preservation is of highest priority for the NCGA, and for the world of golf. It is the work of Dr. Alister MacKenzie, one of history's very best-known and best-loved golf architects, who was inducted into the World Golf Hall of Fame. Sharp Park is also a "seaside links," a specific and extremely rare type of course, built in the sand by the sea -- the original type of golf course, on which the game originated in Scotland in the 15th Century, at places such as St. Andrews, which is today regarded as the "home of golf."

Dr. MacKenzie was an expert on seaside links courses. He was the consulting architect at the Old Course at St. Andrews in the early 1920s, and the first to map that course's holes, bunkers, and rumpled coastal terrain.

Dr. MacKenzie and his assistant Chandler Egan – himself a prominent golf architect – declared their intention to model Sharp Park after the Scottish seaside links courses, and specifically St. Andrews. As reported in the *San Francisco Call-Bulletin*, January 8, 1930, MacKenzie announced his design for Sharp Park to a gathering of golf enthusiasts by proclaiming that the new course would be "as sporty as the old course at St. Andrews and as picturesque a golf course as any in the world." (https://dl.dropboxusercontent.com/u/30028085/SFPGA.SFCall-B.1.8.30.MacKenz%2C%40SFMuni.Glf.pdf) For his part, Egan was reported in

the February 26, 1930 *San Francisco Chronicle* as saying: "I have played at St. Andrews and I frankly believe Sharp Park will be a worthy imitation of the classic course." (https://dl.dropboxusercontent.com/u/30028085/SFPGASFChron22630%2CEgan%20Praises.pdf)

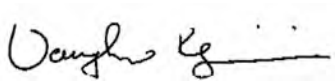
Although common in Scotland, the seaside links is a rare type of golf course in California. Dr. MacKenzie's Cypress Point Club on the Monterey Peninsula is perhaps the most famous California specimen. But that is a private golf club. Public seaside links are extremely rare. Sharp Park, plus Spanish Bay and Pacific Grove, both located on the Monterey Peninsula, are the only open-to-the-public seaside links of its kind Northern California. Spanish Bay is a resort course; only Sharp Park and Pacific Grove are low or moderately-priced.

The NCGA represents golfers and golf clubs, public and private, from San Luis Obispo and Fresno in the South to the Oregon border. Our members include 150,000 men and women golfers of all ages, and nearly 400 golf courses, both public and private. We are the largest regional golf organization in the United States.

Affordable public recreation is a critical value that the NCGA shares with the California Coastal Act and the Coastal Commission, whose mandate is to preserve low- and moderate-cost public recreational resources such as Sharp Park.

For these reasons, we urge the Commission to approve San Francisco's Sharp Park Pump House permit application.

Very truly yours,



Vaughn Kezirian
Executive Director
Northern California Golf Association

encls.

cc (w/encls.):
San Francisco Mayor Ed Lee
San Francisco City Attorney Dennis Herrera
San Mateo County Board of Supervisors
Pacifica Mayor Karen Ervin
Congresswoman Jackie Speier
Phil Ginsburg, General Manager, S.F. Recreation and Park Dept.
Kevin Heaney, Executive Director, Southern California Golf Assn.
Mike Davis, Executive Director, U.S. Golf Association
San Francisco Public Golf Alliance

Ralph Faust
Consulting Attorney
P. O. Box 135
Bayside, CA 95524

Ms. Nancy Cave
Manager, North Central Coast District
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105

Re: Sharp Park Coastal Development Permit #2-12-014

Dear Ms. Cave:

I represent the Wild Equity Institute (WEI), a San Francisco non-profit organization concerned about the protection of the wetlands in Sharp Park. This letter is submitted to express their concerns about the proposed Sharp Park project for which your office is reviewing a coastal development permit (CDP) application for consistency with the Coastal Act. The purpose of the letter is to articulate the legal context within which the Commission must consider this project, to ensure that the project, if approved, is fully consistent with the Chapter 3 policies of the Coastal Act.

A.
The Project Description is Incomplete

The applicant, the City of San Francisco Department of Recreation and Parks, describes its proposed project as if it were a minor dredging of sediment, the purpose of which is solely to enhance habitat, along with a few minor ancillary construction and repair elements. The City asserts that the golf course adjacent to the wetland complex at Sharp Park and the operation of that golf course, including, presumably, the operation of the pumps that drain the wetland complex in the park, are beyond the scope of the project. They are, the City asserts, protected from scrutiny by Section 30608 of the Coastal Act. This is incorrect. The proposed project is not protected from scrutiny by Section 30608, nor is the project as insignificant and benign as the City suggests.

Section 30608 provides that a person who has obtained a vested right in a development prior to the effective date of the Coastal Act shall not be required to seek a coastal development permit for that development. However, under the Commission's regulations, a person claiming a vested right must substantiate that claim in a proceeding before the Commission (CCR sections 13200, et. seq.) and the Commission must formally acknowledge the vested right. The City has not presented any evidence that this has occurred; nor has Commission staff any record

of such a vested rights determination. Further, even if a vested right had been substantiated and confirmed by the Commission, under the specific terms of Section 30608 "no substantial change may be made in any such development without prior approval having been obtained under this division".

Whatever the status prior to the Coastal Act, the City has changed that status subsequent to the adoption of the Act without environmental review and without obtaining a coastal development permit. By its own admission (letter of 3/16/15) the City has almost tripled the capacity of the pumps from that which it asserts was originally in place. The adverse environmental effects of those new pumps, the efficient operation of which is the real purpose of this project, must be assessed by the Commission in this CDP. In addition, the Commission must fully assess all changes to the development and operation of Sharp Park that affect the wetland complex that the City has made since 1972 without benefit of permit, in order to fully evaluate the impacts of this project. The project proposed for Commission review cannot be evaluated and should not be considered until the project description is changed to fully describe all of the post-Coastal Act changes at the Park, including the massive new pump.

B.

The Area Within Which the Project Is Proposed Is Environmentally Sensitive Habitat (ESHA) and Must Be Protected

The project is proposed in an area that includes both a large wetland complex and adjacent upland areas that together comprise an ESHA as defined in the Coastal Act. Coastal Act section 30107.5 defines "Environmentally Sensitive Area" to mean:

> "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments".

The entire area of the wetland complex at Sharp Park, both the wetlands and the adjoining uplands meets that test because it is habitat for two protected species, the California red-legged frog (CRLF) and the San Francisco Garter Snake (SFGS). As the Court of Appeal clarified in the Bolsa Chica decision (Bolsa Chica Land Trust v. Superior Court, (1999) 83 Cal. Rptr. 2nd 850, 71 Cal. App. 4th 493), "(t) he statute protects the *area* of an ESHA from uses which threaten the habitat values which exist in the ESHA" (Emphasis in original). The entire area of the wetland complex that supports the CRLF and the SFGS is ESHA and it must be given the protection that the Coastal Act requires for ESHA. An applicant cannot harm ESHA in one area and compensate for it by "creating" it in another area, as purported mitigation for that harm. This is precisely what the Court in the Bolsa Chica case proscribed.

The Coastal Act provision that governs development in ESHAs is section 30240. That section mandates that ESHA "be protected against any significant disruption of

habitat values" and that "only uses dependent on those resources shall be allowed within those areas". Within an ESHA the Commission may approve only proposed development that meets that strict standard.

C.

When Development Is Proposed in an Area of Wetlands That Is also ESHA, The Diking, Filling and Dredging of the Wetlands Is Regulated Under Section 30233 (a) Rather than Under Section 30240.

Certain development in wetlands is regulated pursuant to Coastal Act section 30233, even if those wetlands also meet the definition of ESHA. That section permits the "diking, filling or dredging" of wetlands provided that it is undertaken for one of the seven allowable uses listed in that section, and that it is

> "in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects".

However, while section 30233 fully applies to the extent that is specified by its terms, it does not otherwise limit the Commission's application of other provisions of Chapter 3 of the Act. Where, as here, the wetlands are also ESHA, all of the wetland habitat and values must be protected pursuant to section 30240, except to the extent that section 30233 specifically applies. Put another way, section 30233 (a) applies where there is a conflict between the two provisions; but unless there is a conflict, both provisions of the Act are fully applicable.

The Bolsa Chica court made that clear. In that case the Court was faced with a Commission decision that allowed the fill of wetlands for the expansion of a road. The pond at issue was both an ESHA within the meaning of section 30107.5 and a wetland within the meaning of section 30121. The Trial Court had found a conflict to exist between sections 30233 (a) and 30240. The Court of Appeal found instead that there could be no conflict between the two because section 30233 (a), the more specific provision with respect to development in wetlands, controlled over the more general provisions of section 30240. However the Court also made clear that other provisions of Chapter 3, such as section 30240 apply to the extent that there is not a conflict with the terms of section 30233 (a).

In the proposed Sharp Park project, the removal of sediment, a form of dredging, is regulated under the terms of sections 30233 (a). It must be solely for one of the seven limited uses specified in that section, and it must meet the other requirements of that section. Other development that is a part of the project but not specifically covered by section 30233 (a), such as the new unpermitted pump that is being used to drain the wetlands, must be reviewed under the terms of section 30240.

D.

There Is No Evidence to Support the Assertion That The Removal of Sediment in the Wetland Is Being Undertaken for Restoration Purposes.

The City proposes to dredge sediment and remove vegetation from wetlands. To do this, it must meet the standard in section 30233 (a), one aspect of which is that it must be for one of the seven purposes specified in that section. It does not meet that standard.

The City asserts that the dredging is being done for "restoration purposes", for the benefit of the habitat of the CRLF and the SFGS. But this conflates the restoration aspects of the larger project proposed to the U. S. Fish and Wildlife Service (USFWS), that includes mitigation components such as the creation of a pond[1], with the removal of sediment and vegetation from the wetlands, that is being done solely to reduce obstructions to water flow into the pump intake structure. The Mitigated Negative Declaration makes this clear when it states that "pump operation is impaired by sediment buildup and vegetation growth around the intake structure and along the connecting channel" between Horse Stable Pond and Laguna Salada (MNG p. 4).

The description of the project within the USFWS Biological Opinion (BO) is instructive, as it designates as *flood control* the very same actions (dredging and vegetation/sediment removal) that the City claims in their CDP to be *restoration*. The express purpose of the construction project (which includes the dredging described in the CDP application), as proposed to the USFWS and as noted in the BO is for flood control:

> "As described in the biological assessment, the construction action is intended to 1) ensure the ongoing operation of the flood control pumps and worker safety when operating and maintaining the pumps and 2) to replace minor infrastructure (pathways)." USFWS BO p. 5 (Emphasis added).

[1] The City claims in its March 16, 2015 letter to the Commission that "This project includes construction of a pond to increase CRLF habitat, which the U.S. Fish and Wildlife Service has requested to be completed by July 2, 2015." This claim, presumably intended to create a sense of urgency within the Commission, fails to inform the Commission that the pond is a specific mitigation for the "golf course maintenance and operations" half of their larger project that they submitted to the USFWS, not the "construction activities" half of their larger project that they submitted to USFWS and that is the sole project before the Commission. Said differently, the pond creation is an irrelevant consideration for the Commission, either as restoration or as mitigation, because it is not connected to the development described within the CDP application. See USFWS BO pg. 19 for listing of pond construction as mitigation under "golf course maintenance and operations."

The USFWS BO then goes on to describe the City's own Biological Assessment (BA) that it submitted to USFWS, describing the proposed actions that are needed to address the above mentioned *flood control* purposes:

> "Currently, the biological assessment states that two factors adversely affect the operation of the pumps. First, pump operation is impaired by sediment buildup and vegetation growth around the pump intake structure and along the connecting channel between Laguna Salada and Horse Stable Pond. Second, pump operation is impaired by the buildup of vegetation on the pump intake screens. In order for the pumps to function properly, the existing screens at the intake must be kept clear of vegetation buildup. The maintenance of the screens, including the removal of debris buildup, can be necessary as frequently as daily during the rainy season. Such maintenance often occurs while the pumps are being operated during or immediately after storm events when poor visibility, slippery conditions, and high water levels present hazards to access and maintenance." USFWS BO pg. 5 (Emphasis added)

If the City thought that the removal of sediment and vegetation was actually "restoration" to benefit the protected species, as they assert to the Commission, why would they describe the very same development to the USFWS as intended to "ensure the ongoing operation of the flood control pumps"? The plain language of this project, as it has been presented for some time, until it was reworded and submitted to the CCC, demonstrates that this project is not a restoration project. It is noteworthy that there is not even one word mentioning restoration (or forms of the word "restore") within the USFWS BO's description of the project. In fact, any habitat benefit that would be created by the larger project proposed to the USFWS is actually mitigation for that larger project and not restoration.[2]

If this project were a restoration project, there would be consideration of very important factors that have never been considered by agencies reviewing this project. Those factors would have included whether or not creating additional breeding habitat is more beneficial than destroying cover habitat, and whether or not the proposed location for additional breeding habitat is even valuable, given its immediate proximity to the pumps that the FWS BO states have the potential to entrain egg masses[3]

None of these factors relating to potential restoration activities was ever presented to or considered by the USFWS. The City did not review these factors because the

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[2] The USFWS BO contains more than 8 pages of conditions that were "proposed as part of the Project in order to minimize its potential effects on the listed species or their habitat." USFWS BO p. 10

[3] "A second source of potential California red-legged frog mortality in response to pump operation is through entrainment (individuals being pulled along with water into and through the screen and pipes as a result of the pumping action) of egg masses and individual larvae at the pumps." FWS BO pg. 33

plan from day one was to dredge a very particular area that was impairing flood control operations. The USFWS did not review these factors because the project before them was not for restoration purposes, and the legal obligation of the USFWS when presented with a permit application (in this case, for flood control operations) is to minimize "take" (killing), not to recommend alternatives or set policy for restoration.

Regardless of whether this sediment and vegetation removal is consistent with USFWS standards as part of a larger project, it must also independently be consistent with section 30233 (a) (6). Quite simply, making the operation of the pumps more efficient is not a "restoration purpose".

The Society for Ecological Restoration defines ecological restoration as an "intentional activity that initiates or accelerates the recovery of an ecosystem with respect to its health, integrity and sustainability". In its prior actions the Commission has always considered "restoration purposes" to mean genuine restoration, something that "accelerates the recovery of an ecosystem with respect to its health, integrity and sustainability". If the Commission were to allow the sort of pretextual restoration that the City proposes here, there would be no limit to the wetland development that could be permitted under that section. To paraphrase the language of the Court in Bolsa Chica, such an exception would entirely consume the original limitation. If restoration doesn't mean what it says, it becomes meaningless.

The City does not present any evidence that its proposed sediment and vegetation removal from Horse Stable Pond and the connecting channel is for restoration purposes. On the other hand, WEI has presented substantial evidence that the sediment and vegetation removal, both the direct construction impacts and the direct impacts to ongoing pumphouse operations, would be harmful to the habitat of the CRLF and the SFGS, as well as to the integrity and functionality of the wetland complex itself.

First, as the USFWS noted in its BO, the dredging activity itself could increase mortality in CRLF.

> "The sediment layer in Horse Stable Pond could be anoxic and contain hydrogen sulfide (Baye 2012). Resuspension of anoxic hydrogen sulfide sediments may result in pulses of low oxygen conditions in Horse Stable Pond which could cause mortality of California red-legged frog larvae and juveniles." (USFWS BO, p. 31).

Second, the sediment and vegetation removal could increase predation and mortality of the CRLF. As San Francisco State professor and amphibian expert Dr. Vance Vredenburg stated in his March 25, 2014 letter to the Board of Supervisors,

> "because the Pumphouse project proposes to destroy the frog's aquatic cover habitat, the project will make the frog more vulnerable to predators. The proposed advantages of this habitat destruction are unsupported by any evidence". (Vredenburg, p. 9).

Finally, even if there were some habitat benefit to the dredging, the location at which it is proposed near the pumps is entirely unsuitable. While dredging near the pumps may enhance pumping operations, it is completely inappropriate for habitat enhancement due to the danger of entrainment. It is alarming that the City would even suggest that it is good conservation strategy to create breeding habitat that encourages frogs to lay eggs immediately adjacent to the pumps that can kill them very quickly, especially when the purpose of the project is to make the operation of the pumps more efficient[4]. No matter how it is analyzed, the proposed dredging of sediment and vegetation removal cannot be found to be for "restoration purposes", as is required by section 30233 (a) (6). It is a flood control project that enhances the operation of the pumps, but it is harmful to the health, integrity and sustainability of the ecosystem that supports the CRLF and the SFGS. It must be denied.

Even if the Commission were to determine that restoration purposes, rather than flood control, was the purpose of the project, and then properly analyzed the project within a restoration framework, and even if, pursuant to that analysis the Commission determined that the best location for creating breeding habitat was immediately adjacent to the pumps that can entrain and kill the egg masses, still, section 30233 (a) requires that there be "no feasible less environmentally damaging alternative" to the project.

The National Parks Conservation Association, in its letter to the Commission of March 25, 2015, has described alternatives that are less environmentally damaging.

> "If the fundamental problem for drainage of the lagoon is in fact the spread of tules and cattails, then there are low-impact alternative methods to limit or reverse their spread into the lagoon. If the fundamental problem for drainage of the lagoon is sedimentation (as claimed without evidence from bathymetry or sediment cores), then sediment detention (artificial ponds, marsh detention basins, flood

[4] A discussion of the unsuitability of the proposed habitat development is described in more detail in NPCA's 3.25.15 letter to CCC Pg. 3-4 that includes: "This location of maximum pump-induced current velocity and entrainment potential for aquatic organisms including frog larvae) was not proposed by USFWS as a suitable location for "habitat enhancement" for CRLF. It analyzed impacts of this action and authorized incidental take of listed wildlife species. Similarly, USFWS did not propose a linear canal (drainage ditch) as an optimal configuration of open water habitat for listed species. The USFWS recovery plan for CRLF does not recommend ditch maintenance or forebay dredging as actions promoting the recovery of CRLF. The USFWS BO did not analyze environmentally preferable alternatives that would better promote recovery of CRLF; this was outside the scope of the BO, which analyzed and authorized effects of the proposed action and associated "incidental take" of listed species. The scope of the USFWS BO did not include overall wetland habitat or ecosystem impact assessment."

spreading zones) upstream of Horse Stable Pond along the Sanchez Creek freshwater riparian zone should trap sediment and rectify HSP sedimentation if it actually exists. Alternative tule and cattail management would consist of conventional water depth management of marsh and ponds. The growing season water depths of the lower edges of tules and cattails (border of open water) should be raised from existing 2-4 ft. depths to a minimum of 4 ft. depths, and amphibious mowing equipment should cut tules and cattails to stumps before winter flood-up and frog breeding season begins. Without above-water oxygen transport between rhizomes and dead standing shoots, deeply submerged tule and cattail stumps will die back. Aquatic mowing below depths of submergence tolerance is a conventional managed wetland technique" (pp. 4-5).

Because the dredging project proposed by the City to remove sediment and vegetation does not meet any of the purposes allowed by Coastal Act section 30233 (a), and because even if it did, there is a feasible less environmentally damaging alternative that could be utilized to achieve the City's objectives, the Commission must deny the proposed dredging project because it is inconsistent with that section.

E.

<u>The New Unpermitted Pumps That Almost Triple the Rate of Pumping from That Which The City Asserts to Be the Original Pre-Coastal Rate Significantly Disrupt the Habitat Values of the Wetland/ESHA. Nor Are They Dependent upon the Habitat Resources of the Wetland/ESHA. They Cannot Be Approved Consistent With Either Section 30240 or Section 30233 of the Coastal Act.</u>

The City concedes that the pumps that are now in place that drain the wetlands far exceed the pumping capacity of the pump that was part of the original golf course design and installation. In its letter of March 16, 2015 the City states that the pumps in operation today are together rated at a capacity of 11,500 gallons per minute (GPM), as compared to the 4,000 GPM rating of the pump placed in operation in 1941. Apparently the large pump now in operation was installed in 2010. At various times the City has suggested that this pump replaced a pump with the same rating, and that the pumping, like all of the operational aspects of the golf course, is beyond the review of the Coastal Commission because they have a vested right to this development pursuant to Coastal Act section 30608. Neither of these claims can be substantiated.

As noted earlier, the City has provided no evidence that it has sought and obtained a determination of vested rights, as is required by the Act and by the Commission's implementing regulations (CCR sections 13200, et. seq.). Nor has it provided any evidence that it has obtained the required coastal development permit for the installation of the new pump. Under these circumstances the new pump is illegal, its placement and its operation in violation of the Coastal Act. The City asserts that the

primary purpose of the pumping is to protect the CRLF, with the secondary purpose being to limit flooding on the golf course. As is discussed in the previous section, this assertion is disingenuous, to say the least. The only purpose of the pumping is to limit flooding on the golf course. There is no evidence that draining the wetlands protects the CRLF. Instead, the evidence suggests that the CRLF is severely harmed by the rapid pumping and draining of the wetlands that are the core of its habitat.

The USFWS identified several significant impacts of the City's pumping. First, direct mortality to the CRLF could result "through stranding and subsequent desiccation of frog egg masses" (USFWS BO p.33) as a result of artificially lowering water levels by pumping. Second, CRLF mortality could occur through entrainment of egg masses and individual larvae at the pumps. In addition, USFWS identified pumping risks from drawing down the water levels artificially during the summer, and of salinity intrusion and of pH changes, all of which could degrade CRLF habitat. Of all of these impacts, the most significant is the artificially rapid alteration of water levels. As Dr. Vredenburg stated in his letter of March 25, 2014:

> "The best way to safeguard the frog is to reduce unnatural variation in pond levels, which is known to harm the frog and the habitat it needs to survive. These frogs evolved with naturally fluctuating water levels in ponds; the best thing we can do to insure their survival and recovery is to let the water levels at Sharp Park mimic these natural conditions; not drain the wetland complex at increasingly unnatural rates." (pp. 9-10).

In attempting to justify dredging to enhance the operation of its illegal pump, the City undercuts its own case with respect to water levels. In an earlier part of its March 16 letter, while attempting to argue against a suggested alternative of keeping the water level in the wetlands high enough to drown the cattails and tules, the City states that water level "retreat would result in mortality of early life-stage CRLF unable to survive and migrate to nearby perennial water bodies". This suggests that the City is fully aware that the pumping itself, by quickly reducing the water level in the wetlands, results in mortality of the CRLF, quite the opposite of protecting it, as the City claims in its CDP application to be the purpose of pumping.

The triple-size pump that was installed without benefit of permit exacerbates these impacts. The use of this increased capacity pump significantly disrupts the habitat values that sustain the CRLF (and thus the SFGS), and cannot even be argued to be a "use dependent on those (ESHA) resources". Thus this illegally installed pump is inconsistent with both prongs of section 30240. If the Commission instead chooses to characterize the pump as "fill" of wetlands, the new pump still must be denied, because it does not serve any of the allowable purposes enumerated in section 30233 (a). Approval of the installation of the new pump must be denied, and the overall project conditioned, if approved, to require that the City replace the new pump with one that has a capacity of 4,000 GPM.

For all of these reasons the City's proposed project, to the extent that it would permit sediment and vegetation removal from Horse Stable Pond and the connecting channel, and to extent that it would permit the installation of a pump with a capacity greater than 4000 GPM, should be denied. In all other respects the project should be reviewed under the standards of Coastal Act sections 30233 (a) and 30240, as discussed above.

Sincerely,

[Original signed by]

Ralph Faust

Margaret Goodale
1135 Palou Drive
Pacifica CA 94044

California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco CA 94105

29 March 2015

Re: Coastal Development Permit 2-12-104, Sharp Park Pump House Project
Commission Hearing, San Rafael, CA, April 15-17, 2015

Honorable Commissioners and Staff,

As an environmental educator living in Pacifica and retired from the San Francisco Recreation and Park Department (SFRPD), I maintain a lively concern for listed species. I currently monitor Snowy Plovers for California State Parks and U.S. Fish and Wildlife Service (USFWS) and Mission Blue Butterflies for the GGNRA. The fate of Pacifica's only remaining coastal lagoon, its endangered snakes and threatened frogs and the diving grebes, coots and terns worries me.

It was an encouraging moment when SFRPD in a February 23, 2011, press release wrote, "***A long-term plan to naturally manage the coastal areas of Sharp Park was found to be the most sustainable and cost-effective approach…*****"** The release quoted General Manager Phil Ginsburg as saying, "***We also accept the consensus which is forming to naturally manage the coastal areas at Sharp Park over the long term.*****"** See http://sfrecpark.org/a-vision-for-sharp-park-comes-into-focus/

All but two parts of this proposal before you contradict Mr. Ginsberg's statement in that press release. This current proposal adds both more concrete and the potentially damaging effects of dredging.

1. Moving the cart path on the fourteenth fairway further east and out of the marsh should have been done years ago. On November 1, 2011, I happened to drive by and observed a mower moving south along the edge of fairway 14 followed by a blower sending sizable pieces of vegetation into the marsh. From my car on Francisco Boulevard, it was clear that the pieces in the air were far larger than grass clippings and must have been coming from the "no-mow" rough. Unfortunately I had no camera with me. Exploring the area a few days later, I could easily identify the cut stems and damaged Silverweed Cinquefoil.

2. The new pond is necessary but cannot be considered to replace the open water lost at a reduced Laguna Salada. The pond is, in fact, separately required by

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USFWS as mitigation for San Francisco having previously moved California Red-legged Frog eggs without a permit and for the damage that will be caused by the proposed dredging.

3. At the pump house, adding stairs, a catwalk around the water intake structure, and concrete piers to support the catwalk creates an attractive nuisance, which should be fenced. However, because the water gauge is inside the pump intake structure, it can only be seen from immediately above the screening. Fencing eliminates any independent verification of the water level mandated by USFWS.

I want access to the gauge to check on the water levels and record the height of the water when I am in the area. Please note that the water level in my August 28, 2009 photos taken at Horse Stable Pond is far below the level on the gauge of 1.0 that the USFWS Biological Opinion approves. With more-than-adequate predictions of last summer's drought, SFRPD should have anticipated that lowering the water level to the minimum allowed would cause tule growth.

20140828-DSCN3926.JPG, looking into the intake structure, gauge <0

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20140828-DSC_0605.jpg, heron footprints in the mud just outside the intake, extreme low water

About four or five years ago, SFRPD invested in a new, higher volume pump. 10,000 gallons per minute can now be removed from Horse Stable Pond and be sent gushing out onto the beach. The Pied-billed Grebe and Coots that once nested at the pond are gone to seek deeper water elsewhere. Their habitat could have been saved simply by maintaining a higher water level.

SFRPD's management of the water level by pumping has repeatedly created conditions of shallow water that allow tule and cattail to fill in the pond. With the new, powerful pump SFRPD has, by lowering the water level, invited the growth of tule at Horse Stable Pond that SFRPD now claims must be dredged.

4. Dredging to remove the tule and cattail is the most important part of this proposal today and will have the most damaging and profound impacts. SFRPD proposes to dredge both Horse Stable Pond and its connection to Laguna Salada in order to remove water from the lagoon more quickly. With lower water in Laguna Salada, the same natural processes that responded to the artificially shallow water at Horse Stable Pond and filled it with tule will operate at Laguna Salada.

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During my 38 years in Pacifica I have watched Laguna Salada shrink drastically due to the SFRPD's management practices. The Coastal Records Project aerial photos show a U-shaped lagoon as recently as 1993. My own photos taken at random times show open water with diving birds at Horse Stable Pond prior to the installation of the new, high capacity pump.

Coastal Records Project image 199300132005, HSP(lower right) and lagoon

Continuing to drain Laguna Salada will promote the invasion of native wetland vegetation that normally grows only in shallow water. If Mr. Ginsburg's statements about a naturally managed system are to be believed, this is the perfect opportunity to put in play natural management of the vegetation without dredging but rather by allowing deeper water.

Please consider a less damaging alternative to dredging: the flooding of shallow areas to a depth that prevents tule growth and maintains a healthy lagoon and pond. Even when the course is flooded, golf continues as evidenced by my March 27, 2009, photo taken from the highest hill at Mori Point. The golfers seem to have no problem playing around the puddles. The small photos are enlarged details excerpted from the larger one of the full lagoon.

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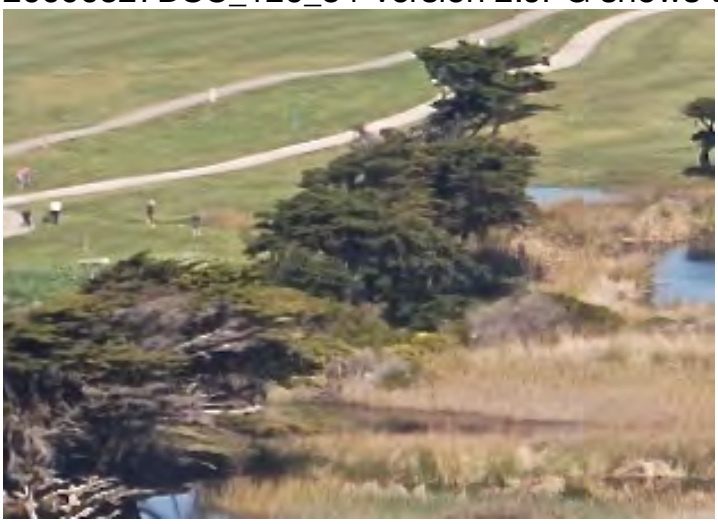
20090327DSC_120_84.JPG shows full lagoon & flooded course, March 27, 2009

20090327DSC_120_84-version 2.JPG shows the upper left, golfers west of lagoon



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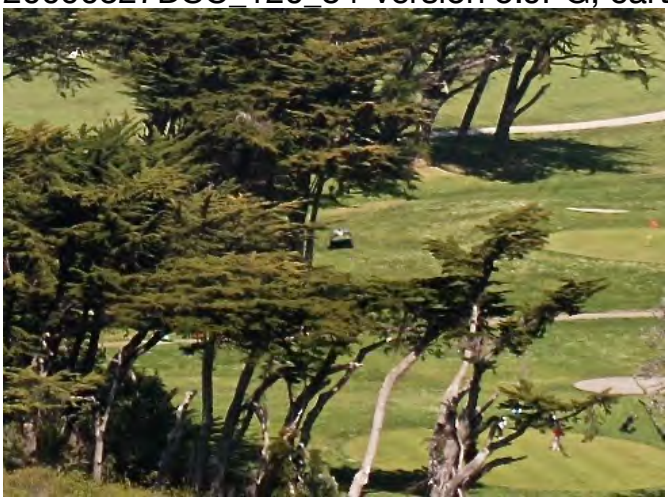
20090327DSC_120_84-version 3.JPG, golfers at north end of lagoon

20090327DSC_120_84-version 4.JPG, golfers at northeast of lagoon

20090327DSC_120_84-version 5.JPG, cart & golfers on green southeast of lagoon



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As California enters a serious drought, my concern is for the ultimate survival of the wetland. The water level is critical to the health of the lagoon. With the dredging of Horse Stable Pond and the resulting draining of Laguna Salada, there is a real risk that, as sea level rises, the sadly diminished lagoon will have no defense against salt intrusion from the pressure of high tides. If Laguna Salada is to have a future, its slow, incremental destruction must stop.

Please, hold Mr. Ginsburg to his word. Vote to keep the lagoon wetland alive, and do not allow San Francisco to turn it into a salty, dead water hazard.

Thank you for your protection of our precious California Coast,

Margaret Goodale
Pacifica

Executive Summary

After reviewing SFRPD's application and their subsequent March 16, 2015 submittal, there continues to be significant inadequacies, vague or inconsistent information, unresolved/unpermitted development and associated impacts, and improper project description. This lack of information supports a staff decision to "continue" the application process because the application is incomplete at this time, or reject it. It is difficult for us to see how "conditioning" a permit approval addresses these issues, though we believe CCC should promptly restore the pumphouse to pre-coastal status of 4,000 GPM. Additionally, the artificial deadline of July 2, 2015 SFRPD claims as reason to approve this full project is improper. The pond noted in the FWS BO is not before the CCC as part of this CDP application and can advance independently.

Key points supporting "incomplete application/information" that are described in more detailed in the appendix are:

- **Vague, inconsistent, and unsupported information and project description**
  - Project description and purpose cannot be evaluated as a single project purpose
  - No evidence supporting the foundation of SFRPD's problem statement: sedimentation
  - Missing information and standard analysis on basic dredging project description

- **Omission of unauthorized development activities, including installation and operation of larger pumps to drain wetlands faster and encroachment on and mowing of wetlands without vested rights.**
  - Project description and environmental analysis omits analysis of cumulative impacts from essentially related activities for flood control, rock armor reinforcement, and mowing of emergent marsh vegetation
  - No evidence that the pumphouse operation is essential component of habitat or restoration rather than solely for flood control. Inconsistencies with SFRPD's description of pumphouse purpose.

- **Incomplete information on feasible less environmentally damaging alternatives and inadequate CCC jurisdiction-specific CEQA**
  - The SFRPD's Mitigated Negative Declaration (MND) failed to consider feasible less environmentally damaging alternatives for controlling the spread of marsh vegetation
  - Compliance with Coastal Commission's regulations regarding dredging in wetlands require the analysis of feasible alternatives to dredging in wetlands. Commission cannot rely on SFRPD MND documents for its compliance for activities subject to its jurisdiction and policies.
  - To date, no review process, including the MND and FWS's Biological Opinion (BO), has evaluated less-damaging alternatives.
  - SFRPD has failed to provide an objective threshold for "feasibility" regarding tolerance of golf recreation for seasonal fluctuation in lagoon water levels.
  - The alternative of "reasonable range" of increased water levels as threshold for pumping in winter and summer was not analyzed with or without aquatic mowing to control tule spread.

- **FWS narrowly-scoped "take minimization" review process applies different, less restoration-focused standards than CCC's review process.**
    - The location of maximum pump-induced current velocity and entrainment potential for aquatic organisms including frog larvae) was not proposed by USFWS as a suitable location for "habitat enhancement" for CRLF and USFWS did not propose a linear canal (drainage ditch) as an optimal configuration of open water habitat for listed species.
    - SFRPD inappropriately points to a BO issued by the USFWS within a narrow process that: a) did not by legal requirement or design have a review process for impacts to wetlands; b) was procedurally foreclosed from considering any alternatives to the project (only a jeopardy finding triggers consideration of alternatives); and c) was designed to allow for and minimize the killing of endangered species rather than restore or protect the species.
    - The USFWS BO did not analyze environmentally preferable alternatives that would better promote recovery of CRLF; this was outside the scope of the BO, which analyzed and authorized effects of the proposed action and associated "incidental take" of listed species. The scope of the USFWS BO did not overall wetland habitat or ecosystem impact assessment.
    - SFRPD's project description and previous review does not provide information needed for CCC to address its key jurisdiction questions on wetlands that inform indirect impacts of pumping and water management, arguably the project's overall purpose: Key questions that need to be addressed by the Staff report to correct deficiencies in project description and alternatives analysis are provided in the appendix.

- **Low-impact alternative methods of managing "excessive" tule and cattail growth exist**

    - Appendix highlights this alternative, which unlike SFRPD's proposal, is consistent with Commission wetland and habitat restoration goals. Components include combination of aquatic mowing and water level rise during growing season, directly addressing problem statement that low water levels encourages growth/spread of vegetation (a theory adopted by FSW in their BO

- **Golf Course and Pumphouse Operations, and its connectedness to this Project:**
    - The golf course and its operations are within the scope of this Project because the project activities would directly change the environmental impact of the pumping operation, even if the pumping protocols do not change (the protocols have triggers, albeit insufficient, associated with the CRLF and are not designed to protect wetlands).
    - SFRPD states that a 4,000 gallon-per-minute (GPM) capacity pumping operation was installed in 1941, yet it has subsequently altered the pumping operation by adding a pump and increasing the total pump capacity to 11,500 GPM. SFRPD never conducted an environmental review of the change in pumps and the subsequent increase in wetlands draining, and it never sought permits for this change in pumps and pumping levels/capacity from the Coastal Commission.
- **Though flooding of the existing wetlands occurs regularly, golf is still offered and played, and does not lead to shutdown of the course.**
    - Various sources of data (first-hand accounts, photographic evidence, yelp reviews from Sharp Park golfers) confirms that golfing continues even when the course is flooded or holes are closed for other reasons. SFRPD's claim that the "golf course would have to shut down" is unreasonable and not supported by their own actions.

Appendix

After reviewing SFRPD's application and their subsequent March 16, 2015 submittal, there continues to be significant inadequacies, vague or inconsistent information, unresolved/unpermitted development and associated impacts, and improper project description. This lack of information supports a staff decision to "continue" the application process because the application is incomplete at this time, or reject it. It is difficult for us to see how "conditioning" a permit approval addresses these issues, though we believe CCC should promptly restore the pumphouse to pre-coastal status of 4,000 GPM. Additionally, the artificial deadline of July 2, 2015 SFRPD claims as reason to approve this full project is improper. The pond noted in the FWS BO is not before the CCC as part of this CDP application and can advance independently.

Key points supporting "incomplete application/information" include:

- **Vague, inconsistent, and unsupported information and project description**
  - Project description and purpose: project elements include a mix of recreation-purpose and flood control-purpose actions, some with no independent utility but for operation of the upgraded 2010 high capacity pumps. Activities with different primary purposes, such as golf cart realignment, bank stabilization, stairway access improvements, and dredging in wetlands cannot be evaluated as a single project purpose.
  - Sedimentation is claimed as the sole reason for vegetation spread, yet no evidence, study, or data has been submitted that either demonstrates the location, extent, or volume of sediment deposits within Laguna Salada or Horse Stable Pond, or their relationship to the spread of tules and cattails. The spread of tules and cattails is sufficiently explained by natural vegetative spread in shallow water depths within the range of tolerance of these species. Artificial drainage of the lagoon by pumps maintains extensive water depths less than 3 feet over the margins of the lagoon bed, as shown by the SFRPD's own hydrology studies. This maintains suitable hydrology for continued spread of cattails and tules without changes in sedimentation. USFWS agreed, citing in their Biological Opinion (BO) that "[s]hallow water [from summer welands draining] promotes the growth of cattails and tules causing the gradual encroachment of vegetation and loss of open water habitat…" (pg. 34). Moreover, the sole source of watershed sediment (Sanchez Creek) is separated from Horse Stable Pond by a major sediment trap formed by willow thickets and loss of defined channel bed and banks, lacking direct channel connectivity for sediment transport to Horse Stable Pond. The Sharp Park Conceptual Restoration Alternatives Report (2009) indicates that a sediment yield analysis is being completed as part of engineering design of the project. The primary objective of the sediment yield analysis is to better understand the rate at which sediment is transported to the wetland complex from the watershed and to support design of sediment detention and removal facilities. To our knowledge, the findings of this analysis have not been completed or presented.

- **Missing information on basic dredging project description**
  - The project description and supporting documents do not provide data to distinguish between new (unprecedented) dredging depths and maintenance dredging (return to previous or original condition), or any bathymetric evidence of sedimentation-induced changes in elevations that are cited as the basic need for the project. The description should include current bathymetry showing original and proposed depths of dredging,

including the thickness of sediment proposed for removal to compensate for (claimed) sedimentation.
  - The project description lacks standard dredge sediment quality analysis and comparison with reference thresholds for the RWQCB-SFB dredged sediment screening criteria.

- **Inconsistent project description and purpose, mixing recreation-purpose and flood control-purpose actions, with no independent utility except support for unpermitted high capacity pumps.**

  - The first test normally applied for determining whether a permit application is for a stand-alone project or a piecemealed (segmented) one is "independent utility" -- the question of whether the project is dependent on a larger project to (feasibly) achieve its basic purpose and functions, or whether it would fully satisfy its own purpose without relationship to the larger project. The recent Sharp Park projects (2010 installation of unpermitted high capacity pump and current project) should be viewed from this perspective. The dredging component of the current project fails the independent utility test because the location, volume, and area of proposed dredging would not make sense but for the high-capacity pumps and the location of the pump station.
  - The (loosely related) golf cart path realignment and staircase to the pump station have independent utility: they would serve their own purposes with or without the high-capacity pumps. But the drainage connectivity between main LS and HSP would not have any independent utility without the operation of the upgraded pumps. There is no CRLF breeding habitat "optimization" of canal excavation or forebay excavation. The configuration, location, and dimensions of the HSP forebay and canal/ditch make sense only for pumping of HSP and connected draining of LS.
  - The various actions of the pumphouse project serve different purposes, yet SFRPD's project description conflates these purposes to mask actions that do not support restoration of wetlands. The golf cart realignment may be a recreation-purpose and the new pond may be a restoration-purpose, but the sediment and vegetation removal would enhance the pumping operations for flood-control purposes, certainly not a wetland-supporting action.

- **Omission of unauthorized development activities, including installation and operation of larger pumps to drain wetlands faster and encroachment on and mowing of wetlands without vested rights.**
  - The project description and environmental analysis omits analysis of cumulative impacts from essentially related activities for flood control and water management of Laguna Salada and the golf course, including unauthorized rock armor reinforcement to the seaward face of the earthen levee (in Commission jurisdiction) bordering Salada Beach, and mowing encroaching directly into emergent marsh vegetation near golf holes 14-15.
  - SFRPD has not demonstrated how its pumphouse operation, now implicated by this CDP application, is an essential component of habitat enhancement or restoration, rather than solely for flood control. Yet the FWS Biological Opinion (BO) and past documents clearly outlines that pumphouse operations is for flood control purposes, undermining

RPD's attempts, most recently on 3/16/15, to claim that the pumphouse's primary purpose is for CRLF protection. This is just one example of numerous where inconsistencies exist in describing the purpose of the pumphouse.

- **Incomplete information on feasible less environmentally damaging alternatives and inadequate CCC jurisdiction-specific CEQA**

  - The SFRPD's Mitigated Negative Declaration (MND) failed to consider feasible less environmentally damaging alternatives for controlling the spread of marsh vegetation, and considered only dredging as the means to remove vegetation. Compliance with Coastal Commission's regulations regarding dredging in wetlands require the analysis of feasible alternatives to dredging in wetlands. Therefore, the Commission cannot rely on SFRPD MND documents for CEQA compliance for activities subject to its jurisdiction and policies. To date, no review process, including the MND and FWS's Biological Opinion (BO), has evaluated less-damaging alternatives.
  - SFRPD has failed to provide an objective threshold for "feasibility" regarding tolerance of golf recreation for seasonal fluctuation in lagoon water levels. Without an elevation threshold for lagoon flooding at which golf operations cannot and have not occurred, feasibility of alternatives cannot be objectively evaluated. At minimum, SFRPD should submit data on water surface elevations when golf operations were shut down due to flooding, and water level data on days when golf play continued during periods of partial flooding of the golf course.
  - The alternative of "reasonable range" of increased water levels as threshold for pumping in winter and summer was not analyzed with or without aquatic mowing to control tule spread.
  - Alternative configurations and locations for establishing open water/marsh edge habitats to enhance CRLF breeding habitat were not evaluated. If the project purpose is in fact "habitat enhancement" rather than flood control to support recreational land use, alternatives for producing open water gaps in marsh (whether by dredging or other means) must be evaluated to comply with Commission regulations on wetland dredging. A key example of a dredging location that is obviously not suitable for "habitat enhancement" but is primarily related to maximize efficiency of pumping for flood control is proposed dredging of the open water forebay immediately adjacent to pump intakes. This location of maximum pump-induced current velocity and entrainment potential for aquatic organisms including frog larvae) was not proposed by USFWS as a suitable location for "habitat enhancement" for CRLF. It analyzed impacts of this action and authorized incidental take of listed wildlife species. Similarly, USFWS did not propose a linear canal (drainage ditch) as an optimal configuration of open water habitat for listed species. The USFWS recovery plan for CRLF does not recommend ditch maintenance or forebay dredging as actions promoting the recovery of CRLF. The USFWS BO did not analyze environmentally preferable alternatives that would better promote recovery of CRLF; this was outside the scope of the BO, which analyzed and authorized effects of the proposed action and associated "incidental take" of listed species. The scope of the USFWS BO did not overall wetland habitat or ecosystem impact assessment. For compliance with Coastal Commission policies regarding ESHA as well as dredging in wetlands, dredging of a forebay directly adjacent to pump intake,

with applicant claims of "habitat enhancement" as the purpose and effect of the action, requires additional scrutiny by Commission staff.

- SFRPD inappropriately points to a BO issued by the USFWS within a narrow process that: a) did not by legal requirement or design have a review process for impacts to wetlands; b) was procedurally foreclosed from considering any alternatives to the project (only a jeopardy finding triggers consideration of alternatives); and c) was designed to allow for and minimize the killing of endangered species rather than restore or protect the species.
- SFRPD's project description and previous review does not provide information needed for CCC to address its key jurisdiction questions on wetlands that inform indirect impacts of pumping and water management, arguably the project's overall purpose: Key questions that need to be addressed by the Staff report to correct deficiencies in project description and alternatives analysis include:
    - What does SFRPD assume to be the critical limiting water depth range, and duration of limiting flood depth, for tules and cattails? (threshold for potential indirect significant impact)
    - How long, and in what time of year, would areas of the lagoon be lowered to submergence depths that are shallower than the presumed critical depth for restricting spread of cattails beyond their pre-project extent? (threshold and mechanism for potential indirect significant impact)
    - What is the minimum area of the lagoon bed that would be maintained at depths beyond the limits of submergence tolerance of cattails and tules? (threshold for potential indirect significant impact)
    - What is the maximum duration of drawdown (lagoon lowering) to depths shallower than the limit of submergence tolerance of cattails and tules? (threshold for potential indirect significant impact)
    - How will maintenance of low lagoon levels prior to storms (lagoon drawdown for stormwater detention capacity) affect the vulnerability of the lagoon to seawater flooding during oceanic storm overwash events?
    - How will maintenance of low lagoon levels prior to storms affect surrounding groundwater levels – will it artificially lower the water table under fringing wetlands and/or promote salt water intrusion from the Ocean?
    - How will maintenance of proposed target lagoon levels affect the elevation range of freshwater and fresh-brackish marsh habitat of listed threatened and endangered wildlife species in relation to the elevation range of rising sea level or potential storm oceanic overwash flooding?

Low-impact alternative methods of managing "excessive" tule and cattail growth

If the fundamental problem for drainage of the lagoon is in fact the spread of tules and cattails, then there are low-impact alternative methods to limit or reverse their spread into the lagoon. If the fundamental problem for drainage of the lagoon is sedimentation (as claimed without evidence from bathmetry or sediment cores), then sediment detention (artificial ponds, marsh detention basins, flood spreading zones) upstream of Horse Stable Pond along the Sanchez Creek freshwater riparian zone should trap sediment and rectify HSP sedimentation if it actually exists. Alternative tule and cattail management would consist of conventional water depth management of marsh in ponds. The growing season water depths of the lower edges of tules and cattails (border of open water) should be raised from existing 2-4 ft depths to a minimum of 4 ft depths, and amphibious mowing equipment should cut tule and cattails to stumps before winter flood-up and frog breeding season begins. Without above-water oxygen transport between

rhizomes and dead standing shoots, deeply submerged tule and cattail stumps will die back. Aquatic mowing below depths of submergence tolerance is a conventional managed wetland technique. Currently, only the upper marsh elevations are mown to maximize golf turf areas.

Raising water levels by only 1 foot during the growing season would significantly increase the ratio of open water to marsh, especially in conjunction with mowing cattails and tules at the open water edge. Raising water levels by 2 feet during the growing season would promote extensive restoration of open lagoon areas. This would not adversely impact, but would benefit California red-legged frogs, which are harmed primarily by rapid artificial fluctuations in water levels caused by pumping to maintain current low water levels. Hydrological information regarding natural pond recession (vs pumping recession) was provided to CCC from Greg Kamman. The lagoon, maintained by groundwater and inflow, allows for more stable recession of water, contrary to the significant depletion and drawdown caused by pumping.

FWS narrowly-scoped "take minimization" review process applies different, less restoration-focused standards than CCC's review process.

- Dredging of open water forebay immediately adjacent to pump intakes (maximum velocity and entrainment potential for aquatic organisms including frog larvae) was not proposed as the location for maximum "habitat enhancement" for CRLF, or was the dredging of a canal with drainage connections. The mere fact that the USFWS BO agreed in general that incidental take was permissible and authorized it did not imply (nor did USFWS conclude) that the location of dredging next to the pump intake would contribute to the species' recovery. USFWS BO suggests generalized support that increased open water/vegetated edge as habitat structure was beneficial; not the specific location next to pump intake, which was permissible (authorized) and not that there were no better, less environmentally damaging alternatives for increasing open water/vegetated edge habitat. Reconciling non-habitat enhancement dredging next to pump intake (forebay) under CCC wetland regulations needs scrutiny. Scope of BO was listed species take and minimization, not wetlands assessment.

Golf Course and Pumphouse Operations, and its connectedness to this Project:

- The golf course and its operations are within the scope of this Project because the project activities would directly change the environmental impact of the pumping operation, even if the pumping protocols do not change (the protocols have triggers, albeit insufficient, associated with the CRLF and are not designed to protect wetlands).
- SFRPD states that a 4,000 gallon-per-minute (GPM) capacity pumping operation was installed in 1941, yet it has subsequently altered the pumping operation by adding a pump and increasing the total pump capacity to 11,500 GPM. SFRPD never conducted an environmental review of the change in pumps and the subsequent increase in wetlands draining, and it never sought permits for this change in pumps and pumping levels/capacity from the Coastal Commission.

<u>Environmental impact/activity of wetland draining has changed from pre-coastal to current</u>

- Even if the CCC assumed that the 4,000 GPM pump existed in 1972 (vs. no pump) and was operating at full capacity, the current pumping rate of more than 6,000 GPM has increased the draining rate of the wetlands by *at least* 50% of pre-coastal act operations.
- Under the same assumption, today's pump capacity has increased from 4,000 GPM to 11,500 GPM, an increase of nearly 3 times that of pre-coastal act capacity.
- The CCC should find that the pumphouse operation is not a vested right per the Coastal Act's 30608 provision.
- Additionally, SFRPD should produce evidence that its pump replacement in 2010 replaced a pump of "same rating."

Environmental impact/activity of wetland draining will change from current to post development

- Dredging will remove impediments that slow the rate of water flowing from Laguna Salada to Horse Stable Pond, resulting in a change (increase) in the rate of water flowing from Laguna Salada to Horse Stable Pond, and from Horse Stable Pond to the ocean. This change in environmental impact has never been reviewed and it adversely impacts wetlands.
- SFRPD has produced no evidence that the rate of water flowing from Horse Stable Pond to ocean will be the same after the project.
- Even if SFRPD were able to demonstrate that rate of water flowing from Horse Stable Pond to ocean would be the same, the uncontradicted fact still remains that the project is impacting Laguna Salada wetlands through draining/moving water faster from Laguna Salada to Horse Stable Pond post-dredging.
- The project proposes lowering the elevation of the connector channel between HSP and LS "to a maximum depth of 3 feet." This includes clearing sediment and debris out of an existing cart-crossing culvert. Based on past surveys, the sediment partially plugging the culvert creates a sill elevation between LS and HSP of 6.2-feet in elevation (NAVD88). Historic observed minimum water surface elevation in LS are between 6.0 and 6.2-feet and occur during the dry summer months.
- Removing this material in the culvert below the current 6.2-foot sill elevation will allow LS to be drained to a lower elevation via pumping from HSP, even during winter months. Lowering the water level in LS below the historic minimum summer level would adversely impact existing wetland vegetation/habitats as well as increase surrounding groundwater inflow gradients. This could increase the potential from salt water intrusion from the Ocean west of LS and dewatering of wetland soils located east of LS. This change in environmental impact has never been studied and it adversely impacts wetlands.
- The CCC should find that the pumphouse project would degrade wetlands and cannot be authorized.

Though flooding of the existing wetlands occurs regularly, golf is still offered and played, and does not lead to shutdown of the course.

Various sources of data (first-hand accounts, photographic evidence, yelp reviews from Sharp Park golfers) confirms that golfing continues even when the course is flooded or holes are closed for other reasons. SFRPD's claim that the "golf course would have to shut down" is unreasonable and not supported by their own actions.

Course seen here in March 2009, after winter rains saturated wetlands around the 9-ft NAVD contour. Numerous golf carts and golfers are visible (larger photo available):

Recent reviews on Yelp demonstrate that golf holes are closed or temporarily reconfigured for extended periods of time (last year 4 holes closed for 2 months), and golfers still play the course at a discounted price. http://www.yelp.com/biz/sharp-park-golf-course-pacifica

Steve M. 12/30/2014
In the canyon - 4 holes on the E side of the freeway - the restoration of the greens means there are temporary greens set up in the fairway. Chalk circles around closely-cut fairway grass. I almost made a 6-foot putt, so get over it! Not easy but the point is challenge anyway. And, the fee was discounted….. Last Sunday (two days ago) the canyon [4 holes east of Hwy 1] was closed and it was 'play all you want' for $20. Wow.
Shirley N. 8/16/2014

Green fees are discounted through the end of September due to 4 holes closed - 4 through 7 due to the City replacing pipes. Ok by me since I don't like pushing my cart across and back and up and

To: California Coastal Commission staff (John Dixon, Nancy Cave, Stephanie Rexing, Jeannine Manna, and Robin Mayer)

From: Neal Desai, National Parks Conservation Association

Date: March 30, 2015

Re: SFRPD's "Cherry-picked" Horse Stable Pond Data and unscientific claims

BACKGROUND: On March 16, 2015, SFRPD submitted materials to the CA Coastal Commission (CCC), claiming that increased vegetation within Horse Stable Pond (HSP) has led to a decrease in CRLF egg masses at HSP. To provide support for this claim, SFRPD provides information in the form of photos and very specific, limited data points that they attempt to link together in an effort to show a relationship or correlation. A closer look at the data, specifically the data that was not provided to CCC by SFRPD (even though SFRPD has access to it) that we have recently received from the National Park Service, highlights that there is no relationship between vegetation and egg masses, and raises questions about why SFRPD would provide CCC with "cherry-picked" data when it had the full set of data available.

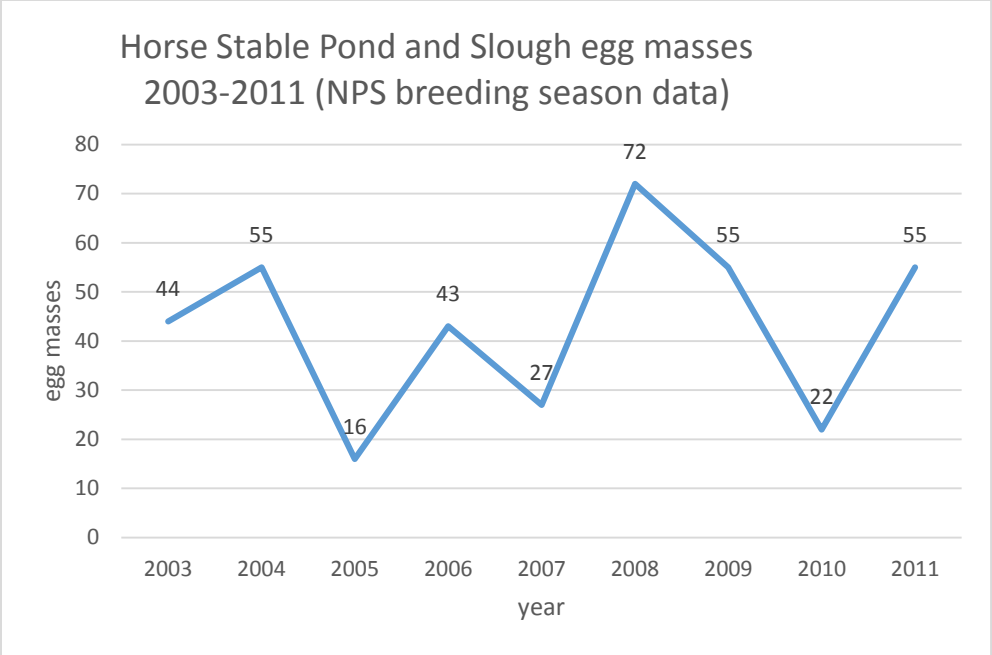
SFRPD provided CCC with photos, stating that vegetation has increased within the HSP between the years of 2005 and 2013. Photos were provided from 2005, 2006, 2007, 2010, 2011, and 2013.

SFRPD then provided CCC with only two data points (2005 and 2012) of egg masses on the entire wetland complex (HSP + Laguna Salada), yet the actual number of egg masses of HSP were not provided. SFRPD states that CRLF egg masses on the entire wetland complex has increased by 30% during the 2005 to 2012 period, but then states that this is a problem because they claim that the proportion of those egg masses laid at HSP decreased from 64% to 18%, inferring a scientifically based relationship between increased vegetation and decreased egg masses. The graph they point to (Figure 8) to provide support for their unscientific claim is not a description of 2005 to 2012, but is instead two data points, one of which isn't even 2005 (Figure 8 shows a data point of 2008 and 2012).

What is wrong with this picture that SFRPD has presented to CCC?

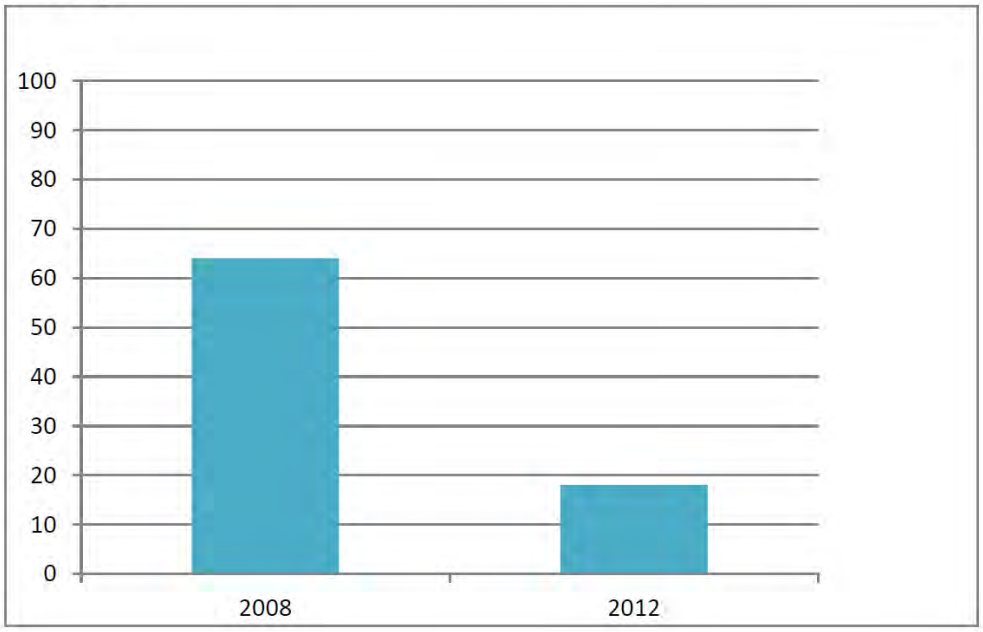
- We have received the missing information (2003-2011 yearly data of HSP and slough that SFRPD did not provide to CCC) from the National Park Service on 3/27/15 and it does not support SFRPD's claim that vegetation encroachment has led to trend in decreasing egg masses in the area that is targeted for dredging.

- Even if SFRPD's data set was complete and they did not "cherry pick" data, their basic claim [that an increase in egg masses within the overall Laguna Salada wetland complex though decrease in percentage of those egg masses coming from HSP is a problem] lacks any scientific research to support it. SFRPD presents no evidence of scientific investigation into factors that could have led to CRLF depositing more eggs in Laguna Salada as a percentage of overall wetland complex deposits, and any justification why the range of data should be limited to 2005. SFRPD provides no scientific evidence that destroying the increased cover habitat to create breeding habitat next to pumps that can kill eggs is beneficial. Said differently, what SFRPD presents (though inaccurately) is a chart, not science.



- It is noteworthy that SFRPD, in their Figure 8 comparison (pasted below) that they previously stated highlights a 2005-2012 trend, "cherry picks" data from the 2008 "high-point" year in their effort to communicate what should be the expected/average number of eggs being deposited at HSP. Presumably, SFRPD did not provide the 2005 data point because it is the "low-point" in the 2003-2011 time period, which would not support their photographs and associated unscientific claim that more open water equals more egg masses.

Figure 8: Percent of Egg Masses on Sharp Park property that were deposited at Horse Stable Pond (2008 vs. 2012)



Rexing, Stephanie@Coastal

From: LeoRollene Leon <leo-rollene@hotmail.com>
Sent: Tuesday, April 01, 2014 2:45 PM
To: Rexing, Stephanie@Coastal
Subject: Questions regarding structures on the Beach at Sharp Park

Hello Stephanie, I am writing because I am concerned about construction work that was done on the beach in Pacifica. Aside from being a safety hazard and eyesore. What troubles me is, the possibility, that the work was done without any CEQA review and/or without a Coastal Development Permit.

I understand that the work was initially performed in relation to a routine maintenance repair and replacement of pumps, that drain water from Horse Shoe Pond, at Sharp Park into the Pacifica Ocean. However, I have discovered that work included the construction of a new structure on the beach. And the old structures were simply abandoned. It is my understanding that the work was initiated by the Park Recreation & Department, City and County of San Francisco. The Project location is on the Beach in the City of Pacifica.

I became aware, at a Board of Supervisors meeting, on March 25, 2014, during statements made regarding a recent Pump project EIR Appeal. The comments made by the City Attorney in response to a County Supervisor question. Indicate that a CEQA review was never completed because none was submitted by the Recreation and Park Department.

In my opinion the Beach in Pacifica has been impacted by the new construction. First, the old structures, that the new construction replaced, have remained abandoned on the beach and are a potential nuisance and hazard. Second the new structure pours up to 10,000 Gallons per minute onto the beach. And creates a substantial flow that blocks access. And can be a potential hazard due to the location and rate of flow onto the beach.

I have attached a link to a video that shows the abandoned concrete structures and the new structure pouring water onto the beach.
Please review the video and my comments. I would like to discuss this situation with you or the appropriate person at the Coastal Commission. Here's a link to the video:

https://onedrive.live.com/redir?resid=5A4F0A0924ADE2A1!1635&authkey=!ANXqbV76SiEd81Y&ithint=folder%2c.mp4

Sincerely, William Leo Leon
650-355-5890
Pacifica, Ca 94044

Rexing, Stephanie@Coastal

From: Neal Desai <ndesai@npca.org>
Sent: Friday, February 20, 2015 12:13 AM
To: Rexing, Stephanie@Coastal; Cave, Nancy@Coastal; Dixon, John@Coastal; Manna, Jeannine@Coastal
Cc: Brent Plater
Subject: Sharp Park topics
Attachments: Sharp Park topics CCC.docx

Hi all,

Looking forward to seeing you tomorrow. The very short attachment contains some topics (pulled from materials we have already submitted) that I wanted to get down on paper and provide in advance of our discussion.

Best regards,
neal

==========

Neal Desai
Director of Field Operations, Pacific Region | National Parks Conservation Association
1330 Broadway | Suite 933 | Oakland, CA 94612
P: 415.989.9925 | C: 510.368.0845 |F: 415.989.9926 | ndesai@npca.org | npca.org

Protecting Our National Parks for Future Generations

Though SFRPD purports the purpose of the Sharp Park project ("project") to be "infrastructure improvement" and "habitat enhancement" etc., the project seeks to have the Coastal Commission codify significant changes to pumphouse operations that cause significant adverse impacts to this coastal lagoon wetland complex but have never been subject to environmental review.

- The basic purpose of the pump station operations at Sharp Park is *to drain the lagoon and wetlands, lowering and stabilizing water surface elevations of the lagoon and soil saturation to depressed wetland elevations* all year long.
- The pumps maintain the lagoon in a permanent artificial low water level, preventing natural fluctuation between high and low seasonal lagoon stands, and preventing natural fluctuation between high and low lagoon/wetland size among high and low rainfall years.
- The pumping operations, in combination with the ongoing mowing of saturated perennial and seasonal wetlands bordering the lagoon, minimizes lagoon wetland area and functional capacity.
- Laguna Salada is a back-barrier lagoon system, a rare coastal resource. Such a system is virtually extinct in northern California, having been diked, destroyed and lost through other manipulations. The project runs wholly contrary to protection of this unique coastal resource by accelerating the flow of water when this system is naturally designed to flow at a slower pace. So-called "flood management" actions proposed by SFRPD are extreme and should not trump a balanced approach to protecting unique coastal resources.

SFRPD requests that the Coastal Commission permit this project that uses recently installed, higher capacity pumps that have never been reviewed for its impacts on the coastal wetlands. No evidence exists that the rate of draining water from the lagoon (i.e. actions that specifically impact resources important to the Coastal Commission) has ever been reviewed.

- The project proposes to dredge sediment and aquatic vegetation from the Laguna Salada wetland complex so water flows more rapidly to the pumphouse, allowing the pumphouse to drain the wetland complex at a faster rate. To date, no environmental review has been done on the pumping operations, including when a new, higher capacity pump was installed in 2010 without public review and comment.
- The "baseline" for the project cannot be the maximum pump capacity, which the current pump has never operated at and available records show the prior pumps never operated at, but that it should be the current pump capacity.
- The project description is inadequate because it does not account for or describe the change in pumping rates that will occur as a result of this project.

The purported problem SFRPD claims to have (tule and cattail growth) is a result of their own aggressive pumping operation, which the project would encourage and expand.

- The proposed dredging (excavation) of the lagoon vegetation at Horse Stable Pond (historical lagoon outlet channel remnant) does not "enhance" wetlands. The growth of tule and cattail vegetation here is caused by the low water levels that the pumping regime itself maintains. Cattail and tule vegetation would be limited by excessive submergence

(water depth exceeding 4 ft) but for the pumps that maintain shallow water near the pumps at depths less than 3 ft, well within the growth tolerance of cattails and tules.
- There is no evidence of significant sedimentation (natural or otherwise) at this location. The dense marsh and riparian vegetation upstream traps the minimal sediment load of Sanchez Creek.

SFRPD inappropriately attempts to rely on the USFWS Bi-Op in its efforts to seek Coastal Commission approval of its project, and in doing so, also mischaracterizes the limited purpose and scope of the Bi-Op.

- The Coastal Commission has a duty to protect coastal resources whereas the USFWS has a very limited scope of review (ESA matters), applies different standards, and does not consider the degradation of coastal lagoon wetland complex.
- As described here, the proposed project would increase degradation to this rare coastal lagoon wetland complex.
- The underlying activity requiring Coastal Commission scrutiny using its own standards is the excessive draining of wetlands and dredging in addition to potential harm to CRLF and SFGS, not limited to the reactionary mitigation measures for CRLF and SFGS that USFWS imposed using their narrow scope of review.

A feasible alternative to the project, which would address the SFRPD's claimed problem has been proposed to but not considered by RPD. The Coastal Commission has a responsibility to review and implement this less damaging alternative, through conditioning or denying the permit.

- A feasible alternative to the project has been proposed by coastal wetland experts: allowing the wetland complex's water levels to rise higher than the aquatic vegetation can tolerate. This would reduce the amount of aquatic vegetation in the wetland complex without harming the CRLF, without degrading the integrity of this rare wetland through excessive draining, and would not require regular dredging. Details of this alternative are available.
- As stated by coastal lagoon expert Dr. Peter Baye in reaction to the project: "In my professional opinion, the proposed project represents a long-term significant net environmental liability for wetland quality, sustainability, and extent at Laguna Salada, and not an "enhancement". The proposed 1600 sf pond construction is the only environmental benefit, and it is minor compared with the short-term and long-term impacts of the project and pump station operations. The water management at Laguna Salada should instead allow for reduced pumping and higher seasonal lagoon stands, with no mowing of freshwater marsh vegetation at the east shore." (Memo from Baye to NPCA 10/3/14)

Rexing, Stephanie@Coastal

From: Neal Desai <ndesai@npca.org>
Sent: Monday, March 02, 2015 9:12 PM
To: Rexing, Stephanie@Coastal
Cc: 'Greg Kamman'; 'Brent Plater'
Subject: Sharp Park memorandum for CCC staff
Attachments: Sharp Park memorandum for CCC staff 3.2.15.pdf

Hi Stephanie,

Please see the attached memorandum that follows up on the previous conversation we had. Several people contributed to the attached, including Greg Kamman (who you met) and Peter Baye (an independent technical advisor also very familiar with Laguna Salada). Please let us know if you have any questions.

As the attached states, "The purpose of this memorandum is to: a) summarize deficiencies in the implementation and enforceability of certain aspects of SFRPD's Sharp Park Project as presented in their Application for Coastal Development Permit to the California Coastal Commission; and b) recommend permit conditions in response to these deficiencies. It is intended that this memorandum provide Commission staff with a summary of our concerns in preparation for internal staff briefings. This will be followed by more detailed written rationale and recommendations for proposed permit conditions.

Please note that this memorandum does not discuss critical legal and policy matters regarding the ongoing, unpermitted damage to existing wetlands from pump operations and mowing activities that the applicant wishes to codify and increase. Based on the facts and evidence before the Commission staff, unregulated pumping (including *quantity* of water removed from the wetlands and *when during the year* the water is removed) is damaging existing wetlands and coastal resources. To help inform our recommendations to Commission staff on sufficient water levels needed to protect existing wetlands, we request the Commission staff inform us at their earliest convenience on what section of the Coastal Act governs the proposed project. Our review of the permit application suggests that this project is not a restoration project, and that its purported flood control purpose is inconsistent with policies that protect existing wetlands."

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A. The proposed pump operation plan purports to be exclusively focused on protecting California red-legged frog egg masses. The pump operation plan does not consider the protection of existing wetlands. Specifically, the plan does not protect upper wetlands zones along the lagoon fringes from impacts of pump-induced drawdown of the lagoon water surface and groundwater (saturation zone). The proposed monitoring does not provide the ability for CCC to detect or mitigate impacts of lagoon drainage on wetlands, such as establishing appropriate buffer zones and water surface elevations to minimize degradation of wetlands.

> ***Proposed Condition 1****: Require approach to delineate existing wetlands in mowed project areas. Mowing along upper lagoon wetland zones is likely to obscure the wetland/upland boundary by removing identifiable above-ground parts of obligate and facultative-wet plant species. In order to provide an unambiguous empirical wetland delineation in these areas, we recommend that multiple* ***mowing-free transects*** *be established above existing apparent wetland boundaries that are mown. Mowing –free transects should be allowed to develop to an equilibrium (stable) vegetation cover and height during spring-early summer growing season. This is estimated to require about 6-8 weeks from mid-March to May, or April to June. Subsequent wetland delineation in this transects will serve as the basis for delineating the extent of existing wetlands, the elevation range of upper wetland zones, and the elevation range of appropriate buffer areas on upland side of the wetland boundary. The upper wetland vegetation boundaries accurately determined in the absence of mowing should also be factored into any future pump and water level operations that also protect existing wetlands and ALL associated wildlife resources in Horse Stable Pond (HSP) and Laguna Salada (LS).*

B. The proposed pump operation plan lacks sufficient detail to predict how it will be implemented or enforced. For example, the plan does not provide detail on what constitutes a "rain event" to trigger visual surveys for egg masses. Nor does the plan describe how visual identification of egg masses will be translated into operational pond/wetland water level elevations that protect eggs from desiccation for a sufficient periods of time in the event there is no subsequent rainfall events.

***Proposed Condition 2**: Require a more detailed pump operation plan that can be evaluated in a technical manner (e.g., hydrologic modeling) and is reproducible by independent parties. The plan should include increased water level contingencies (to accommodate for natural Laguna dry-down) in order to sustain egg mass saturation in the event no further rain is received.*

***Proposed Condition 3**: Require continuous water level monitoring in HSP and LS, tied to NAVD88 vertical datum, to document pump operations and hydrologic conditions. Continuous water level monitoring is the most defensible way for the Commission and/or SFRPD to evaluate, enforce and adaptively manage operation of a project pumping plan on HSP/LS water levels.*

C. The project proposes lowering the elevation of the connector channel between HSP and LS "to a maximum depth of 3 feet." This includes clearing sediment and debris out of an existing cart-crossing culvert. Based on past surveys, the sediment partially plugging the culvert does not allow water in LS to drain below at least 6-feet in elevation (NAVD88). Removing this material will allow LS to be drained to a lower elevation, which could adversely impact existing wetland vegetation/habitats as well as increase surrounding groundwater inflow gradients. This could increase the potential from salt water intrusion from the Ocean west of LS and dewatering of wetland soils located east of LS.

***Proposed Condition 4**: Monitor salinity in both HSP and LS to document changes in water quality conditions, which have the potential to be altered in an adverse manner due to project excavation and operation. Salinity monitoring is the most defensible way for the Commission and/or SFRPD to evaluate, enforce and adaptively manage operations and HSP/LS water quality.*

***Proposed Condition 5**: Require installation of shallow piezometers to monitor shallow groundwater water level and salinity conditions around LS. The objectives of this monitoring is to: a) identify and rectify operations that promote salinity intrusions into HSP/LS due to new project conditions; and b) identify/quantify/delineate declines in surrounding shallow groundwater that sustain wetlands in response to new project conditions and operations. This later monitoring objective warrants the installation of piezometers within the mowing-free transects stipulated under Condition 1 in order to best correlate shallow groundwater levels to wetlands at the site.*

D. SFRPD states an objective of the project is the removal of tules in order improve the drainage potential from LS and reduce flood hazards. The project proponents contend that excess sedimentation is the primary cause of excessive tule spread around HSP/LS, but evidence that discriminates between different potential causes of tule spread is lacking. Previous hydrologic/water quality investigations have not demonstrated excessive sedimentation rates to the HSP/LS system. An alternative process that promotes tule lateral spread of tules across the lagoon bed is a reduction in water levels. Determining the dominant process that is promoting tule growth is an important factor in determining the life of project actions and the need for future sediment/tule removal.

***Proposed Condition 6**: Require an investigation and/or monitoring to verify that excess sediment is adversely impacting HSP/LS, and monitor the seasonal pattern water depth variability at the lower edges of tule vegetation where it is spreading, and where it is not spreading. . Such an investigation should include measuring incoming sediment loads (primarily Sanchez Creek), determining sediment transport rates between HSP and LS and identifying locations and processes controlling sediment aggradation. Completion of sediment cores and material (source) analysis prior to excavation of HSP and the connector channel may also assist in validating the hypothesis of elevated sedimentation to HSP/LS.*

***Proposed Condition 7**: Cattails and tules can spread in water 3 feet deep. "Spread" means lateral clonal growth by creeping rhizomes, in contrast with general vegetative or reproductive growth. In order to sustain the stated project objective to prevent the spread of cattail and tule in LS, SFRPD should maintain sustained minimum water depths at the lower edge of vegetation of 4-feet to cause mortality (local die-back, drowning of the vegetation). An "action water level" resulting in 3-feet of depth within the cattail/tule areas should trigger an activity (e.g., reduce or cease pumping) to raise water levels to the minimum 4-foot target depth.*

Rexing, Stephanie@Coastal

From: Neal Desai <ndesai@npca.org>
Sent: Monday, March 09, 2015 4:11 PM
To: Rexing, Stephanie@Coastal
Subject: CCC basic coastal-dependent project purpose and conflict resolution
Attachments: DSCN3129.JPG

Stephanie,

Several people have been reviewing this matter, and we have some additional thoughts we wanted to share that we believe are relevant to determining if the project application is complete and factors to consider when applying Coastal Act policies.

1. As we have previously outlined, we do not believe the SFRPD has permit authority to degrade *existing* wetlands through ongoing and proposed changing the intensity of use of water (related to this permit application and ongoing activity) and through ongoing mowing (unrelated to this permit application, but what we believe is an ongoing illegal activity). The Coastal Act definition of "development" includes "changes in intensity of use of water" (301060), which indicates that CCC arguably has direct jurisdiction over both vegetation removal and the net increase in pumping down the lagoon and discharging to the beach (i.e., change in pump HP in 2010 and change in peak pumping capacity), not just the (potentially pre-1972) old pumphouse infrastructure and any credible evidence (i.e. real, verifiable data, not "Joe down at the maintenance yard tells us it was x, y, and z") the project applicant is able to submit to the CCC regarding actual water pumping (i.e. wetland draining) over the years and decades.

2. We also believe there is noteworthy distinction between coastal-dependent recreation (like water-dependency test of project purpose and burden of proof for upland alternatives in CWA 404b1) and other coastal resources. It is important to recognize and consider the fact that the proposed project and use (golf), which some may purport to be "low-income recreation," is **non-coastal**-dependent, whereas low-income **coastal-dependent** recreation (like beach access, coastal scenic access and use, lagoon-dependent wildlife watching, etc.) are and would be adversely impacted by ongoing illegal activities and the proposed project. We believe the CCC's policies would support prioritizing coastal-dependent recreation over non-coastal dependent recreation, especially in cases of conflict within dual recreation-EHSA "sensitive coastal resource areas" such as this wetland complex. This raises a question: has the SFRPD provided the CCC with any information regarding how coastal-dependent recreation (e.g. lagoon-dependent wildlife watching) is and would be impacted by ongoing and proposed new damage to existing wetlands by the non-coastal dependent golf course activities/operations? If so, we would appreciate being directed to where we can review this (in efforts to provide feedback to ensure accuracy) given that constituencies we and other groups interact with have provided SFRPD with significant public input on this topic through public comment on documents and public meetings.

3. Section 30007.5 discusses conflict resolution and resolving conflicts "in a manner which on balance is the most protective of significant coastal resources." Is there a flow-chart, or process (I heard there was an 8 step process), that will help us understand how the CCC methodically resolves conflicts?

4. Another topic was recently brought to my attention: Did SF get a permit for the upgraded heavy-duty linear berm-top fence "to protect endangered species" where the species don't even occur (back of the levee in iceplant), placed in a manner that minimizes protection for wildlife core habitat areas and maximizes exclusion and conflict of public access? Attached is an incredibly ironic photo (of reinforced fence over iceplant-mantled

uplands behind berm to "protect" endangered species by excluding all non-golf visitors). Another policy subterfuge needing CCC scrutiny.

Please let me know when you have availability to touch base this week.

Many thanks,

Neal

Rexing, Stephanie@Coastal

From: Stan Zeavin <margstan@sbcglobal.net>
Sent: Sunday, March 29, 2015 5:06 PM
To: Rexing, Stephanie@Coastal
Subject: CDP 2-12-104, Sharp Park Pumphouse Project
Attachments: 1932 Sharp Park Golf Course.png; 20150321 DSC_0002 - lagoonmg.jpg

California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco CA 94105

28 March 2015

Re: Coastal Development Permit 2-12-104, Sharp Park Pump House Project
Commission Hearing, San Rafael, CA April 15-17, 2015

Honorable Commissioners and Staff,

The Coastal Act doesn't allow dredging if there is a environmentally less damaging alternative. SFRPD's reason for and cattails. However, the usual method for controlling tule and cattail growth is to have a water level high enough s deeper water. Due to golf course mismanagement both before and during the drought, the water level in the pond has choked off the pond.

Furthermore, without the natural washout common to barrier lagoon systems after storms, there is a good possibility t pond and channel sediment, which, if dredged will release the sulfur into the water, causing a drop in the pH and killi species. At this time, I have not seen any core sample analysis of the lagoon or pond. Instead of dredging, a solution when the frogs' breeding season is over, mow the tule and cattails with marsh-mowing equipment, leaving their stum grow back. This is the process that is used all over the Delta.

I understand that the SFRPD intends to dredge after frog breeding season, claiming that it will minimize the damage t be many species, including the frogs that will be negatively impacted by this dredging.

Under normal circumstances, the water in a non-tidal lagoon sits higher than the ocean. Because SFRPD keeps the w frequently also causes the lagoon water surface to sit below the level of the ocean at high tides. This disparity allows increasing the salinity. This, in turn, creates an environment that is too salty for the frogs. Between this increased sal dredging, there is a very real probability of an ecological disaster.

Commissioner Carole Groom is, and has been, an avid supporter of the Sharp Park golf course and all it's recent chan usual discriminating eye is compromised. As such, she should recuse herself from any decisions involving the CCC t

The Sharp Park golf course has been repeatedly praised by its proponents as historically significant. The truth is that, golf course's lifetime, several of its holes have been either reconfigured or, outright, moved. Couple these significant Laguna Salada along with the concurrent- inevitable spread of the tule and cattails, the golf course, at this time, is a p design. PLEASE NOTICE THE TWO ATTACHMENTS COMPARING LAGUNA SALADA CIRCA 1932 AND A present lagoon is one quarter to one third of its 1932 size!

Finally, with ocean rise on the CCC front burner, there will be a point in time when a choice will have to be made bet golf course will require continual re-armoring of the existing berm. Preserving as much wetland as possible to absorb the beach to survive and could better protect the at risk housing if supplemented with a much smaller berm behind the

The point: Protect the lagoon and the wetlands now with ecologically sound decisions, so their use can be maximized

I realize that the last third of this letter doesn't directly address the issue at hand. However, the SFRPD is continually which all but bury the major problems we will need to confront, i.e., the survival of Laguna Salada. This decision you lasting effect on the health of the lagoon and all the species in its ecosystem that cannot live without a healthy wetland

Thank you,

Stan Zeavin
Pacifica

Rexing, Stephanie@Coastal

From: Neal Desai <ndesai@npca.org>
Sent: Monday, March 30, 2015 10:49 AM
To: Cave, Nancy@Coastal; Manna, Jeannine@Coastal; Dixon, John@Coastal; Rexing, Stephanie@Coastal; Mayer, Robin@Coastal
Cc: Brent Plater; Greg Kamman; baye@earthlink.net; Ralph Faust
Subject: Attached memo re Sharp Park CDP and SFRPD's cherry picked data submitted to CCC on 3/16/15
Attachments: NPCA Memo to CCC re SFRPDs cherry picked HSP data.pdf

Hi Nancy, John, and CCC team,

Attached, please find a two page memo (with charts) describing SFRPD's "cherry picked" data and unscientific claims that they presented (via letter) to CCC on 3/16/15 in their attempt to claim a relationship between increased vegetation and decreased egg masses at Horse Stable Pond.

It pains me to have to submit more materials to you when you are already very busy writing the staff report, but it pains me even more that the SFRPD continues to present misleading information to the CCC.

Hope this memo is helpful. Please also include this letter in the administrative record for this project.

Please reach out if you want to discuss.
Neal

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Neal Desai
Director of Field Operations, Pacific Region | National Parks Conservation Association
1330 Broadway | Suite 933 | Oakland, CA 94612
P: 415.989.9925 | C: 510.368.0845 |F: 415.989.9926 | ndesai@npca.org | npca.org

Protecting Our National Parks for Future Generations

From: Ralph Faust [mailto:ralph.faust@gmail.com]
Sent: Saturday, March 28, 2015 12:41 PM
To: Nancy Cave
Cc: Jeannine Manna; John Dixon; Stephanie Rexing; Robin Mayer; Brent Plater; Neal Desai
Subject: Attached letter re Sharp Park CDP

Hi Nancy:

Attached please find a letter submitted on behalf of the Wild Equity Institute regarding the City of San Francisco's proposed CDP application in Sharp Park (CDP # 2-12-014). I will place an identical signed hard copy in the mail to you. Please include this letter in the administrative record for the above project.

If you have any questions or concerns that arise in your review and consideration of this letter, please feel free to contact me.

Rexing, Stephanie@Coastal

From:	Mary Keitelman <m.keitelman@comcast.net>
Sent:	Tuesday, March 31, 2015 12:56 PM
To:	Rexing, Stephanie@Coastal; Cave, Nancy@Coastal
Subject:	Coastal Commission Hearing, San Rafael, CA April 15-17 2015 | Sharp Park Pumphouse Project
Attachments:	SharpParkHerbicides-mar21-2.JPG; SharpParkPumping-dec22-2014.jpg

Great letter! Gentle and to the point.

You might want also to point out that SF has misidentified the herbicide aminopyralid as a pesticide. You have correctly called it an herbicide. They sprayed it on Poisonoak, which is a native plant, not an invasive like Cape Ivy.

March 31, 2015

via email

California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco CA 94105

Re: Application No. 2-12-014 (San Francisco Recreation and Park Department, Pacifica)
Sharp Park Pump House Project
Commission Hearing in San Rafael, CA April 15-17, 2015

Honorable Commissioners and Staff,

The wetlands at Laguna Salada and Horse Stable Pond, located at Sharp Park, just north of Mori Point, in Pacifica, California appear to be slowly and inexorably shrinking up and drying out.

Over the years we see many requests for incremental changes to the area. These may be all well and good, but the ultimate result is that the wetland is disappearing before our very eyes.

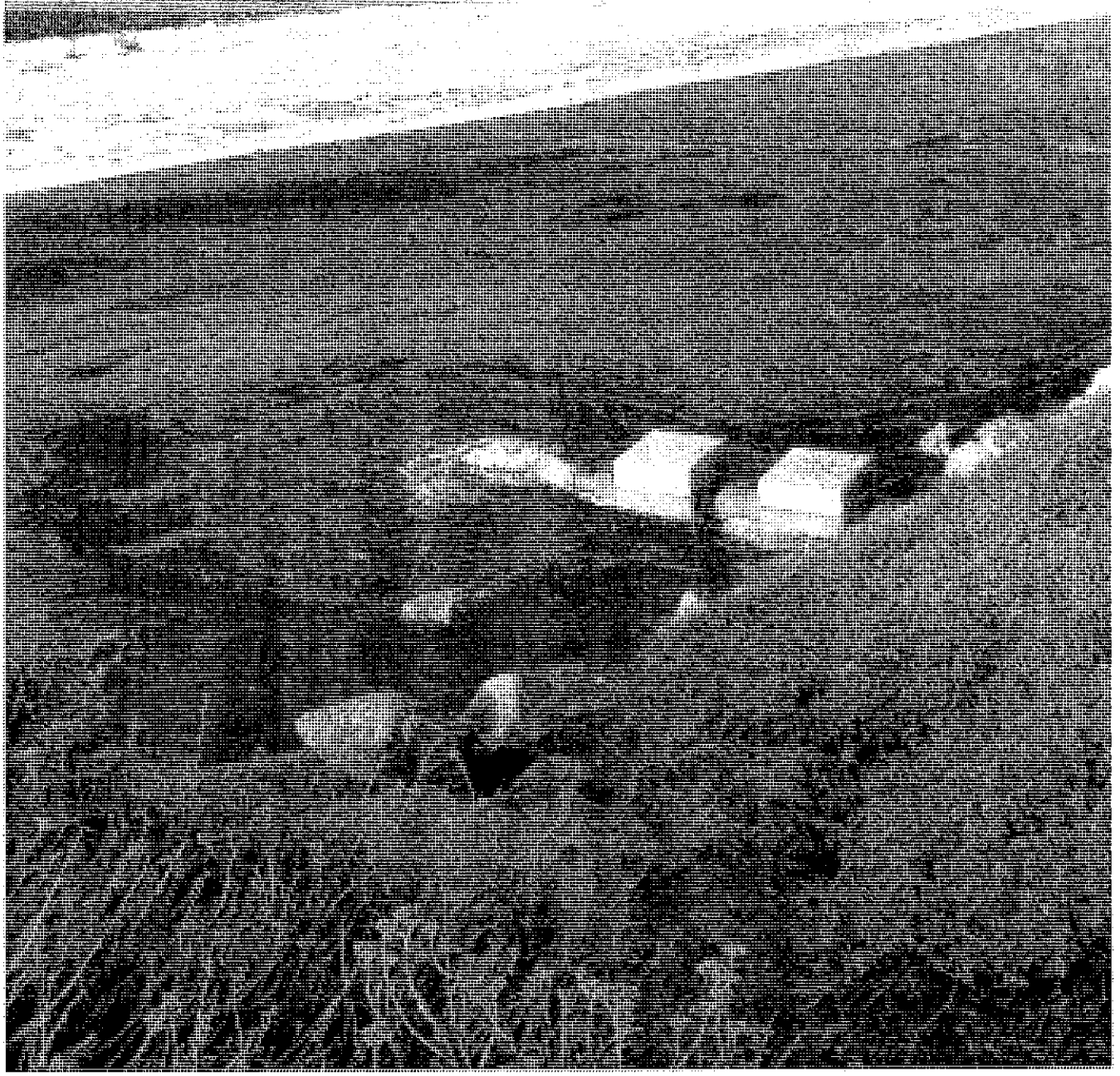
How could this be happening?

HORSE STABLE POND IS REGULARLY PUMPED OUT

This coastal lagoon -- similar to Ano Nuevo, Rodeo Lagoon in Marin headlands, and others up and down the California coast -- has had a new pumping system installed for the last few years.

After the winter rains, the pump at Horse Stable Pond forces massive amounts of lagoon water onto the beach.

December 12, 2014 - Sharp Park Horse Stable Pond pump out - One day after a winter storm (SharpParkPumping-dec22-2014.jpg)



PUMPING DISRUPTS THE NATURAL BALANCE OF THE SALT- TO FRESH-WATER GRADIENT IN THE LAGOON

Replenishment of fresh water from rains is required to maintain the naturally occurring gradient of salt water on the west to fresh water on the east end of the lagoon

- After a rain, water is pumped out of the lagoon. Doing this keeps the lagoon salty, and lessens and destroys habitat for the frogs. Pumping out the water also constricts the size of this wetland -- ensuring it will never expand even an a foot in any direction for more plants to host more insects -- all food for frogs, salamanders, birds, etc.

- As Horse Stable Pond is regularly pumped out, the total amount of salt in the pond is greater than it normally would be. This almost infinitesimally lessens available habitat by increasing salty water and decreasing fresh water. Every species has a limit of salt that it can tolerate.

- The pumping also pulls out insects and other small animals at the bottom of the food chain which are powerless against the pulling action of the pump.

It appears that we are seeing this habitat be dried out due to maintaining the water levels artificially low, resulting in salination.

TULES DO NOT GROW IN DEEP WATER

Pumping also keeps the level of water low at Horse Stable Pond. This permits tule to grow so thickly they will eventually fill in the pond.

Tules do not grow in deep water however.

Dredging the pond will bring up anoxic and toxic chemicals, deadly to small wildlife and harmful or worse to humans.

FROGS NEED THIS WETLAND UNMODIFIED, EBBING AND FLOWING IN A NATURAL CYCLE

As everyone likely knows, the California red-legged frog (CRLF) is listed as threatened under the U.S. Endangered Species Act. What most people do not realize, is that this frog used to be found throughout most of California, but its range is now reduced to just 30% of previous range within the state. (1) Additionally, frogs all over the world are threatened by loss of habitat for a number of reasons, including climate change.

These local frogs are more rare and much less common than ever before.

SNAKES AND RAPTORS NEED THIS WETLAND

All the wildlife that depends on a healthy frog population, including the rare and endangered San Francisco Garter Snake, native raptors such as the Red-tailed Hawk, depend indirectly on this wetland as well.

BIRDS ALSO USE THIS WETLAND HABITAT

Last week I observed a singing Marsh Wren at Laguna Salada; likely a male (because it's singing in the Spring); it is likely breeding. In the past I have seen Common Yellowthroat warblers here. Both species are expected here.

The Common Yellowthroat warbler is "...numerous but they have been gradually declining by almost 1 percent per year since 1966, resulting in a cumulative decline of about 33 percent, according to the North American Breeding Bird Survey." (2)

This is true for virtually all the migratory songbirds in North America. The reasons are several. We should not add to that by piece by piece, little by little drying out and salinating breeding habitat.

THE DROUGHT CONTINUES TO CONTRIBUTE TO SEVERE WATER ISSUES

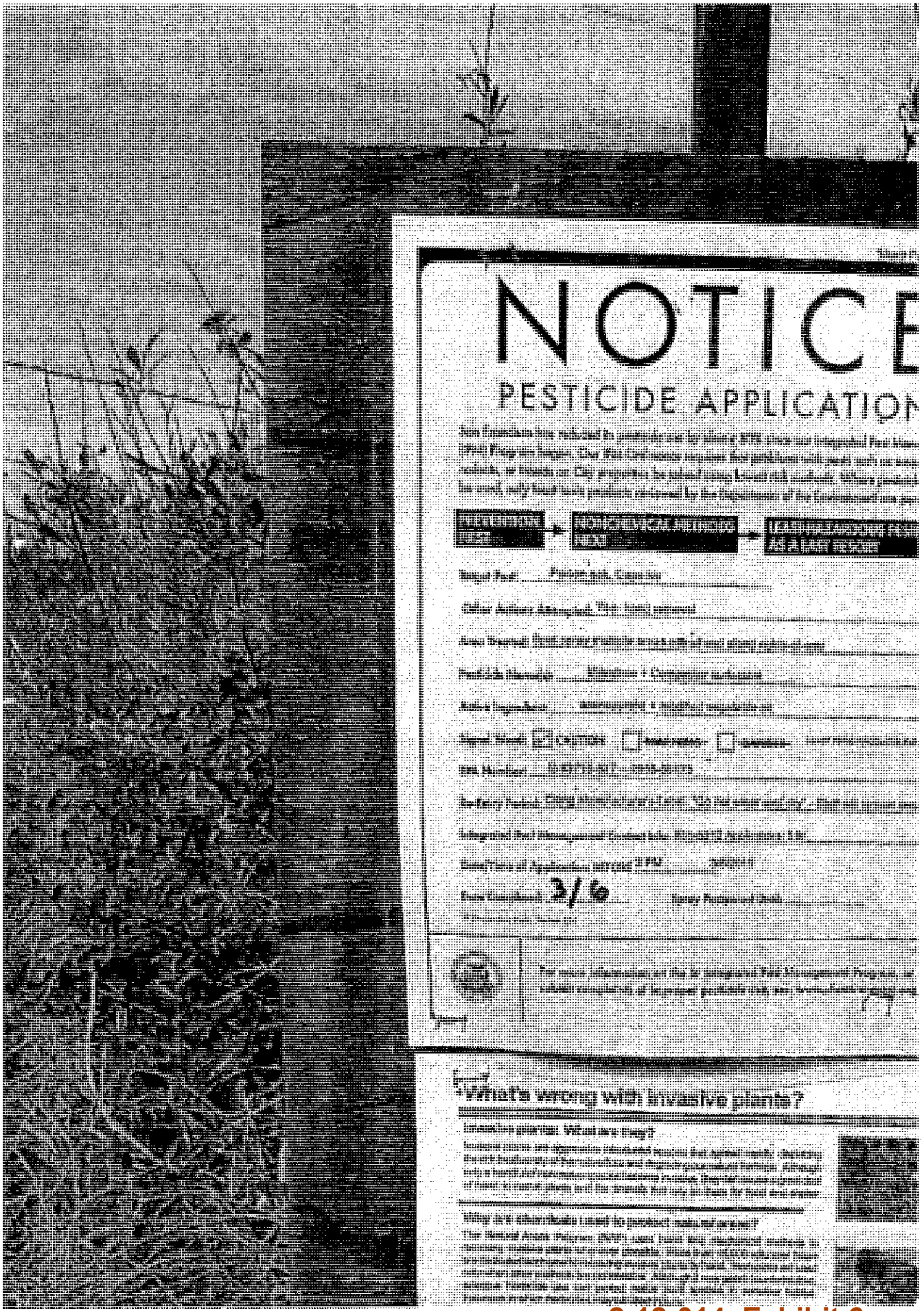
Even if the ongoing drought ends in 2016, California is projected to have an overall drying trend for decades in the future. If we do not actively protect this wetland, the drying trend will cause a loss of this still vital wetland.

HERBICIDE APPLICATION

Additionally, and separate from the issue of pumping and dredging, there is a sign at the park indicating that herbicide aminopyralid (Milestone) (3) was applied on March 6, 2015. This is not something humans want to eat - or bugs. It seems like a small thing, but these chemicals add up. It's not clear why we would putting any herbicide into this tiny wetland habitat.

- It is being applied to a native plant, Poison Oak. Native plants are the very home and food for wildlife; I've seen birds nesting in berry and Poison Oak thickets -- far away from predators and people. These are their refuge and should be left to provide that habitat.
- For some reason this herbicide is listed as a pesticide on the sign; unless something else was added it is an herbicide.
- Migrating birds in particular are in dire need of contiguous useful habitat. (4)

SharpParkHerbicides-mar21-2015.jpg


NOTICE
PESTICIDE APPLICATION
What's wrong with invasive plants?

IN SUMMARY

In a drought pumping out water to the ocean is wasteful of fresh water. Doing so particularly during this current 4-year, and possibly ongoing, drought has a long-term drying effect on the wetlands at Sharp Park.

The overall result is less habitat for the wildlife species that rely on this shrinking wetland to survive.

In summary, I hope that the the Horse Stable Pond / Laguna Salada is managed so that:

1. Water levels are maintained with the natural ebb and flow, and not pumping fresh water out to sea.

2. Tule growth is controlled through management of water levels to a depth to which tule do not grow.

3. No dredging of the pond, which will simply bring up anoxic biochemicals, exposing all life including people to toxics -- when there is no need to do so.

THANK YOU

I write this letter in the spirit of keeping intact this small, somewhat fragmented wetland ecosystem productive and vibrant --- with life forms at every level in the food chain, from insects to songbirds to frogs and snakes to bunnies and (native) foxes.

Sincerely,

Mary Keitelman
Pacifica resident (20+ years)

References:

1. Decline of the California red-legged frog:
   http://www.fws.gov/arcata/es/amphibians/crlf/crlf.html

2. Decline of the Common Yellowthroat Warbler:
   http://www.allaboutbirds.org/guide/common_yellowthroat/lifehistory

3. Negative effects of herbicide MILESTONE:
   http://www.motherearthnews.com/organic-gardening/milestone-herbicide-

contamination-creates-dangerous-toxic-compost.aspx

4. Habitat is vital for migrating and other birds.
http://www.currentconservation.org/?q=content/myriad-threats-songbirds

Rexing, Stephanie@Coastal

From: Stan Zeavin <margstan@sbcglobal.net>
Sent: Tuesday, March 31, 2015 2:48 PM
To: Rexing, Stephanie@Coastal; Cave, Nancy@Coastal
Subject: CDP 2-12-104, Sharp Park Pump House

31 March 2015

via email
Stephanie.Rexing@coastal.ca.gov
nancy.cave@coastal.ca.gov

California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco CA 94105

Re: Application No. 2-12-014 (San Francisco Recreation and Park Department, Pacifica)
Sharp Park Pump House Project
Commission Hearing in San Rafael, CA April 15-17, 2015

Honorable Commissioners and Staff,

With sea level rising, coastal lagoons need to be referenced to their natural water levels, which are typically close to the elevation of the beach and higher than high ocean tides. The Sharp Park Pump House Project proposes to facilitate the removal of water from Laguna Salada in order to prevent flooding of a golf course. Approval of this project should be conditioned to require the minimum lagoon water height to be raised adequately for healthy lagoon ecology.

The U.S. Army Corps of Engineers recently issued a public notice about managing Carmel Lagoon.
http://www.spn.usace.army.mil/Portals/68/docs/regulatory/publicnotices/2015/1996-19089.pdf
The ACE management plan proposes "to maintain and enhance habitat ...by maximizing the volume of fresh water in the lagoon." The minimum water level they propose is 8.77ft NAVD88. This minimum applies to the beginning of the summer dry season..."until the following fall/winter period" when the goal for the water level elevation is 12.77ft NGVD88.

The Carmel Lagoon management plan is a stark contrast to what is being done at Laguna Salada at the Sharp Park golf course by the San Francisco Recreation and Parks Department (SFRPD). At Sharp Park, if the pumps are still set as they were in 2011 to begin pumping when the water reaches 6.9ft NAVD88, the lagoon surface ends up at best just one foot above the mean higher high water in the ocean of 5.9ft NAVD88. SFRPD must specify at what water level the pumping is stopped.

SFRPD claims that the project before you is being undertaken to "enhance" the habitat for the California Red-Legged Frog. "Enhancement" has a very different definition at these two locations. At Carmel, the aim is to have a minimum water level almost two feet higher than at Laguna Salada. "Enhancement" at Carmel means "maximizing the volume of fresh water in the lagoon" with the intent "to sustain healthy conditions for fish and wildlife..." "Enhancement" at Sharp Park means dredging to clear a channel in order to more quickly lower the

volume of fresh water. The low water level is already creating unhealthy conditions in the lagoon by inviting excess tule growth.

As sea level rises, maintaining the water level at Laguna Salada at such a very low level will not sustain its health.

Please consider how to reconcile the difference between these two contradictory projects. A healthy lagoon should be the goal of each, but one seeks to maximize the water level while the other is designed to pump the water level lower. Please condition the Sharp Park Pump House project to a NAVD level relative to the ocean that will sustain the ecological health of Laguna Salada.

Again, thank you for your dedicated defense of our coast,

Margaret Goodale
Pacifica

CALIFORNIA COASTAL COMMISSION
NORTH COAST DISTRICT
1385 8th Street, Suite 130
ARCATA, CA 95521
(707) 826-8950

MEMORANDUM

FROM: John D. Dixon, Ph.D.
Ecologist

TO: Stephanie Rexing

SUBJECT: Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project

DATE: April 2, 2015

Documents reviewed:

Baye, P. 2013. Letter dated October 18, 2014 to San Francisco Planning Department regarding the potential environmental effects of the proposed Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project.

ESA PWA, P. Baye, and Dawn Reis Ecological Studies. 2011. Conceptual ecosystem restoration plan and feasibility assessment: Laguna Salada, Pacifica, California. A report dated February 9, 2011 prepared for the Wild Equity Institute Center for Biological Diversity.

Horton, L. (Wild Equity Inst.). 2015. Letter dated February 6, 2015 to S. Rexing (CCC) regarding "Environmentally sensitive habitat area and coastal development permit application at Sharp Park."

Kamman, G. 2012. Expert report submitted on January 20, 2012 to the U. S. District Court for the Northern District of California, Northern Division in the case of Wild Equity Institute v. City and County of San Francisco.

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Tetra Tech, Inc. 2008. Jurisdictional waters of the US and wetland determination report, Laguna Salada wetland restoration and habitat recovery project. A report to the San Francisco Recreation and Park Department dated November 2008.

Wayne, L. (S.F. Recreation and Park Dept.). 2014. Letter dated October 16, 2014 to S. Rexing (CCC) regarding "CPD (sic) Application 2-12-014 Sharp Park Pumphouse and Safety Infrastructure Improvements."

The most significant natural feature at Sharp Park is the coastal lagoon, Laguna Salada (Figures 1-4). In the mid-1800s, Laguna Salada appears to have been a back beach lagoon that was generally non-tidal and principally formed by rainfall runoff delivered by sheet flow and by Sanchez Creek (ESA PWS et al. 2011). The southern limit of the lagoon was very near Mori Point (Figure 1). The watershed is too small for runoff to maintain on open inlet or regularly breach the barrier beach, but the lagoon was probably intermittently and briefly connected to the ocean through an outlet channel and it periodically received sea water that overtopped the sand berm adjacent to the beach. These hydrological characteristics probably resulted in a salinity gradient from brackish near the beach to fresh at the landward edge. No riparian vegetation was indicated in the 19th century maps, suggesting that the area may have been grazed. The plant species that dominate Laguna Salada today are adapted to a fresh to brackish salinity regime and probably include many of the same species that were dominant 100 years ago.

Laguna Salada has undergone many changes since the 1869 U.S. Coastal Survey as a result of impacts from various human activities. By the early 1900s, the area landward of the lagoon was in crop agriculture and the beach berm was periodically artificially breached, probably to drain the fields. Sharp Park was constructed in the 1920s and 1930s. Some artificial fill along the edges of Laguna Salada may have been introduced during the agricultural period, but the fill of the lagoon itself that divided it into the remnant Laguna Salada and Horse Stable Pond was probably added as part of the golf course construction (compare Figures 1 & 2). During the development of Sharp Park the tidal connection of the lagoon was blocked, a separate drainage to the ocean was created, the sand dunes were planted with grasses and shrubs to stabilize them, and an earthen levee was created in an attempt to stop shoreline erosion and prevent overtopping of seawater into the golf course during storms. The levee was later covered with rip rap. Sanchez Creek was redirected and now passes under a portion of the golf course in a culvert, then daylights and runs along the edge of the golf course and Fairway Drive until it merges with the connector channel to spill into Horse Stable Pond (Tetra Tech 2008; Figure 2).

Probably as a result of these alterations, the golf course and adjacent neighborhoods were periodically flooded and a pump system was installed in 1941 to pump water from the lagoon to the ocean. The pump system, with a 4,000 gpm pump, was installed at the south end of Horse Stable Pond (Figure 3). In 1959, the 4,000 gpm pump was replaced with two pumps, one rated at 500 gpm and the other at 250 gpm. At some later date, these two pumps were replaced with pumps rated at 1,500 gpm and 10,000 gpm and the larger pump was replaced in kind in 2010. Horse Stable Pond now receives the water from Sanchez Creek to the east, and from Laguna Salada to the north via a 1000-foot meandering connector channel built to drain water from Laguna Salada. The pumps discharge water through pipes to an outfall on the beach. Even during normal rainfall years, the golf course is periodically flooded (SF Planning Department 2014). The pumps cannot keep up with the rain during storms and portions of the golf course flood despite the pumping (ESA PWA et al. 2011). However, continued pumping drains the golf course after rain events within a few hours or days. Pumping also causes large fluctuations in the water level in Laguna Salada.

Laguna Salada, the connector channel, and Horse Stable Pond have all been delineated as wetlands or waters of the U.S. following the federal definitions and support freshwater marsh, willow scrub, wet meadow, and unvegetated pond habitats (Figure 5). A comprehensive delineation based on the definitions in the Coastal Act and the Commission's Regulations has not been conducted, although areas potentially affected by the proposed project were examined based on those standards (SFRPD 2013). It is likely that additional portions of the golf course would delineate as Coastal Commission jurisdictional wetlands based on the facts that there is frequent flooding of some areas, some areas with a preponderance of wetland plant species were not designated "wetlands" in the federal delineation[1], and the federal delineation report observed that, "Regular golf course maintenance appears to be altering the natural vegetative cover of some areas adjacent to Laguna Salada, as remnants of some hydrophytic species were observed in lower elevation mowed areas." (Tetra Tech 2008).

The wetland habitats and associated uplands within the Sharp Park golf course also meet the definition of Environmentally Sensitive Habitat Area (ESHA) in Section 30107.5 of the Coastal Act. The wetlands meet the definition of ESHA because they provide essential habitat for rare species, the California red-legged frog (federally Threatened; state Species of Special Concern) and the San Francisco garter snake (federally and state Endangered)[2], because they are especially valuable due to the their role in the ecosystem of providing habitat for a diverse assemblage of species dependent on wetland conditions, and because they are easily disturbed or degraded by human activities. The upland areas associated with aquatic breeding and foraging habitat also meet the definition of ESHA because they provide essential habitat for both

[1] Due to lack of field indicators of wetland soils and hydrology

[2] Both San Francisco garter snakes and California red-legged frogs have been repeatedly observed in the golf course wetlands since 2000 and California red-legged frog egg masses were observed every year during a 2004-2011 survey.

the California red-legged frog[3] and the San Francisco garter snake[4] and are easily disturbed or degraded by human activities.

The proposed project is a flood control project. It has the following elements (SFRPD 2012, 2013; USFWS 2012):

- Realignment of about 100 feet of a golf cart path that floods even during drought years to an adjacent upland area about 10 feet away. The current cart path will be removed from the wet area. Any temporary impacts to wetlands should be documented and mitigated if appropriate.
- Removal of sediment and emergent vegetation (cattails & tules) within a portion of the Horse Stable Pond to reduce obstructions to water flow and from the connector channel to remove impediments to water flow to Horse Stable Pond. The stated purpose is also to increase habitat suitability for California red-legged frogs. Although an increase in the amount of open water is likely to have some ancillary benefits to the frog, these activities are primarily to increase water flow to the pumps. The removal of vegetation appears to be the minimum necessary to operate the pumps efficiently and facilitate water movement from the lagoon to the pump pond. At least 2,350 ft^2 of the Horse Stable Pond is clogged with cattails and tules, but only a small area adjacent to the pump house is proposed for vegetation and sediment removal (see SFRPD 2013, Figure 2). This activity is allowed to take place only during the period June 1 through October 30 (USFWS 2012), which is generally outside the California red-legged from breeding season and frogs or egg masses are less likely to be in aquatic habitats. As proposed, these activities are expected to occur only after July1 (SFRPD 2012).
- Construction of a maintenance walkway around the pump house to provide safe access to the intake screens, which must be frequently cleaned to allow efficient pumping. This will entail about 6 ft^2 of wetland fill. A 1,600-ft^2 perennial pond is proposed to be constructed nearby that could provide mitigation for this and other environmental impacts. The pond will be created in uplands near the Horse Stable Pond and be modeled after ponds created on nearby National Park Service land. The exact location and design of the pond has not been specified.
- Replacement of an existing wooden retaining wall next to the pump house with a new concrete retaining wall to prevent soil from entering Horse Stable Pond. This will entail about 6 ft^2 of wetland fill.
- Construction of steps in upland areas to access the pump house. This does not appear to have any resource impacts.

[3] In the final rule designating critical habitat for the California red-legged frog (50 CFR Part 17), the U.S. Fish and Wildlife Service found that, "Upland habitats associated with riparian and aquatic habitat are essential to maintain California red-legged frog populations. This habitat type provides food and shelter sites for the California red-legged frog and assists in maintaining the integrity of aquatic sites by protecting them from disturbance and supporting the normal functions of the aquatic habitat."

[4] SF garter snakes require aquatic foraging habitat inhabited by frog prey species and adjacent upland habitat, which is used for basking, aestivating, hibernating, and mating (USFWS 2012).

- Construction of a perennial pond suitable for breeding by the California red-legged frog. This project cannot be evaluated until a specific location and design are chosen.
- After-the-fact permit for installation of two pumps and installation in 2010 of a replacement pump.

The construction projects that involve wetland fill, if found to be an allowable use under Section 30233 of the Coastal Act, must also "maintain or enhance the functional capacity of the wetland or estuary." Although there may be temporary impacts from dredging, such as transient declines in water quality, the longer term functional capacity of the wetland complex will at least be maintained and may be increased by the project. Section 30233 also specifies that the allowable uses "shall be permitted…where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided…." With regard to mitigation, in similar situations the Commission has required the creation or substantial restoration of equivalent wetland habitat at a 4:1 ratio (area of restoration:area of impact). I think a 4:1 mitigation ratio is also appropriate in this case to account for temporal losses of habitat function and the uncertainty of complete success in habitat creation. This would require about 48 ft^2 of wetland creation. Construction of the perennial pond would provide appropriate mitigation. A Mitigation and Monitoring Plan should also be required. With regard to alternatives, there are a variety of methods for removing emergent vegetation, such as cattails and tules[5]. A method that has been suggested (Horton 2015) as an environmentally superior alternative to the proposed removal is to maintain deep water, which can kill cattails. Cattails can persist in water depths up to about 2.5 ft and a proven method of control is to maintain a water depth of 3 to 4 feet, preferably after cutting the cattails near the pond bottom. For this method to be effective, the water depth must be maintained for several years. Since the only source of water at Sharp Park is rainfall, this may not be feasible, especially during a period of drought. Were the functioning of the wetlands the principle concern, there should be a habitat management plan that includes the desired proportion of emergent vegetation and open water (50%:50% is often recommended) and an adaptive management plan to achieve those goals.

The most significant part of the proposal from a natural resource perspective is the portion of the operations and maintenance plan that applies to the pumping protocol. (SFRPD 2012). This is primarily a flood control plan that uses the Horse Stable Pond and Laguna Salada, natural wetland habitats and ESHA, as completely manipulated storm water detention basins. There is no consideration of the health of the wetland habitat itself, although there is a commitment to operate the pumps in such a way to protect California red-legged frog egg masses in the pond and lagoon "to the maximum extent practicable." This is to be accomplished by documenting the location of egg masses and adjusting water levels to prevent stranding and desiccation until hatching

[5] See, for example: Beule, J.D. 1979. Control and management of cattails in southeastern Wisconsin wetlands. Wisconsin Department of Natural Resources, Technical Bulletin 112, Madison, Wisconson; Sojda, R.S. and K.L. Solberg. 1993. Management and control of cattails. U.S. Fish and Wildlife Service, Waterfowl Management Handbook. Paper 33; Baldwin, B. and A. Cannon. 2007. Typha Review. Utah State University. Unpublished paper available at http://www.cfc.umt.edu/CESU/Reports/NPS/USU/2006/06Baldwin_GRKO_Typha%20review_frpt.pdf

and tadpoles no longer aggregate around the egg mass, after which water levels may be lowered until only 6 inches of water are present at the inner margin of the vegetation. There are several problems with this approach with regard to the frogs,[6] but an unaddressed issue is the negative impacts to the wetland itself and to the many plant and animal species, in addition to frogs and snakes, that are dependent on the wetland. Large fluctuations in water level, especially over relatively short time periods are very deleterious to wetlands and may result in significant disruptions of habitat values. There is also a possibility that pumping may result in salt water intrusion and a deleterious change in the salinity regime of both Laguna Salada and Horse Stable Pond.

A much more appropriate approach would be first to devise a pumping operation plan that is optimal for natural resources and then adjust it to accommodate golf course operations to the degree deemed necessary under the law[7].

[6] It is very likely that there will be undocumented losses of egg masses and tadpoles. It is difficult to observe egg masses in dense vegetation adjacent to open water, so some or many egg masses may still be present when water levels are lowered. Although an effort will be made to avoid stranding tadpoles when water levels are lowered, this is likely to be only partially successful and there will probably be loss of tadpoles that are entrained by the pumps in the Horse Stable Pond.

[7] An analogous situation is Lake Earl, a very large coastal lagoon in Del Norte County. There, the lake levels were historically manipulated for human convenience and generally maintained at a relatively low level. This resulted in infrastructure, including roads and homes, being built within the lake's flood plain. Recently, a Coastal Development Permit was approved for periodically breaching Lake Earl in a manner that is intended to maintain habitat values while reducing the risks of flooding (CDP 1-07-047).

Figure 1. 1869 U. S. Coastal Survey map of the Laguna Salada area (from ESA PWA et al. 2011).

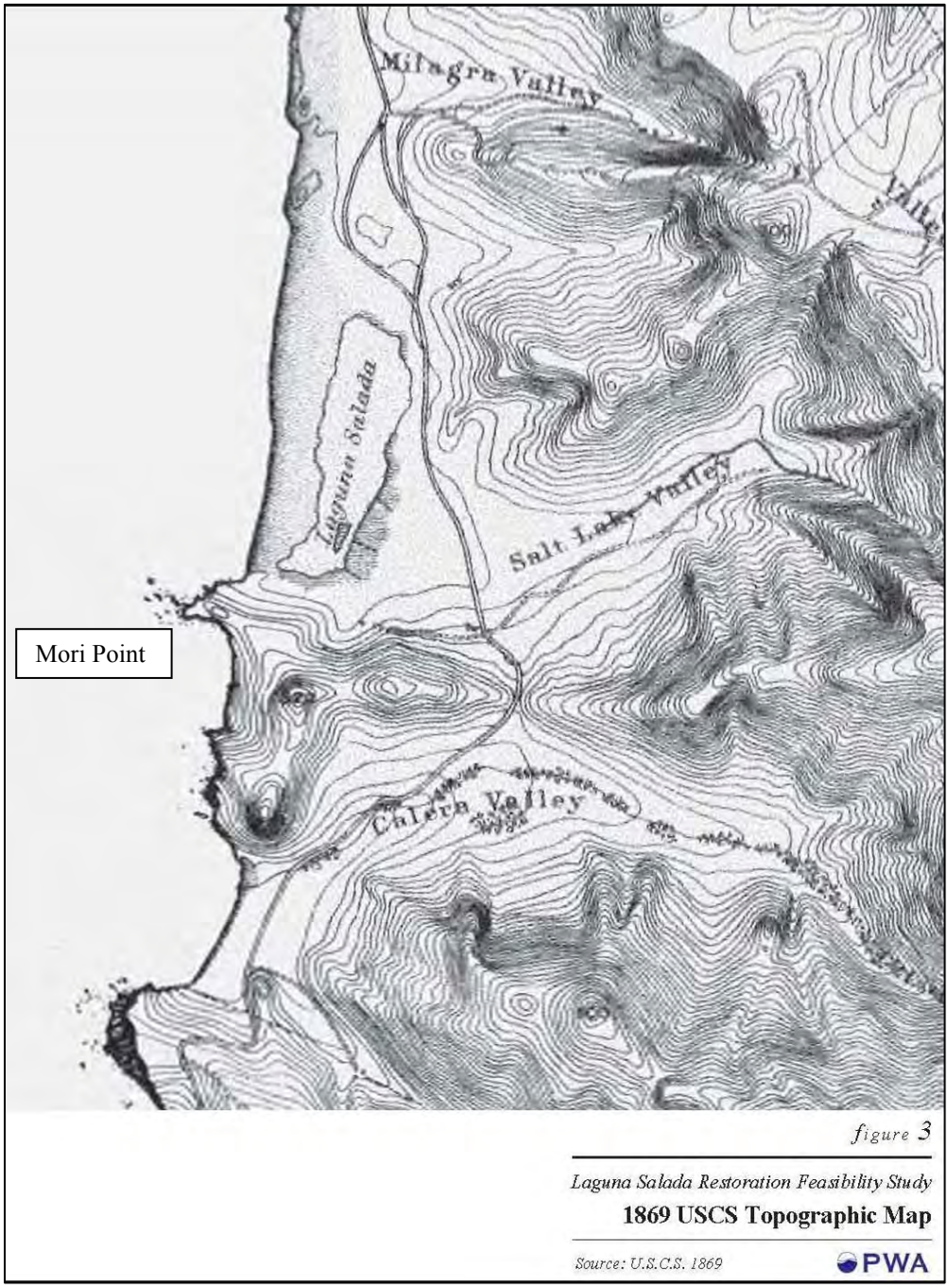

Figure 2. Vertical aerial view of Laguna Salada and Horse Stable Pond in Sharp Park. Blue polygons show the approximate extent of the emergent wetlands and open water that currently comprise Laguna Salada to the north and Horse Stable Pond to the south. Open water varies seasonally and from year-to-year, depending on rainfall, pumping, and amount of emergent vegetation.

Figure 3. South end of Laguna Salada, Connector Channel, Horse Stable Pond, and the Pump House.

Figure 4. Oblique aerial view of Sharp Park with Laguna Salada to the left and center, and Horse Stable Pond to the right (1987 Coastal Records Project image 8714012). Mori Point is outside the photograph to the right.

Figure 5. Wetlands in the Sharp Park golf course west of Highway 1. Wetlands were delineated in 2008 following the wetland definition of the U.S. Army Corps of Engineers (from Tetra Tech 2008).

CALIFORNIA COASTAL COMMISSION
NORTH CENTRAL COAST DISTRICT OFFICE
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Memorandum

April 14, 2015

To: Commissioners and Interested Parties

FROM: Dan Carl, North Central Coast District Deputy Director
North Central Coast District

Re: ***Additional Information for Commission Meeting Thursday April 16, 2015***

Agenda Item	Applicant	Description
Th7a	Marin Co. LCP Amend. No. LCP-2-MAR-13-0224-1 (Part B) Marin IP Update	Correspondence, Amy Trainer Correspondence, Lori Kyle Correspondence, Kirk Wilbur Email, Kenneth Slaven Correspondence, Peter B. Sandmann Correspondence, Richard Kohn Correspondence, Stacy Carlsen Correspondence, West Marin Sonoma Coastal Advocates
Th8a	2-12-014 San Francisco Recreation and Park Dept.	Correspondence, Greg Roja Email, John Keener Correspondence, John Keener Email, Eric Smith Email, Jason Pitkin Email, Jay Johnston Email, Rich Cortese Email, Dana Kelly Email, Homer Hudelson Email, Rich Nessler Email, Joel Stewart Correspondence, Jackie Speier Email, Neal Desai Email, Kristin Kelsoe Email, Judy Neuhauser Email, Brian Hooper Email, Jodi Rodar Email, Jeff Volosing Email, Peter Graves Email, Brent Plater Email, Dave Landeck Email, Gary Fracchia Email, Ike Takahashi Email, Robert Hutchinson Email, Loretta Walter

Email, Victor B Eichler
Ex Parte Communication, Carole Groom
Correspondence, Surfrider Foundation
Email, Rebecca L Hartsell
Email, Matt Byrne
Email, Val Marjoricastle
Email, Hartson Doak
Email, Barbara Smolinski
Email, Marc Delucchi
Email, Carol Mathews
Email, Gayle Janzen
Email, Satya Vayu
Email, Pete Gandell
Email, Phoebe Sorgen
Email, Maya Elson
Email, Bonnie Neely
Email, Gail Gester
Email, Annie Organ
Email, Charlie Kaz
Email, Lisa Luther
Email, Fred Rinne
Email, Gwynn Mackellen
Email, Carol Hankermeyer
Email, Natalya Pouznar
Email, Stephanie Smarr
Email, Lee Rudin
Email, Brent Plater
Correspondence, Brent Plater
Correspondence, Lisa Wayne
Correspondence, Dennis J. Herrera
Email, Jenny Crofton
Email, Elaine Clark
Email, Toni Newman
Email, Gary Bailey
Email, Gayle Janzen
Email, Russell Weisz
Email, Mindy Meadows

Th8a

March 18, 2015

California Coastal Commission
Headquarters Office
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

Subject: Mabuhay Golf Club Urges Approval of Coastal Development Permit
At Sharp Park, April 15-17, 2015 Commission Public Hearing, San Rafael, CA

Reference: CDP # 2-12-104 / Sharp Park Pump House/Habitat Recovery Work/etc., Projects

Dear Coastal Commission Members,

Mabuhay Golf Club, a member of the San Francisco Public Golf Alliance and representing its members who regularly play at the historic, low cost public Sharp Park Golf Course, strongly support City and County of San Francisco's application for a Coastal Development Permit application for habitat restoration at Sharp Park including dredging tulles out of the ponds and construction of a new frog pond south on the rise southwest of the golf course.

The project would provide badly needed infrastructure upgrade and habitat enhancement and continue the renovation and planning work that started in the 1990's.

Therefore, based on the urgency of the situation, we respectfully urge the Coastal Commission to approve City and County of San Francisco's Application for a Coastal Development Permit, and allow Sharp Park Golf Course Safety, Infrastructure Improvement and Habitat Enhancement Projects to move forward.

Please let us know if there is anything else you need to approve the application.

Best regards,
MABUHAY GOLF CLUB

Signature on file

Greg Roja, President
Cc: Richard Harris, San Francisco Public Alliance

Rexing, Stephanie@Coastal

Th8a

From: John Keener <jwkeener296@gmail.com>
Sent: Tuesday, April 07, 2015 12:47 PM
To: Rexing, Stephanie@Coastal
Subject: CDP for Sharp Park Golf Course

Hi Stephanie,

I'm the new council member from Pacifica that called the other day.

I read the proposed conditions that go with the permit and was very impressed. I assume that the current conditions won't be used as a sort of baseline, as the Horse Stable pond is as low as I have ever seen it, due in part to the drought.

On the water level gauge, I have confirmed that it is not visible from the berm. It is somewhere near the intake housing for the pumps, I believe.

Since the SF Golf Course folks feel there is a liability issue for the public to get to the gauge, how about a gauge that is visible from the berm? This would be similar to the gauges in the ponds on GGNRA lands. It would have to be calibrated to the old gauge of course. I believe that the public is warranted a gauge, given some of the past history of management.

Best regards,

John Keener

650 557 9738

Th 8a

California Coastal Commission
45 Fremont St, Suite 200
San Francisco CA 94105

April 8, 2015

RE: Coastal Development Permit 2-12-104, Sharp Park Pumphouse Project, to be considered at the Commission Hearing, San Rafael, CA, April 15, 2015

Honorable Commissioners and Staff,

This is in regard to the Coastal Development Permit application No. 2-12-014 for the San Francisco Recreation and Parks Department, the Sharp Park Golf Course, in Pacifica.

The water levels of Horse Stable Pond are important for the reproduction of the Red Legged Frog. Several residents of Pacifica monitor water levels in the pond using a gauge attached to the pumphouse. The Pacifica City Council directed the City Manager to write a letter in support of the application, but which also requested that the residents access to the gauge not be restricted by construction activity, nor any fencing or locked gates.

Stephanie Rexing mentioned to me that the applicants feel that there is a liability issue with open access for the public to the water level gauge in Horse Stable Pond. I can appreciate the applicant's concern, and would like to suggest an alternative that might meet both parties' needs.

The current gauge seems to be under the water intake housing for the pumphouse. I have tried to see the gauge from the berm above the pond using binoculars, but was not able to. My suggestion is that the applicants install a new gauge, calibrated to the current one, and visible to members of the public standing on the berm using binoculars.

Thank you for your consideration.

Sincerely,

John Keener
Pacifica City Council Member

Th8a

Rexing, Stephanie@Coastal

From: Eric Smith <rule13@comcast.net>
Sent: Wednesday, April 08, 2015 10:17 AM
To: Rexing, Stephanie@Coastal
Subject: Support for San Francisco Sharp Park Pump House Project, CDP No. 2-12-014

I support the project as it provides habitat for numerous species while providing recreational enjoyment for residents.

Eric Smith
415-307-3449 (c)

Rexing, Stephanie@Coastal

Th8a

From: Jason Pitkin <jason.pitkin@451research.com>
Sent: Wednesday, April 08, 2015 10:58 AM
To: Rexing, Stephanie@Coastal
Subject: Support for San Francisco Sharp Park Pump House Project, CDP No. 2-12-014

Hi Stephanie,

Sharp Park Golf Course is a Bay Area treasure and historic landmark. More than that, it is a public space where local citizens can enjoy the outdoors. 100 years ago things were quite different in the United States. Golf was a sport for rich people, and courses were closed to the public. Things changed during the progressive movement as municipal courses like Sharp Park were built, in 1929. They were built for the citizens, not for rich people. Some say things are returning to where they were 100 years ago. Let's hope not. Please consider retaining this historic landmark, for the people.

Thanks,

Jason Pitkin
451 Research
O: 415-989-1555, ext. 101
M: 415-378-5975

Th 8a

Rexing, Stephanie@Coastal

From: Jay Johnston <golferjaysf@aol.com>
Sent: Wednesday, April 08, 2015 1:26 PM
To: Rexing, Stephanie@Coastal
Cc: info@sfpublicgolf.org
Subject: Support for San Francisco Sharp Park Pump House Project, CDP No. 2-12-014

Please make it known that the Sharp Park golf course is very important to me and my family and I hope your decision is a positive one for its future.

Respectfully,

Jay Johnston & family
Mill Valley

Sent from my iPhone

Th8a

Rexing, Stephanie@Coastal

From: Rich Cortese <rcortesejr5@gmail.com>
Sent: Wednesday, April 08, 2015 1:57 PM
To: Rexing, Stephanie@Coastal
Subject: Sharp park

I have lived in Pacifica my hole life , I can't imagine Pacifica with out sharp park golf corse they go hand in hand, Years ago none of this was even an issue,I believe someone is trying to make a name for him or her self , I would hope you would support the golf course and the members to keep the little gem the same a golf corse . Thank you , Rich Cortese

Sent from Rich's iPhone

Th8a

Rexing, Stephanie@Coastal

From: Dana Kelly <dkelly@bookpassage.com>
Sent: Wednesday, April 08, 2015 3:24 PM
To: Rexing, Stephanie@Coastal
Subject: Support for San Francisco Sharp Park Pump House Project, CDP No. 2-12-014

Dear Stephanie -- as a longtime (25 years) Pacifica resident (I still co-own a house there) and equally longtime Sharp Park golfer, I fully support the Pump House Project. I won't be able to make the public meeting, so I'm voicing my support via email.

Best,
Dana Kelly

Th8a

Rexing, Stephanie@Coastal

From: Homer Hudelson <hhudelson@sbcglobal.net>
Sent: Wednesday, April 08, 2015 4:49 PM
To: Rexing, Stephanie@Coastal
Subject: Sharp Park Improverment Project

Ms. Rexing: As a long time member of Sharp Park Golf Club I heartily endorse the Sharp Park Habitat Improvement Project and the Park Pump Project #2-12-014. Sincerely, Homer Hudelson

Th 8g

Rexing, Stephanie@Coastal

From: Rich Nessler <rjn1063@gmail.com>
Sent: Wednesday, April 08, 2015 6:01 PM
To: Rexing, Stephanie@Coastal
Cc: info@sfpublicgolf.org
Subject: Support for San Francisco Sharp Park Pump House Project, CDP No. 2-12-014

Please approve this important and ecologically sound project that will improve what is a truly a historically significant golf course, one of the very few left in the Bay Area that is still accessible to the middle class.

Sincerely,

Richard Nessler

Sent from my iPad

Th8a

Rexing, Stephanie@Coastal

From: JSS <joelstewart@gmail.com>
Sent: Wednesday, April 08, 2015 6:37 PM
To: Rexing, Stephanie@Coastal
Subject: Support for San Francisco Sharp Park Pump House Project, CDP No. 2-12-014

Hello:

I'm writing in support of the Sharp Park golf course project in which minor dredging would be allowed to clear the lines for irrigation of the golf course.

In my mind this minor project will pose no threat to any wildlife and clear the way for the pump house to irrigate the golf course.

As you know this project has been to Federal Court and the environmentalists will object to any and all projects to provide affordable and historic golf to the public.

We hope you support this initiative.

Sincerely,

Joel Stewart

Th8a

JACKIE SPEIER
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Congress of the United States
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COMMITTEE ON ARMED SERVICES
SUBCOMMITTEES:
READINESS
OVERSIGHT AND INVESTIGATION

COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM
SUBCOMMITTEES:
RANKING MEMBER, ENERGY POLICY, HEALTH CARE, AND ENTITLEMENTS
NATIONAL SECURITY

GUN VIOLENCE PREVENTION TASK FORCE
Vice Chair

Application Number: 2-12-014

April 9, 2015

California Coastal Commission
45 Fremont Street, #2000
San Francisco, CA 94105-2219

Dear Commissioners:

I write to respectfully request the serious consideration of a permit sought by the City of San Francisco for purposes of carrying out its project to enhance the habitat of the red legged frog and the San Francisco garter snake at the Sharp Park golf course in Pacifica. It is my understanding that the city's project has been reviewed by numerous federal and state agencies.

The project will create a new pond for purposes of allowing further breeding of the threatened red legged frog. It will also permit the improvement of the pumping and drainage system on this property. The pumping and drainage system are essential to the city meeting its obligations pursuant to a permit issued by the US Fish and Wildlife Service.

The adjacent property, owned by the Golden Gate National Recreational Area, is Mori Point. Due to extensive rehabilitation of Mori Point, the population of frogs escalated in the period of time immediately after the rehabilitation. It therefore seems likely that other projects in that area, designed to afford the frog additional refuge, would also enhance its population.

It is my understanding that the City of San Francisco operates the golf course pursuant to a permit issued by the US Fish and Wildlife Service. The Service is working with the City to review projects the city proposes to further support the frog population. The endangered San Francisco garter snake is also supported by these projects as the snake is reliant upon the frog. It is also my understanding that there are very few other populations of red legged frogs or San Francisco garter snakes, thus making any existing location of these two species locations of special public policy concern.

In my judgment, a project that promotes multiple environmental objectives is one that should be seriously considered for approval. I hope that, pursuant to all applicable state and federal law, the commission will afford this project its careful consideration.

All the best,

Signature on file

Jackie Speier

KJS/bp

Th8a

Rexing, Stephanie@Coastal

From: Neal Desai <ndesai@npca.org>
Sent: Thursday, April 09, 2015 2:57 PM
To: Brent Plater; Rexing, Stephanie@Coastal
Subject: RE: Sharp Park

Importance: High

Stephanie,

Based on the conversation you and Brent had yesterday, it makes sense for us to talk directly to John Dixon (you should participate if you can) as you deferred certain questions we had to John. Will you help to arrange a phone call with John tomorrow afternoon PST, preferably between 1pm-3pm (I may be able to be available up until 4pm PST)?

The issues we wanted clarification on have to do with the Commission's proposed "special" conditions (ie those conditions NOT found in the BiOp) and the relationship between those "special" conditions, monitoring/reporting, and triggers for changes in pumping protocol. Let me restate some of the points we would want to cover with John:

- What exactly are the "special" conditions that are not related to "monitoring" and "reporting"? For example, the special condition on page 6 related to pumping protocol-technical operations seems to simply ask for more specificity for how SFRPD will achieve an already established pumping protocol in the BiOp (rather than directing SFRPD to make any changes to the pumping protocol to protect wetlands and other coastal resources that the BiOp did not consider). What type of specificity and information is being sought (i.e. what exactly is the Commission requesting from SFRPD that would fulfill the request for more specificity) and what benefit does this specificity provide? We were unable to locate answers to these basic questions in the staff report.
- We want to better understand section "f" on page 7, specifically the discussion of triggers that could lead the Commission to change pumping protocols.
- Page 22 states: "Dr. Dixon also finds that removal of vegetation is the minimum necessary to operate the pumps efficiently and to facilitate water movement from the LS to HSP which will at least maintain, and may potentially increase, the existing functional capacity of the wetlands." We would like John to explain what he means by this statement and also point us to the place in the report that provides the rationale behind this statement, since you noted he would be the one to explain that.

From: Brent Plater [mailto:bplater@wildequity.org]
Sent: Thursday, April 09, 2015 2:46 PM
To: Stephanie Rexing
Cc: Neal Desai; Ralph Faust
Subject: Re: Sharp Park

Stephanie,

I inadvertently failed to attached the referenced scientist letter last night. Here it is.

Brent Plater

Executive Director
Wild Equity Institute
474 Valencia St., Suite 295
San Francisco, CA 94103
Office: 415-349-5787
Cell: 415-572-6989
bplater@wildequity.org
http://wildequity.org

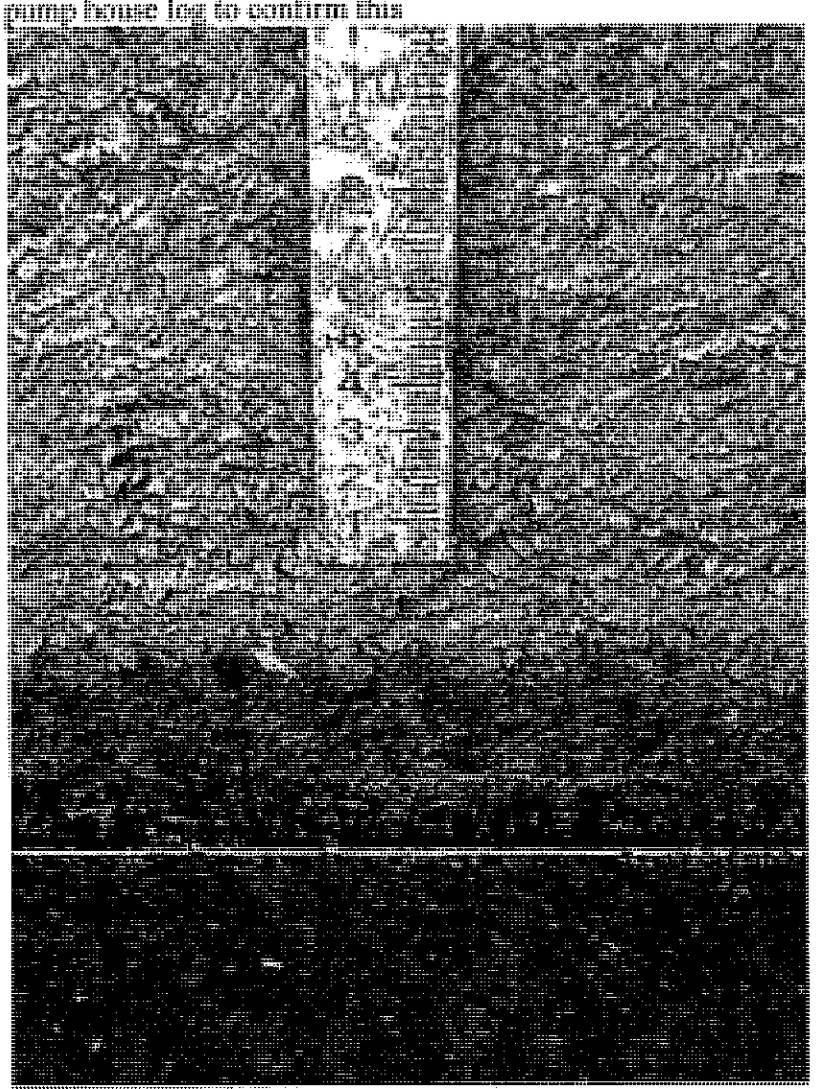
Building a healthy and sustainable global community for people and the plants and animals that accompany us on Earth

On Wed, Apr 8, 2015 at 7:57 PM, Brent Plater <bplater@wildequity.org> wrote:

Hi Stephanie,

Attached are a few of the documents we discussed on the phone.

First, a photo of the pump house gauge taken in August 2014 by a Pacifica resident, showing water levels far below 0 on the pump house gauge. I do not know what this water level would be in NAVD: eyeballing it I'd guess its around 1-2. It also looks like the water levels were higher recently, because of the wet cement an inch or so above the water level. Quick variations like that suggest pumping recently occurred, but I'd have to review the pump house log to confirm this suspicion.



I've also attached the map from the DEIR of the Sharp Park Golf Course redevelopment project. On this map you will see how the City's proposal will close current hole 12, and raise the fairways on the northwest and northeast sides of the course. This proposal, first made in 2009, was of course opposed by every scientist we could find, scientists with more expertise and credentials than any consultant the city has hired. I've attached their letter opposing this project for your review.

What the map fails to show is where a new hole 12 will go. Two proposals exist: one is to move it to the east of HWY 1. The other is to move it between the western part of Laguna Salada and the berm. The latter proposal is deemed to be a less significant threat to the golf course, while the former would be considered significant and require mitigation. I've attached a few pages from the DEIR where this is stated, and highlighted the relevant portions in yellow.

Thanks,

bp

Brent Plater
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Th 8a

Rexing, Stephanie@Coastal

From: Kristin Kelsoe <kristins@sierrabg.com>
Sent: Friday, April 10, 2015 10:28 AM
To: Rexing, Stephanie@Coastal
Subject: Against Draining Sharp Park

Please consider my voice against draining Sharp Park Wetlands. The Wetlands are home to the California Red-Legged Frog, which is not only our CA state amphibian, but is endangered as well. Draining the wetlands will leave the frog eggs without the water they need for their life cycle. As a nature lover in general and a frog lover specifically, I don't want to see a threatened species hurt further in order to provide people with another golf course (which are definitely not in short supply).
As a person born and raised in the Bay Area (Sunnyvale), I know how precious natural spaces are there, and the pressure to build on every remaining piece of unused land there is huge. But the original inhabitants (even small amphibious ones) deserve to be protected.
I cannot attend the meeting regarding this issue, but please consider my opinion on the subject.
Kristin Kelsoe
--

Th8a

Rexing, Stephanie@Coastal

From: judyneu@slonet.org
Sent: Friday, April 10, 2015 10:52 AM
To: Rexing, Stephanie@Coastal
Subject: Frogs and wetlands

Dear Ms. Rexing,

Please do not allow the dredging or draining of the Sharp Park Wetlands. The wildlife should have preference for this water and land over a golf course, especially in the middle of such a punishing drought. Both redlegged frogs and the San Francisco gartersnake are at risk.

Please deny this permit.

Thank you for your consideration.

Judy Neuhauser

531 Highland St.

Los Osos, CA. 93402

Th8a

Rexing, Stephanie@Coastal

From: Brian Hooper <brian.hooper@jumio.com>
Sent: Friday, April 10, 2015 11:00 AM
To: Rexing, Stephanie@Coastal
Subject: "Support for San Francisco Sharp Park Pump House Project, CDP No. 2-12-014"

Please help save Sharp Park golf course.

My father took me to this course as a child and I am now taking my children to play golf there. As a resident of Pacifica this course and the wildlife have coexisted for close to 100 years. The course and wildlife rarely come into contact and with a few minor repairs to the course we should be able to coexist for another 100 years. Its an outrage that the environmentalists have even pushed this issue so far (and living along the coast I consider myself an environmentalist, but the Sharp Park Golf Course issue is silly.)

Not only is Sharp Park one of the few affordable public golf courses in the Bay Area it also serves the young and old. It was also designed by famous golf architect Alister Mackenzie and is truly one of the Bay Areas remaining treasures.

Please save Sharp Park Golf Course!

--
Brian Hooper

Rexing, Stephanie@Coastal

Th8a

From: Jodi Rodar <hooppole@gmail.com>
Sent: Friday, April 10, 2015 11:15 AM
To: Rexing, Stephanie@Coastal
Subject: Please Don't Dredge the Sharp Park Wetlands

Dear Stephanie Rexing:

I am writing to urge you to deny the City Of San Francisco's request to drain or dredge the Sharp Park Wetlands.

The City of San Francisco has requested a permit to dredge and drain the Sharp Park Wetlands, which would leave frog egg masses stranded and dying as the fresh water gets pumped out to sea. The frogs cannot defend themselves, can we rely on you to do the right thing and deny the dredging of the Sharp Park Wetlands, standing by the environment and saving the lives of these frogs.

Please do all you can to save these frogs.

Please let me know how you plan on proceeding regarding this important issue.

Thank you for your time and consideration of this issue.

Sincerely,

Dr. Jodi Rodar

Th8a

Rexing, Stephanie@Coastal

From: Jvdrills@aol.com
Sent: Wednesday, April 08, 2015 9:47 AM
To: Rexing, Stephanie@Coastal
Subject: "Support for San Francisco Sharp Park Pump House Project, CDP No. 2-12-014"

As a second generation golfer at Sharp Park I am asking for your support of the project to help Sharp Park Golf Course remain open and proceed with the Pump House Project.

Sharp Park Golf Course is affordable and open to all golfers plus it has significant historical value and is a wonderful place to spend a day with family or friends.

The Golf Course and the wildlife can live together by approving the pump house project.

Please vote to proceed with the work that needs to be done to insure the course stays open and at the same time will help the wildlife prosper.

Sincerely,
Jeff Volosing

Th 8a

Rexing, Stephanie@Coastal

From: Peter Graves <peter.graves@gmail.com>
Sent: Wednesday, April 08, 2015 11:48 AM
To: Rexing, Stephanie@Coastal
Cc: info@sfpublicgolf.org
Subject: "Support for San Francisco Sharp Park Pump House Project, CDP No. 2-12-014"

Hi,

I love this Sharp Park, great golf layout and affordable and unpretentious.
I am also somewhat baffled why this course seems to have been singled out
by environmentalists. I think this aspect of the struggle is over, but
I am not entirely sure, as I received an email stating

"The fight to Save Sharp Park Golf Course is at a critical point. And you can do your part to help"
Why? I thought this was settled recently.

Either way, I support whatever the SF Public Golf Alliance is promoting re: saving Sharp Park

Thanks,
Peter

Th 8a

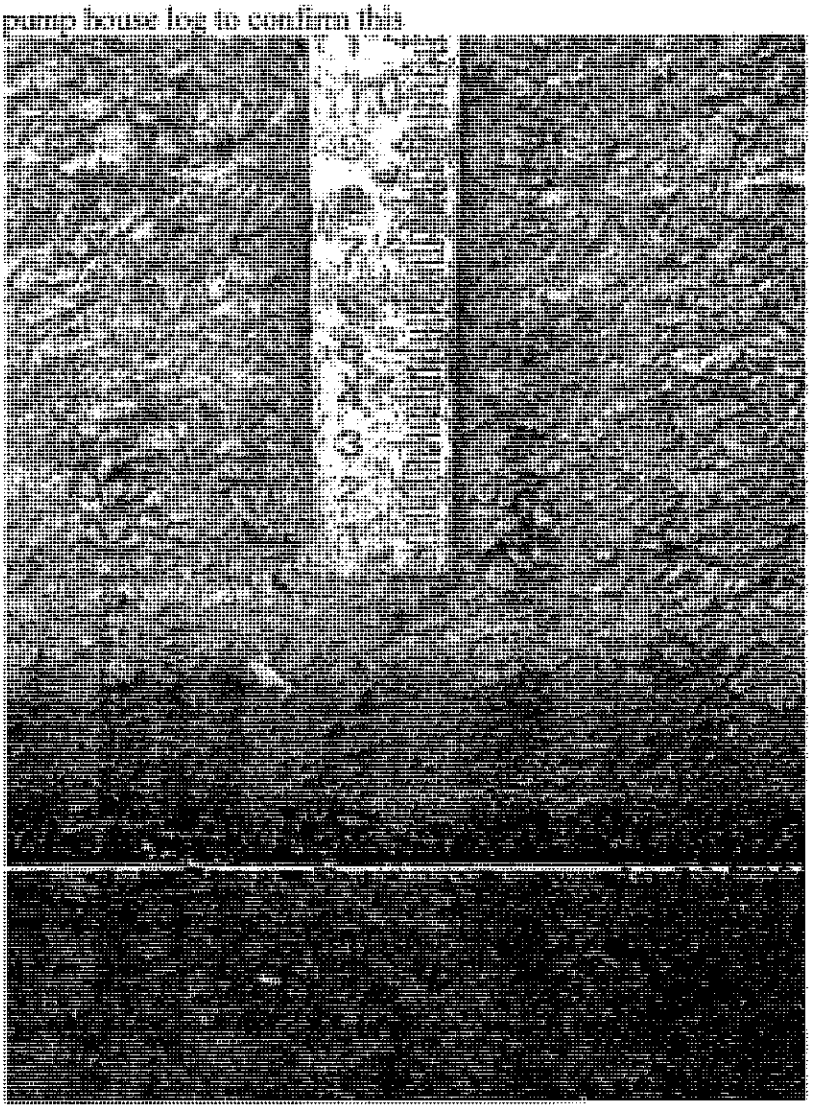
Rexing, Stephanie@Coastal

From: Brent Plater <bplater@wildequity.org>
Sent: Wednesday, April 08, 2015 7:58 PM
To: Rexing, Stephanie@Coastal
Cc: Neal Desai; Ralph Faust
Subject: Sharp Park
Attachments: 2011 Sharp Park Golf Course Redevelopment DEIR Map.pdf; Pages from DEIR.pdf

Hi Stephanie,

Attached are a few of the documents we discussed on the phone.

First, a photo of the pump house gauge taken in August 2014 by a Pacifica resident, showing water levels far below 0 on the pump house gauge. I do not know what this water level would be in NAVD: eyeballing it I'd guess its around 1-2. It also looks like the water levels were higher recently, because of the wet cement an inch or so above the water level. Quick variations like that suggest pumping recently occurred, but I'd have to review the pump house log to confirm this suspicion.



I've also attached the map from the DEIR of the Sharp Park Golf Course redevelopment project. On this map you will see how the City's proposal will close current hole 12, and raise the fairways on the northwest and northeast sides of the course. This proposal, first made in 2009, was of course opposed by every scientist we could find, scientists with more expertise and credentials than any consultant the city has hired. I've attached their letter opposing this project for your review.

What the map fails to show is where a new hole 12 will go. Two proposals exist: one is to move it to the east of HWY 1. The other is to move it between the western part of Laguna Salada and the berm. The latter proposal is deemed to be a less significant threat to the golf course, while the former would be considered significant and require mitigation. I've attached a few pages from the DEIR where this is stated, and highlighted the relevant portions in yellow.

Thanks,

bp

Brent Plater
Executive Director
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San Francisco, CA 94103
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Building a healthy and sustainable global community for people and the plants and animals that accompany us on Earth

DRAFT
ENVIRONMENTAL IMPACT REPORT

Significant Natural Resource Areas Management Plan

PLANNING DEPARTMENT
CASE NO. 2005.1912E

STATE CLEARINGHOUSE NO. 2009042102

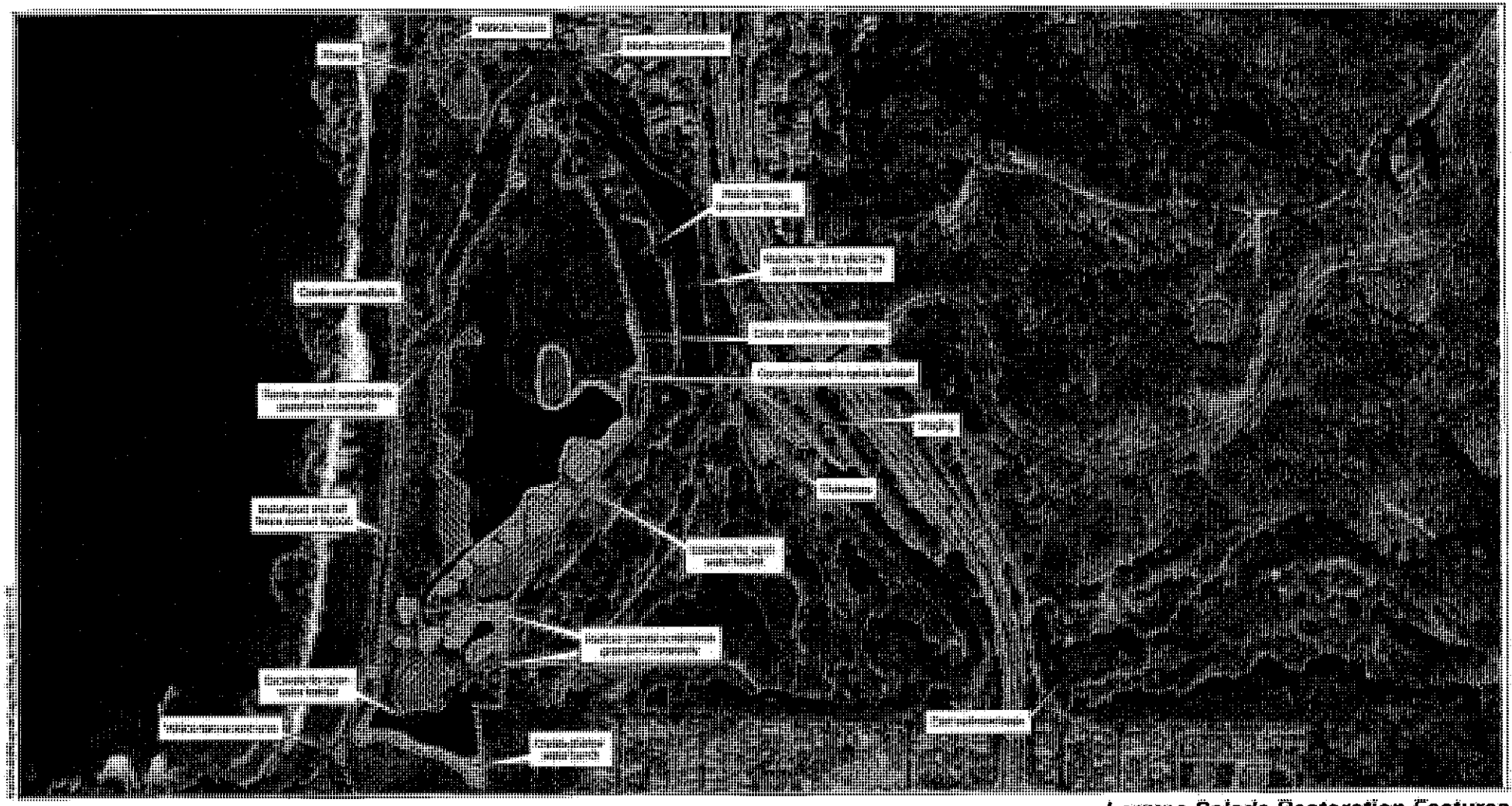
Volume 1 – Draft EIR

AUGUST 2011

SAN FRANCISCO
PLANNING
DEPARTMENT

	Draft EIR Publication Date:	AUGUST 31, 2011
	Draft EIR Public Hearing Date:	OCTOBER 6, 2011
	Draft EIR Public Comment Period:	AUGUST 31, 2011 to OCTOBER 17, 2011

Written comments should be sent to:
Environmental Review Officer | 1650 Mission Street, Suite 400 | San Francisco, CA 94103



Laguna Salada Restoration Features

Pacifica, California

Figure 3

significantly affecting this recreation facility. However, with implementation of M-RE-6, which calls for retaining the golf course as an 18-hole course, this impact would be reduced to ***less than significant***. CEQA requires an analysis of impacts of mitigation measures (CEQA Guidelines Section 15126.4(a)(1)(D)); therefore, pages 264 through 269 address the impacts of M-RE-6.

Due to the location of the archery range on the opposite side (eastern side) of Sharp Park, the archery range would not be impacted by the proposed Sharp Park restoration project.

M-RE-6: Restoration of the Sharp Park Golf Course to 18 Playable Holes

The SFRPD shall coordinate with a golf course consultant to restore the playability of the Sharp Park Golf Course, which would involve replacing Hole 12 either on the west (Option 1) or east (Option 2) side of Highway 1. Replacing the hole on the west side of Highway 1 may also require moving an additional hole west of the highway to retain playability and flow of the course, thereby increasing the number of holes west of the highway to 15 and decreasing to three the number of holes to the east. Creating a new hole east of Highway 1 would decrease the number of holes west of the highway to 13 and increase to five the number of holes to the east. The determination of where the replacement hole is constructed and whether additional holes need to be moved would require additional environmental review.

Cumulative Impacts

Impact RE-7: The proposed project, in combination with other planned and foreseeable future projects, would result in a cumulatively considerable significant impact related to recreation. (Significant and Unavoidable)

The geographic scope of this analysis includes San Francisco and Pacifica. Cumulative projects that would have an impact on recreation resources include those that reduce the overall recreation experience provided by the Natural Areas. This includes projects that may result in a significant increase in the regional population resulting in overcrowding of the Natural Area, a decrease in currently available recreation opportunities, consequently putting increased pressure that is unable to be absorbed by other Natural Areas, or a physical or visual change in the landscape that adversely impacts the appeal of a Natural Area. Implementation of the proposed GGNRA Dog Management Plan may further restrict dog access and off-leash areas within GGNRA land holdings, including Fort Funston (near Lake Merced), Milagra Ridge (near Sharp Park), Mori Point (near Sharp Park), and Sweeney Ridge (near Sharp Park). In addition, the SNRAMP proposes to close the Lake Merced DPA and reduce the size of the DPAs at Bernal Hill and McLaren Park. On-leash dog use would still be allowed at these and all other Natural Areas. The combined reductions in off-

Impact HR-4. Modifying approximately 13 acres of the golf course to create upland habitat along the east side of the lagoon to provide critically important San Francisco garter snake upland habitat would require slightly shortening or narrowing Holes 10 and 13 (historic Holes 18 and 9). The habitat corridor would be approximately six acres, bringing the total of modified area at the golf course to about 19 acres. This would have a significant impact on the historic character-defining features, historic Holes 18 and 9, because these holes and fairways would be narrowed and shortened. Fairways have been altered in the past at Sharp Park Golf Course. Implementing Mitigation Measure 1 (Document Historical Resources) would record the golf course in its existing condition under the Secretary of the Interior's *Standards for the Treatment of Historic Properties and Guidelines for the Treatment of Cultural Landscapes*. It would serve as a record of the changes on the golf course through time, including the alterations on fairways and holes due to varying natural conditions. Implementing this mitigation measure would not reduce this impact to less than significant because modifying the historic character-defining features would still constitute a significant impact on the golf course, a historic resource.

Impact HR-5. The recreation analysis in the SNRAMP EIR proposes a mitigation measure (Recreation Mitigation Measure, Option 1) that would create a new hole on the east side of Highway 1, as a replacement for Hole 12. This reconfiguration would result in a total of 13 holes on the west side of Highway 1 and five holes on the east side. Adding another hole on the east side of the freeway diminishes the historic integrity of the landscape because it changes the balance of holes that were originally on the east and west side of Highway 1 and creates a hole in an area that was not originally planned and not originally part of the Mackenzie-designed course. Adding another hole on the east side of the course, in an area that would change the historic boundaries of the golf course design, would be a significant impact on Sharp Park Golf Course, a historic resource. Implementing Mitigation Measure 1 (Document Historical Resources), as described in Section 5.0, would record the golf course following the Secretary of the Interior's *Standards for the Treatment of Historic Properties and Guidelines for the Treatment of Cultural Landscapes*. Because implementing Mitigation Measure 1 would not reduce this impact, there would still be a significant impact on the historic resource.

Impact HR-6. The recreation analysis in the SNRAMP EIR proposes a mitigation measure (Recreation Mitigation Measure, Option 2) that would create a new hole on the west side of Highway 1, as a replacement for Hole 12. This reconfiguration would result in a total of 15 holes on the west side of Highway 1 and three holes on the east side. This alternative mitigation measure would be beneficial to the Sharp Park Golf Course because it would restore some of the elements that Mackenzie had implemented in his original design of this course, such as coast side holes. This mitigation measure would change the layout of the holes, but the new holes would be in areas of the course where Mackenzie situated holes in his original design, and would be in keeping with the historic boundaries of the golf course. Impacts on Sharp Park Golf Course, if this version of the mitigation measure were implemented, would be less than significant.

September 6, 2011

San Francisco Board of Supervisors
1 Dr. Carlton B. Goodlett Place
City Hall, Room 244
Mayor Edwin Lee
City Hall, Room 200
San Francisco, CA 94102-4689

Re: Restoration of Sharp Park

Dear Board of Supervisors:

We are a group of scientists with collective expertise and experience regarding coastal wetlands and endangered species habitats. We are writing regarding the future of Sharp Park in the City of Pacifica. Given the recently proposed legislation for the City of San Francisco to co-manage Sharp Park in partnership with the National Park Service, you have a historic opportunity to restore regionally significant wetlands and endangered species habitat within and around the unique coastal lagoon ecosystem at Sharp Park.

We, the undersigned scientists with backgrounds in biology, herpetology, ecology, coastal engineering and hydrology, contend that the peer-reviewed scientific report and proposed restoration plan prepared by ESA-PWA with Dr. Peter Baye and Dawn Reis Ecological Studies in February 2011, *Conceptual Ecosystem Restoration Plan and Feasibility Assessment for Laguna Salada*, contains the best available science on the ecology of the Laguna Salada and surrounding natural features at Sharp Park, as well as the impacts of the management of the Sharp Park Golf Course on endangered species and their habitats at the site.

The restoration of Sharp Park wetlands and uplands habitats and connectivity with protected adjacent open space, as proposed in the ESA-PWA report, is the best option to ensure the long term survival of the San Francisco garter snake and the California red-legged frog in the area.

Conversely, the San Francisco Park Department recommendation for Sharp Park released in 2009 was to maintain 18 holes of the golf course while making small changes in the course layout to address environmental concerns, construct a multi-million dollar seawall along the coast and invest millions of dollars into golf course improvements. This would have negative consequences for endangered species and their habitats, increase the potential for flooding, result in the loss of the Sharp Park beach and incur significant costs to the City's budget, all in order to maximize golf opportunities.

It is our conclusion that the minimal habitat enhancement proposed by the Park Department in their preferred 18-hole alternative is inadequate to allow the recovery of the San Francisco garter snake and red-legged frog at the site, and is set up to fail with climate change and sea-level rise.

Sharp Park contains unique coastal wetlands habitat features and is important habitat for two interdependent federally listed species. The extremely endangered San Francisco garter snake, confined to six areas on the upper San Francisco Peninsula, is federally

and state listed as endangered. The California red-legged frog, found in wetlands in lowlands in central California, is federally listed as threatened. We concur with the ESA-PWA report that "Laguna Salada represents one of the best opportunities in the Central Coast region to improve and restore impaired lagoon wetland habitats for endangered species."

Sincerely,

Carlos Davidson, Ph.D. - Conservation Biologist and Ecologist
Director and Associate Professor
Environmental Studies Program
San Francisco State University
Relevant Experience: Expertise in conservation ecology and California amphibians

Dr. Kerry Kriger, Ph.D. - Ecologist
Founder, Executive Director of Save The Frogs
Relevant Experience: Expertise on amphibian disease; research into amphibian declines; articles in peer-reviewed international scientific journals

Peter H. Raven, Ph.D. – Botanist
President, Missouri Botanical Garden
St. Louis, Missouri
Relevant Experience: Expertise and many years of study on the plants of Central California

Glenn R. Stewart, Ph.D. - Zoologist and Ecologist
Professor Emeritus of Biological Sciences
California State Polytechnic University, Pomona
Relevant Experience: Expertise in the ecology and systematics of reptiles, amphibians and mammals

Samuel S. Sweet, Ph.D. - Zoologist
Department of Ecology, Evolution and Marine Biology
University of California, Santa Barbara
Relevant Experience: Expertise in vertebrate systematics and evolutionary morphology; herpetology

Michael Vasey - Botanist
Assistant Professor of Biology
San Francisco State University
President of the California Botanical Society
Relevant Experience: Trained botanist and conservation biologist; involvement in wetland conservation issues for nearly 15 years, extensive field work in wetlands

Th8a

Rexing, Stephanie@Coastal

From: Dave Landeck <davidalandeck@gmail.com>
Sent: Thursday, April 09, 2015 9:34 AM
To: Rexing, Stephanie@Coastal
Cc: Save Sharp Park
Subject: "Support for San Francisco Sharp Park Pump House Project, CDP No. 2-12-014"

Dear Stephanie,

I am writing to you in support of the new pump house. I am a Sierra Club member and in this case I think they are wrong.

Please keep this wonderful, inexpensive golf course open.

Thanks

David Landeck
2184 Sutter Street #307
SF CA 94115

Rexing, Stephanie@Coastal

Th8a

From: Fracchia, Gary <gary.fracchia@dtz.com>
Sent: Thursday, April 09, 2015 10:49 AM
To: Rexing, Stephanie@Coastal
Cc: info@sfpublicgolf.org
Subject: Sharp Park Golf Course Infrastructure

Please approve the pump house project to initiate much needed improvements at this golf course. It's an historic layout by one of golf's finest architects. The course should be returned to its former glory and be affordable to all players.

Gary Fracchia
Senior Vice President | DTZ

555 12th Street, Suite 1400 | Oakland, CA 94607 | USA
Direct: 510-267-6042 Mobile: 510-410-5998 Fax: 510-465-1350
gary.fracchia@dtz.com | vCard | www.dtz.com
CA License #00957866

LinkedIn | Facebook | Twitter | YouTube | Google+ | Instagram | Blog

Rexing, Stephanie@Coastal

Th 8a

From: Tsuyoshi Ike Takahashi <golfike@hotmail.com>
Sent: Friday, April 10, 2015 8:54 AM
To: Rexing, Stephanie@Coastal
Cc: info@sfpublicgolf.org
Subject: Sharp Park Golf Course

Hello Mr. Rexing,

I am writing to support the maintenance activities at Sharp Park Golf Course. Sharp Park GC is a great asset to the community. A lot of people think that Golf is rich people's sport. It can be, but it does not have to be. I personally love the game of golf and it requires a lot of patience and discipline within the game. It is great learning opportunity for small kids to retired adults. Sharp Park GC can provide inexpensive place for many people to expose to the learning opportunity.

Unfortunately I will not be able to attend the public hearing, but I greatly support the maintenance activities at Sharp Park.

My contact information is:
Ike Takahashi
Address: 1243 Sunnydale Ave, San Francisco, CA 94134
Phone: 415-420-0299
email: golfike@hotmail.com

Thank you,
Ike

Th8a

Rexing, Stephanie@Coastal

From: hutch <hutch@coastside.net>
Sent: Friday, April 10, 2015 9:22 AM
To: Rexing, Stephanie@Coastal
Subject: Sharp Park Golf Course

Hi Stephanie,

Regarding the City of San Francisco planning to drain the pond in Sharp Park Golf Course. The fact is that the Red Legged Frogs are thriving BECAUSE of the golf course. If the seawall wasn't there that pond would be overcome with salt water killing all the frogs years ago. There are no frog eggs at the time of year the City plans the pumping. So there's no reason not to allow it.

Thank You,

Robert Hutchinson
301 Buckingham Rd
Pacifica CA 94044

Rexing, Stephanie@Coastal

Th 8a

From: Loretta Wood Walter <loretw@comcast.net>
Sent: Friday, April 10, 2015 9:33 AM
To: Rexing, Stephanie@Coastal
Subject: Standing up for the Red-Legged Frog & Healthy Wetlands vs Golfcourse idea

Dear Stephanie,

I am a member of Save the Frogs and several other environmental protection/animal welfare non-profits. If I could attend I would be among the peaceful protesters in San Rafael on April 16th. But since I can't make it, just wanted to let my voice be heard. I actually attended a How to Build a Healthy Wetlands workshop class given by Save the Frogs **at a local elementary school in Ben Lomond,** and I learned a lot about **why Healthy Wetlands are not only beautiful, but they also actually reduce the number of mosquitoes (without harmful chemicals) due to the bats, dragonflies, water scooters, and certain birds, that all eat mosquitoes and/or their larvae.** With the drought that is going on in California right now, the Gold Course is even a worse idea, since it uses lots of water. In addition Golf Courses use lots of harmful chemicals to keep the greenway weed-free and fertilized. I think it would be **much kinder to the environment and also could serve more members of the community (school field trips? and a walking/jogging path???) to Restore the Wetlands to Healthy Wetlands** that will attract songbirds, dragonflies, frogs, salamanders and other helpful wildlife. Thanks for listening.
Sincerely,
Loretta Walter
Santa Cruz, CA

Th8a

Rexing, Stephanie@Coastal

From: Vic Eichler <vic33@frontier.com>
Sent: Friday, April 10, 2015 9:46 AM
To: Rexing, Stephanie@Coastal
Subject: Re: Sharp Park Wetlands

TO; The California Costal Commission

Please add my voice to the other concerned citizens who will be meeting on April 16th to request that you deny the permit requested by the City of San Francisco to allow draining of the very important ecological area known as the Sharp Park Wetlands.

Federal, state and local ordinances designed to protect wetlands exist for good reason. Wetlands are unique ecosystems that absorb excess stormwater runoff, assist in recharging underground aquifers, and provide habitat for many unique plant and animal species. It is unimaginable to informed citizens that an important habitat of California's official state amphibian, the California Red-Legged Frog, would be eliminated by draining this area!

Amphibians are the most endangered group of animals on the planet, and efforts to destroy – rather than to protect – the endangered residents of the Sharp Park Wetlands (which depend on the aquatic environment there) is a horrible idea which will be recognized in the long run, if not sooner.

Once again, please deny the requested permit to dredge and drain the Sharp Park Wetlands.

Sincerely yours,

Victor B. Eichler, Ph.D.

Retired amphibian biologist

Th8a

EX PARTE COMMUNICATION DISCLOSURE FORM

Filed by Commissioner: Carole Groom

1) Name or description of project:
   Item Th8a -- Application No. 2-12-014 (San Francisco Recreation and Park Department, Pacifica) – Sharp Park infrastructure
2) Date and time of receipt of communication: April 10, 2015 at 1 PM
3) Location of communication: Office of the Board of Supervisors (400 County Center, Redwood City, CA 94063) -- Telephone
   (If not in person, include the means of communication, e.g., telephone, e-mail, etc.)
4) Identity of person(s) initiating communication:
   Bonnie Neely
5) Identity of person(s) on whose behalf communication was made:
   Phil Ginsburg, Lisa Wayne, Bonnie Neely
6) Identity of persons(s) receiving communication:
   Carole Groom
7) Identity of all person(s) present during the communication:
   Carole Groom, Phil Ginsburg, Bonnie Neely, Lisa Wayne, Ricky Alexander Bac

Complete, comprehensive description of communication content (attach complete set of any text or graphic material presented):

I received a briefing from Phil Ginsburg, Lisa Wayne, and Bonnie Neely in which they explained their perspective on the infrastructure project at the Sharp Park Golf Course in Pacifica. I received a briefing booklet (entitled "Sharp Park Pumphouse Project – 4/9/2015), which was also sent to staff. The representatives indicated their agreement with the staff recommendation of project approval; however, they expressed concerns regarding Special Condition 2(d) in the staff report. They indicated that this condition would be resource intensive, redundant of other conditions in the report, and unnecessary to monitor groundwater and salinity intrusion. Supportive of striking this condition or broadening the language so as to not require piezometers, the representatives stated that they believe the other conditions would suffice to accomplish the groundwater monitoring and track the health of the wetlands. They stated that there is no funding currently for the piezometers. In addition, they indicated that the planning, design, and contracting for the piezometers would make it infeasible or impossible to satisfy this condition within the window required by the California Department of Fish & Wildlife. The representatives asked the Commissioner to consider ways of striking or amending this condition of the recommendation.

Apr 10 2015
Date

Carole Groom
Signature of Commissioner

TIMING FOR FILING OF DISCLOSURE FORM: File this form with the Executive Director within seven (7) days of the ex parte communication, if the communication occurred seven or more days in advance of the Commission hearing on the item that was the subject of the communication. If the communication occurred within seven (7) days of the hearing, provide the information orally on the record of the proceeding and provide the Executive Director with a copy of any written material that was part of the communication. This form may be filed with the Executive Director in addition to the oral disclosure.

Th 8a

SURFRIDER FOUNDATION

April 2015 Agenda
Meeting of April 16, 2015
Agenda Item No. 8

April 10, 2015

California Coastal Commission
c/o Ms. Stephanie Rexing
Coastal Planner
VIA EMAIL Stephanie.Rexing@Coastal.ca.gov

Re: Comments on Sharp Park Golf Course Infrastructure Improvement Project, Coastal Development Permit Application No. 2-12-014

Dear Honorable Commissioners:

Surfrider Foundation is a non-profit 501(c)(3) organization that is dedicated to the protection and enjoyment of oceans, waves and beaches through a powerful activist network. Towards this mission Surfrider Foundation engages in campaigns and programs on many issues, including coastal adaptation, coastal preservation, and beach access. We submit these comments to the California Coastal Commission ("Commission") regarding Coastal Development Permit ("CDP") Application No. 2-12-014, for the Sharp Park Golf Course Infrastructure Improvement Project ("Project"), on behalf of the Surfrider Foundation's San Francisco and San Mateo County Chapters,[1] and their over 1,200 members, many of whom live near and enjoy the natural coastal resources at Sharp Park Beach.

The San Francisco chapter has been very active in the campaign to Restore Sharp Park, and particularly engaged on coastal management issues, such as the future management of the seawall in this area. Sharp Park Beach is a special place for Surfrider Foundation members, who enjoy surfing, strolling, fishing, picnicking, and more at the beach, which is the only wide stretch of accessible beach for the northern Pacifica neighborhoods of Sharp Park, Manor, and Edgemar.

1. **The Commission Must Deny the CDP Due to the Inevitability of Coastal Hazards Including Sea Level Rise and Coastal Erosion at the Project Site, and the Project's Anticipated Aggravation of Impacts.**

[1] The Surfrider Foundation currently has 84 chapters located in the United States.

As the Staff Report for the City and County of San Francisco Recreation and Parks Department's ("Applicant") CDP application recognizes, the Coastal Act, Section 30253, requires that new development *minimize* risks to life and property in areas of high geologic, flood, and fire hazard, *assure* stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area, or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

Meanwhile, the Commission's Draft Sea-Level Rise Policy Guidance ("Draft Guidance") provides "The strongest approach for minimizing hazards is to avoid new development within areas vulnerable to flooding, inundation, and erosion." (Draft Guidance, at 24.)[2]

As the Staff Report recognizes, flooding in the Project area is inevitable. The site is subject to coastal hazards including but not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, storms, tsunamis, tidal scour, coastal flooding, and their interaction. (Staff Report, at 11, 29.) Portions of the property, and the Project (including the retaining wall, steps, gate, and walkway improvement around the pumphouse) are located just inland from the Pacific Ocean in the mapped FEMA 100 year flood plain. (Id., at 29.) Furthermore, **as the Staff Report also concedes, aspects of the Project (e.g., the retaining wall, the steps, and the walkway) may denigrate the stability of natural landforms or contribute to erosion and actually *aggravate* flooding in the surrounding area, and there is inherent uncertainty as to hazards at the site, including those risks associated with sea level rise.** (Id.)

However, any "uncertainty" as to sea level rise is more a question of "when" than "if." As the Draft Guidance notes, the National Research Council predicts the sea-level to rise along this portion of the California coast anywhere from 1.56 to 11.76 inches by 2030, 4.68 inches to 24 inches by 2050, and 16.56 to 65.76 inches by 2100. (Draft Guidance, at 5.) Sea-level rise impacts coastal communities with the increased frequency, magnitude, and duration of flooding,[3] shoreline erosion, and magnification of storm surge impacts.[4] Thus, it's clear the Project area is at serious risk for coastal flooding and erosion from sea level

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[2] While the Draft Guidance is still a draft, it provides "This guidance is rooted in certain fundamental guiding principles, many of which derive directly from the requirements of the Coastal Act. In this respect, *the principles are not new*, but rather generally reflect the policies and practices of the Commission *since its inception* in addressing coastal hazards and the other resource and development policies of the Act." (Id., at 5, *emphasis added.*) Thus, while a draft, these policies already exist and bind the Commission to comply with the Coastal Act to the maximum extent.

[3] National Oceanic Atmospheric Association, Global Sea Level Rise Scenarios for the United States National Climate Assessment (December 6, 2012), at 3; available at: http://cpo.noaa.gov/sites/cpo/Reports/2012/NOAA_SLR_r3.pdf

[4] See http://www.epa.gov/climatechange/impacts-adaptation/coasts.html#ref6, *citing* NRC (2010). Adapting to the Impacts of Climate Change . National Research Council. The National Academies Press, Washington, DC, USA.

rise and storm events, and the Project may in fact *aggravate* natural landform stability, erosion, and flooding in surrounding areas.

Further, since Coastal Act Section 30253 requires that new development (1) not create or contribute to erosion or geologic stability, and (2) not require the construction of protective devices that would alter natural landforms, the Staff Report is correct that the Project can not require additional future expansions of protective structures. (Coastal armoring, which itself creates and contributes to erosion and geologic instability, and the Commission's obligations with respect thereto, is explored further in the following section.)

And yet, despite Section 30253 and the recognized risks associated with the Project, the Staff Report recommends going ahead and permitting the Project's improvements, which will very likely contribute significantly to erosion and flooding. This does not "minimize" risk to life and property at Sharp Park, or "assure" stability and structural integrity of the area, and thus violates Coastal Act Section 30253's mandates.

Further, granting the CDP will only waste public resources, as coastal hazards will eventually hit the Project improvements almost certainly requiring (1) more than routine maintenance and repair, and thus, pursuant to Special Condition No. 7, (2) the removal of the Project improvements. Additionally, the Staff Report's assertion with respect to the "no project alternative" is erroneous. (Staff Report, at 31.) This alternative would not necessarily interfere with all recreational use; the Commission must not forget the *recreational uses provided by the beach itself*, the existence of which this Commission must protect, pursuant to the Coastal Act, Chapter 3, Article 3. (See, e.g., Coastal Act, Section 30220.) These uses include surfing, surf-fishing, swimming, strolling, picnicking, and simply relaxing at the beach.

To comport with the purpose and intent of the Coastal Act and Draft Guidance, the Commission must deny the CDP.

2. **<u>The Commission Must Deny the CDP, Due to the Project's ESHA Impacts.</u>**

Coastal Act Section 30240 provides that environmentally sensitive habitat areas (ESHA) *shall* be protected against any significant disruption of habitat values, and *only* uses dependent on those resources shall be allowed within those areas. "Coastal-dependent development or use" is defined in the Coastal Act as any development or use which *requires* a site on or adjacent to, the sea to be able to *function at all.* (Coastal Act, Section 30101.) Surfrider Foundation believes Staff Report erroneously analyzes coastal dependent uses for purposes of this Section. Instead of analyzing the individual Project components, the overall use for purposes of analysis is the golf course. Clearly, a golf course need not be sited on or adjacent to the sea in order to function. That alone precludes the Project from being located in ESHA. In any event, staff concludes that the Project is not a coastal dependent use, and further, staff concedes the Project will lead to significant habitat disruption. Surfrider Foundation agrees. Among its natural resources impacts to ESHA, the Project would have devastating impacts to the California Red Legged Frog and the San Francisco Garter Snake habitat and species in Sharp Park, which are threatened and

endangered, respectively, under the Federal Endangered Species Act. Therefore, as staff recognizes, issuing a CDP would plainly violate Coastal Act Section 30240.

To get around this, the Staff Report attempts to assert and then resolve a "conflict" through a Coastal Act Section 30007.5 analysis. However, this analysis fails. Namely, staff asserts a conflict between Coastal Act Sections 30240's mandates to (1) protect ESHA, and (2) restrict uses in the area to those which are dependent on the resources in the area; and Coastal Act Sections 30210, 30212, 30221, and 30223. However, conflicts do not exist.

True, and of critical importance, Coastal Act Section 30210 requires providing maximum beach access and recreational opportunities; however, the Commission can deny the CDP on the basis of Section 30240, and still provide maximum beach access and coastal recreational opportunities such as surfing, swimming, surf-fishing, picknicking, general beachgoing, etc. – all of the valuable benefits that come with having a natural and undeveloped beach. Similarly, Section 30213 requires lower cost visitor and recreational facilities be protected, encouraged, and where feasible, provided. Again, the Commission can deny the CDP and still protect the low cost recreational opportunities of surfing, swimming, surf-fishing, picknicking, and general beachgoing. Moreover, Section 30213 only requires providing facilities where feasible; and since the Project would have significant impacts to ESHA, that renders such provision infeasible in the circumstances. Section 30221 similarly requires protection of oceanfront land suitable for recreation unless, where, as here, the recreational needs that can be accommodated on the property are provided elsewhere in the area (e.g., TPC Harding Park and the Olympic Club golf courses to the north, and in Half Moon Bay to the south). Finally, Section 30223 requires that upland areas necessary to support coastal recreational uses be reserved for such uses, when feasible; again, where, as here, a Project will significantly disrupt ESHA, this is infeasible.

Finally, as Coastal Act Section 30007.5 provides, "the Legislature therefore declares that in carrying out the provisions of this division such conflicts be resolved in a manner which on balance is the *most* protective of significant coastal resources." (emphasis added). As set forth above, it is possible for the Commission to deny the CDP, pursuant to Coastal Act Section 30240, and in compliance with Sections 30210, 30213, 30221, and 30223. This approach is certainly the most protective of significant coastal resources, and further analysis under Section 30007.5 is unnecessary.

3. **<u>At a Minimum, the Commission Must Amend and Strengthen CDP Special Condition No. 7 to Explicitly Prohibit Any and All Coastal Armoring, and Require That a Policy of Managed Retreat be Implemented at the Property.</u>**

If the Commission nevertheless proceeds with granting the CDP, the Surfrider Foundation strongly urges the Commission to clarify Condition No. 7 to comport with Coastal Act mandates. As the Staff Report acknowledges, Coastal Act Section 30253 provides that new development shall: (1) minimize risks to life and property in areas of high geologic, flood, and fire hazard; and (2) assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or

surrounding area *or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

Further, the Coastal Act requires that the Commission, in carrying out the mandate for maximum public access of Cal. Const. Art. 10, Section 4, *maximize public access* to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners. (Cal. Pub. Res. Code, §§ 30001.5(c), 30210.) Development must not interfere with public beach access. (Id., at § 30211.) The Commission must not forget its obligation to protect and maximize public access, and must not favor the Project's golf-recreation benefits at the expense of public beach access and the other coastal recreation benefits that come with having an accessible, sandy beach, such as surfing, surf-fishing, sun bathing, and general beach-going.

Additionally, Coastal Act Section 30250 requires that new development be located "where it will not have significant adverse effects, either individually or cumulatively, on coastal resources," and sited and designed to "minimize the alteration of natural land forms." (Cal. Pub. Res. Code, §§ 30250, 30251.)

The Commission's Draft Guidance echoes these requirements. See, e.g., Principles for Addressing Sea-Level Rise in the Coastal Zone: (4) "Avoid significant coastal hazard risks where feasible;" (9) "Provide for maximum protection of public beach and recreational resources in all coastal planning and regulatory decisions;" and (10) "Maximize natural shoreline values and processes and embrace green infrastructure and living shorelines; *avoid the perpetuation of shoreline armoring.*" (Draft Guidance, at 5-6.) The Draft Guidance on Coastal Development Permits also reiterates, "New development should *not in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs*" and provides that projects should "avoid sea-level rise hazards if possible, and minimize hazard exposure if avoidance is infeasible." (Id., at 10.)

For the reasons explained herein below, **Condition No. 7 must be amended to explicitly prohibit any and all armoring of the beach, including but not limited to seawalls, riprap, rock revetment, etc., and to include language which clarifies that the subject property and all Project components are subject to a coastal adaptation policy such as managed retreat** in order to comply with the obligations of Cal. Pub. Res. Code Sections 30001.5, 30210, and 30253, and the Commission's own policies. The Coastal Commission must also revise Condition No. 7 to be clear that the Applicant cannot perform measures beyond ordinary repair and maintenance work on the existing earthen berm on the subject property (or unpermitted rock revetment, which, as explained in the following section, must be removed), and must be clear that adding or maintaining an unpermitted rock revetment (or "rock riprap"/boulders) to the property is *not* ordinary repair or maintenance. Condition No. 7, with these amendments, is not just good policy; it is legally required.

The Problem With Coastal Armoring

The natural coastal shoreline is dynamic, constantly changing in response to rain, wind, and waves. These natural forces erode inland and transport coastal sources of sand to the near shore area, nourishing the beach. Whereas beaches and dunes have historically changed or moved inland in the past, now, due to development along the fragile shorelines, humans have sought to halt these natural processes.[5]

Coastal armoring includes the use of stone, wood, or concrete structures to either armor the shoreline, fixing it in a permanent location (e.g., seawalls or bulkheads), or reduce wave energy (e.g. breakwaters or jetties). Coastal armoring is undertaken to protect inland structures, *not to protect the public beach*, and instead, armoring actually has devastating impacts on beaches. These impacts include that: (1) armoring eroding bluffs cuts off the natural supply of new sand to the beach, which thus speeds up the erosion process; (2) as sea level rises and the shoreline moves inward, the water will eventually meet the seawall (or other armoring structure), covering, and thus eliminating the beach; (3) seawalls are often placed on public beach property, which takes up public beach space, and can hinder or eliminate public access (e.g., a rock revetment may cover 30 to 40 feet of public beach space); (4) armoring takes away the natural beauty of the coast; and (5) local, state, or federal tax-payer money is often spent on staggeringly expensive armoring projects to protect private or unnecessary development.[6] In 1999 dollars, which of course would be much higher today, the cost for revetments was up to $2000.00 per foot, while sea walls were estimated at up to $4,500.00 dollars per square foot.[7] Further, research has shown that (1) structures intended to trap sand in one area, actually deprive downshore beaches of sand supply, thus, redirecting the problem rather than solving it; and (2) vertical seawalls tend to exacerbate erosion at adjacent unarmored beaches.[8]

Thus, essentially, coastal armoring alters natural landforms along the coast, leads to erosion and loss of sand, and thereby reduces and risks total loss of the public beach (which provide vital species habitat and coastal recreation opportunities), in contravention of the Commission's obligations to maximize natural shoreline values and public beach access. Any further coastal armoring at this property would be particularly grave, given that most of Pacifica's adjacent beaches have already been severely compromised by armoring. Any further armoring in connection with this Project could wipe out the very last wide stretch of beach between Mussel Rock and Mori Point, which spans several miles, and magnify the host of armoring-associated problems in the area. These cumulative

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[5] See, e.g., http://coastalmanagement.noaa.gov/resources/docs/finalbeach.pdf

[6] See http://www.beachapedia.org/Seawalls; See also Orrin H. Pilkey and Howard L. Wright III, "Seawalls Versus Beaches," Journal of Coastal Research vol. 4, pp. 41-64, 57 (Autumn 1988); See also Meg Caldwell and Craig Holt Segall, *No Day at the Beach: Sea Level Rise, Ecosystem Loss, and Public Access Along the California Coast*, 34 ECOLOGY L.Q., 533, 540.

[7] See, Caldwell, supra, at 539.

[8] See http://coastalmanagement.noaa.gov/resources/docs/finalbeach.pdf, at 2.

impacts on coastal resources preclude any additional coastal armoring in the area, under Coastal Act Section 30250.

Therefore, to abide by the Coastal Act and the Commission's own policies, the Commission must amend Special Condition No. 7 to ensure that no coastal armoring can occur at Sharp Park and that the property is subject to a natural coastal adaptation policy in perpetuity.

4. **Surfrider Foundation Believes the Applicant is Presently Violating the Coastal Act by Allowing an Unpermitted Rock Revetment to Exist on the Property, Which Said Violation Must be Removed.**

In addition to Applicant's existing violations on the property recognized in the Staff Report (p. 2, 36), the Surfrider Foundation believes that the Applicant is violating and has been violating the Coastal Act for several years, by constructing and maintaining a rock revetment on the property (which constitutes "development" under the Coastal Act), without a required Coastal Development Permit. Since 2012, the Surfrider Foundation has provided repeated notice to the Commission of said violation, and in 2013 and 2014, the Commission investigated and determined a violation existed, and notified the Applicant that it was required to remedy the violation.

To Surfrider Foundation's knowledge, said violation has not been remedied, and the Commission has not taken enforcement action despite Applicant's clear violation, and repeated requests by Surfrider Foundation. As an *unpermitted* structural armoring device, the revetment constitutes an "additional substantive measure" for purposes of Condition No. 7, since it is not an existing permitted measure. The fact the structure already exists on the property, and therefore may not be a "future" expansion (as referenced in the Staff Report, p. 29) must be of no consequence, as to render otherwise would allow a violation to remain, despite the clear contravention of the Coastal Act sprit and intent, and particularly Section 30600(a)(a person *"shall"* obtain a CDP for any development in the coastal zone). The Commission must not allow it to exist on the property.

Copies of communications between Surfrider Foundation and the Commission, and the Commission and Applicant, are attached hereto as Exhibit "A," and incorporated herein by this reference. Surfrider Foundation reasserts all arguments in its communications with respect to the seawall violations by this reference.

5. **Conclusion**

On behalf of the Surfrider Foundation's San Francisco and San Mateo County chapters, we appreciate your attention to the very serious threats that the proposed Project poses to beach access – *and the very existence of a public beach* – as well as the critical natural resources, including threated and endangered species, at Sharp Park. We respectfully urge the Commission to fully comply with its Coastal Act obligations, and its own Draft Sea-Wall Policy Guidance, and deny the CDP.

Sincerely,

Signatures on file

Staley Prom, Esq.	Bill McLaughlin	Edmundo Larenas
Legal Associate	San Francisco Chapter Member	San Mateo Cty. Chapter Member
Surfrider Foundation	Surfrider Foundation	Surfrider Foundation

EXHIBIT A

Correspondence re seawall, between Surfrider Foundation and Commission, and Commission and Applicant.

The Surfrider Foundation asks for the California Coastal Commission to do a full investigation of this issue to determine if unpermitted development did occur on this site. If so, we ask that the Coastal Commission require a permit for such work and afford the public their right to comment on this important issue.

Sincerely,
/s/
Angela T. Howe, Esq.
Legal Director
Surfrider Foundation

encl

EXHIBIT A

Correspondence re seawall, between Surfrider Foundation and Commission, and Commission and Applicant.

SURFRIDER
FOUNDATION

March 3, 2013

Joanne Ginsberg
Enforcement Analyst
California Coastal Commission
VIA EMAIL jo.ginsberg@coastal.ca.gov

Re: Seawall Renovation at Sharp Park

Dear Ms. Gingsberg:

Surfrider Foundation is a non-profit 501 (c) (3) organization that is dedicated to the protection and enjoyment of oceans, waves and beaches through a powerful activists network. Surfrider Foundation San Francisco Chapter has been actively involved in the campaign to Restore Sharp Park. The Chapter has been especially engaged on coastal management issues, such as the future management of the seawall and the seawall's effect on coastal resources in this area.

According to the October 2, 2012 Biological Opinion of the U.S. Fish and Wildlife Service regarding Formal Endangered Species Consultation on the Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project in San Mateo County, California:

> "During and following completion of the Project, the SFRPD shall maintain and keep in good repair the sea wall road, which provides the only vehicle access for maintenance activities as described above. Maintenance of the roadway on the sea wall is expected to include filling ruts in the surface with aggregate or comparable materials and repairing drainage issues by outsloping the roadbed. The SFRPD does not anticipate hardening or further armoring of the sides of the sea wall." (at p.CCSF100655, emphasis added)

Surfrider Foundation and the public at large have been under the impression that no major construction, including expansion or further armoring, would take place on the Sharp Park seawall. However, due to the renovation of the seawall on February 23 through February 25, 2013, it appears as though the City authorized the expansion of the seawall outside of and in addition to the original building envelop. The local newspaper reported that 75 tons of "chert" rock was used on the seawall, and the attached pictures show what appear to be new armoring at the site. This type of work exceeds any reasonable definition of "maintenance". "Maintenance" excludes new work or changes in the original extent or fill of design. It appears that new boulders were placed on the beach-side of the seawall at Sharp Park where none had been previously located. This type of beach armoring requires a permit procedure with formal agency evaluation, as well as public notice and comment period.

The Surfrider Foundation asks for the California Coastal Commission to do a full investigation of this issue to determine if unpermitted development did occur on this site. If so, we ask that the Coastal Commission require a permit for such work and afford the public their right to comment on this important issue.

Sincerely,
/s/
Angela T. Howe, Esq.
Legal Director
Surfrider Foundation

encl

CALIFORNIA COASTAL COMMISSION

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March 5, 2013

Steve Castile
Golf and Turf Manager
McLaren Lodge-Golden Gate Park
501 Stanyan Street
San Francisco, CA 94117

Subject: **Repairs to the Seawall at Sharp Park Golf Course, Pacifica, CA**

Dear Mr. Castile:

Thank you for taking the time to meet with us yesterday to view the subject project site. The repairs to the revetment that began recently include use of mechanized construction equipment to place rip-rap and other materials at the project site. We have reviewed our permit requirements in light of the development that has occurred, and have determined that it is not exempt from the Coastal Act's requirement to obtain a Coastal Development Permit (CDP). Therefore, the repairs are unpermitted development constituting a Coastal Act violation, and an after-the-fact coastal development permit must be obtained to cover the work that has already occurred. Further, any additional work will require CDP authorization. Please submit a CDP application for authorization of the work that has already occurred, as well as any additional work that is proposed. Please submit the application to my attention at the address listed above at your earliest convenience, but no later than March 11, 2013.

If you have any questions or would like to discuss this matter further, please do not hesitate to contact me at 415-597-5894, or at the address given above.

Regards,

Stephanie Rexing
Coastal Program Analyst

cc: Lisa Wayne, San Francisco Recreation and Parks
Jo Ginsberg, North Central Coast District Enforcement

STATE OF CALIFORNIA – NATURAL RESOURCES AGENCY
EDMUND G. BROWN, JR., GOVERNOR

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SENT BY CERTIFIED AND REGULAR MAIL
Certification No. 7006 2760 0005 5883 7396

March 11, 2013

Steve Castile
San Francisco Recreation & Parks
McClaren Lodge
Golden Gate Park
501 Stanyan Street
San Francisco, CA 94117

RE: Alleged **Coastal Act Violation No. V-2-13-002** (Sharp Park Golf Course), consisting of unpermitted repairs to the existing seawall

Dear Mr. Castile:

Thank you for meeting with Stephanie Rexing and me on March 4, 2013 at the Sharp Park Golf Course seawall in Pacifica. As noted in the letter Ms. Rexing sent you dated March 5, 2013, Commission staff has determined that the repair work that has taken place on the seawall constitutes development under the definition in the Coastal Act and is therefore not exempt from Coastal Act requirements.

1. **Alleged Coastal Act Violation.**

As you know, the California Coastal Act (Coastal Act) was enacted by the California Legislature in 1976 to provide protection of California's 1,100-mile coastline. The Coastal Act protects this coastline through implementation of a comprehensive planning and regulatory program designed to manage conservation and development of coastal resources. The California Coastal Commission (Commission) is the State agency created by and charged with administering the Coastal Act of 1976. The Commission carries out Coastal Act mandates by seeking to protect sensitive habitats, natural landforms, and scenic landscapes. Our goals include providing maximum public access to and along the coast, and to neither create nor contribute significantly to erosion, geological instability, or destruction of natural land forms along bluffs and cliffs.

The Coastal Act broadly defines development in Section 30106, in part as follows:

> *"Development" means, on land, in or under water, the placement or erection of any solid material or structure; discharge or disposal of any dredged material or of any gaseous, liquid, solid, or thermal waste; grading, removing, dredging, mining, or extraction of any materials; change in the density or intensity of use of land, including, but not limited to, subdivision pursuant to the Subdivision Map Act...change in the intensity of use of water, or of access thereto; construction, reconstruction, demolition, or alteration of the size of any structure, including any facility of any private, public, or municipal utility; and the removal or harvesting of major vegetation other than for agricultural purposes, kelp harvesting, and timber operations which are in accordance with a timber harvesting plan submitted pursuant to the provisions of the Z'berg-Nejedly Forest Practice Act of 1973... (Emphasis added)*

As such, the repair work at the subject property, which includes the placement of unpermitted rock riprap on the site ("placement or erection of any solid material or structure," "reconstruction...of any structure") and the grading of the material on top of the seawall ("grading, removing...or extraction of any materials") constitutes development under the Coastal Act. Section 30600(a) of the Act requires that any person wishing to perform or undertake development in the coastal zone must first obtain a coastal development permit (CDP), in addition to any other permit required by law, before carrying out any development. Any development activity conducted in the State's defined coastal zone without a valid coastal development permit constitutes a violation of the Coastal Act. Thus, the repair work, which includes the placement of rock riprap, is considered to be unpermitted development, constituting a Coastal Act violation.

2. Enforcement Remedies.

The Commission enforcement staff prefers to work cooperatively with alleged violators to resolve Coastal Act violations administratively. We are confident that we can resolve this matter without resorting to formal action. However, it is my obligation to inform you that, should this alleged violation remain unresolved, the Coastal Act contains a number of enforcement remedies for violations, including, but not limited to, issuance of Cease and Desist Orders, issuance of Restoration Orders, and the ability to initiate court action to collect civil liability in an amount not less than $500 and not more than $30,000 for each instance of development, pursuant to Coastal Act Sections 30809, 30810, 30811, and 30820 (a). Additionally, section 30820 (b) provides that additional civil liability may be imposed for violations which were undertaken knowingly and intentionally in an amount not less than $1,000 and not more than $15,000 for each day in which the violation persists. Any development that occurs after being notified by Commission staff of the need for a CDP for such development may be considered to be undertaken with knowledge of CDP requirements and intentionally undertaken in spite of that knowledge. Finally, pursuant to Section 30812, the Executive Director, after giving notice and allowing for a public hearing if requested, may record a Notice of Violation on the property where an unresolved violation exists.

3. Resolution of Alleged Coastal Act Violation.

To resolve the outstanding alleged Coastal Act violation on the subject site, please submit to Ms. Rexing of our North Central District planning staff a complete CDP application seeking after-the-fact authorization for the seawall repair work that has already taken place at the subject property. As you know, Ms. Rexing set a deadline of March 11, 2013 for this submittal. The CDP application should also include a request for any additional repair work you wish to do at the subject site. If you have any questions about completion of your CDP application, please contact Ms. Rexing at 415-597-5894. If you have any questions regarding enforcement, please contact me at 415-904-5269.

Thank you for your cooperation.

Sincerely,
Signature on file

JO GINSBERG
Enforcement Analyst

cc: Nancy Cave, CCC, Northern California Enforcement Supervisor
Madeline Cavalieri, CCC, North Central District Manager
Stephanie Rexing, CCC, North Central District Planner
Lisa Wayne, SFRPD

SURFRIDER
FOUNDATION

March 12, 2013

Jo Ginsburg
Enforcement Analyst
California Coastal Commission
VIA EMAIL jo.ginsberg@coastal.ca.gov

Dan Carl
District Director
California Coastal Commission
VIA EMAIL dan.carl@coastal.ca.gov

Re: Follow Up on Seawall Renovation at Sharp Park

Dear Ms. Gingsburg and Mr. Carl:

I am writing this letter in follow up to Surfrider Foundation's March 3, 2013 letter to you regarding the status of the Seawall Renovation and required permitting at Sharp Park. As you know, there was seemingly substantial construction and addition to the seawall in late February. Surfrider Foundation and the public at large have been under the impression that no major construction, including expansion or further armoring, would take place on the Sharp Park seawall.

In response to our March 3, 2013 letter requesting that the California Coastal Commission investigate this issue to determine if unpermitted development did occur on this site and, if so, to require a permit for such; your office replied that you were actively looking into the matter and hoped to conclude in the near term. We ask that you make a decision on the potential permitting of the matter as soon as possible and also share a timeline for future actions related to the case. We await official notification of the decision and a determination on any unauthorized activities.

Thank you for your assistance in this matter.

Sincerely,
/s/
Angela T. Howe, Esq.
Legal Director
Surfrider Foundation

SURFRIDER
FOUNDATION

April 16, 2013

Stephanie Rexing
Coastal Planner
California Coastal Commission
VIA EMAIL stephanie.rexing@coastal.ca.gov

Jo Ginsberg
Enforcement Analyst
California Coastal Commission
VIA EMAIL jo.ginsberg@coastal.ca.gov

Re: Seawall Renovation at Sharp Park and After-the-Fact Permit Application

Dear Ms. Rexing and Ms. Ginsberg:

Surfrider Foundation submits this current letter in continued correspondence regarding the status of the seawall renovation and required permitting at Sharp Park. Surfrider Foundation is a grassroots, environmental non-profit dedicated to the protection and enjoyment of our oceans, waves and beaches. Surfrider Foundation San Francisco Chapter has been actively involved in the campaign to Restore Sharp Park. The Chapter has been especially engaged on coastal management issues, such as the future management of the seawall and the seawall's effect on coastal resources in this area. Surfrider Foundation is very concerned with the unpermitted management practices and seawall armoring that are likely harmful to the coastal environment at Sharp Park.

Sharp Park is a 417-acre stretch of coastal land in Pacifica, abutting the Pacific Ocean and part of the Golden Gate National Recreation Area ("GGNRA"). Sharp Park is home to a diverse coastal ecosystem, providing habitat for several threatened and endangered species. The current seawall was likely built up as berm construction in response to the El Nino storms of 1982. Maintenance and major construction added to the seawall affect not only the endangered species habitat but also the natural flood-protection features. A peer-reviewed scientific study illustrated that restoration of the natural lagoon and wetlands at Sharp Park will provide the most public benefit as a fiscally-responsible option that will protect against sea level rise and storm surge events and will ultimately protect endangered species.[1] The existing levee was likely built in the late 1980s and originally permitted based on unsupported assertions that there was already a berm in

[1] ESA-PWA, "Conceptual Ecosystem Restoration Plan and Feasibility Assessment: Laguna Salada,

place on the site.[2]

Not only were the seawall permits not requested properly by the San Francisco Recreation and Parks Department ("SFRPD") in a timely manner, the SFRPD also has failed to do a comprehensive review of the project. Evaluation of this seawall permit should include ample public notice before any permits are granted. To Surfrider's knowledge, there have been no seawall engineering design efforts or long-term planning for the seawall. The California Coastal Commission ("CCC") should require SFRPD to provide the construction and permit chronology of the berm, using (a) SFRPD records, (b) aerial photographs, (c) photographs of alleged seawall damage, and (d) other public records. The CCC should also conduct its own file review of permits, violations and after the fact permits associated with the coastal seawall, specifically relating to seawall original fill design and strategic design efforts, if any. For instance, CCC should require support for the SFRPD contention that the large rock placement in six erosion zones are located within the existing footprint of the seawall.

Because the seawall we have today was never fully anticipated or reviewed under CEQA, the recent renovation of the seawall opens the door for full environmental review that never took place. Due to this lack of project information and analysis in the first instance, we recommend and ask that the California Coastal Commission undertake a comprehensive review of the coastal seawall project. The CCC should investigate the new construction and future plans for this seawall and whether it conforms with the mandates of the California Coastal Act. The CCC should also ensure that there is investigation of project alternatives, including analysis of environmentally superior alternatives.

We ask that you share any new public information on the matter with us as soon as possible and also share a timeline for future actions related to the case, including an official determination on the after-the-fact permit.

Thank you for your assistance in this matter.

Sincerely,
/s/
Angela T. Howe, Esq.
Legal Director
Surfrider Foundation

Cc: Dan Carl
District Director
California Coastal Commission
VIA EMAIL dan.carl@coastal.ca.gov

[2] *Id.* at Section 4.3.2, paragraph 2 (at p. 15).

Th8a

Rexing, Stephanie@Coastal

From: Hartsell, Rebecca L <rhartsell@ncdot.gov>
Sent: Friday, April 10, 2015 9:48 AM
To: Rexing, Stephanie@Coastal
Subject: frogs

Please protect helpless animals that cannot protect themselves. Don't let the Sharp Park Weltands be drained. PLEASE!

Amazed in His presence
Humbled by His love

Th 8a

Rexing, Stephanie@Coastal

From: Matt Byrne <matt@greenhousemediagroup.com>
Sent: Friday, April 10, 2015 10:10 AM
To: Rexing, Stephanie@Coastal
Subject: Sharp Park Wetlands Draining and Dredging

Stephanie,

It's come to my attention that the city of San Francisco has requested a permit to dredge and drain the Sharp Park Wetlands. This action would leave frog egg masses completely stranded, thus killing them off, as all the freshwater is drained from the wetlands. As you know, The California Red-Legged Frog is fighting for its very survival, as is the San Francisco Garter Snake, among countless other species of plants and animals that call the location home, and they would be drastically affected by such an act. I urge the Coastal Commission to deny the City of San Francisco's request to drain or dredge the Sharp Park Wetlands. Thank you for your time.

Sincerely,
Matt Byrne

Matt Byrne
CEO
Greenhouse Media Group, Inc.
1200 N Federal Hwy Suite 200
Boca Raton, FL 33432
O: 561-672-1859
C: 561-797-2195
F: 561-756-9875

Th 8a

Rexing, Stephanie@Coastal

From: Val Marjoricastle <valmarjoricastle@yahoo.com>
Sent: Friday, April 10, 2015 11:40 AM
To: Rexing, Stephanie@Coastal
Subject: Sharp Park Wetlands

Dear Commissioners:

Please deny the request of the City of San Francisco for permission to drain or dredge the Sharp Park Wetlands. Your denial of permission for said drainage or dredging is imperative, as determined by Dr. Kerry Kriger, founder of Save the Frogs! and expert on the rapidly disappearing frog.

Sincerely,
Val Marjoricastle
valmarjoricastle@yahoo.com

Th 8a

Rexing, Stephanie@Coastal

From: Hartson Doak <hartson.doak@gmail.com>
Sent: Friday, April 10, 2015 10:16 AM
To: Rexing, Stephanie@Coastal
Subject: Sharp Park Wetland

Save the wet lands. With the State in a drought hope can this even be on the table?

Th 8a

Rexing, Stephanie@Coastal

From: moncura1@aol.com
Sent: Friday, April 10, 2015 12:05 PM
To: Rexing, Stephanie@Coastal
Subject: Re: destruction of the world

First the state is running out of water to drink and grow any food and now ther power's to be want to kill off it's native creatures to build ANOTHER GOLF COURSE when you have thousands now and what will you water them with????? Which do you need more , common sense should tell you that wetlands are more valuable to the Earth then more destruction of what's left!!!!! Everywhere the loss of our natural world is happening and soon IF NOT ALREADY it is probably too late to reverse the damage the human race has done to the planet. Make the right choice, choose the course to preserve what's left. for the Earth, Barbara Smolinski

Th 8g

Rexing, Stephanie@Coastal

From: Marc Delucchi <delucchimarc@gmail.com>
Sent: Friday, April 10, 2015 3:43 PM
To: Rexing, Stephanie@Coastal
Subject: Do Not Destroy the Sharp Park Wetlands

Hello my name is Marc Delucchi and I would like to thank you for your time.

I would like to say that the state of California has done enough to the natural environment. Los Angeles has caused the destruction of thousands of habitats across the state and the Central Valley is home to farmland which is consistently bombarded with pesticides and gallons of water straight from the natural reservoirs of the state. However, the fact is those decisions have already been made and there is nothing you can do today to stop those occurrences. However, today you can take a stand against even more mindless destruction of natural habitats. When will this end? If you continue to allow groups to destroy wetlands we will have none left, today you must vote no on the destruction of the Sharp Park Wetlands and begin to vote yes on our surrounding mother nature. There are already 1,100 golf courses across the state, we do not need anymore especially at the expense of another needed wetland. Please vote no on this Golf Course and save a habitat and begin to help the environment in California.

Th8a

Rexing, Stephanie@Coastal

From: Carol Mathews <cloudskipper@sbcglobal.net>
Sent: Friday, April 10, 2015 9:27 PM
To: Rexing, Stephanie@Coastal
Subject: Sharp Park Permit

Dear Ms. Rexing,

I am writing in opposition to the planned dredging of the Sharp Park wetlands. This will damage the environment of two endangered species, the red-legged frog and garter snake. Surely there are other options that will not damage important habitat for those creatures. While there is an existing golf course, it should take second place to the importance of maintaining habitat for wildlife.

I am unable to attend the meeting on that day, but hope you will take this comment, and those of others who believe the natural environment should take precedence over manicuring a golf course.

Thank you; please support the snakes and frogs.

--Carol Mathews

Th8g

Rexing, Stephanie@Coastal

From: cgjanzen@comcast.net
Sent: Friday, April 10, 2015 9:28 PM
To: Rexing, Stephanie@Coastal
Subject: Shark Park Wetlands

(I accidentally hit send instead of save, so my first e-mail was in draft form.)

Dear Ms. Rexing and Coastal Commision:

It's hard to understand why the City of San Francisco thinks it's in the community's best interests to use public funds to pump the Sharp Park Wetlands out to sea to keep the land dry for a money-losing, water sucking golf course. Don't you think it makes more sense to keep this extremely valuable wetland intact since it is home to the state of CA's official state amphibian and many other animals who die off when their home is pumped out to sea? Destroying this wetland is foolish any time, but especially now that CA is in the middle of a lengthy drought. Not sure how wasting money on golf courses is the best use of the dwindling water supply.

Please quit kowtowing to the golf industry and whoever else thinks golf courses are more important than saving wetlands and start paying attention to the consequences of your actions. The frogs are dying off all over the world because of pollution, habitat degradation and climate change. You have the power to save the California Red Legged frogs in SF, so I hope you do so and deny this permit.

Sincerely,
Gayle Janzen

Rexing, Stephanie@Coastal

Th 8a

From: Satya Vayu <satyavayu@gmail.com>
Sent: Friday, April 10, 2015 11:15 PM
To: Rexing, Stephanie@Coastal
Subject: Please save Sharp Park Wetlands - don't endanger our natural heritage for another golf course!

I am writing to urge the Coastal Comission to deny the City of San Francisco's request to drain or dredge the Sharp Park Wetlands. I had hoped by now that folks are beginning to understand that the world's biodiversity and ecological health was under severe threat, and we need to do all we can to preserve and protect what we have left. But I guess some government officials still don't get it. There is an endangered species that lives in these wetlands, the California Red-Legged Frog (the state amphibian, for crying out loud!), as well as the rare San Francisco Garter Snake, both of which will be decimated if their home is drained (and even more so if vegetation is removed). All for yet another golf course! There are lots of other places to play golf! Wetlands are some of the most threatened ecosystems in the world - please do what you can to preserve this one. Please don't let the Sharp Park Wetlands be drained.

Sincerely,
Satya Vayu
Santa Cruz, CA

Th 8g

Rexing, Stephanie@Coastal

From: Pete Gandell <peteandmilli@yahoo.com>
Sent: Saturday, April 11, 2015 9:13 AM
To: Rexing, Stephanie@Coastal
Cc: info@sfpublicgolf.org
Subject: Support for the Sharp Park pump house project CDP no. 2-12-014

The project is an equitable solution for all parties concerned with the well being of Sharp Park, and should be fully supported to enhance the environment. Pete Gandell

Th8a

Rexing, Stephanie@Coastal

From: Phoebe Anne Sorgen <phoebeso@earthlink.net>
Sent: Saturday, April 11, 2015 12:58 PM
To: Rexing, Stephanie@Coastal
Cc: BFUU Social Justice Com
Subject: Vote to save the habitat instead of golf in Marin April 16-public comment re SF plan application 2-12-014

Esteemed Ca Coastal Commissioners:

Thank you for your service.

We are writing to urge you to deny the City of San Francisco's request to drain/dredge the Sharp Park Wetlands nor remove emergent vegetation. By your own staff's admission, there would be "permanent impacts to the environmentally sensitive wetland and wetland buffer areas." Just say no! Life before golf! SF wants dry land for their money-losing Sharp Park Golf Course, one of well over a thousand golf courses in the state. That golf course is not needed. There are so many other golf courses, and--at any rate--maintaining and watering them should not be a priority in this dire drought and energy crisis.

We hope you are aware that the Sharp Park Wetlands are home to two of California's most iconic species: the endangered California Red-Legged Frog (our official state amphibian, federally-listed as threatened) and the imperiled San Francisco Garter Snake. Are you aware that nature is an **interconnected web of life**, each strand affecting and dependent upon the others? San Francisco's short-sighted and selfish request is one more example of the human species being the most destructive strand. Pumping the Sharp Park Wetlands out to sea leaving frog egg masses stranded on dry land, would be unacceptable, and using public funds to do so adds insult to injury.

Please refuse permission to dredge, ie to pump the wetlands out to sea. Also please refuse to allow construction projects and removal of "emergent" vegetation which would further degrade the frogs', snakes', and others' habitat.

Please acknowledge receipt of this letter, and also confirm that public comment on this item will not occur before **12:30 pm on Thurs April 16 in suite 329, at the San Rafael Civic Center.** Might public comment occur later? We would appreciate an approximate timeline. Application 2-12-014 is item 8a under the north central district coast section of the agenda:
http://www.coastal.ca.gov/mtgcurr.html

Sincerely,

Phoebe Sorgen

former golfer, former municipal Commissioner of Disaster & Fire Safety, chair emerita BFUU-SJC, Ca resident since 1983.

Th8g

Rexing, Stephanie@Coastal

From: Maya Elson <armillarianabs@gmail.com>
Sent: Saturday, April 11, 2015 2:17 PM
To: Rexing, Stephanie@Coastal
Subject: Comments regarding Sharp Park Wetlands

To Whom it May Concern,
I am deeply disturbed by the plans to dredge and drain the Sharp Park Wetlands. It would have a detrimental effect on the frog eggs of the California Red Legged Frog, and destroy habitat of the San Francisco Garter Snake. In a time where human encroachment and pollution are sending these species towards extinction, it is essential that we do everything we can to protect them. Also, I think there's a good chance you would get sued for destroying protected species habitat, and you will face lots of prolonged protest. Doesn't seem worth it.

Sincerely, Maya Elson

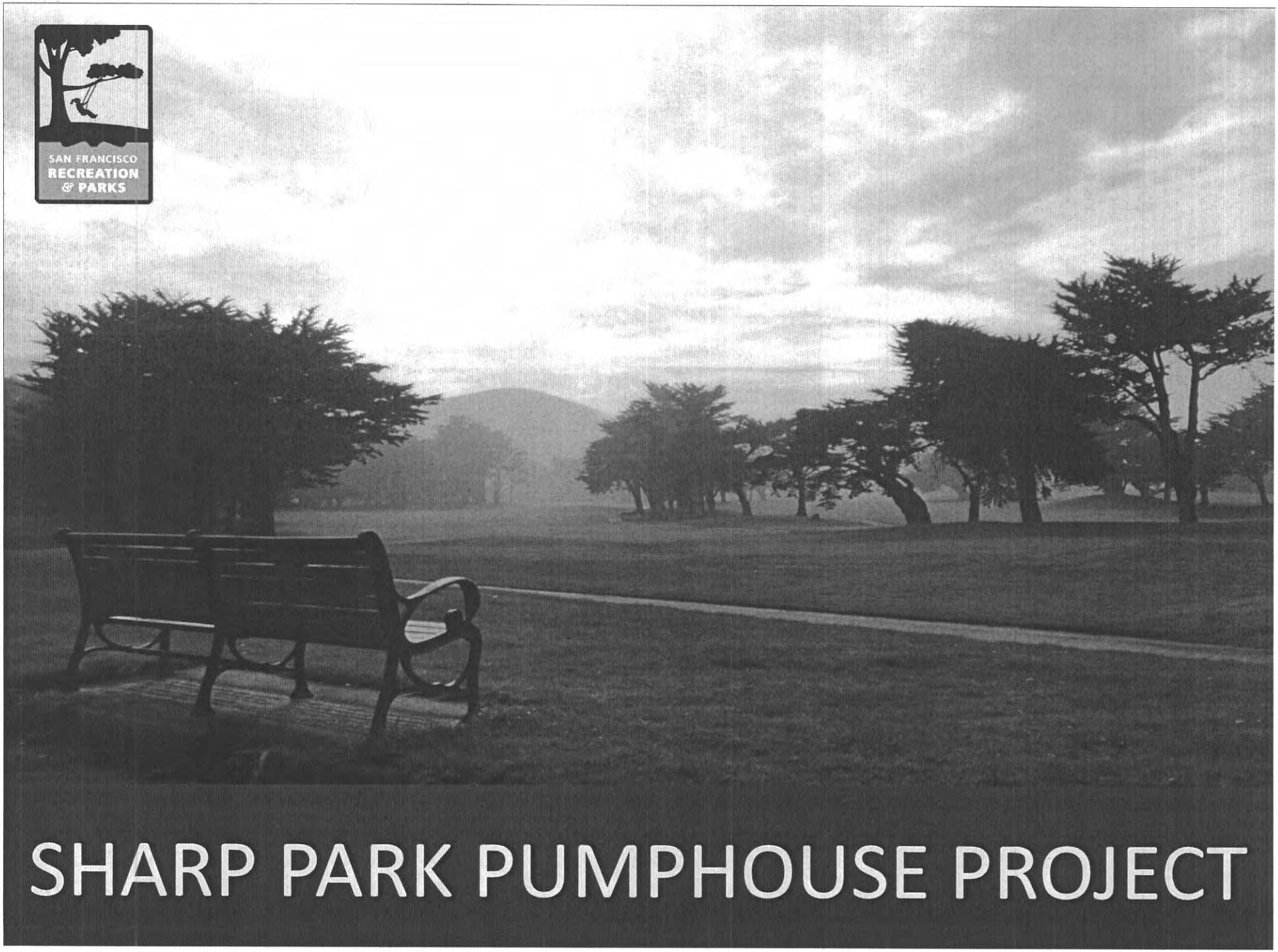
Rexing, Stephanie@Coastal

Th8a

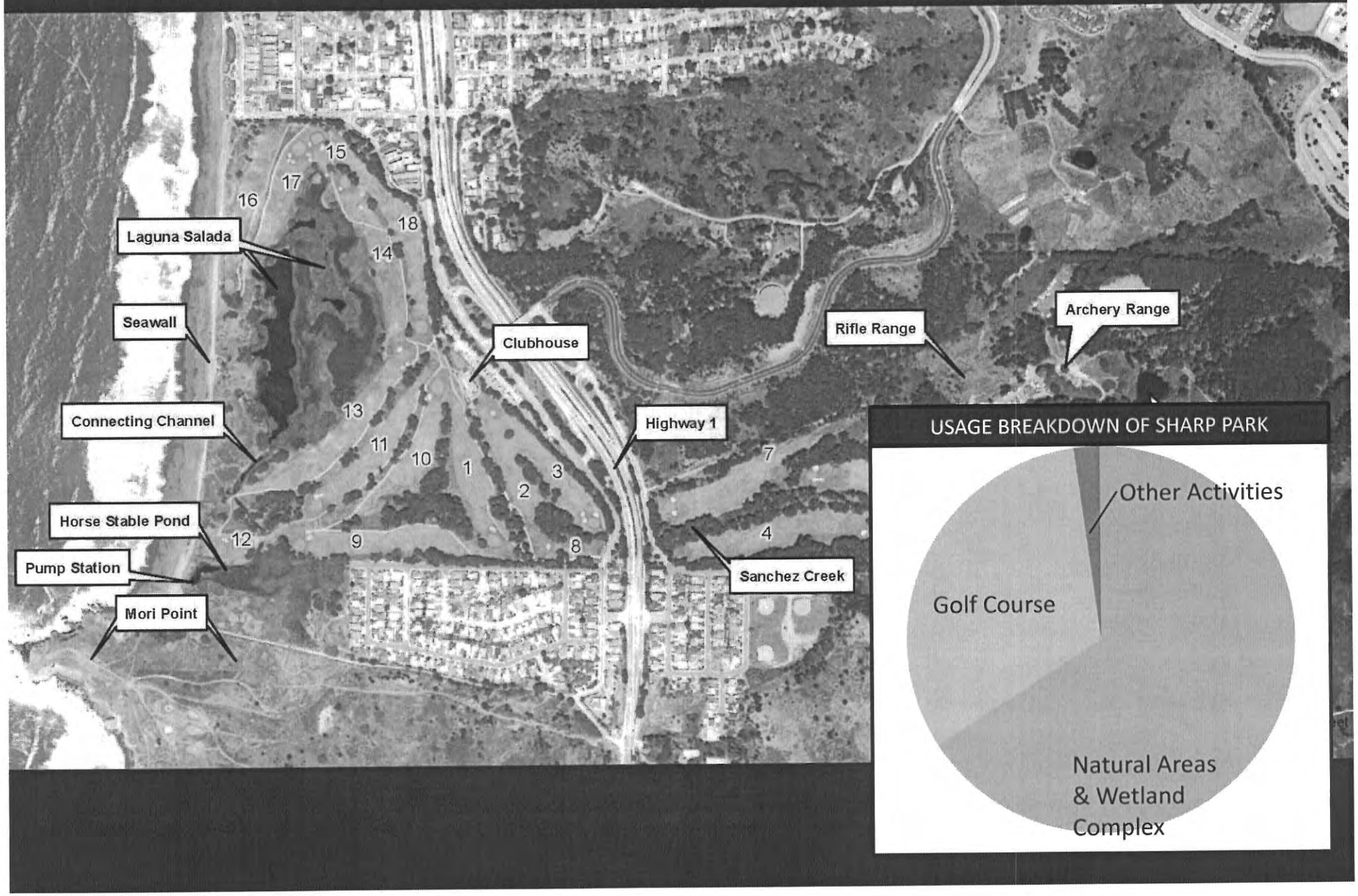
From: Neely, Bonnie <bneely@nossaman.com>
Sent: Sunday, April 12, 2015 1:09 PM
To: Rexing, Stephanie@Coastal; Cave, Nancy@Coastal
Cc: Neely, Bonnie
Subject: Agenda Item Th 8a -San Francisco Recreation and Parks Dept. - Sharp Park Briefing
Attachments: SharpParkPumphouse_4-9-15.pdf

Attached please find the Briefing Booklet prepared by the applicants in the above-entitled. Please provide this information to all Commissioners and staff.

Best, Bonnie Neely

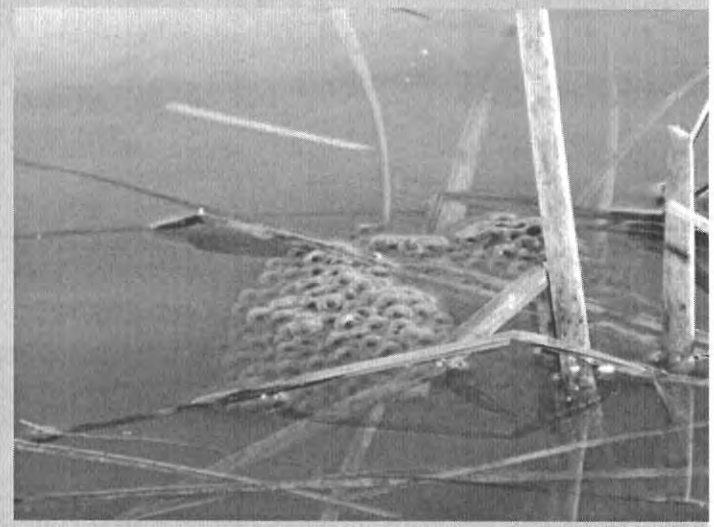

SAN FRANCISCO
RECREATION
& PARKS
SHARP PARK PUMPHOUSE PROJECT

An Overview of Sharp Park



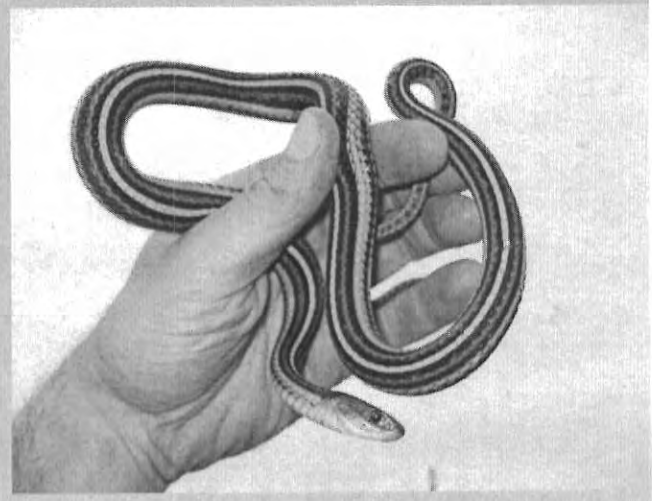
Threatened California Red-Legged Frog

- Breeds in ponds with relatively open shallow water
- Lays clusters of eggs – December through March
- Forages in uplands
- Escapes from predators and temperature extremes into burrows and vegetation
- Adults are most active at night



Endangered San Francisco Garter Snake

- Occurs only in San Mateo and Northern Santa Cruz Counties
- Frogs are primary food source
- Uses uplands for basking and breeding
- Uses rodent burrows to avoid temperature extremes and to escape predators
- Active during the day



Background & Regulatory Compliance

1917	Deed transfer to CCSF
1930-60	Sharp Park Golf Course built, initial berm and pumping infrastructure installed
2005	SFRPD notified by U. S. Fish and Wildlife Service of violation of Endangered Species Act for stranding egg masses due to pumping
2009	RP Commission approved Compliance Plan included a variety of measures to protect species
2012	SFRPD received a Biological Opinion and Incidental Take Permit from the U. S. Fish and Wildlife Service included measures designed to protect listed species during project construction as well as the operations and maintenance of the golf course
2014	CEQA completed and MND upheld at SF Board of Supervisors **Permits received:** 401 permit from U. S. Army Corps of Engineers, Streambed Alteration Agreement with CA Dept of Fish and Wildlife, 404 permit from CA Regional Water Quality Control Board

Conservation Measures and Conditions

--- Required by the USFWS Biological Opinion ---

IMPLEMENTED

- ✓ Pumping protocols
- ✓ Mowing protocols
- ✓ Education and training program for field personnel and protocols for encounters with species
- ✓ Golf carts access reductions and speed limits
- ✓ No chemical pesticides or fertilizers
- ✓ Species protection zones
- ✓ Water quality monitoring
- ✓ Uplands Habitat Restoration

IN PROGRESS

- Invasive plant and animal control
- Maintain access on seawall
- Enforcement plan
- ***Perennial pond construction***

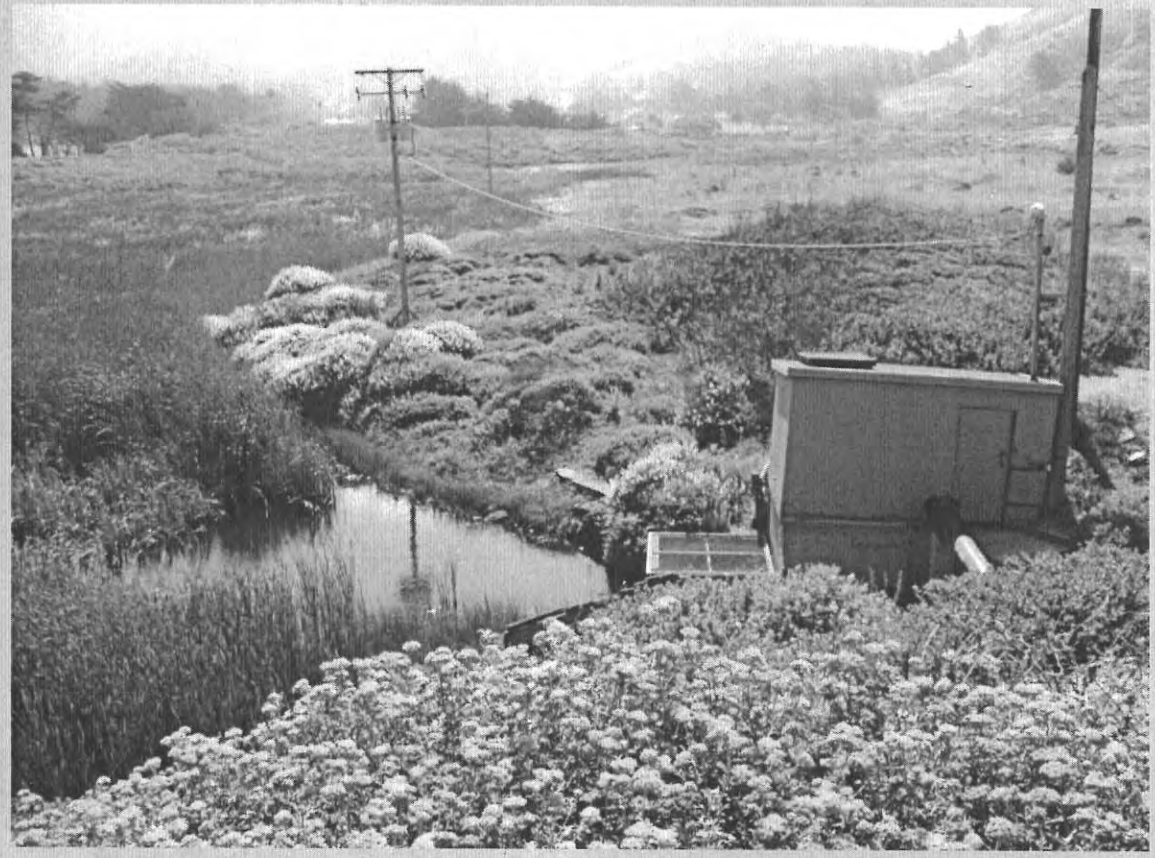
Project Benefits

- Worker safety
- Infrastructure protection
  - Keep sediments out of pump system
- Species conservation
  - Construct perennial pond for frog breeding
  - Enhance frog breeding with vegetation and sediment removal
  - Move cart path out of wetland

Worker Safety

Infrastructure Protection

Sharp Park Pumphouse

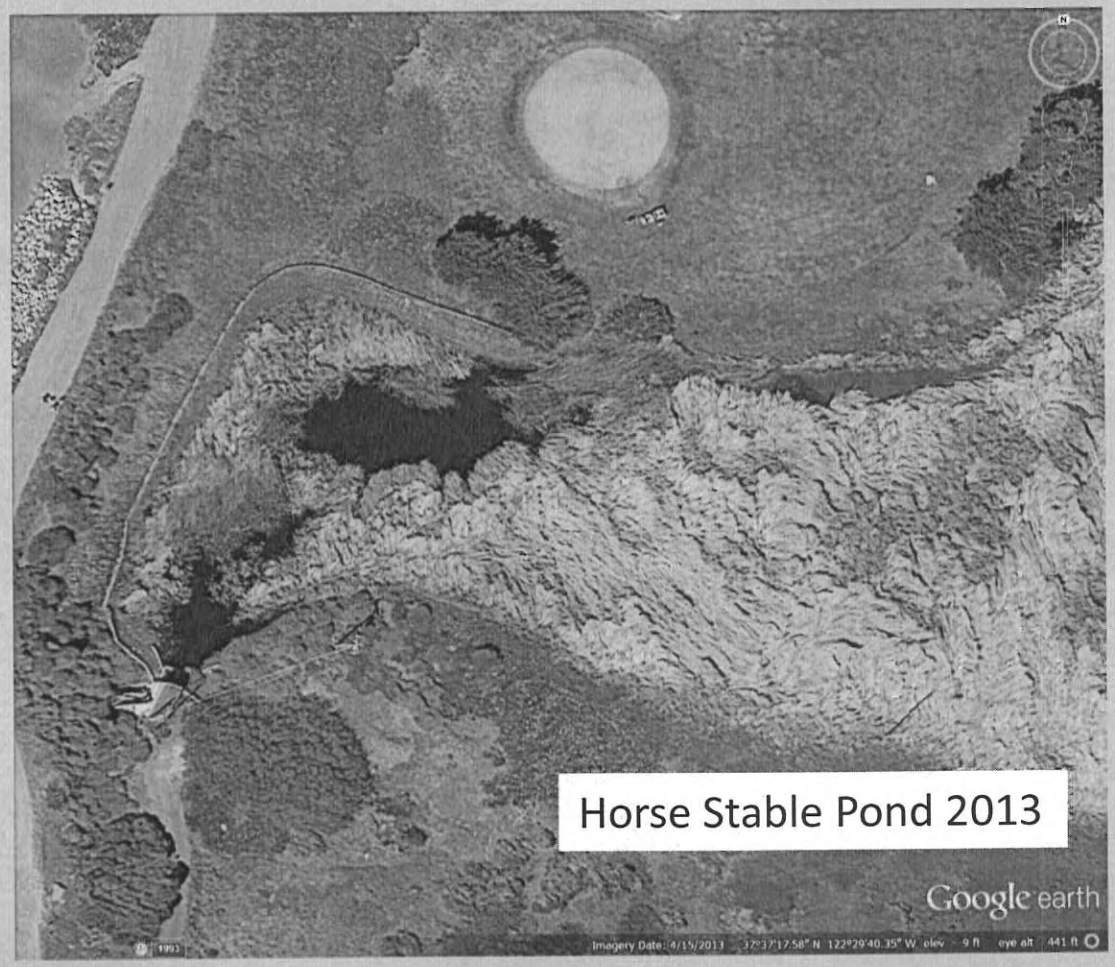


Species conservation

Loss of open water

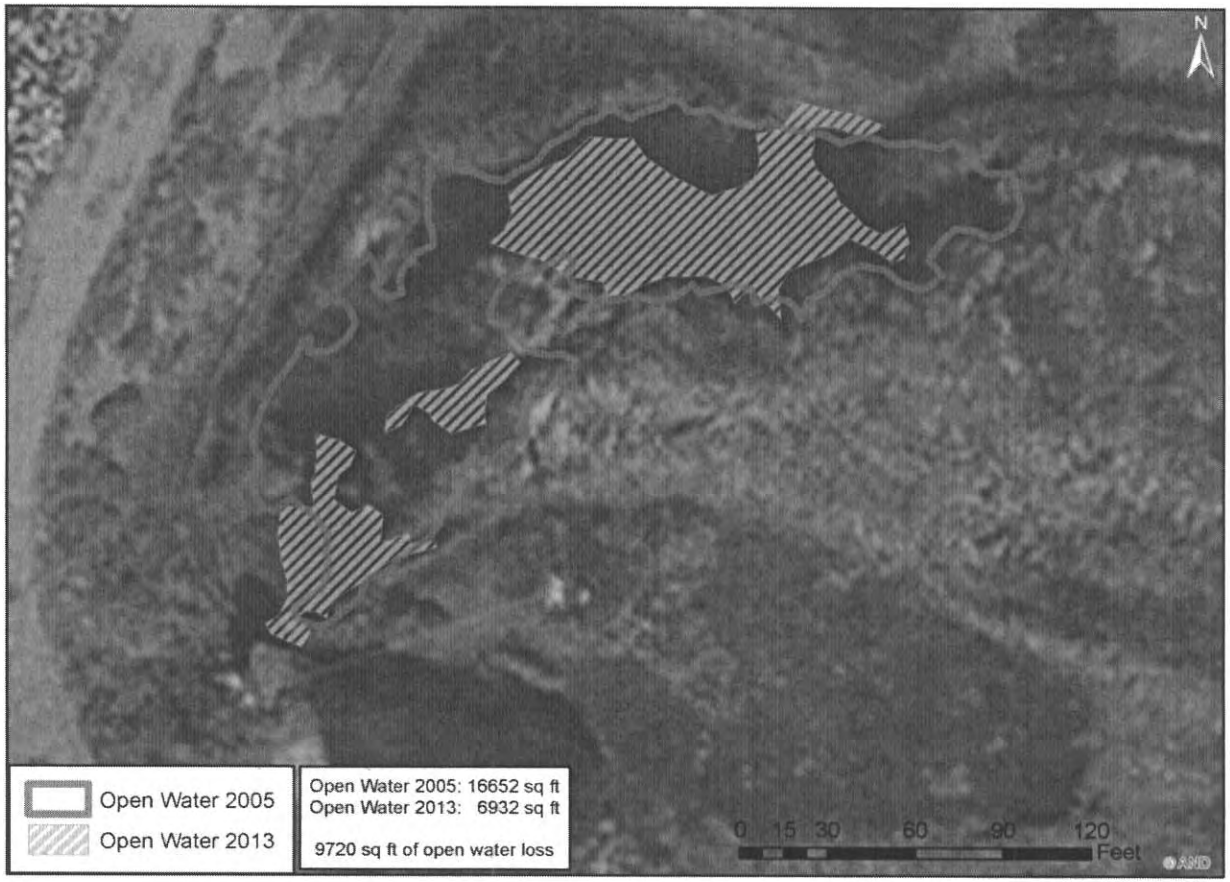
Loss of open water habitat

Loss of open water habitat

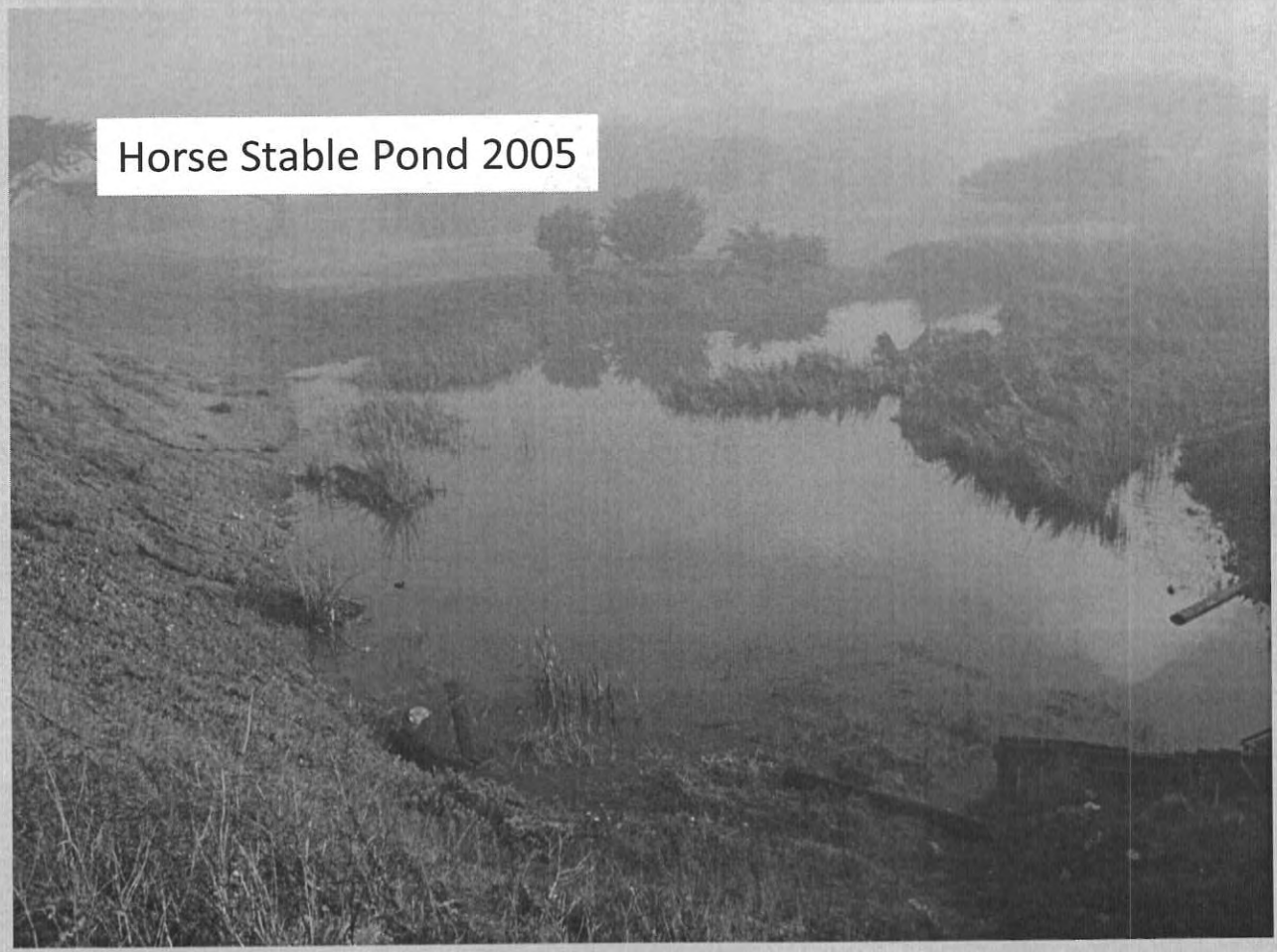


Loss of open water habitat

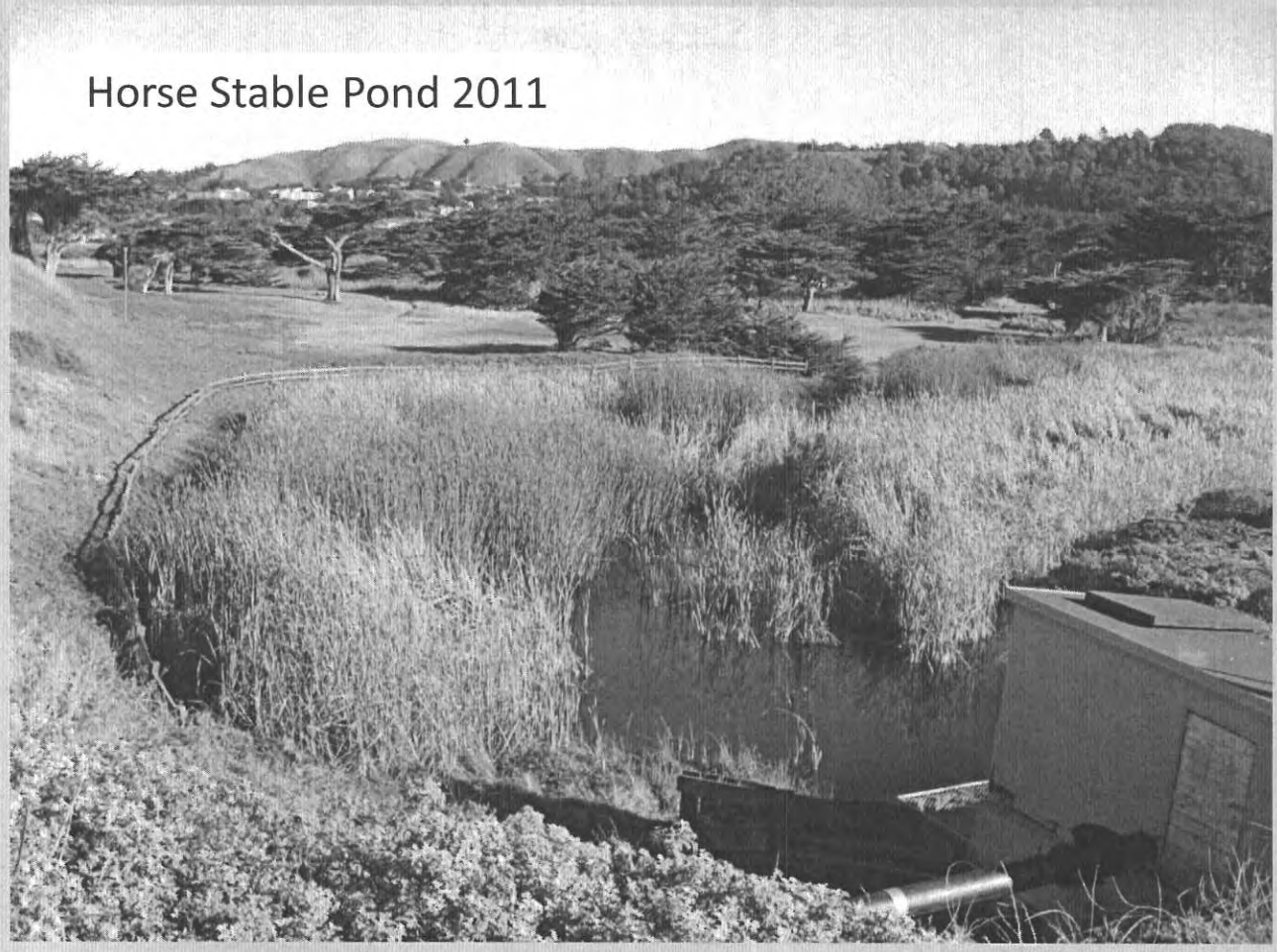
Horsestable Pond: Change in Open Water 2005 to 2013



Loss of open water habitat



Loss of open water habitat



Thank you.

Th8a

Rexing, Stephanie@Coastal

From: Gail Gester <ggester@jps.net>
Sent: Sunday, April 12, 2015 4:16 PM
To: Rexing, Stephanie@Coastal
Subject: Sharp Park Wetlands

Dear Coastal Commission Member,

Please use your position for the greatest environmental good by denying the permit to drain the Sharp Park wetlands. The proposal to destroy this important ecosystem is another example of blatant disregard for finding a balance between nature and greed. As humans continue to pave, scrape, and drain our planet we are losing the rich legacy of thousands of years of evolution. Frogs and snakes and birds may not be a top priority for you personally, but perhaps your children and grandchildren deserve to enjoy the abundant natural world you might regard as unimportant at this critical juncture.

The red-legged frog and other creatures who require the wetlands for survival cannot speak for themselves, but many people care deeply about their survival. This is your opportunity to deny unnecessary exploitation. This is your opportunity to leave a positive legacy for life in balance.

Sincerely,

Gail Gester
Boonville, California

Th8a

Rexing, Stephanie@Coastal

From: Annie Organ <annieorgan@att.net>
Sent: Sunday, April 12, 2015 11:38 PM
To: Rexing, Stephanie@Coastal
Subject: Comments on the Sharp Park Wetlands action under consideration

To the California Coastal Commission:

I'm disappointed to be physically unable to be present, and to speak, at the Commission's meeting this Thursday, and so am taking this opportunity to write you directly. I hope you will have an opportunity to read this email and, in the light of the irrevocable action which is being considered at the request of the City of San Francisco, will make note of my concerns and consider my comments in your decision.

I feel the Coastal Commission should protect the State of California, not the golfers of the state or the landscapers of the state, but the actual natural State of California, and the creatures that inhabit it, whenever possible.

There are unfortunately times when environmental degradation may be necessary for the good of all, but certainly draining the habitat of the state amphibian, the endangered and vulnerable red-legged frog, and doing so solely to improve the play on a golf course just isn't one of those cases.

There are many public golf courses available in Central and Northern California. Resource use devoted to golf courses itself is an issue which most likely may have to be addressed in its own right, in respect to the drought and future water allocation. I am a former golfer myself, and know first-hand that you don't have to have the perfection of a perfectly groomed course to enjoy and experience the challenge of the game. I've played in dry, grassless arroyos in Arizona, and that may someday be the case here in California, too. Since the long-term viability of so many golf courses, with their so-thirsty lawns, isn't guaranteed, it's very shortsighted to permanently destroy an essential habitat for the protected Rana Draytonii, forever, in order to provide a more appealing golfing experience, just for now, and just for a few.

The Sharp Park golf course is currently functioning well enough as is, considering it's encroaching on protected wildlife and isn't the current best use of the land. I think if the City of San Francisco (in which City I currently do not live, but which is where me, my father and my grandmother were born, and to which I am strongly bound) insists on maintaining a golf course in such an untenable location, it should do so with a minimum of destruction to the environment.

I pray that the Coastal Commission protect the rights of these endangered creatures to continue to thrive safely in their existing natural environment, and that the Coastal Commission serve the citizens and the wildlife who reside in the State by denying the City of San Francisco the right to pursue their plans to drain the existing wetlands, to displace the existing frog populations and to destroy a generation of red-legged frogs, radically diminishing their chances of survival.

If you have any questions, I am available at (510) 367-8643.

Sincerely,

Deborah A. (Annie) Organ
414 Village Drive
El Cerrito, CA 94530

annieorgan@att.net

Th8a

Rexing, Stephanie@Coastal

From: Charlie Kaz <charlie.kaz@starrcompanies.com>
Sent: Monday, April 13, 2015 9:34 AM
To: Rexing, Stephanie@Coastal
Subject: Sharp Park Wetlands

Dear Stephanie,

I urge you to deny the City of San Francisco's request to drain or dredge the Sharp Park Wetlands.

I realize that people like to play golf. But there are hundreds, if not thousands, or other beautiful golf courses in California that don't require destroying / changing natural habitat where endangered frogs live. It's not just about the frogs, it's the entire ecosystem. Again there are many other options for the wealthy Bay Area golfers. Let's leave Nature intact and allow these wetlands to return to their natural state.

Thanks for your consideration.

Best Regards,

Charlie D. Kaz AIC, AINS
Underwriting Analyst
Starr Public Entity Division
Starr Indemnity and Liability Company – A Member of Starr Companies
100 Montgomery Street, 24th Floor
San Francisco, CA 94104
Phone: 415-633-3257
Fax: 415-373-9454
Charlie.Kaz@starrccompanies.com
www.starrccompanies.com

Security through knowledge and experience. *Worldwide since 1919.*

Th8a

Rexing, Stephanie@Coastal

From: Lisa Luther <dabogirl4693@gmail.com>
Sent: Monday, April 13, 2015 10:23 AM
To: Rexing, Stephanie@Coastal

Please stop the City of San Francisco's effort to drain the wetlands in Sharp park. We need to conserve the natural habitat of many the animals living there. California is about beauty, the natural beauty of the state is what draws millions to its shores every year. Protect the wetlands and the endangered Red-Legged frogs that call it home. Please stop them from ruining their home and potentially killing off all the animals living there.

Telisa A. Luther

Th8a

Rexing, Stephanie@Coastal

From: fredrinne@monkeybrains.net
Sent: Monday, April 13, 2015 12:57 PM
To: Rexing, Stephanie@Coastal
Subject: Sharp Park Wetlands Issue

To whom it may concern:

I am writing to urge the Coastal Commission to deny permits for the San Francisco Department of Parks and Recreation plan to dredge the Laguna Salada wetlands in their program to maintain the Sharp Park golf course.
This facility has been in violation of the Endangered Species Act on numerous occasions involving destruction of habitat for the Red Legged Frog and the San Francisco Garter Snake.
This proposed project does nothing to address the ESA issues and in fact continues down the wrong path of fighting the natural situation (and wasting huge sums doing it) Thank you for your time, Fred Rinne San Francisco

Th8a

Rexing, Stephanie@Coastal

From: Gwynn Mackellen <greengwynn@yahoo.com>
Sent: Monday, April 13, 2015 1:00 PM
To: Rexing, Stephanie@Coastal
Subject: Public comment submission for Sharp Park

Dear California Coastal Commission,

The California red-legged frog and San Francisco garter snake must be protected from habitat destruction. The Sharp Park Golf Course pumps destroy the breeding and feeding grounds that are essential for these species. The need to create and maintain an intact ecosystem is far more important than an artificial sports complex that overuses resources and kills our fellow species. We have a responsibility to use this coastal land responsibly. Please deny the permit for the pumphouse.

Thank you,

Gwynn Mackellen
San Francisco voter
Sierra Club member

Th 8a

Rexing, Stephanie@Coastal

From: CarolMH <trinityL@pacbell.net>
Sent: Monday, April 13, 2015 11:34 AM
To: Rexing, Stephanie@Coastal
Cc: Kerry Kriger
Subject: Sharp Park Wetlands

Dear Ms. Rexing and Coastal Commission,

I am writing to ask you to take a stand against the misguided request by the City of San Francisco to dredge the Sharp Park Wetlands, home to two critically endangered species as well as myriad other wildlife whose survival depends on wetlands. The iconic California red-legged frog is on the brink of extinction because so much of its former habitat has been annihilated. The San Francisco garter snake is another victim of devastating habitat loss that would be further imperiled by the dredging. The universal destruction of wetlands habitat has progressed at an alarming rate in the path of development. The fact that the dredging is for the purpose of expanding a golf course is unconscionable. There are many other prospective sites for a golf course, and plenty of them already exist. Let me briefly summarize a success story about another proposed golf course.

Since the 1980's San Mateo County had planned to build a golf course in the serpentine grasslands of Edgewood Park in Redwood City. A single citizen, supported by a coalition of environmentally friendly organizations (e.g., Sierra Club, California Native Plant Society) protested the development, which would have destroyed the serpentine wildflowers and endangered species such as the Bay Checkerspot Butterfly. When Edgewood was made a preserve in 1993, everyone benefited, including San Mateo County. Edgewood has become world-famous natural sanctuary rather than just another golf course.

I urge you to please deny the City of San Francisco's request to drain the Sharp Park Wetlands. Thank you for considering my comments.

Sincerely,
Carol Hankermeyer
Junior Explorers Coordinator, Friends of Edgewood Outdoor Environmental Educator

Th 8a

Rexing, Stephanie@Coastal

From: Natalya Pouznar <ravewave42@aol.com>
Sent: Monday, April 13, 2015 3:26 PM
To: Rexing, Stephanie@Coastal
Cc: Kerry Kriger
Subject: Sharp Park Wetlands

Dear Coastal Commission,

Please deny the City of San Francisco's request to drain or dredge the Sharp Park Wetlands.
We need to preserve the wildlife including the California endangered Red Leg Frogs that are native to the area.
We all learned that some mistakes could not be undone and this would definitely be one of them.
Draining the wetlands would be the BIGGEST mistake as once the wetlands dry the wildlife once inhabiting same would vanish forever..... The frogs would dry with it....
We have been pushing the animals out of their rightful places-their once called homes for way too long and this is the reason why so many of them are coming to extinction.
Once extinct there would be no more of those wonderful frogs and birds. There would be no wonderful singing by day and serenading by night....
Our kids and grandkids might not have the luxury of enjoying what we once did when we were kids.
So let's be like kids and enjoy the simple pleasures in life such as the wildlife and it's beauty. Let's preserve it rather than destroy it. Let's protect it rather than hurt it.
I can't say enough, please stop this project and a terrible destruction of wetlands from happening!
The future is in our hands!

Thank you in advance from all the habitants of the Sharp Park Wetlands and from all the frog and animal lovers!

Sincerely,

Natalya Pouznar

Natalya Pouznar

Th 8a

Rexing, Stephanie@Coastal

From: Stephanie Smarr <stephitza@gmail.com>
Sent: Monday, April 13, 2015 2:38 PM
To: Rexing, Stephanie@Coastal
Subject: Sharp Park Wetlands

Hi,

I was writing to urge you to please deny the City of San Francisco's request to drain or dredge the Sharp Park Wetlands. The Sharp Park Wetlands are home to California's official state amphibian - the now endangered Red-Legged Frog, as well as the endangered San Francisco Garter Snake. I hope you do not allow humans to carry out such a selfish act, but instead act to protect our natural world.

Sincerely,
Stephanie Smarr

Th 8g

Rexing, Stephanie@Coastal

From: leewaysf <leewaysf@pacbell.net>
Sent: Monday, April 13, 2015 3:17 PM
To: Rexing, Stephanie@Coastal
Subject: NO on Coastal Development Permit 2-12-014

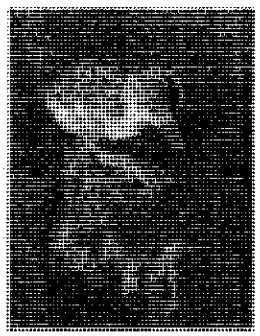
Honorable Commissioners,

Re: Coastal Development Permit 2-12-014

I am a beach visitor and birder, who enjoys our local bay area beaches. Unfortunately, most of Pacifica's northern beaches are covered with boulders and other forms of coastal armor. The beach at Sharp Park is the last stretch of wide sandy beach in the city's northern district. Extra effort should be taken so that it is preserved.

Both the pumphouse and the golf course it serves will eventually require reinforcement of the oceanfront seawall. This is because the entire site is located on a former coastal wetland. Additionally, the beach in front of the seawall is actively eroding. It needs space to move inland. When a strong El Nino winter returns, we will likely see major flooding and damage to the entire golf course, as well as heavy beach erosion. In past El Nino's, waves have over-topped the seawall, putting the pumphouse and its related infrastructure under siege. This can be expected to happen again. Unfortunately, when it does, we can expect demand for additional armoring of the beach. Given future sea level rise and erosion rates, this scenario is even more dire.

Permitting development that will eventually require future shoreline protective devices is against both the spirit and the laws that govern the Coastal Commission. Pacifica's beaches have suffered enough from coastal armoring. We therefore respectfully urge the Commission to deny his project.



THANK YOU, LEE RUDIN - DALY CITY, CA

"When we started out in 1961, we thought all we had to do was to get a good law and the Bay would be saved. What we have learned is that the law itself must be saved, that this requires constant vigilance against those that would change or weaken it." "Kay" Kerr, Co-founder of Save the Bay

Rexing, Stephanie@Coastal

Th 8g

From: Brent Plater <bplater@wildequity.org>
Sent: Monday, April 13, 2015 3:19 PM
To: Rexing, Stephanie@Coastal; Neal Desai; Ralph Faust
Subject: Errors in Staff Report
Attachments: Pros Consulting Report.pdf; National Golf Foundation Report Excerpts.pdf; Budget Analyst Report Excerpts.pdf; Errors in Staff Report.pdf; Historic Assessment Exhibits.pdf

Stephanie,

As I've explained to you over the phone, I do not have adequate time to provide you with a comprehensive list of errors in the staff report, but I have attempted to provide you with some of the documents that disprove several unsupported assertions in the report about the golf course. They are summarized in the attached letter "Errors in Staff Report.pdf."

At the very least, these errors should be corrected by staff in an addendum, or if you are unable to make such corrections you should excise these statements in their entirety: or grant the continuance which we have requested.

One document, ESA PWA 2011, is too large to attach here. I will instead forward you a link to this document that was sent in 2011 to your colleagues on the commission. It contains, by far, the most sophisticated and accurate historic ecology assessment of Sharp Park ever produced. While Dr. Dixon seems to have reviewed the file, it almost certainly was not reviewed by those who prepared the staff memorandum given the memorandum's findings.

bp

Brent Plater
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April 13, 2015

Charles Lester, Executive Director
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105

Stephanie Rexing, Coastal Planner
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105
Stephanie.rexing@coastal.ca.gov

RE: Sharp Park Pumphouse Project, CDP # 2-12-014; TH8a.

Dear Mr. Lester and Ms. Rexing:

The staff report for the above referenced project is filled with many unsupported assertions and factual errors that prejudice the findings in the report. The purpose of this letter is to identify many of these errors, provide citation to documents presented to commission staff that clearly demonstrates why the statements are incorrect. We expect the report to be amended based on the review of this information.

- p. 12. "As a result of the berm, the wetlands found within the Golf Course transitioned from historically tidally influenced saltwater wetlands that were brackish near the beach, to modernly freshwater wetlands."
    - Staff support this statement by citing a debunked assertion by the San Francisco Public Golf Alliance. The statement is directly contradicted by expert ecologists, biologists, and hydrologists who have studied the historic ecology of Sharp Park. There findings (ESA PWA 2011) explain that Sharp Park was historically a backbarrier lagoon/beach ecosystem, and was not influenced by daily tides. This is a critical distinction, because while tidal lagoons are generally unsuitable habitat for herpafauna, backbarrier systems are excellent habitat for frogs and snakes. This report was first provided to commission staff in 2011, yet it does not appear in the correspondence files, and is provided again here.
- p. 13. "The Golf Course is designated an historic site by the Pacifica General Plan, the Golf Course and Club House are historic landmarks in the City of Pacifica…"
    - This is a demonstrably false statement. Only the clubhouse has ever been designated as an historic building under Pacifica's General Plan. The referenced document is a *proposal* to list both the golf course and the club house as historic; but only the proposal for the clubhouse was finalized under Pacifica's planning and zoning rules. This is for good reason: Sharp Park Golf Course bears no resemblance to the course as designed on opening day. Golf historians have explained why on numerous occasions, and San

Francisco's Historic Preservation Commission could not reach consensus on the historic relevance of the golf course itself.

- p. 13. "Sharp Park Golf Course is one of two low-priced, full 18-hole courses available in San Mateo County and is one of the most-played municipal courses operating in San Francisco and the surrounding areas."
    - Staff support this statement without any supporting evidence save a debunked assertion presented by the San Francisco Public Golf Alliance, an activist group without any expertise in this matter. Every assessment of Sharp Park Golf course has demonstrated that the golf course is not popular: indeed it is significantly underplayed, operating at roughly 40-45% of its capacity in any given year. These reports also indicate that the golf course gets failing grades from golfers on nearly every measure recognized by the golf associations. Attached to this letter are examples of these findings made by, among other institutions, the National Golf Foundation; PROS Consulting; and the San Francisco Budget Analyst.
- p. 13-14. "Prior to the elimination of the hydrologic connection between the Pacific Ocean and the wetland areas in the seaward portions of the Golf Course, the wetlands were tidally influenced salt water wetlands. It is likely that the wetlands would not have been suitable habitats for CRLF prior to the berm installation because of the saline influence from ocean water."
    - Staff support this assertion through personal communication with Lisa Wayne, staff for the project proponent. But as explained above, this assertion is simply unsupported, and the best evidence of the historic condition of Sharp Park indicate that the golf course is the cause of, not the solution to, the ecological and biological threats facing imperiled species in this location. Again, PWA-ESA 2011 provide the definitive scientific study of this area, which was provided to CCC four years before this personal communication from Lisa Wayne, and yet it is not addressed in the staff report at all.
- p. 19. "In particular, Sharp Park Golf Course is open to the public. It is a highly popular course enjoyed by golfers who appreciate its historic architecture, dramatic views, and inexpensive rates. In fiscal year 2013-2014, SFRPD reports 45,622 18-hole rounds were played. According to the San Francisco Public Golf Alliance, the course is considered the "poor man's Pebble Beach," and is a favorite among senior and ethnic minority golf associations."
    - In addition to reasserting false statements about the popularity of the course (disproven by actual capacity studies that undercut the advocacy positions of the Golf Alliance) it is simply not the case that Sharp Park Golf Course is somehow a favorite golf course among any group of golfers. Again, the golf course gets failing grades by all on nearly every category measured by golf industry analysts. The staff's regurgitation of the Golf Alliance's advocacy as a "fact" that provides the golf course greater protection under the Coastal Act than the imperiled species on the site is perhaps the reports most galling and disturbing error. Please review the attached reports, including the reports by the National Golf Foundation, that provide actual data about the unfavorable feelings most golfers have towards the existing golf course.
- p. 35. "deprive low-income users of the opportunity to play golf with coastal views."

- There are two problems with this statement. First, all available market data suggest that it is the oversupply of golf in the Bay Area (and the nation) that is harming the golf market. Only by selectively closing courses like Sharp Park that provide a terrible golf product can golfers, and low-income golfers in particular, come out of this market condition with improved playability. Second, and perhaps more importantly, the golf course berm eliminated ocean views from the golf course. To the extent we have been deprived of those views, the deprivation was not caused by protecting endangered species on the site, but the unpermitted coastal development the golf course has consistently instigated at Sharp Park.

Sincerely,

Signature on file

Brent Plater

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Attorneys for Plaintiffs Wild Equity Institute, Center for Biological Diversity, National Parks Conservation Association, Surfrider Foundation, Sequoia Audubon Society, and Sierra Club.

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

WILD EQUITY INSTITUTE, a non-profit corporation, CENTER FOR BIOLOGICAL DIVERSITY, a non-profit corporation, NATIONAL PARKS CONSERVATION ASSOCIATION, a non-profit corporation, SURFRIDER FOUNDATION, a non-profit corporation, SEQUOIA AUDUBON, a non-profit corporation, and SIERRA CLUB, a non-profit corporation,

Plaintiffs,

v.

CITY AND COUNTY OF SAN FRANCISCO, ED LEE, Mayor of the City and County of San Francisco, PHIL GINSBURG, Director, City and County of San Francisco Recreation and Park Department,

Defendants.

Case No.: 3:11-cv-958-SI

DECLARATION OF AMY MEYER IN RESPONSE TO THE SAN FRANCISCO PUBLIC GOLF ALLIANCE'S MOTION TO INTERVENE

I, Amy Meyer, hereby declare:

1. The facts stated herein are true and correct of my own personal knowledge, and I could and would competently testify thereto if called and sworn as a witness.

2. My name is Amy Meyer, and I am a resident of San Francisco, CA.

3. I have been active in park governance and creation for approximately forty years.

4. I played a central role in helping establish the Golden Gate National Recreation Area ("GGNRA") which preserves the national icon of the Golden Gate and extensive lands to the north and south. My efforts, along with the efforts of my colleague Dr. Edgar Wayburn, Congressman Phillip Burton, and many other participants were chronicled in my book, "New Guardians for the Golden Gate: How America Got a Great National Park," published in 2006 by UC Press. Although managed by the City and County of San Francisco, Sharp Park is entirely within the boundary of the GGNRA.

5. I am a former member of the San Francisco Recreation and Parks Commission, appointed by Mayor George Moscone in 1976, and later reappointed by Mayor Dianne Feinstein. I served as a commissioner for 12 years.

6. I also served as vice-chair of the Golden Gate National Recreation Area Advisory Commission, established by an Act of Congress with appointments made by the Secretary of the Interior, for the entire 29 year history of that advisory body.

7. Most recently, I served as chairperson of the Sharp Park Working Group at the invitation of Recreation and Parks Department ("RPD") Director Phil Ginsburg. As the chair of the Working Group, I worked diligently to ensure that findings of the working group were based in sound science and verifiable fact to the maximum extent possible.

8. I have reviewed the filings of the San Francisco Public Golf Alliance as they reference the working groups findings, including the declaration of Richard Harris. I believe that the San Francisco Public Golf Alliance and Richard Harris have not accurately reflected the working group's findings. Some background information about the history behind the working group and our deliberations should help clarify our findings for the Court.

9. In 2009, the Recreation and Parks Department released a report regarding Sharp Park. This report was criticized for, among other reasons, failing to consider the impacts of sea level rise and climate change on the future of Sharp Park and for relying upon construction of a sea wall to protect Sharp Park Golf Course.

10. In 2010, I agreed to chair the working group in order to establish facts regarding Sharp Park. The working group included one representative each from San Francisco's Recreation and Parks Department, the City of Pacifica, San Mateo County's Park Department, and the National Park Service.

11. During our deliberations, we received helpful communications from Bob Battalio and Dr. Peter Baye, the lead authors of a subsequent report about Sharp Park published by the Wild Equity Institute and the Center for Biological Diversity. We also heard from Karen Swaim, and from San Francisco RPD and GGNRA staff concerning various aspects of the natural environment of Sharp Park. These individuals brought crucial additional expertise and insight that was not presented in the City's 2009 alternatives report. Our communications included both statements made in meetings of the working group and on a field trip to the western portion of Sharp Park, down Mori Point Road and along the seawall.

12. The working group's findings were completed before the WEI and CBD report came out. Our findings were similar to portions of that report in acknowledging that Sharp Park faces serious challenges from climate change; that there is a need for a long-term plan to manage naturally the coastal areas of Sharp Park because it is the most sustainable and cost-effective approach to creating additional habitat and breeding opportunities for the protected species; and that there is need for an environmental document that will explore viable ways of transitioning from the current seawall to a more natural beach and lagoon barrier system. Specifically we found (with advice from the U.S. Geological Survey) accelerated sea level rise, increased size of storm waves striking this region, reduction in sediment supply from San Francisco Bay to feed the beach, and increasing erosion along the coast with over 98% of the shoreline from Daly City to Pedro Point eroding over the last several decades and at an increasing rate. Further armoring or heightening of the existing seawall was not recommended

to be part of any future plan because it would result in the continued and accelerated erosion of the beachfront.

13. All of the above findings were backed by substantial evidence prepared for and reviewed by the working group.

14. Implicit in our findings is that the 18-hole golf course, as presently configured and managed, is not sustainable given the challenges posed by sea level rise and climate change. The present design is also not consistent with the long-term protection of the federally protected species on the site. We noted that the golf course, as presently configured lacks historical integrity, in that it is quite different from the course designed by Alistair MacKenzie: the holes on the beach washed away long ago, and the seawall and pumping system are significant changes from the original course. Therefore we made no mention in our group statement and list of findings in support of the course's historical integrity.

15. The working group did not visit the eastern part of Sharp Park, nor did it call in any golf course expert to consider whether any alternative golf course designs could be compatible with the environmental findings made by the working group.

16. This is why the representations of the San Francisco Public Golf Alliance and Richard Harris are inaccurate. Richard Harris states that the working group "reached mutual agreement that a plan could be developed to retain the 18-hole golf course, while protecting the frogs and snakes." This is not reflective of our deliberations or the findings of our working group. We never evaluated any golf course plans that could be compatible with the environmental findings made by the working group, so it is not accurate to say that we reached mutual agreement regarding the existing course or a changed course. What we found was: "If the decision is made to support a more naturally functioning barrier beach and lagoon system and golf remains a use on the property, design costs and future maintenance need to be addressed within a sustainable management plan." Moreover, Mr. Harris' statement ignores the other environmental constraints identified by the working group, including our findings on sea level rise, the natural management of Sharp Park's coastline, and other environmental findings.

17. Our working group concluded that "habitat enhancements and golf could be

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April 13, 2015

Charles Lester, Executive Director
California Coastal Commission
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Stephanie Rexing, Coastal Planner
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105
Stephanie.rexing@coastal.ca.gov

RE: Sharp Park Pumphouse Project, CDP # 2-12-014; TH8a.

Dear Mr. Lester and Ms. Rexing:

We request a continuance of the hearing on the above City of San Francisco application for a coastal development permit now scheduled for Thursday, April 16, 2015.

The Project has been pending before the Commission for several years. During this time, several different coastal commission staff were assigned to the proposal. Wild Equity and other members of the environmental community have submitted voluminous comments on this proposal since 2011.

However, nearly all of the documents submitted on the record have not been presented to the commission as part of the staff report. Indeed, it is not clear if the documents provided to commission staff have even been reviewed by those who prepared the proposed staff report. Coastal ecologist John Dixon, for example, has explained that several key documents provided to the Commission in 2011, 2012, and 2013—totaling over 1,500 pages of material—were not presented to him for his consideration. For example:

- On June 28, 2012, a 25 page comment letter and over 1,300 pages of exhibits was submitted to Karen Geisler and Renee Ananda. A hard copy on CD-ROM was also provided, and receipt confirmation was received of the hard copy by our office. However, critical exhibits presented in this filing are not referenced by the staff report, nor are they presented in the correspondence file.
- On August 4, 2012, expert reports by Hydrologist Greg Kamman and biologist Wendy Dexter were submitted to the Coastal Commission by email and regular mail. These reports are also ignored in the staff report, and they do not appear in the correspondence file.
- On August 29, 2012, Dr. Marc Hayes submitted expert comments on the proposed project; his comments are also ignored by the staff report and are not presented in the comment file.

Because this information has not been provided to the Commission's staff ecologist and to the Commissioners and the public it is not possible to complete a full and fair review of the project and its impacts at this time. The Commission must grant a continuance to allow for the proper review of the project.

Sincerely,

Signature on file

Brent Plater

WILD Equity INSTITUTE

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June 28, 2012

Ryan Olah, Chief
Coastal Division Branch
U.S. Fish and Wildlife Service
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, CA 95825

Jane Hicks, Chief
Regulatory Division
U.S. Army Corps of Engineers
San Francisco District
1455 Market Street, 16th Floor
San Francisco, CA 94103

RE: § 7 CONSULTATION FOR SAN FRANCISCO RECREATION AND PARK DEPARTMENT'S PROPOSED "SHARP PARK PUMPHOUSE SAFETY AND INFRASTRUCTURE IMPROVEMENT PROJECT"

Dear Mr. Olah & Ms. Hicks:

The Wild Equity Institute, its members and staff, and preeminent experts in herpetology, coastal ecology, and hydrology have carefully reviewed San Francisco Recreation and Park Department's ("RPD") Biological Assessment ("BA") for the proposed "Sharp Park Pumphouse Safety and Infrastructure Improvement Project" ("Project").[1] These reviews indicate that the Project's direct, indirect, and cumulative effects will adversely affect the threatened California red-legged frog (*Rana draytonii*) and the endangered San Francisco gartersnake (*Thamnophis sirtalis tetrataenia*), and appreciably reduce the survival and recovery of both species in the wild.

This conclusion is supported by recent documentation of RPD's large-scale, unpermitted "take" of the California red-legged frog through activities substantially similar to those proposed in the BA; peer-reviewed reports that thoroughly analyze Sharp Park's natural history and ecological baseline; and evidence of direct and indirect adverse effects on both species caused by activities interrelated and interdependent to the Project. This supporting documentation is in the possession of RPD, but was not disclosed or analyzed by RPD in the BA.

With this submission, the Wild Equity Institute makes the scientific evidence and data underlying these conclusions available to the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service (hereinafter, "the Services"). This submission includes a written summary of the

[1] Although the BA names the Project the "Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project," neither RPD's Section 404 permit application (Wayne 2011b, p. 1) nor the Army Corps of Engineers letter requesting initiation of consultation (Johnson 2011, p. 1) contain the words "habitat enhancement" in their title. Because the best available science indicates that the Project will not enhance habitat for listed species at Sharp Park, and because the Army Corps of Engineers has apparently not designated RPD and/or its consultants as the non-federal representative for the purposes of this consultation, this letter will refer to the Project using the name ascribed by the Army

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underlying scientific evidence and data submitted to the Service, a bibliography, and relevant excerpts from documents cited in the bibliography.

This written summary covers the following items:

1. **Missing evidence relevant to the Project and its effects.**

    a. The BA does not provide the Services with the results of the most recent winter egg mass surveys, which show that **massive egg mass mortality occurred under actions and measures substantially similar to the Project.**

    b. The BA does not disclose that its **proposed pumping and mowing restrictions provide fewer protections for endangered species than RPD's current Compliance Plan.**

    c. The BA does not provide pumping records that show why **California red-legged frog breeding habitat at Sharp Park is sustainable but for excessive pumping activities.**

    d. The BA does not reference the best available science on Sharp Park's hydrology, natural history, and ecology, and therefore **proposes purported habitat enhancement activities that will in fact undermine endangered species habitats on the site.**

    e. The BA **fails to provide any evidence that open water breeding habitat for the California red-legged frog limits the species population growth at Sharp Park,** and absent such evidence the Project's purported habitat enhancements are more likely to decrease habitat suitability.

    f. **The BA inappropriately considers all Golf Course operations as interrelated and interdependent actions.**

    g. The BA **fails to regulate the direct and indirect adverse effects of RPD's interrelated proposal to rebuild Sharp Park Golf Course,** even though the proposal has received multiple agency approvals, will complete final environmental review this Fall, and occurs within the Project's action area.

2. **Inconsistencies with the Services' Section 7 Consultation obligations.**

    a. RPD **has not been designated as the Project's non-federal representative,** resulting in procedural errors in the Section 7 Consultation process.

    b. The BA **fails to consider alternatives** to the proposed action, even though viable alternatives exist that will allow endangered species to persist on the site.

3. **A section-by-section analysis of remaining issues in the BA.**

Considering this evidence and data will help the Services comply with (a) the Endangered Species Act's requirement to "use the best scientific and commercial data available" in the Section 7 consultation process, 16 U.S.C. § 1536(a)(2); (b) the Endangered Species Act's Section 7 implementing regulations' requirement to "review all relevant information provided by the Federal agency or otherwise obtainable," 50 C.F.R. § 402.14(g)(1); and (c) the Interagency Cooperative Policy on Information Standards Under the Endangered Species Act requirement to "gather and impartially evaluate biological, ecological and other information that disputes official positions, decisions, and actions proposed or taken by the Services during their implementation of the Act," 59 Fed. Reg. 34271 (July 1, 1994).[2]

I. The BA Does Not Provide Essential Factual Elements of the Proposed Project.

To initiate Section 7 Consultation, action agencies must describe the proposed action, the area affected by the action, the listed species affected by the action, and the individual and cumulative affects the action will have on the species. 50 C.F.R. §§ 402.14(c)(1)-(4). In addition, action agencies must provide relevant reports and other relevant information. 50 C.F.R. §§ 402.14(c)(5)-(6). If the required information is not provided, the Fish and Wildlife Service must give the benefit of the doubt to the species and presume the missing information would indicate adverse effects on listed species. (FWS/NMFS 1998, p. 1-7).

The BA is missing several essential factual elements. This information is described below and provided to the Services as part of the bibliography.

A. Massive Egg-mass Mortality Occurred During the 2011-12 California Red-legged Frog Breeding Season Under Conditions Substantially Similar to those Proposed in the BA.

For two decades, RPD has known that its operation and management of Sharp Park Golf Course take large numbers of California red-legged frogs. For example, in 1992 consultants reported to RPD that "pumping of water out of Horse Stable Pond and the resultant exposure of shoreline was causing massive frog egg mass mortality" (PWA 1992, p. 24). Nonetheless, RPD has continued to drain Sharp Park's wetlands to ameliorate chronic Golf Course flooding. As expected, RPD has stranded and desiccated numerous California red-legged frog egg masses in subsequent years, with RPD's consultants and staff documenting multiple mortality events in 2003, 2004, 2005, and 2008 (Swaim 2008a, p. 4-4).

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[2] Because the FWS has agreed to enter into formal consultation over the Project, we submit these comments and data in order to insure that the Services consider the best available data in that consultation. However, although the Services must incorporate this submission into its review of the BA, the Services should not presume that review of this information alone ensures compliance with the Endangered Species Act's consultation requirements or other applicable laws. For example, agency actions that may affect, are likely to adversely affect, or jeopardize listed species cannot be considered an activity with minimal individual and cumulative adverse effects on the aquatic environment, raising serious questions as to whether the U.S. Army Corps of Engineers' decision to permit RPD's proposed project through Nationwide Permit 25 conforms with the Clean Water Act, 33 U.S.C. § 1344(e) & 40 C.F.R. § 230.7, and the National Environmental Policy Act, 42 U.S.C. § 4332(2)(C) & 40 C.F.R. § 1501.4.

After being served with two separate Endangered Species Act legal actions[3]—one by the U.S. Fish and Wildlife Service and another by conservation organizations—RPD developed a "Final Draft Compliance Plan" that described how RPD intended to continue draining Sharp Park's wetlands and mowing its transitional and upland habitats while implementing protocols RPD presumed would "reduce the chance of direct take to virtually zero" (RPD 2009, p. 10).

The Compliance Plan's protocols are substantially similar to the mitigation measures proposed in the BA.[4] The Compliance Plan and the BA both allow RPD to drain Sharp Park's wetlands without restriction unless egg masses—and to a lesser degree, tadpoles—are observed at Sharp Park; both presume single-pass visual surveys will detect all egg masses laid at Sharp Park; both presume that water levels can be maintained at a specific height with no fluctuation once egg masses or tadpoles are observed (RPD 2009, pp. 12-13 & RPD 2012, p. 22).

The Final Draft Compliance Plan was completed in December of 2009. Therefore, egg mass strandings during the 2011-12 breeding season should be considered by the Services. However, the BA does not include any information about 2011-12 winter egg mass strandings.[5] A summary of these results is provided below.

On January 3, 2012, before the first large rain of the 2011-12 frog breeding season, RPD ordered the pump house engineer to reduce the water level at Sharp Park by .5 feet (Ascariz 2012, p. 29). Once egg-masses were observed, RPD attempted to maintain a "water level and corresponding gauge board reading for Horse Stable Pond that will keep the eggs masses submerged in water" (RPD 2009, p. 12).

Nonetheless, approximately 47 California red-legged frog egg masses were stranded, fragmented, or otherwise taken at Sharp Park between January 27, 2012, and March 8, 2012 (Campo et al., Summary p. 1-4). This is approximately 32% of all egg masses observed at Sharp Park between those dates. Stranded egg masses were observed in nearly all portions of Sharp Park's wetland features, including the northern and western portions of Horse Stable Pond, and the northern, eastern, and western portions of Laguna Salada (Campo et al. 2012, pp. 22, 26, 33, 36, 39, 49, 54, 62, 67).

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[3] In 2005 the U.S. Fish and Wildlife Service personally served RPD's Golf Program Manager with an Endangered Species Act violation notice (Heard 2005, pp. 1-2), and in 2008 conservation organizations began notifying RPD of their intent to sue the City unless the unpermitted killing of endangered and threatened species ended (Augustine 2008, p. 7); (Plater 2009, pp. 4-5); (Crystal 2010, p. 3).

[4] However, as described below, in several key ways the BA's mitigation and minimization measures are less protective than the compliance plan protocols currently in place at Sharp Park. This makes the results from the past two years a conservative estimate of the extent of take likely to occur at Sharp Park under the BA.

[5] On p. 42, the BA mislabels 2010-11 egg mass data as 2011-12 egg mass data. During the 2010-11 breeding season, the Fish and Wildlife Service authorized RPD was to move egg masses that were about to become stranded by RPD's pumping operations on an emergency basis. However, during the 2011-12 breeding season, the Fish and Wildlife Service did not allow RPD to move such egg masses. Because all of the egg-masses on p. 42 mention authorized movement, this data must be from the 2010-11 breeding season.

B. The BA's Minimization and Mitigation Measures Are Less Protective of Endangered Species than the Existing Environmental Baseline.

Although the BA's minimization and mitigation measures (RPD 2012, pp. 22-29) are substantially similar to the protocols in RPD existing Compliance Plan (RPD 2009, pp. 8-15), they have been modified in ways that increase the probability that the operations and management of Sharp Park Golf Course will harm San Francisco gartersnakes and California red-legged frogs. For example, the BA significantly reduces the Compliance Plan's "no-mow" zone (RPD 2009, Ex. A; RPD 2012, p. 24); the BA allows golf areas to be mowed without first surveying the area for listed species (RPD 2009, pp. 9-10; RPD 2012, p. 23); the BA allows Golf Course staff with minimal training (RPD 2012, p. 23)—rather than experienced, Service-approved biologists (RPD 2009, pp. 9-10)—to determine when endangered species may be jeopardized by staff actions; and the BA increases off-path golf cart traffic (RPD 2009, p. 12; RPD 2012, p. 25).

Current course operations, as specified in the Compliance Plan, are considered part of the environmental baseline for the proposed project, because they constitute past and present impacts of private actions on the species. 50 C.F.R. § 402.02. Moreover, creation of and adherence to the Compliance Plan is a term and condition of the Fish and Wildlife Service's 2009 Biological Opinion for the Proposed Pacifica Recycled Water Project (Moore 2009, p. 34), and "[p]rior consultations . . . should provide the species status and environmental baseline data upon which subsequent consultations are based" (FWS/NMFS 1998, p. 1-7).

The BA will eliminate or reduce protections for the California red-legged frog and the San Francisco gartersnake. By removing these protections, the BA's minimization and mitigation measures constitute adverse effects on the species' environmental baseline, and are not conservation measures, as RPD suggests in the BA.

C. California Red-legged Frog Breeding Areas at Sharp Park are Sustainable Absent RPD's Massive Water Pumping Activities.

Throughout the BA, RPD claims that Sharp Park contains inherently "unsustainable" breeding habitat for the California red-legged frog. However, the BA contains no evidence to support this assertion. Hydrologists who have studied Sharp Park have shown the opposite is true: but for RPD's pumping activities, these areas would (a) retain sufficient water to remain hydrologically connected to Laguna Salada; (b) remain deep enough for egg masses to fully mature; and (c) persist long enough for tadpoles to develop into adults (Kamman 2012, pp. 5-7). Although this evidence was available to RPD, none of this evidence was provided to the Services as part of the BA.

RPD's records support this conclusion. During the 2010-11 frog breeding season, the Fish and Wildlife Service granted RPD emergency authorization to relocate 132 California red-legged frog egg masses (70% of all egg masses laid at Sharp Park) (RPD 2012, p. 42). RPD claimed that this was necessary because the eggs were laid in unsustainable habitats. However, RPD's pump house log indicates that on December 21, 2010, RPD's Dan Mauer ordered Sharp Park's pump engineer to "pump down pond before rains and frogs laying [SIC] eggs" (Ascariz 2012, p. 18). On December 26, 2010, the first egg mass of the 2010-11 breeding season was observed at Sharp Park. Between

December 21 and December 26, RPD drained 15,288,000 gallons of water from Sharp Park's wetlands (Ascariz 2012, p. 1).

RPD continued to drain Sharp Park's wetlands after December 26. By January 6, the first day that RPD was authorized to move egg masses, RPD had drained another 21,258,000 gallons of water from Sharp Park's wetlands. By January 14, when RPD again requested permission to move egg masses at risk, another 1.2 million gallons of water had been pumped out of the system. Even more water was removed from the system by the time that the January 21 egg mass movement occurred.

If RPD had stopped draining Sharp Park's wetlands on December 26, emergency movement of egg masses would have been unnecessary. On December 26, water levels were at 7.9 feet NAVD88. Kamman 2012 has explained that with a starting water level of 7.9 feet NAVD88, an additional 21,258,000 gallons of water (65.24 acre/feet) would bring water levels to approximately 10.1 feet NAVD88 at Sharp Park—which in turn would provide for more than the necessary six weeks of saturation for egg masses to fully develop (Kamman 2012, pp. 8-11, Ex. I). Even at 10.1 feet of elevation, all golf holes would remain playable with the possible exception of hole 12, with three fairways narrowed (Kamman 2012, Ex. B, Figures 11-12).

However, RPD did not stop pumping on December 26, and continued to drain Sharp Park's wetlands after January 21. By February 21, RPD had drained 79,044,000 gallons of water from Sharp Park. On that day, Jewel Snavely observed an egg mass that appeared to be at risk of stranding, while pumping was ongoing at Sharp Park[6] (Snavely 2012, p. 2). John Bowie returned to Sharp Park on February 22nd 23rd, and 24th, and discovered "the egg mass completely exposed to the air. The pumps were still operating, draining more water from Horse Stable Pond" (Bowie 2012, p. 2). By March 1, when Jewel Snavely returned to observe the egg mass it "was completely exposed to the air, and it was partially frozen" (Snavely 2012, p. 2).

In total, between December 21, 2010 and March 3, 2011, pump house records show that RPD pumped 103,044,000 gallons of water from Sharp Park's wetlands. The Services must consider the large amounts of water removed from the system, and absolute constraints on that amount, as part of the consultation process.

This past winter, even with far less rain, RPD again pumped enormous volumes of water from Sharp Park wetlands right when California red-legged frogs were laying – approximately 7 million gallons from January 3, 2012 to January 23, 2012; another 2.2 million gallons from January 23 to January 28; and another 500,000 gallons in the several days after California red-legged frog egg masses had been detected on January 28th.

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[6] Wild Equity Institute informed the Fish and Wildlife Service and RPD about this stranding by letter on February 24, 2011 (Wayne 2011, pp. 3-4). Lisa Wayne indicated that RPD biological monitors had failed to observe the egg mass despite extensive surveys on February 22nd (Wayne 2011, p. 1) ("Ugh. This is really discouraging. We have spent so many hours out there monitoring. In fact 4 NAP staff surveyed on the 22nd in this area and did not see an egg mass").

D. The BA Does Not Provide Accurate Natural History Information About Sharp Park, and Therefore Misstates Threats from Salinity Intrusion.

The BA suggests that Sharp Park's berm creates habitat conditions suitable for California red-legged frogs and San Francisco gartersakes by preventing salt water intrusion. This suggestion is based on the presumption that Laguna Salada was once a tidal lagoon, influenced daily by ocean tides (RPD 2012, pp. 30-31). Both the suggestion and presumption are inconsistent with the best available science.

Laguna Salada was never a tidal lagoon, nor was it daily or regularly influenced by ocean waters.[7] The most extensive natural history investigation ever conducted of Sharp Park concludes that Laguna Salada was, under natural conditions, a fresh-to brackish backbarrier lagoon system surrounded by freshwater wetlands, separated from the ocean by a protective dune-like beach system (ESA-PWA 2011, p. 39).

Lagoons with these structures and ecological characteristics provide suitable habitat for frogs and snakes throughout the state—as did Sharp Park's lagoons before an armored seawall was constructed in the 1980s. Aerial photos from the 1940s through the 1980s indicate that Sharp Park's berm was not completed until after the mid-1980s (ESA-PWA p. 40); (ARUP 2009, Figures 3-7). Nonetheless San Francisco gartersnakes were recovering at Sharp Park until the mid-1980s (RPD 2012, p. 39). The BA suggests that ocean storm surges in 1983 & 1986 halted this recovery (RPD 2012, p. 31), but ignores evidence that Sharp Park's California red-legged frog and San Francisco gartersnake populations survived ocean storm surges as large or larger in the 1930s,[8] 1950s, and 1970s (Faulkner Undated, p. 2), (Geomatrix 1986, p. 20). The persistence of both species at Sharp Park through the mid-1980s despite (a) an incomplete sea wall and (b) several coastal storm surges that inundated Sharp Park indicates that coastal ecological processes do not threaten species survival at Sharp Park, and that some other causal factor is behind the decline of the species in the mid-1980s.

RPD's fundamental misunderstanding of Laguna Salada's ecological underpinnings has led it to propose project elements and mitigation measures that will actually cause harm to both species. For example, retaining the sea wall while pumping Sharp Park's wetlands will exacerbate, not prevent, saltwater intrusion from the Ocean as marine waters are pulled through the groundwater interface, eventually making the entire lagoon inhospitable to California red-legged frogs (ESA-PWA 2011, p. B-13). Moreover, the BA's dredging proposal, far from improving breeding habitat for listed species, will put them at risk by encouraging listed species to breed in the areas most vulnerable to pumping-induced saltwater intrusion (ESA-PWA 2011, p. B-13).

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[7] The City's belief is based on (PWA 1992), which is cited frequently in the BA. However, the successor of this study—ESA-PWA 2011—thoroughly reviewed the 1992 report and determined it's assumptions about the historical condition of the site were mistaken (ESA-PWA 2011, p. 39-40).

[8] The earliest of these storms occurred shortly after golf architect Allister McKenzie leveled the natural dune-like barrier protecting Laguna Salada from ocean storms. He did so to place several golf links on the beach. All of these links were destroyed in subsequent storms, and eventually the course was redesigned, moving many of these holes to the east side of Highway 1 (Faulkner Undated, p. 1-2).

The Interagency Cooperative Policy for the Ecosystem Approach to the Endangered Species Act requires the Services to "incorporate ecosystem considerations in Endangered Species Act activities," 59 Fed. Reg. 34273, 34274 (July 1, 1994), and applies to "interagency consultation." *Id.* The Service's Section 7 Consultation Handbook similarly explains that the Service must "[k]eep in mind [the Service's] ecosystem approach to conservation of endangered and threatened species" as the Services implement Section 7 Consultation processes. Here, the Services must review the best available information about Sharp Park's natural history and ecology, and ensure that the Project, its proposed terms and conditions, and any minimization measures are both biologically and ecologically sound.

E. The BA Proposes Destroying Cover Habitat to Enhance Breeding Habitat, Even Though Breeding Habitat Is Not a Limiting Population Growth Factor at Sharp Park.

The California red-legged frog and the San Francisco gartersnake require multiple habitat conditions to survive. For example, "essential habitat for a breeding [San Francisco gartersnake] population includes open grassy uplands and shallow marshlands with adequate emergent vegetation, and the presence of both Pacific tree frog (*Pseudacris regilla*) and California red-legged frog breeding populations" (FWS 2006, p 9). "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" (Goude 2008, p. 8).

Similarly, the "California red-legged frog requires a variety of habitat elements with aquatic breeding areas embedded within a matrix of riparian and upland dispersal habitats" (FWS 2002, p. iv). The frog "spend[s] considerable time resting and feeding in riparian vegetation when it is present" and can be "found up to 30 meters (100 feet) from water in adjacent dense riparian vegetation for up to 77 days" (FWS 2002, pp. 13-14). "Overall, [California red-legged frog] populations are most likely to persist where multiple breeding areas are embedded within a matrix of habitats used for dispersal" (FWS 2002, p. 12). Recent studies demonstrate that in both breeding and non-breeding periods, California red-legged frogs predate almost exclusively on terrestrial species (Bishop et al. 2011, p. 2), indicating uplands are also essential habitat for California red-legged frog prey.

Sharp Park currently provides the habitat mixture both species require (RPD 2012, p. 34). However, RPD's Project would transform one essential habitat type—emergent vegetation—into open water habitat "to improve water flow to the pumps" (RPD 2012, p. 12) so Sharp Park's wetlands can be rapidly drained during the California red-legged frog's breeding season. RPD suggests this transformation is justified because "areas along the connecting channel and [Horse Stable Pond] that contain dense cattail growth are considered to be very low quality breeding habitat for the [California red-legged frog]" (RPD 2012, p. 48) and presumes the transformation will therefore cause frog populations to increase, ultimately providing more prey for the San Francisco gartersnake.

RPD's position is not supported by available evidence. If, as RPD hypothesizes, emergent vegetation limits growth of California red-legged frog and San Francisco gartersnake populations at Sharp Park, RPD's records should show a decline in egg masses as the extent of emergent vegetation has increased. But the BA indicates California red-legged frog egg mass counts have

been generally increasing at Sharp Park and at Mori Point since 2004 (RPD 2012, p. 42); indeed, during the 2010-11 breeding season RPD claims it "recorded more than 3 times the eggmasses [SIC] than any other year" (Campo 2011, p. 1). Similar numbers were observed during the 2011-12 breeding season (Campo et al. 2012, Summary p. 4).

Nor does available evidence indicate that Sharp Park's San Francisco gartersnake population is limited by prey availability. If Sharp Park's California red-legged frog population were too small to support its predator, RPD records should show a decline in adult frogs at Sharp Park. But while testifying against endangered species conservation measures at Sharp Park on behalf of golf advocacy groups, Dr. Mark Jennings stated "it has been common for the past couple of years at Sharp Park to find dozens and dozens of juvenile and adult [California red-legged frogs]," and concluded that "there are relatively few sites within the current geographic range of the species that have such large populations of adult [California red-legged frogs]" (Jennings 2011, p. 16).[9] Furthermore, "trapping studies at Mori Point and Sharp Park since 2004 suggest that the [San Francisco gartersnake] population again may be increasing, at least at Mori Point" (Swaim 2008a, p. 1-4). "[C]apture rates for 2006 and 2008 reflected an increase over the 2004 rate of 104% and 5%, respectively . . . we observed an overall increase in the number of [San Francisco gartersnakes] trapped per unit effort within the project area" (Swaim 2009a, pp. 14, 23).

Moreover, RPD's pumping is the cause of emergent vegetation growth in Laguna Salada, and therefore to solve emergent vegetation concerns RPD must reduce pumping. Emergent vegetation like cattails and tules only grow in relatively shallow waters. If RPD would end its practice of draining Sharp Park's lagoons, tule and cattails would not be able to survive (Baye 2012, p. 5). This would be an ecologically and biologically superior option for both species, as it would work with the natural ecology of the site and not be dependent on long-term, regular dredging that can incidentally take listed species.

While neither the availability of open water habitat nor frog population sizes limits productivity at Sharp Park, the best available science does indicate that egg mass and juvenile *survivorship* limits the California red-legged frog's population growth, (Nagano 2006, p. 22 ("pumping expose[s] California red-legged frog eggs to desiccation"), and that destruction of upland habitats limit the San Francisco gartersnake's population growth (Dexter, 2012, p. 10 ("Nearly all of the areas surrounding Laguna Salada and Horse Stable Pond are mowed regularly by the Golf Course, very near or immediately adjacent to the wetland edge. This leaves a very narrow band of emergent wetland habitat between the open water areas of the lagoon and the Golf Course links, and no protected upland in which SFGS can bask, breed, or seek refuge in a burrow. Beyond the narrow

[9] However, Dr. Jennings wrongly attributed his observations to Sharp Park Golf Course management and operations. As Dr. Marc Hayes explained, "it is my professional opinion that any increase in egg masses observed in the Sharp Park/Mori Point complex reflects continued increases in recruitment from the Mori Point ponds. Yet because defendants' activities at Sharp Park are taking the CRLF in several ways, including by adversely altering habitat conditions at Sharp Park, defendants activities are in fact having negative population-level impacts on the entire Mori Point/Sharp Park CRLF population" (Hayes 2012, p. 27).

band of emergent vegetation, SFGS would face a very high likelihood of being taken directly by mowing operations")).[10] Specifically, the evidence shows that RPD's operations:

a) eliminate hydrological connectivity between the frog's breeding habitats and the deeper, open waters tadpoles need for growth (Hayes 2012, p. 12-13); (Kamman 2012, p. 7-8);

b) encourage growth of dense emergent vegetation in Sharp Park's open waters (Baye 2012, p. 5);

c) destroy upland habitats the San Francisco gartersnake needs to bask, breed, and seek refuge (Dexter 2012, p. 10);

d) take massive numbers of California red-legged frogs (PWA 1992, p. 24), (Campo et al. 2012, Summary p. 4) and the San Francisco gartersnake (Fox 1953, p. 2 ("We found one dead [San Francisco gartersnake], probably killed by golfers- they probably die frequently in this manner")); (FWS 2006, p. 17).

The Services must consider this data and evidence during its deliberations and the production of any subsequent Biological Opinion.

F. The BA Inappropriately Considers All Golf Course Operations as Interrelated and Interdependent Actions, and Inappropriately Excludes Effects from the proposed "Laguna Salada Restoration Plan."

RPD states that the Project and Sharp Park Golf Course's routine operations and management are "interdependent" and "would not occur but for [the Project]" (RPD 2012, p. 52). At the same time, RPD suggests its plan to rebuild portions of Sharp Park Golf Course within existing natural areas—a project the BA calls the "Laguna Salada Restoration Plan," but is in fact the scientifically flawed, heavily criticized (Davidson et al. 2011, pp. 1-2) plan first described as Alternative A18 in TetraTech's 2009 Conceptual Restoration Alternatives Report—is not "reasonably certain to occur" and should not be assessed by the Services at this time (RPD 2012, p. 59). Both positions are mistaken.

1. Activities are "Interrelated" or "Interdependent" to the Project if They Would Not Occur "But For" Implementation of the Project.

In order to ensure that the Project does not jeopardize listed species at Sharp Park, the Section 7 Consultation regulations require the Services to analyze all "effects of the action," including the "direct and indirect effects" of the Project "together with the effects of other activities that are interrelated or interdependent" with the Project. 50 C.F.R. § 402.02. "Indirect effects are those caused by the proposed action and are later in time, but are still reasonably certain to occur," *id.*, and include "Federal actions that have not undergone Section 7 consultation but will result from

[10] Similarly, in 2006 Swaim Biological Inc.—a preparer/contributor to the BA—concluded that the failure to detect San Francisco gartersnakes in Calera Creek Watershed ponds—despite "large breeding populations of [California red-legged frogs]"—was due to a "lack of appropriate open basking habitat adjacent to the ponds" (Swaim 2006, p. 24).

the action under consideration" (FWS/NMFS 1998, p. 4-29).[11] "Interrelated actions" are "part of a larger action and depend on the larger action for their justification," and "interdependent actions" retain "no independent utility apart for the action under consideration." *Id.* This broad regulatory definition of "effects of the action" ensures the Services "use the best information available to prepare *comprehensive* biological opinions considering *all stages* of the agency action." *Connor v. Burford*, 848 F. 2d at 1441, 1454 (9th Cir. 1988) (emphasis added).

As a practical matter, the Services apply a "but for" test to determine if another action is interrelated or interdependent with the proposed action. *Sierra Club v. Marsh*, 816 F.2d 1376, 1387 (9th Cir. 1987). When applying this test, the Services must remember that "interrelated or interdependent activities are measured *against the proposed action*" and not reverse the analysis. (FWS/NMFS 1998, p. 4-27). That is, the relevant inquiry is whether the alleged "interrelated" or "interdependent" activity *would not* occur but for the Project; if so, it is an interrelated and interdependent activity. On the other hand, if the alleged "interrelated" or "interdependent" activity *would* occur even if the Project were never implemented, then it is not an interrelated or interdependent activity.[12]

2. Golf Course Operations and Management and the Project Are Not Interdependent.

Sharp Park Golf Course's operations and management cannot be considered interrelated or interdependent with the Project under this framework. Indeed, the Project has not yet been implemented and Sharp Park Golf Course has been operating without it for years. The Golf Course thus demonstrates it has "independent utility" from the Project, and it also demonstrates that the Project is not the "but for" cause of the Golf Course. This holds equally true for individual Golf Course operations like mowing, golf cart use, golf cart path construction, gopher management, fertilizers, and irrigation: each of these activities occurs in the absence of the Project, and there is no evidence in the BA that the activities would cease if the Project were not implemented.

RPD reached the opposite conclusion because it inverted the "but for" analysis. While the *Project* has no independent utility[13] from the Golf Course operations, and while the *Golf Course* may be the

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[11] In contrast, future federal actions that are *unrelated* to the proposed action are reviewed during *subsequent* Section 7 Consultations at the time those actions are ultimately proposed. 50 C.F.R. § 402.02.

[12] To conduct this inquiry properly, the Services must have a clear project description. According to RPD's permit application, the Project will (a) dredge Horse Stable Pond, (b) install steps to the pumps, (c) construct a walkway to the front of the pump, and (d) place a retaining wall in jurisdictional waters. The purpose of the project is to address workplace safety issues and "ensure unimpeded water flow to the pumps" (Wayne 2011b, p. 2).

[13] Although the BA suggests dredging wetlands and draining lagoons constitute "habitat enhancements" at Sharp Park, RPD has known since at least 1992 that these measures benefit only the golf course, and are the cause of emergent vegetation growth, not the cure for it. As RPD's consultants then explained, "[e]xisting water sources are generally capable of sustaining a viable wetland .... A modern larger-capacity system would reduce flooding and improve water management. However, periodic high water levels from freshwater flooding primarily affects the golf-course operation. If sufficient upland refuge is available, vegetation and wildlife species will survive. Thus, major expenditures on flood control facilities are probably not warranted solely on the basis of wetland enhancement" (PWA 1992, p. 32).

"but for" cause of the Project, the *Golf Course is not the action proposed by the federal action agency here*, and therefore a consultation so structured would stand the Services precisely-tuned framework for Section 7 Consultation on its head. By design, pre-existing, private activities that adversely affect listed species like Sharp Park Golf Course are incorporated into the effects analysis' environmental baseline. If this were not so, past and present impacts to listed species (a) could be double-counted during the jeopardy analysis, once through the environmental baseline and once as the effects of the action, or (b) could be wielded by the applicant as a take minimization measure—the required standard for Section 7 Consultation, 16 U.S.C. § 1536(a)(4)(ii)—when in fact the applicant was not minimizing the true impacts of her project, but mitigating for past or present harms.

Because RPD is causing take with its operations and management of Sharp Park Golf Course, it must either cease the activities that cause take or it must obtain a take permit. For activities that do not have a federal nexus and/or cannot be analyzed through the Service's Section 7 process, RPD must obtain a Section 10(a)(1)(B) permit. 16 U.S.C. § 1539(a)(1)(B).

3. RPD's Golf Course Construction Plan is Interrelated with the Project.

RPD's plan to reconstruct Sharp Park Golf Course is reasonably certain to occur, will adversely affect Sharp Park, and is interrelated with the Project: it's effects must therefore be assessed during this Section 7 Consultation process.

a. RPD's Golf Course Construction Plan Has Been Significantly Changed.

In 2009, the San Francisco Board of Supervisors unanimously passed an ordinance ordering RPD to study restoration alternatives at Sharp Park. The report RPD ultimately released contained a radical new golf course construction plan for Sharp Park guised as a "recovery" effort for listed species (TetraTech 2009).

After scientists criticized the plan's several significant flaws (Davidson et al. 2011, pp. 1-2), the City convened the fact-finding Sharp Park Working Group (Holland 2011, pp. 4-5). When the Working Group released findings that adopted many of (ESA-PWA 2011) recommendations,[14] RPD announced it would abandon a core element of its golf course construction plan—armoring Sharp Park's seawall—but continued to insist that Sharp Park's 18-hole golf course would remain in its historic footprint, even as it acknowledged that sea level rise will erode the seawall and force it inland, squeezing endangered species habitats in a narrow area between the golf areas and the advancing ocean (Holland 2011, pp. 4-5).

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[14] The penultimate draft of the Sharp Park Working Group's findings did not make any conclusion about Sharp Park Golf Course's integrity or compatibility with the site. However, shortly before its scheduled release, Dave Holland, then director of San Mateo County Parks, leaked a copy of the document to golf advocacy groups (Holland 2011, p. 1-3). These advocates demanded that Mr. Holland "insert something along the following line: 'None of the foregoing is incompatible with preservation of the historic 18 hole golf course that exits on the property.'" *Id.* Mr. Holland agreed to do so, and was able to insert a single line at the end of the document: "These habitat enhancements and golf could be compatible." *Id.*

Contemporaneously RPD was preparing a Draft Environmental Impact Report ("DEIR") for the City's Significant Natural Resource Areas Management Plan ("SNRAMP"). From 2005 until 2011, SNRAMP contained a project-level proposal for Sharp Park's wetland complex, largely based on PWA's 1992 Laguna Salada Resource Enhancement Plan. Although public comments suggested RPD should consider restoring habitat over the entire Sharp Park Golf Course area, RPD refused to do so, explaining in 2009 "[s]hould changes to the Sharp Park Golf Course be proposed, they would undergo a separate regulatory review, including CEQA environmental review" (RPD 2011, Appendix A, p. 2-5).

However, when the DEIR was released in 2011, the PWA-based Laguna Salada plan had been replaced with the TetraTech golf course construction plan.[15] Under this plan, 60,000 cubic yards of material would be dredged from the Laguna Salada's wetland complex, creating 12,100,000 gallons of water storage capacity (RPD 2011, p. 99). Four golf links surrounding Laguna Salada would be raised by up to 3.5 feet, creating additional (although unquantified) water storage capacity in the lagoon system (TetraTech 2009, p. 43). Another link would be narrowed, and another removed[16] (RPD 2011, Figure 3). It also calls for filling ½ acre of Sharp Park's wetlands to create an island in Laguna Salada (RPD 2011, p. 99) and landfilling areas where California red-legged frogs breed to "prevent localized ponding" and "to allow more complete drainage to Laguna Salada" (RPD 2011, p. 377).

b. The Golf Course Construction Plan and the Project are Interrelated.

The DEIR's golf course construction project is interrelated with the Project. Both are designed to reduce golf course flooding, and depend upon each other to implement this larger action. RPD's larger plan to reduce golf course flooding is composed of (1) ensuring maximum pump rates are reliably achieved, (2) increasing water flow rates towards the pumps, (3) increasing water storage capacity by deepening lagoons and (4) increasing storage capacity by elevating the rim of the lagoon. If any one of these components fails or is not achieved, pumping rates will decrease and Sharp Park Golf Course will flood.

While there is some overlap, the Project is primarily designed to accomplish the first and second elements of this plan (RPD 2012, p. 6) while the DEIR is primarily designed to implement the third and fourth elements of the plan (RPD 2011, p. 99). But the elements are expressly interlinked: the DEIR repeatedly states that the golf course construction project is dependent on efficient pump operations (RPD 2011, pp. 146, 361, 374, 377), and further explains that the golf course

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[15] The plan was attached to the DEIR as Appendix I, and will be referred to throughout this document as (TetraTech 2009) or (RPD 2011) interchangeably.

[16] Although Hole 12 will be removed at Sharp Park, the DEIR requires RPD to rebuild the link in another location at Sharp Park (RPD 2011, p. 28). The DEIR proposes two locations for this link: west of Laguna Salada, between the seawall and frog breeding areas, or east of Highway 1. The DEIR suggests that surrounding Laguna Salada with golf links would have fewer significant impacts because it would retain historic integrity of the golf course, even thought it would negatively affect wildlife and intrude on protected natural areas. However, the DEIR defers the ultimate decision to subsequent environmental review.

construction plan is designed to meet flood control objectives while reducing wear-and-tear on the pumps (TetraTech 2009, p. 43).

RPD's statement that the golf course construction plan is wholly separate from the Project (Wayne 2011b, p. 2) is belied by its recent permitting strategy discussion with the Services (Anonymous 2012, p. 1). The agenda from this discussion indicates the Project and the golf construction project are two temporal phases of a single management strategy. Effects from the later phases are classic indirect effects, because they are caused by the proposed action and are later in time, but still reasonably certain to occur. They also derive, either directly or indirectly from an interrelated element of RPD's larger flood management strategy. In either case, by law the Services must review these effects during this Consultation process, regardless of RPD's colloquial assertion that the projects are separate.

Moreover, RPD cannot defer consultation on the golf course construction project until the DEIR is finalized because only unrelated federal actions may be considered in subsequent Section 7 Consultations. 50 C.F.R. § 402.02. Indeed, now that Section 7 Consultation has been initiated, RPD is required to prevent "irreversible and irretrievable" commitments of resources that foreclose reasonable and prudent measures. 16 U.S.C. § 1536(d); 50 C.F.R. § 402.09. Yet RPD is attempting to obtain final approval of the course reconstruction plan, and then after RPD's discretion is constrained by the plan's adoption, consult with the Services over RPD's remaining discretionary items. Given that the current plan leaves only one element of the golf course construction project open to RPD's discretion—rebuilding a single golf link in one of two locations—this strategy will severely restrict the Service's ability to recommend reasonable and prudent alternatives and measures, in violation of this Section 7(d) of the Endangered Species Act.

As the Services have previously explained to RPD, the golf course construction project is not a recovery action, and will require conditions such as a conservation easement held by a third party, an endowment to manage the property in perpetuity, and a plan to address the sea wall and climate change (Wayne 2010a, pp. 1-3). RPD must not be allowed to avoid these requirements by irretrievably investing resources in its construction plan, and the Services must therefore implement all of these measures in the Services current Biological Opinion.

c. The Golf Course Construction Plan is Reasonably Certain to Occur.

To avoid this outcome, RPD suggests that the golf course construction plan is not reasonably certain to occur. But RPD's proposal has already been approved by several oversight bodies, and in each case RPD made clear that it would not review or consider any restoration alternative at Sharp Park. RPD's single-minded approach to its Sharp Park golf course construction project and the completion of many steps in its approval process show that the golf course construction project is reasonably certain to occur.

RPD's proposal to rebuild Sharp Park Golf Course's original layout was endorsed by San Francisco's Recreation and Parks Commission in December of 2009, to the exclusion of all other options for Sharp Park's future. In the SNRAMP DEIR, RPD concluded that only an 18-hole Golf Course at Sharp Park was a feasible alternative for the property, and refused to consider other restoration options that would provide additional benefits to listed species (RPD 2011, pp. 526-

27). Moreover, the DEIR contains a mitigation requirement that will force RPD to rebuild a golf link in one of two places in subsequent environmental review (RPD 2011, p. 28). Thus, RPD's existing approvals and contemporaneous permitting procedures create a binding requirement to implement the golf course construction plan.

Furthermore, when the San Francisco Board of Supervisors passed an ordinance requiring RPD to negotiate with the National Park Service to implement a restoration plan for the property, the Mayor vetoed the ordinance (Lee 2011, p. 1) again indicating the City's intent to ensure the golf course construction project occurs. And with RPD encouragement, San Mateo County passed a resolution calling for San Francisco to "maximize recreation opportunities" at Sharp Park by implementing the golf course construction plan (San Mateo Co. 2011, p. 2).

These actions by the City are all that is necessary to show that the golf course construction plan is reasonably certain to occur. While there may be some ambiguity about what the ultimate Golf Course design may be, "[t]he law requires consideration of the effects of interrelated and interdependent activities whether or not all of the activities' impact is known." *NRDC v. Rodgers*, 381 F. Supp. 2d 1212, 1237 (E.D. Cal. 2005).

II. Inconsistencies with the Services' Section 7 Consultation obligations.

The BA also suffers from critical procedural failures that reduce the probability that Section 7 Consultation will ensure that the California red-legged frog and the San Francisco gartersnake are not jeopardized by RPD's activities. These procedural issues have created problems with past Section 7 consultations at Sharp Park, and the Services should act quickly to ensure that these problems are not repeated here.

A. RPD Has Not Been Designated as the Army Corps Non-federal Representative, Yet It is the Sole Author of the BA.

Under the Services Section 7 Consultation regulations, it is clear that consultation occurs between a federal action agency (such as the Army Corps of Engineers) and a federal expert agency (such as the Fish and Wildlife Service). Non-federal applicants such as RPD are not action agencies, and therefore the ultimate responsibility to comply with Section 7 lies with the federal action agency considering the non-federal application. 50 C.F.R. § 402.08.

Action agencies may designate a non-federal representative to execute the agency's Section 7 Consultation obligations, but to do so it must provide written notice of its decision to the Fish and Wildlife Service. *Id.* Even when such a designation occurs, action agencies must "furnish guidance and supervision and shall independently evaluate the scope and content" of the documents prepared by the non-federal representative. *Id.*

It does not appear that the Army Corps of Engineers has provided written notice to the Fish and Wildlife Service of the Army Corps' intent to designate RPD as its non-federal representative. No such documentation exists in the BA, nor does it exist in the docket of pending ESA litigation over Sharp Park's activities, nor is it in documents received from the Services through Freedom of Information Act requests. Yet the BA states it is authored entirely by RPD staff and consultants,

and does not indicate that the Army Corps provided an independent evaluation of the document. This is directly contrary to the Services' Section 7 Consultation regulations.

This procedural deficiency may explain inconsistencies in documents RPD filed with the Services. The project description in RPD's permit application and the project description in RPD's BA differ in several ways. For example, the BA suggests that routine Golf Course operations and management are part of the Project, and proposes to construct a new pathway embankment near Laguna Salada's northeastern shore (RPD 2012, p. 11). While months have passed since the application was submitted and the BA prepared, there is no record that the Army Corps of Engineers concurs with these changes. When an action agency and the consulting agency are working from different project descriptions it is impossible for Section 7 Consultation to ensure that listed species are not jeopardized because the agencies cannot understand and clearly delineate the effects of the action proposed.

RPD has taken unusual liberties with the consultation process under similar circumstances in the past. For example, in 2008 RPD received, through emergency consultation procedures, a nationwide permit to replace Sharp Park pump house's pipes, and a Section 7 consultation was completed on the project. The BO explained that it covered only the construction project itself, and did not insulate the Army Corps or RPD from take of San Francisco gartersnakes through capture, pursuit, injury or death (Goude 2008, p. 14). The project was completed later that year.

In 2010, RPD applied for another Army Corps of Engineers permit. In this case RPD wished to dredge Horse Stable Pond, and deposit the spoils above the pond's high water mark. When informed of this project, the Army Corps explained that it did not have jurisdiction over the project, and that therefore it could not initiate consultation on the proposal (Hicks, 2010, p. 2); (Gill 2010, p. 1). The Army Corps further explained that RPD should obtain a Section 10 permit.

Instead, Lisa Wayne contacted the Fish and Wildlife Service's Ryan Olah on October 28, 2010, informing him "[t]he Corps has determined this is not an issue for them" and requesting further discussions with the Services (Wayne 2010b, p. 1). On November 18, 2010, the Services nonetheless reinitiated consultation on the 2008 Biological Opinion (Moore, 2010, p. 1).

It is not clear why or how the Services were authorized to issue this revised BA. The unusual process seems to be partially responsible for misstatements in the 2010 Biological Opinion about pumping impacts on California red-legged frogs (O'Hara 2011, p. 1). But it is clear that if the regulations governing non-federal representatives were implemented this confusion will not happen again. The Services should clarify their roles before further steps on this Project are completed.

B. The BA Contains No Analysis of Alternatives to the Project.

The BA is also deficient because it does not discuss alternatives. While alternatives may not be appropriate in every case, 50 C.F.R. § 402.12(f)(5), in a case like this where evidence of scientifically-superior alternatives is widespread, public concern and controversy over the BA's proposal is high, and when massive take has occurred under protocols that are more conservative than those in the proposed project, the Services cannot ensure that species will not be jeopardized unless the best available science is used to consider alternatives to the status quo.

In (ESA-PWA 2011), contributor Dawn Reiss describes a restoration model for Sharp Park that is based on the best scientific data available at Sharp Park and addresses all of the above deficiencies in the BA. For example, where the BA suggests that both species are "conservation reliant" due to their isolation, Ms. Reiss' proposal emphasizes connective habitat corridors across Sharp Park.

Where the BA suggests it will continue to drain and fertilize Sharp Park's wetlands on the one hand, and then dredge excessive tule and cattail growth on the other, Ms. Reiss' mitigation model constrains pumping so that water levels will rise high enough to drown excessive vegetation growth, and ensures that water levels rise and fall slowly so that Sharp Park's entire wetland feature remains hydrologically connected and contains sufficient water for egg masses to develop into adult frogs.

Where the City's BA ignores the fundamental changes climate change will bring to this landscape, Ms. Reiss' plan provides mitigation and recovery areas upland and inland from areas that will be immediately impacted by catastrophic flooding events, and then creates natural defenses around these areas by restoring wetlands and vegetative features between the rising sea and the restored habitats. These features will absorb and slow the rate of water if intrusion ever does occur.

Where the City's BA blames the frog for an apparently indiscriminant breeding behavior and for laying eggs in 'unsustainable' habitats, Ms. Reiss' mitigation and restoration plan recognizes that the California red-legged frog can successfully breed under natural conditions at Sharp Park, so long as the velocity, rapidity, and scope of the wetland draining project implemented by San Francisco is curtailed.

All of these outcomes would provide greater conservation and public benefits than the project disclosed in the BA, yet it has not been disclosed in the BA. This is due in part to RPD's determination that "the wetland complex at Sharp Park is not expected to provide habitat in perpetuity," a key component of its plan to create habitat linkages only to federal properties, essentially evicting endangered species from Sharp Park (Wayne 2009, p. 2). The Services should consider the alternatives proposed by (ESA-PWA 2011) now, because planned extirpation of listed species is not an allowable outcome through the Section 7 Consultation process.

III. Section-by-Section Evaluation of Best Available Science in the Biological Assessment.

The following comments are specific to particular sections of the Biological Assessment.

A. Section 1.4 Previous Consultations. The BA suggests that any Biological Opinion issued by the Services in this consultation will replace RPDs compliance plan. However, creation and adherence to a compliance plan is a term and condition of the Service's Biological Opinion on the Recycled Water Project (Moore 2009, p. 34). If RPD is not in compliance with these terms and conditions, activities associated with the Recycled Water Project cannot be insulated from take.

B. **Section 2.2.1 Construction Action.** The BA's reliance on dredging Laguna Salada's channels and waterways—without any investigation or discussion of how pumping and fertilizer use may be altering the ecology of Laguna Salada, and without any discussion of the possible anoxic conditions that such dredging could create—threatens the persistence of both species on the site (Baye 2012, p. 3, 13).

C. **Section 2.2.2.3 Integrated Pest Management.** Rodent burrows provide essential habitat for San Francisco gartersnakes. The BA proposes to kill rodents, but this will likely undermine the value of the area for special status species.

D. **Section 2.2.2.5 Circulation.** The BA suggests that 30-40% of Sharp Park's customers rent golf carts. A conservative estimate of golf course use suggests 35,000 rounds of golf are played at Sharp Park annually. This means at least 10,500 golf cart trips circle Laguna Salada every year. Golf carts have been demonstrated to cause extensive mortality to snake species (Hayes 2012, pp. 22-23).

E. **Section 2.3.16 Pumping.** The proposed pumping protocols do not include biological screens to prevent listed species from being entrained. Biological monitors at Sharp Park have observed crayfish entrained by Sharp Park's pumping operations, and stated that "[I]f crayfish can become entrained in pump than frogs might also" (Swaim 2008b, p. 1). (Hayes 2012) makes recommendations on screening at Sharp Park.

F. **Section 2.3.16 Pumping.** RPD's pumps will break or malfunction if they are not turned off and allowed to cool for an extended period of time after target water levels are reached, water levels at Sharp Park constantly fluctuate at least 3.6 inches even when the pumping protocol is working as designed (Ascariz 2012, p. 4-5). Because Laguna Salada contains extensive areas of shallow-margin open water habitat, nearly all California red-legged frog egg masses laid at Laguna Salada during this three-inch differential are at risk of desiccating and dying. Drawdown of more than a few inches poses "significant desiccation risk to developing eggs attached to emergent vegetation and to those deposited in shallow water" (Swaim 2008a, p. 4-4). Thus, even under perfect application of the pumping protocol, egg masses will be placed at risk of stranding. "Discontinuing pumping at Horse Stable Pond would result in reduced fluctuation in water level and a lower risk of egg mass desiccation" (Swaim 2008a, p. 4-4).

G. **Section 2.3.16 Pumping.** RPD's pumping protocol relies on visual observation of egg masses in order to function: in the absence of visual detection of egg masses, pumping continues unabated. However, Dr. Hayes' evaluations show that the visual detection rate of California red-legged frog egg masses during single-pass surveys such as those described in the BA is far below 1 (Hayes 2012, p. 19). So long as detection rates are so low, the pumping protocol will continue to desiccate egg masses. However, Dr. Hayes suggest that double- or triple-pass surveys could bring detection rates closer to 1 to address the visual observation error—but the BA contains no date or evidence to explain why such survey techniques were not proposed.

H. **Section 2.3.18 Mowing.** The mowing protocols are dramatically scaled back and insufficient to protect the San Francisco gartersnake from jeopardy given the precarious status of the species (Dexter 2012).

I. **Section 4.3.1 San Francisco Gartersnake.** The BA suggests San Francisco gartersnakes have not been observed at Sharp Park in four years. However, Swaim Biological observed one at Horse Stable Pond in 2009 (Swaim 2009b, p. 2). San Francisco gartersnakes have also been observed at Mori Point in 2011 and 2012. Moreover, because the species is difficult to detect, a lack of observations does not mean the species is not present (Johnson 2008, p. 1-2). Dead San Francisco gartersnakes are likely scavenged as soon as they are killed, making observations of taken individual difficult (Swaim 2008c, p. 1).

J. **Section 5.3.2 San Francisco garter snake.** Although RPD suggests that the laterally-compressed gartersnake discovered by Mr. Steve Salisbury at Sharp Park in 2005 was not in fact killed by a lawn mower, both Dr. Hayes' report and Ms. Dexer's report contain assessments of the physical condition of the snake and concluded that the snake was killed by the wheels and blades of Golf Course machinery. The Service's own assessment of this snake, published in the 2006 5-year status review of the species, concurs with Mr. Hayes' and Ms. Dexter's view.

Sean Salisbury discovered this snake, and has provided a declaration about his finding (Salisbury 2011, p. 2). Dr. Marc Hayes and Wendy Dexter have both viewed photos of the snake that was found by Sean Salisbury in 2005 near Hole 12. They have both concluded that the snake was killed by mowers or possibly golf carts (Hayes 2012, p. 22) (Dexter 2012, p. 11).

Wendy Dexter's data and reports indicate that the San Francisco gartersnake continues to persist in the Sharp Park/Mori Point complex, and that under existing mowing regimes it is inevitable that at some point in the future another San Francisco gartersnake will be killed by the operations and management of the course.

She goes on to explain that because the population at Sharp Park is at critically low numbers, each San Francisco gartersnake killed on the site greatly increases the probability of local extirpation of the species. The City's BA, in contrast, presumes that the San Francisco gartersnake has already been injured beyond recovery by the operations and management of Sharp Park Golf Course, and contains no assessment of the jeopardy that the species will be placed if these threats go unimpeded and long-term recovery efforts of this important gartersnake habitat is prevented.

K. **Section 5.4.2 Climate Change.** Both Dr. Peter Baye and Bob Battalio investigated the impacts sea level rise will likely have on this coastal landscape, and concluded that under existing management and the proposed BA at Sharp Park, the Golf Course relegates endangered species to the area most vulnerable to catastrophic flooding events, and that the probability of such an event will increase as the climate warms, sea levels rise, and ocean storms become more frequent and intense (ESA-PWA 2011).

This is compounded by the fact that the City will not defend this area from catastrophic, Katrina-like flooding events (RPD 2012, p. 29). While this is almost certainly the correct ecological decision for the sea wall, the City must simultaneously allow endangered species habitats to migrate or be rebuilt inland and upland if these species will survive. The BA's failure to address the long-term implications of sea level rise on the precise area the City intends to actively manage the California red-legged frog and the San Francisco gartersnake—in the shadow of Sharp Park's sea wall—is a fundamental information gap that can be filled by the information contained in the reports submitted with this letter.

L. **5.4.4 Implementation of National Park Service Actions at Mori Point.** Action Area is defined to include "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." 50 C.F.R. § 402.02. San Francisco gartersnakes and California red-legged frogs at Mori Point and Sharp Park form one population, and RPD pumps drain water from Mori Point, which is hydrologically connected to Sharp Park. These areas, as well as Calera Creek and the Pacifica Quarry area should all be included as within the action area.

Thank you for reviewing these comments. In addition to this letter, Dr. Marc Hayes, Wendy Dexter, and Greg Kamman will submit substantive comments. You will also receive select documents from *Wild Equity Institute v. San Francisco*, including the full deposition testimony of Lisa Wayne, Jon Campo, and John Ascariz, a recent ruling from Judge Illston in the case, and our motions that were submitted on that order.

Sincerely,

Brent Plater

Brent Plater

cc:

U.S. Army Corps of Engineers: Cameron Johnson, Ian Liffmann

U.S. Fish and Wildlife Service: Susan Moore, Jan Knight, Eric Tattersall, Cay Goude, Chris Nagano, Josh Hull

California Coastal Commission: Renee Ananda, Karen Geisler

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Subject: Technical Review Comments to Biological Assessment
Sharp Park Safety, Infrastructure Improvement and Habitat Enhancement Project

Dear Mr. Olah and Ms. Hicks:

I have reviewed the subject Biological Assessment (BA) prepared by Recreation and Park Department, City and County of San Francisco, dated March 14, 2012. In addition, my firm and I have completed numerical storm modeling in an effort to evaluate the benefits and/or impacts associated with proposed project actions. The reason for this letter is two-fold. First, because my firm's work and study conclusions are cited within the BA, as well as having a unique knowledge of the site, I would like to clarify and elaborate on selected sections within the BA. Secondly, based on our analyses, it is my opinion that some of the key proposed actions in the BA intended to reduce flooding and improve California red-legged frog and San Francisco gartersnake habitat would fail at providing the desired benefits and may adversely affect these species. Specifically, my analyses indicate the following.

- Removing vegetation from the connector channel will increase the flow rate from Horse Stable Pond to Laguna Salada during the early parts of storm events, causing the water level in Laguna Salada to reach a maximum level sooner under BA conditions than currently exists.

- The maximum simulated water level attained in Laguna Salada under BA project conditions is about 0.2-feet higher than the existing condition simulated water level for a one inch storm event. This means that the extent of flooded area within Laguna Salada and near the golf course associated with a one inch rainfall

storm event will be larger under proposed BA project conditions than existing conditions.

- The maximum simulated 2- and 5- year storm water levels attained in Laguna Salada during the proposed BA project conditions reach the same elevation that water levels reach under existing conditions, just sooner. This means that the extent of flooded area associated with these storm events remains virtually the same between existing and BA project conditions.

- Simulation results indicate that removal of vegetation from the connector channel does not lead to faster drainage of water or reduced duration of inundation in Laguna Salada and the golf course area between existing and proposed BA project conditions. Therefore, the associated conversion of cover habitat to open water habitat for CRLF would not provide any reduction in the extent or duration of flooding in LS and the surrounding golf course.

My comments associated with specific sections of the BA and rationale for my conclusions are provided below after a paragraph summarizing my credentials.

I am a hydrologist with over twenty five years of technical and consulting experience in the fields of geology, hydrology, and hydrogeology. I have been providing professional hydrology services in California since 1991 and routinely manage projects in the areas of aquatic ecosystem restoration planning and design, surface- and groundwater hydrology, water supply, water quality assessments, water resources management, and geomorphology. Most of my work is located in the Coast Range watersheds of California, including the Northern and Southern San Francisco Bay Counties. My areas of expertise include: characterizing and modeling watershed-scale hydrologic and geomorphic processes; evaluating surface- and ground-water resources/quality and their interaction; assessing hydrologic, geomorphic, and water quality responses to land-use changes in watersheds and causes of stream channel instability; and designing and implementing field investigations characterizing surface and subsurface hydrologic and water quality conditions. I co-own and operate the hydrology and engineering consulting firm Kamman Hydrology & Engineering, Inc. in San Rafael, California (established in 1997). I earned a Master of Science in Geology, specializing in Sedimentology and Hydrogeology as well as an A.B. in Geology from Miami University, Oxford, Ohio. I am a Certified Hydrogeologist (CHg) and a registered Professional Geologist (PG).
I am also very familiar with Sharp Park. In 2009 my firm was retained by Tetra Tech of Portland, Oregon on behalf of the San Francisco Recreation and Parks Department to prepare a hydrological report for Sharp Park. Our work focused on characterizing conditions on the site and preparing a suite of analytical models that were used to a) evaluate hydrologic and drainage conditions, and b) design marsh, pond, and stream restoration alternatives that would benefit the California red-legged frog (CRLF) and the San Francisco gartersnake on the property. Our study is documented in a report[1]

[1] Kamman Hydrology & Engineering, Inc., 2009, Report for the Hydrologic Assessment and Ecological Enhancement Feasibility Study, Laguna Salada Wetland System, Pacifica, CA. Prepared for Tetra Tech, Inc., San Francisco, CA, 30p.

summarizing our hydrologic assessment, salinity assessment, and storm response modeling for Sharp Park. In writing this report, I studied historic rainfall records, local surface runoff, pumping operations, and water storage capacity of Laguna Salada, Horse Stable Pond, Sanchez Creek, and Sharp Park as a whole.

The following sections provide comments to selected sections of the BA that warrant clarification and elaboration with respect to the feasibility of proposed project actions.

1. Section 2.2 Project Description – Elaboration on Historic and Future Conditions

On page 4, the BA states, "A seawall on the western boundary of Sharp Park eliminated the historic hydrologic connection between the Pacific Ocean and the wetlands complex." Prior to construction of the seawall, there was likely a higher degree of exchange of water between Pacific Ocean and the Laguna. The current seawall likely inhibits floodwater drainage to the Ocean and is the primary cause for the winter flooding of the Laguna and golf course. With the seawall in place, the current and future outflow from Sharp Park is primarily controlled by the Horse Stable Pond pumps and to a lesser degree on internal drainage features. I elaborate on how the proposed BA project actions will affect future drainage and flooding conditions below.

Based on my experiences in restoring wetlands (e.g., Giacomini Wetlands at Point Reyes National Seashore) and California red-legged frog habitat along the Central California coast (e.g., Mori Point ponds), I think it is important to point out that removing the Sharp Park seawall would not preclude frog habitat. Although there would be the introduction of salt water and initial loss of freshwater marsh and pond, coastal estuaries display an ocean-to-land continuum in salinity structure between marine, brackish and freshwater conditions. These habitats are transient, shifting oceanward in response to seasonal rains and freshwater input from inland drainages. In turn, there is a corresponding transition in suitable frog habitat, with frog habitat likely precluded in the high salinity ocean side water but suitable breeding and rearing habitat located a short distance inland. In my experiences at the Giacomini Project in Marin County, CRLF and designated CRLF habitat is found in very close proximity to high salinity waters. Work by Fellers and Kleeman [2] at the Park documented how frogs move seasonally over considerable distances between temporary bodies of water for breeding and nonbreeding habitat. Thus, I think it is important to acknowledge the frog's natural ability to breed on the fringe of tidal wetland areas.

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[2] Fellers, G.M., and Kleeman, P.M., 2007, California red-legged frog (*Rana draytonii*) movement and habitat use: implications for conservation. Journal of Herpetology, Vol. 41, No.2, pp. 271-281.

2. **Section 2.2 Project Description – Clarification between Wet and Dry Season Controls Over Wetland Ponding**

Page 4 of the BA states, "The wetlands are believed to be maintained by ground water but are also fed by surface water inflow due to precipitation in the winter. A flood control pump system in HSP affects water levels in that body, and it may affect water levels in LS when the channel connecting the two water bodies creates a surface water connection between them." These sentences should be clarified with respect to both the wet and dry seasons. The first sentence refers to wetland water supply during the summer, when groundwater contributions dominate because there is little to no surface water runoff. With regard to the second sentence, the exchange of water between Horse Stable Pond (HSP) and Laguna Salada (LS) is dramatically different during the wet and dry seasons. For example, through the dry season and after the Horse Stable pumps stop pumping, water levels decline in both ponds due to cessation of surface water inflow, declining groundwater inflow and increased evaporation. The highest measured elevation in the bed of the connector channel between HSP and LS is approximately 6.2-feet NAVD88. When water levels in either pond fall below this elevation, HSP and LS are segregated from each other and behave as two independent water bodies. The lowest observed stage in Laguna Salada that I am aware of is about 6.0-feet NAVD88 (Figure 6 in KHE 2009 report).

The BA project proposes, "Removal of sediment and emergent vegetation that impedes water flow and reduces habitat suitability for CRLF in selected locations with the connecting channel and culverts that link HSP and LS. This removal work would not exceed 480 cubic yards of removed sediment and vegetation within an area of approximately 6,500 square feet or 0.15 acres." (second bullet on page 7 of BA). If the BA action lowers the elevation of the bed of the channel that connects HSP and LS, it is possible that these water bodies will remain in hydraulic connection longer during the dry times of the year or at water levels below 6.2-feet in elevation. However, it is important to point out that during our 2008-2009 hydrologic investigation we measured the invert (lowest point) elevation of the culvert used to accommodate a golf cart path over the connector channel culvert at an elevation of 6.0-feet NAVD88. Thus, without lowering the culvert elevation, the hydraulic connection between the ponds can't be lowered below 6.0-feet NAVD88.

During winter high flows, the existing hydraulic connection between HSP and LS is much more dynamic. As part of our 2008-2009 hydrologic and hydraulic investigation of Sharp Park, we developed a calibrated numerical model that simulates water movement into and through the HSP-LS-Sharp Park complex. Our model was developed and calibrated using data collected during the storm of November 1, 2008, when we estimate a little over one inch of rainfall occurred. Using this model, we evaluated the effects of removing the vegetation and associated channel roughness that inhibits flow through the connector channel pursuant to the proposed BA project. This analysis included simulation of the November 1, 2008 storm and 24-hour storms having recurrence intervals of 2- and 5-years. Under existing conditions, we calibrated the numerical model using a connector channel roughness value of 0.15 (see pages 26-27 of KHE, 2009). In

order to simulate the effects of vegetation removal from the connector channel, we modified the numerical model by lowering the roughness coefficient to 0.035).[3]

The results of the three modeled storm simulations for existing and proposed BA project conditions are provided in Figures 1 through 3 and discussed below. The simulation results of each storm are presented on each Figure with two graphs of information per Figure. The upper graph on each Figure presents the existing and proposed BA project water levels in HSP, LS and connector channel over the storm period. The lower graph on each page presents the associated water flow rates out of HSP, flow at a point within the middle of the connector channel, flow rate into LS, and the cumulative pumping rate out of HSP to the Pacific Ocean. A negative flow rate in the lower graphic indicates that the flow direction through the connector channel is from HSP towards LS (i.e., water level in HSP is higher than LS). A positive flow rate on the lower graph indicates that low is from LS to HSP (i.e., water levels in LS are higher than HSP).

Based on watershed mapping, field reconnaissance and runoff monitoring, we estimate that the amount of runoff to HSP during any given storm is approximately twice the magnitude as the runoff total to LS. In addition, the storage volume of HSP for any increment in water level rise is significantly less than that of LS. Thus, during the initiation and rising limb of a storm hydrograph, the water level in HSP rises much more quickly than the water level in LS. Because the water level in HSP is higher that LS, water then starts to drain out of HSP through the connector channel into LS. This phenomenon is observed even during the 1-inch storm event before water levels trigger the pump in HSP to start discharging water to the Pacific Ocean. Simulation results for the 2- and 5-year storm events indicate that inflow rates to HSP far exceed the discharge pump capacity, leading to higher incremental rises in water level and longer durations of flow from HSP into LS[4]. The main findings of the proposed BA project model simulations are as follows:

- Removing vegetation from the connector channel will increase the flow rate from HSP to LS during the early parts of storm events, causing the water level in LS to reach a maximum level sooner under BA conditions than currently exists.

- The maximum simulated water level attained in LS under BA project conditions reaches a water level elevation about 0.2-feet higher than during the existing condition simulation for a one inch storm event. This means that the extent of flooded area within LS and near the golf course associated with a one inch rainfall

[3] It's important to note that we did not alter (deepen or widen) the channel geometry in an attempt to emulate changes associated with sediment removal because the BA does not provide sufficient detail regarding this type of work. However, based on our modeling and understanding of the water level responses to changes in channel conveyance capacity, I don't believe there would be any significant change in the rate of water level change if the channel were widened and/or deepened. Deepening the channel would allow Laguna Salada to be drained to a lower and comparable depth via pumping from Horse Stable Pond.

[4] Simulations of pumping from HSP follow the pump operation "rules" implemented in 2008/09. Review of modeling results suggest that doubling the pump rate from HSP would roughly equal the inflow to HSP during the 2-year storm, but inflow during a 5-year storm would still overwhelm the system.

storm event will be larger under proposed BA project conditions than existing conditions.

- The maximum simulated 2- and 5- year storm water levels attained in LS during the proposed BA project conditions reach the same elevation that water levels reach under existing conditions, just sooner. This means that the extent of flooded area associated with these storm events remains virtually the same between existing and BA project conditions.

- Simulation results indicate that removal of vegetation from the connector channel does not lead to faster drainage of water or reduced duration of inundation in LS and the golf course area between existing and proposed BA project conditions. Therefore, the associated conversion of cover habitat to breeding habitat for CRLF would not provide any reduction in the extent or duration of flooding in LS and the surrounding golf course.

3. 2.2.1 Construction Action – Loss of Hydraulic Connection

On page 7 of the BA it states, "Because there is no surface water connection between these areas and LS, they cannot sustain CRLF through metamorphosis." This sentence is a bit unclear. Are the authors suggesting that it's the golf cart path that is limiting habitat or is it the available hydrology? In addressing the later, it is simply untrue that there is no surface water connection between the golf cart path area and Laguna Salada. The loss of hydrologic connectivity is a direct result of pumping from HSP. In the absence of pumping from HSP there would be a significant increase in the duration of flooding that would maintain connectivity in these areas over significant breeding periods. Based on Vandivere's Sharp Park Golf Course Inundation Area Map[5], the golf cart path area becomes inundated when water levels reach between 7 and 8-feet NAVD88 or higher. Vandivere's map also indicates that when water levels reach this level, LS, the connector channel and HSP are all hydraulically connected. Our modeling simulation results support this interconnected condition at water levels of 7- to 8-feet and also indicate that this has the chance of occurring once every two years under the 2008/09 pumping regime, but likely more often. It is only through pumping from HSP that waters recede quickly and ponded cart path areas become isolated from the connector channel, LS and HSP. If no pumping were occurring at all from HSP, the areas within the elevation range in question would surely be inundated annually and for durations likely exceeding the metamorphosis period.

[5] Vandivere, W. 2011. Declaration of William Vandivere, P.E. in Support of Defendants' Opposition to Plaintiffs' Motion for Preliminary Injunction. *Wild Equity Institute, et al., v. City and County of San Francisco, et al.*, Case No. C 11-CV-00958-SI. 30 pp.

4. **2.2.1 Construction Action and Impact to Habitat Quality**

On page 11 of the BA it states, "Repairs to the cart paths will involve moving the paths away from the wetland and into the golf course, installing interlocking pavers to support the downslope embankment and backfilling the area with drain rock to raise elevations." This description of work is very vague and unclear. Regardless, any fill placed in the area that raises the ground surface elevation will effectively reduce the frequency and duration of flooding at that raised area. Although it might only be a small change, it still would be a change reducing CDFG habitat. Areas covered in drain rock, even if they remain at the current elevation, may alter the substrate in a way that precludes emergent vegetation used to secure egg masses. As an aside, this area may be designated wetland by the Coastal Commission and the path relocation could constitute filling of wetland.

5. **3.2 Watershed Boundaries and Drainage Patterns**

On page 31, the BA states, "The connecting channel between LS and HSP allows for water exchange at surface elevations greater than 6.2 feet (NAVD 88). Water exchange between the two water bodies is reduced by the hydraulic friction created by dense cattail growth (Kamman 2009). In some areas surrounding the wetlands and on the golf course, ponds or swales may form, which do not appear to have surface water connection to LS, HSP and the connecting channel. These ponds form immediately after rainfall events and may last for several days to several months." Again, like my response in item 2. above, the impact of vegetation on flow conveyance through the connector channel is really dependant on the water depth within the connector channel. Water depth in the connector channel depends on the season (wet or dry) and pumping from HSP. During periods when the water depth is well contained and shallow within the connector channel, the effects of vegetation on reducing flow conveyance are greatest. However, during these periods, there is no flooding of the golf course and no need to move water between LS and HSP any faster than already occurs. It is during the winter floods when water levels are approaching flood level of the golf course that are of concern. As demonstrated from our hydrologic modeling of storm events (see Figures 1 through 3) when water levels rise to an elevation of around 8-feet NAVD88, the saturated flow area and conveyance capacity within the connector channel increases to a level that far exceeds the rate of pumping from the HSP discharge pump, even with vegetation choked channels. In short, increasing the potential flow rate between LS and HSP when the golf course is at flood level makes no difference when the discharge pump from HSP can't keep up with the flows that are already delivered to the pump intake. Again, our modeling results indicate that even with a vegetation free channel, the depth and duration of flooding in Sharp Park will not change in response to the proposed BA project. Vegetation free channels will not change the frequency or area of pond/swale formation when the discharge capacity of the system can not keep up with the volume of inflow, even with improved water exchange between LS and HSP.

Our analyses indicate that the objective of restricting the formation of ponded areas and swales can't be accomplished through implementation of the proposed BA project.

Therefore, frogs and egg-masses will continue to populate the ponds and swales equally under existing and proposed BA project conditions. The best available approach towards protecting and enhancing existing frog habitat, given existing infrastructure, is a reduced pumping regime from HSP that stops dewatering the ponded areas and swales given they will continue to form at an uninterrupted frequency. In essence, this approach works to preserve frog habitat by maintaining the ponds/swales instead of dewatering them.

6. 3.4.4 Wetland Dredging and Flood Hazard Reduction

Page 33 of the BA states, "Over the last several decades, the extent of this vegetation has increased, replacing the open water." Dredging tules from LS will convert certain areas from frog cover habitat to open water habitat. However, based on my analyses and understanding of the project site, it is my opinion that this action would not result in any meaningful or significant relief from flooding. Specifically, I don't believe that dredging tules from LS will lead to a significant reduction in flooded golf coarse area or flood duration.

If you have any questions or wish to discuss these opinions and conclusions further, please feel free to contact me.

Sincerely,

Gregory R. Kamman, PG, CHg
Principal Hydrologist

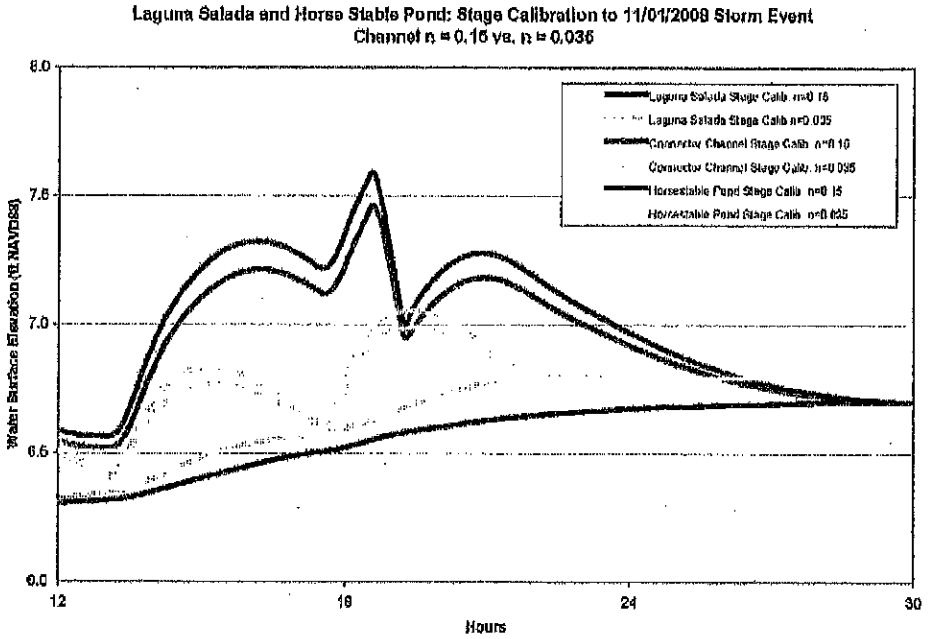
cc:

U.S. Army Corps of Engineers: Cameron Johnson, Ian Liffmann

U.S. Fish and Wildlife Service: Susan Moore, Jan Knight, Eric Tattersall, Cay Goude, Chris Nagano, and Josh Hull

California Coastal Commission: Renee Ananda and Karen Geisler

Figure 1: Flood model simulation results for project area for November 1, 2008 storm. Graphs plot results for densely and lightly vegetated connector channel simulations.



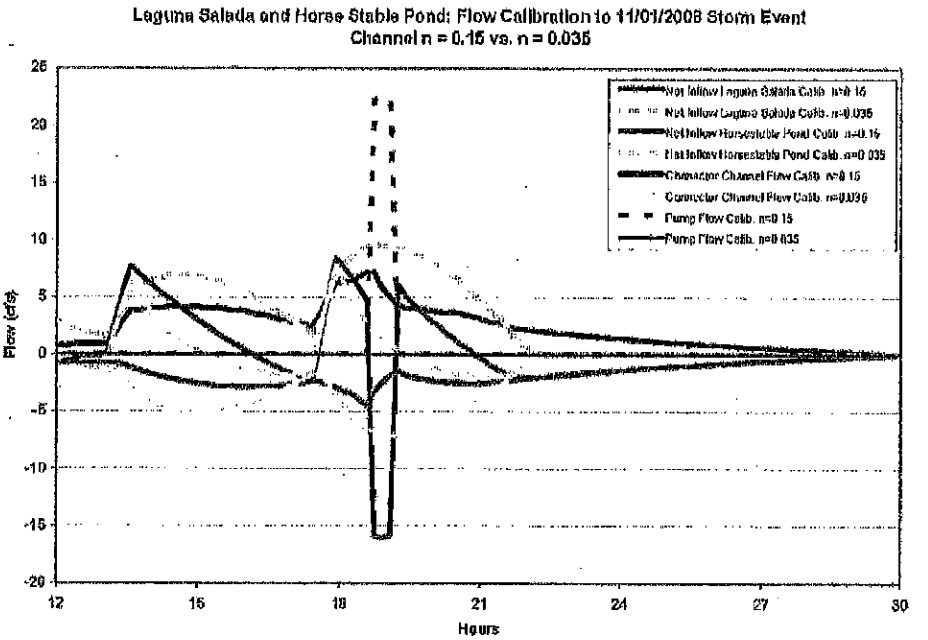
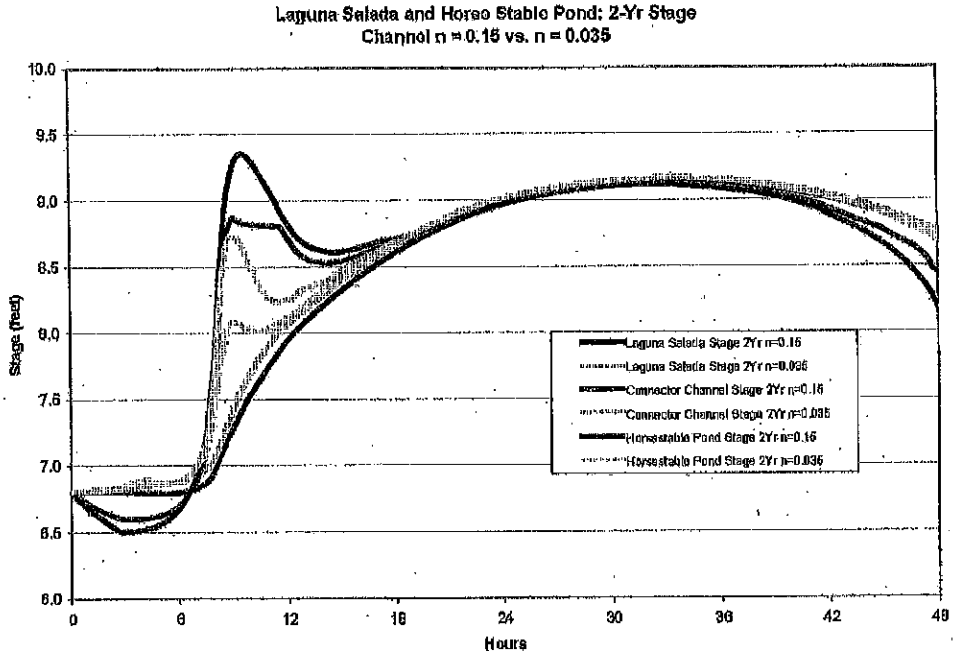


Figure 2: Flood model simulation results for project area for 2-Year storm. Graphs plot results for densely and lightly vegetated connector channel simulations.



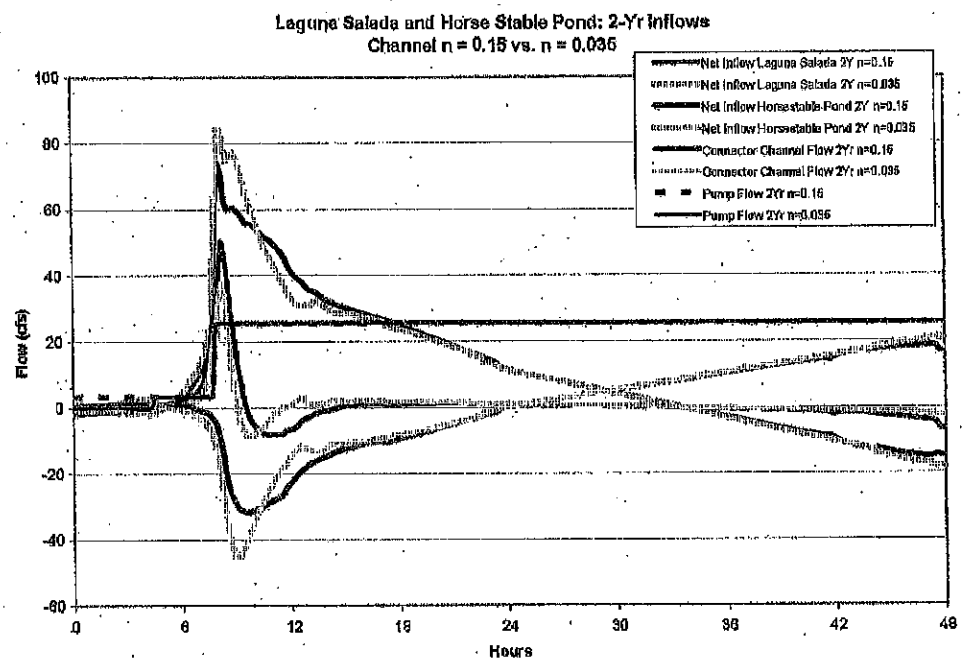
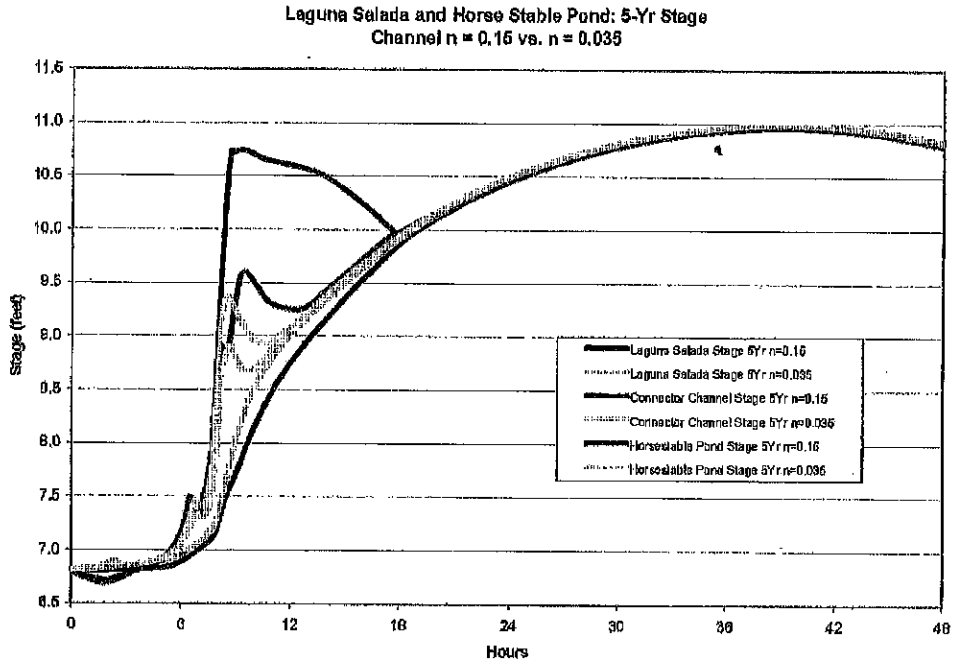
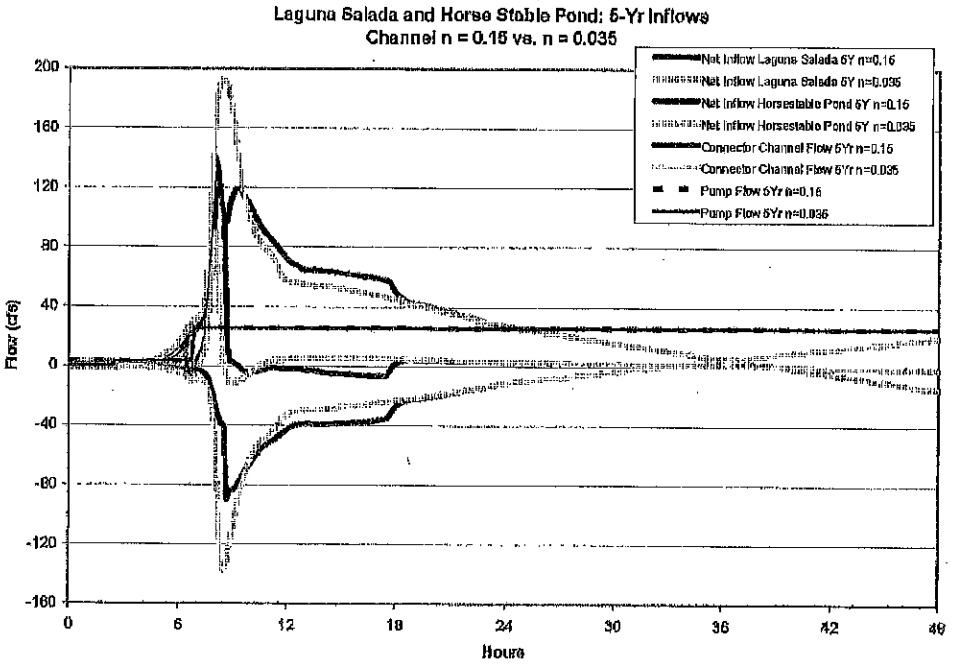


Figure 3: Flood model simulation results for project area for 5-Year storm. Graphs plot results for densely and lightly vegetated connector channel simulations.





CONDOR COUNTRY
CONSULTING, INC.

August 2, 2012

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RE: Review of San Francisco Recreation And Park Department's Proposed "Sharp Park Pumphouse Safety And Infrastructure Improvement Project"

Dear Mr. Olah & Ms. Hicks:

I have studied San Francisco Recreation and Park Department's ("RPD") Biological Assessment ("BA") for the proposed "Sharp Park Pumphouse Safety and Infrastructure Improvement Project" ("Project"). It is my professional judgment that the survival and recovery of the endangered San Francisco gartersnake (*Thamnophis sirtalis tetrataenia*) will be appreciably reduced if the project is approved as designed.

With this submission, I provide a section-by-section analysis of the BA and the scientific evidence and data underlying my conclusions.

Section 2.2.1: The BA does not clearly lay out the location and amount of sediment and vegetation removal by impacted feature (Horse Stable Pond and connecting channel), making it difficult to determine whether the effort will be beneficial or detrimental to the frog and snake. If it is not possible to provide a map showing where the vegetation would be removed, a plan should have been provided that laid out how remaining vegetation would be distributed within the impacted feature. For example, if the project would remove half of the vegetation on the connecting channel, it is important to know if the remaining half will be all along one side of the channel, all on the northern half of the channel, or distributed evenly throughout the channel on both banks. The distribution of this refuge habitat is important in determining whether the habitat will remain usable for refuge or whether a recovery period will be necessary before the habitat is usable for refuge.

I also question the premise of "improving" breeding habitat for the frog. Based on egg mass surveys recording as many as 142 CRLF egg masses at Sharp Park last year (Campo et al., 2012), the challenge for the CRLF population appears not to be egg production, but rather avoiding desiccation of those egg masses resulting from the water management activities of the golf course.

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There is little point of improving breeding habitat by increasing the area of open water when pumping will result in the desiccation of a percentage of all egg masses if allowed to continue.

Section 2.3.8: This section does not provide an adequate description of the proposed dredging and vegetation removal activities to ensure that the activities result in benefits to SFGS. Vegetation should not be cut to a height lower than 6 inches in order to minimize the potential for injuring or killing an animal on the ground that was not detected. Only non-motorized tools (no weed whackers) should be used. It is important to specify non-motorized, as use of motorized tools make it more likely that injury or death to a snake or frog could result from vegetation removal. The vegetation removal should be monitored by a *Service*-approved biologist; the BA only specifies an "approved biologist." Service approval guarantees that a professional standard is met in choosing the biological monitor.

The BA does not recognize the need for leaving cover vegetation on one side of the channel or periodically along the pond edge. Some aquatic edge cover is essential for both CRLF and SFGS to escape predation when they are using aquatic habitat and edge habitat.

Section 2.3.18: Mowing occurring within 600 feet of aquatic habitat is likely to result in take, regardless of the stated safety measures. Telemetry work by Larsen (1994) and McGinnis (2002, *in litt*) determined that SFGS concentrate their activity within 600 feet of aquatic and upland refuge habitats. This does not account for their finding of dispersal distances of up to 0.41 miles from such habitat (Larsen 1994). Regular mowing within this zone will, at some point, injure or kill an SFGS. Although snakes are *generally* active in the late morning, the ability to thermoregulate drives the activity of individuals, and these snakes will emerge from their refuges to seek basking locations as soon as the ground temperature is sufficient to increase their temperature. On a sunny day, this can occur early in the morning as soon as the sun shines on the ground. I have personally observed SFGS basking the moment the sun shines on the ground. I have also observed an SFGS killed by a vehicle where the driver had received environmental training and knew that there was a 10 MPH speed limit. Given this experience, I think it is unlikely that providing endangered species training to mower operators and mowing early in the morning are sufficient measures to remove the potential for mowers to kill SFGS. People get lazy or worse, they really don't care about an endangered species, and in those cases negligence or neglect can result in take.

Pre-dawn mowing would not eliminate the potential for take. Mowing would still occur along the wetland golf course interface where SFGS and CRLF may find refuge in tall grasses or thatched grasses overnight. Larsen (1994) points out that when SFGS move from aquatic habitat to upland refuges, they often move to small mammal burrows or under thick mats of grass. Since tall grasses grow on the margin of the mowed area, snakes may take overnight refuge along these margins, especially on warm nights, leaving them vulnerable to crushing or being killed by a mower's blade.

Even a 600 foot "no-mow-zone" won't guarantee that no snakes will be killed or injured, but it will guarantee that fewer snakes in the population will be killed, and a viable population will survive in the Sharp Park/Mori Point area. Without a 600 foot no-mow-zone, it is my professional judgment that Laguna Salada will continue to be a relatively isolated habitat area and Sharp Park will be a population sink for the species.

Section 4.3.1: The SFGS five year review states that SFGS requires a mosaic of upland habitat that includes both grassland for thermoregulation and shrubs for cover from predation (USFWS 2006). The BA fails to mention the vegetative cover aspect of upland habitat values. The document suggests that the snake avoids upland far from aquatic habitat so they do not have to cross large open spaces, but that is exactly why they require a mosaic of upland habitat. As referenced previously, telemetry on SFGS suggests the snakes regularly use uplands up to 600 feet from aquatic habitat; currently at Sharp Park (and as proposed in the BA) this 600 foot area will have inadequate cover to conserve the species.

SFGS require uplands that provide both thermoregulation opportunities and protective cover to provide escape from predation. Cover may take the form of small mammal burrows, shrubs or even tall grasses. Barry (1994) defines a ratio of grassland to shrub habitat he thinks is ideal upland habitat for the snake. A similar ratio should be required in the 600 foot area surrounding Laguna Salada.

Section 4.3.2: The best population comparisons available for the SFGS population in and adjacent to Sharp Park are those of Fox and Barry because both survey efforts occurred over ten days and both used the same method of capture, hand capturing. Given that the population appeared to remain fairly stable between those two survey efforts, it is interesting to note that major flood events occurred in 1938 (Faulkner Unkown), eight years prior to Wade Fox's survey, and in 1958 (Geomatrix 1987) and January of 1978 (FEMA 1987), 20 years and immediately prior to Barry's survey in September and October of 1978. Other major flooding occurred in the winter of 1983. It is obvious that both the snake and its prey, CRLF and Sierran treefrog, have survived many large storm events that may have temporarily increased the salinity of a portion of the aquatic habitat available to them in Sharp Park. The mosaic of habitat provided by the creek, ponds and marshes allow these species to move away from saline habitats into fresh water habitats until the conditions in the affected habitat return to something suitable. Based on this information, I do not think that overtopping of the sea wall is a significant factor in the current population density of CRLF or SFGS on Sharp Park. However, it is my professional judgment that recreating a mosaic of habitats around Laguna Salada is required to reduce habitat and species impacts associated with catastrophic ocean storms.

Section 5.3.2: The United States Fish and Wildlife Service stated in its 2006 Five-year Status Review of the San Francisco Gartersnake that a dead SFGS found at Sharp Park in 2005 had been killed by a golf course lawn mower. I have reviewed the photographs of this snake, read the correspondence that accompanied the file, and reviewed photos of other snakes injured or killed by lawnmowers that I found, and I concur that the snake was likely killed either by the wheels and blades of a lawn mower or by another mechanized vehicle, such as a golf cart. I identified two compression wounds on the snake that could have been made by either mower or golf cart wheels, one above the tail end of the snake and one anterior to the middle of the snake that would have crushed vital organs. In addition, there are a number of lacerations along the entire length of the snake's body that are characteristic of blade cuts. These include cuts where the flaps of skin remain and locations where large chunks of flesh were removed (mid-body) and removal of a portion of the tail. It is my professional judgment that the BA fails to reflect the importance of this

information, and therefore proposes inadequate measures to protect SFGS from golf course operations and management.

It is also my professional judgment that the San Francisco gartersnake is present at Sharp Park based on the continued observations of SFGS on the property and at Mori Point; on the fact that biologically speaking the Mori Point and Sharp Park populations are one biological unit; and because suitable habitat exists at Sharp Park wherever the golf course operations and management have not removed or degraded required elements of suitable habitat. Many studies from diverse sources indicate that SFGS has persisted at Sharp Park for many decades, and continues to do so. Wade Fox, the first biologist to systematically survey and record amphibian and reptile species at Sharp Park, found relatively large numbers of San Francisco gartersnakes at Sharp Park in the 1940s, collecting 34 specimens there during ten visits to the site in 1946. In 1978, Sean Barry observed 37 San Francisco gartersnakes near Horse Stable Pond, and an additional 46 at Mori Point (which was all upland at that time) in ten visits: indicating a persistent population at least on the southern edge of the golf course at that time. Extensive trapping in the mid- to late-80s by Dr. Sam McGinnis captured only two San Francisco gartersnakes at Sharp Park, and while subsequent surveys in the 1990s did not observe the subspecies, the San Francisco gartersnake was found at Sharp Park by the California Department of Fish and Game in 2004, including one juvenile between Horse Stable Pond and Laguna Salada. In 2005 four San Francisco gartersnakes were observed at Horse Stable Pond; in 2008, two San Francisco gartersnakes were observed at Sharp Park; and in 2011 at least four SFGS were observed at Mori Point, and another SFGS was observed at Mori Point just a few days ago.[1] Throughout this time period, several other San Francisco gartersnakes were also observed adjacent San Francisco Public Utility Commission watershed lands.

I hope this information is useful as you evaluate the best available science regarding the BA. If you have any questions, please feel free to contact me at the number on this letterhead.

Sincerely,

Wendy Dexter

Wendy Dexter
Principal Biologist
Condor Country Consulting, Inc.

cc:

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U.S. Fish and Wildlife Service: Susan Moore, Jan Knight, Eric Tattersall, Cay Goude, Chris Nagano, Josh Hull

California Coastal Commission: Renee Ananda, Karen Geisler

[1] https://www.facebook.com/parksconservancy (August 1, 2012).

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RE: BEST AVAILABLE SCIENCE AND EXPERT OPINION REGARDING IMPACTS AND ASSESSMENT OF THE BIOLOGICAL ASSESSMENT FOR THE SHARP PARK PUMPHOUSE SAFETY AND INFRASTRUCTURE IMPROVEMENT PROJECT

Dear Mr. Olah & Ms. Hicks:

I have carefully reviewed San Francisco Recreation and Park Department's ("RPD") Biological Assessment ("BA") for the proposed "Sharp Park Pumphouse Safety and Infrastructure Improvement Project" ("Project"). It is my expert opinion that the Project's direct, indirect, and cumulative effects will cause adverse impacts to the California red-legged frog (*Rana draytonii*) and the San Francisco gartersnake (*Thamnophis sirtalis tetrataenia*), and because these impacts are not properly addressed, they will appreciably reduce the survival and recovery of both species in the wild.

Below I have provided a summary of my concerns, followed by a list of my qualifications for providing these expert opinions.

I. Expert Opinion on the Biological Assessment.

a. **The Project will harm SFGS and CRLF habitat.** In Laguna Salada and Horse Stable Pond, CRLF currently lays eggs in shallow areas where vegetation braces exist for oviposition, a pattern well-documented over years of survey there. Vegetation removal will not significantly expand the shallow-water footprint with vegetation on which CRLF can oviposit; rather it will remove dense, tall emergent vegetation from moderately deep to deeper water where no oviposition typically occurs. Further,

improvement of water flow will not improve CRLF oviposition habitat since CRLF preferentially oviposit in the most protected, low-flow situation among available choices. Hence, improvement of habitat for CRLF breeding is questionable at best, and outright wrong at worst. In addition, creating an open water situation is likely to depress larval survival rather than improve it as it improves exposure to predators in the water column and access to shallow water areas where hatchling CRLF currently have some protection. Further, improvement of water flow to the pumps will augment larval entrainment and mortality in the pumps. Finally, removal vegetation is also likely to depress the cover situation for adult frogs, which I have directly observed escape into it from positions along the silverweed (*Potentilla* spp.) margin of the channel between Laguna Salada and Horse Stable Pond. Hence, every CRLF life stage has a reasonable likelihood of being negatively impacted by vegetation removal that creates open water and improves the water flow to the pumps.

b. **Pumping adversely affects CRLF & SFGS, and should not be considered as an ancillary benefit for the species**. Pumping offers no special protection for CRLF since previous observations have shown that pumping results in partial or complete take of variable numbers of CRLF egg masses that in some cases had to be moved to avoid complete mortality prior to hatching. Pumping also has the potential to entrain both the larval and post-metamorphic stages of the CRLF, a situation that has previously been thoroughly discussed. Loss of CRLF life stages via pumping translate to a loss of the food base for SFGS because the species depends strongly on CRLF for its seasonal food resources.

c. **Golf cart traffic on and off pathways will adversely affect CRLF & SFGS, and are not properly mitigated.** The BA for the project suggests 30-40% of the golf rounds at Sharp Park use golf carts. In other documents, the Golf Course has suggested that it sells 35,000-55,000 rounds of golf every year. Presuming each cart caries two golfers and Sharp Park sells only 35,000 rounds a year, conservatively 5,250 golf cart trips occur annually, and each trip covers the 18-hole course. There are thus literally thousands of opportunities for a golf cart to encounter a SFGS or post-metamorphic CRLF that may have wandered into a golf cart path or a golf link onto which a golf cart might be driven, even under the proposed right-angle requirement. Both CRLF and SFGS often become immobile upon approach of a suspected predator, which increases the likelihood of their being hit or crushed by golf carts. Additional, good weather conditions increase the likelihood that more rounds of golf will be played, a condition more likely in a drought year like the current one. As the frequency with which SFGS garter snakes are sighted in the area suggests very low population levels, the loss of every individual SFGS

would represent a substantial setback for the population, and even more so if adult females are involved.

Paved golf cart paths are thermally favorable for potential basking by SFGS than alternative basking areas at Sharp Park, so the likelihood of encountering a golf cart at the rates which they appear on course paths is high. Since paths are thermally particularly attractive, the second most likely place for a young SFGS to be found in the general vicinity of the path is among vegetation proximate to a golf course path, which would make them vulnerable to crushing where the 90-degree rule applies.

d. **Early morning mowing will negatively affect CLRF and SFGS.** No science supports the notion that mowing during the early morning hours will decrease the likelihood of encountering either the SFGS or CRLF. Available data simply suggests that to humans operating with daylight vision, the species are more detectable during the day when light levels are greater. In fact, it is reasonable to expect foraging activities by SFGS when potential CRLF prey, often the early metamorphic stages, is active, which occurs under greater humidity levels and under cooler conditions. SFGS are a close relative of the common garter snake, which make significant movements at night in search of their amphibian prey. Lack of effective detection of SFGS and CRLF under this proposal makes it likely that take will occur; eliminating biological monitors makes the take situation more likely.

e. **The BA presumes that CRLF will benefit by destroying breeding habitat it deems 'low value', but provides no scientific support for this presumption**. Low-quality breeding habitat does not necessarily translate to low-quality cover and escape/refuge habitat for adults during the non-breeding active season. Indeed, my direct observations of CRLF along the connecting channel indicate that adult and subadult CRLFs use the dense tules/cattails just for this purpose (cover and escape refuge habitat), as they will jump into them as one walks along the silverweed margin of the channel. Moreover, open water does not provide particularly good habitat for any life stage of CRLF. Breeding habitat, as previously noted, is not a particularly limiting factor for species growth: it only becomes impacted when pumping is engaged, reducing the footprint available for oviposition.

f. **The BA proposes activities that will impact recovery work at Mori Point.** The Laguna Salada/Horse Stable Pond CRLF population segment is being "managed" with a pumping overprint, whereas the Mori Point CRLF population segment is not. This management differential results in greater CRLF mortality in all life stages in the Laguna Salada/Horse Stable Pond populations segment. The new vegetation removal "management" action will enhance flow during pumping, exacerbating pumping effects,

making claims that the project benefits the CRLF population at Sharp Park disingenuous.

g. **The BA is inconsistent with previous Biological Opinions that the Fish and Wildlife Service has issue.** I have reviewed two Biological Opinions that the Fish and Wildlife Service has previously issued for projects affecting the Sharp Park/Mori Point populations of CRLF and SFGS. These Biological Opinions contain several statements that the BA for the Project has failed to understand and/or incorporate into its analysis. For example, the 2006 Biological Opinion for the Mori Point Restoration and Trail Plan indicates that surrounding uplands are one of two important habitat components for SFGS & CRLF (p. 12), but the BA does not address conservation on these uplands; the Biological Opinion suggests that SFGS show site fidelity to aestivation burrows and travel to wetlands one to two times per day (p. 14), but the BA acts as if all of Sharp Park is unoccupied by SFGS; on the same page, the Biological Opinion reiterates the Service's conclusion, consistent with my own expert opinion and judgment, that in 2005 an SFGS was killed by a mower at Sharp Park, and goes on to document the species' presence at both Sharp Park and Mori Point, noting these adjacent habitats comprise one sub-population (pp. 14-15), yet the BA assumes that SFGS are not present at Sharp Park; the Biological Opinion also notes that egg mass survivorship was low in years past due to pumping (p. 22), and yet the BA for the Project presumes pumping is good for the species.

   Similarly, the 2009 Recycled Water Project Biological Opinion addressed the impacts of mowing operations on SFGS and CRLF, and among other restrictions, required mowing to be limited to two weeks in April and the months of June, July, and August (p. 34); yet the BA provides no seasonal restrictions on mowing. The City was also required to complete and implement a Compliance Plan for the project, but this compliance plan has never been finalized and its core protections for species—restrictions on mowing and pumping—are undermined in this B.A.

II. Qualifications.

For nearly four decades, I have worked professionally as a research and field ecologist and herpetologist, studying reptiles and amphibians in California, Oregon, Washington, Mexico, Costa Rica, and Florida. During this time, I have supervised over 70 projects addressing the ecology and habitat needs of the herpetofauna in these areas, working with the California Department of Fish and Game, the United States Fish and Wildlife Service, the California Academy of Sciences, and diverse other public and private entities. I am a member of the following professional scientific organizations: American Society of Ichthyologists and Herpetologists (life member), The Herpetologist's League (life member), The Wildlife Society (associate member), Society

for Northwestern Vertebrate Biology (life member), Society for Conservation Biology (life member), Society for Integrative Biology (life member), Societas Europea Herpetologica (life member), Society for the Study of Amphibians and Reptiles (life member), Desert Tortoise Council (life member), and the Association of Zoos and Aquariums (associate member).

I received my Bachelors degree in biology in 1972 from U.C. Santa Barbara, my Masters in Biological Sciences in 1975 from California State University, Chico, and my PhD in Herpetological Ecology in 1991 from the University of Miami, Florida. Currently I serve as an Adjunct Professor at Central Washington University (Ellensburg, WA), Evergreen State College (Olympia, WA), Portland State University (Portland, OR), and the University of Washington (Seattle, WA). I am also an Affiliate Curator in Herpetology at the Burke Museum at the University of Washington, and I serve as a Senior Research Scientist with the Washington Department of Fish and Wildlife ("WDFW"). In 2010, I received the prestigious *Conservation Award* from WDFW—the highest award the department grants—specifically for my work on amphibian conservation.

My research and my field experience have been particularly focused on California's rare and endangered amphibians and reptiles. In 1994, I co-authored a 255-page report for the California Department of Fish and Game ("CDFG") entitled *Amphibians and Reptiles of Special Concern in California.* That report, which was a compilation of the status and threats facing all rare amphibians and reptiles in the state, was designed to help CDFG decide which of these species were eligible for protection under state or federal law.

While researching and writing that report, we discovered that the CRLF was facing severe threats; that it had suffered a marked contraction in its geographic range over the preceding century; and that its remaining populations were at risk due to a suite of factors. Yet it was not protected under federal endangered species law. We therefore submitted a petition to list the species under the federal Endangered Species Act to the United States Fish and Wildlife Service ("FWS"). This petition ultimately led to the current listing of the frog as threatened under the Endangered Species Act.

I have also conducted numerous field studies on the CRLF, logging hundreds of hours searching for, identifying, and monitoring the species during all stages of its life cycle. For example, from 1974 to 1983, I studied populations of the CRLF in Corral Hollow (San Joaquin County), Pico Creek (San Luis Obispo County), and Cañada de la Gaviota (Santa Barbara County). From 1988 to 2002, I studied the last remaining CRLF population in southern California south of Los Angeles, located at Cole Creek on the Nature Conservancy's Santa Rosa Plateau Preserve (Riverside County).

Besides field research, I have studied historic species accounts, laboratory specimens, and popular writing about California's frogs and snakes, with a particular emphasis on the CRLF. I have reviewed specimens and historic accounts in the American Museum of Natural History in New York; the Burke Museum at the

University of Washington; the California Academy of Sciences in San Francisco; the California State University Chico Vertebrate Museum; the Carnegie Museum in Pittsburgh; the Los Angeles County Museum of Natural History; the Museum of Comparative Zoology at Harvard University; the Museum of Vertebrate Zoology at the University of California at Berkeley; the Museum of Zoology at the University of Michigan; the Oregon State University Vertebrate Museum; the Portland State University Vertebrate Museum; the San Diego Museum of Natural History; the Slater Museum at the University of Puget Sound; the Southern Oregon State College Vertebrate Museum; the University of Kansas Vertebrate Museum; and the Smithsonian Institution and its Archives in Washington, D.C.

My studies have resulted in over 120 peer-reviewed publications and reports over my career. These include studies that have explained the historic overharvest of CRLF in California, revealing that humans—not American Bullfrogs, as previously supposed—were the primary reason for the decline of the species near the turn of the 19th century. I have also demonstrated that the decline of ranid frogs in the North American west is generally explained by introduced fishes more accurately than introduced American Bullfrogs; and that vocal sac differences were a strong indication that two species (now called California and northern red-legged frogs) existed within what was formerly considered one species (simply called red-legged frogs).

More generally, I have been active in research and field study of many frog species in the family *Ranidae*, to which the CRLF belongs. These frogs are sometimes called "true frogs." True frogs share many similarities, and therefore, lessons learned from one species can help scientists understand the habitat needs of other ranid frogs, while gaining a better understanding of each species' unique evolutionary path. For example, I have studied the ecology and distribution of the stream-dwelling Foothill yellow-legged frog (*Rana boylii*) in western Oregon. I have shown that this species has also sustained a severe contraction in its geographic range over the last 100 years, and that introduced fishes, especially Smallmouth bass (*Micropterus dolomieu*), better explain this species' regional disappearance than do American Bullfrogs.

My research has also addressed reptiles in California, including rare and endangered snakes. For example, I observed and recorded information on the San Francisco gartersnake in the course of my studies of the CRLF at Pescadero Marsh. Those studies suggest that the SFGS is seasonally dependent on CRLF juvenile production as a summer food resource.

Through my research and study, I have become an expert in identifying frog and snake species, particularly closely related species, in any and all life stages. I can readily identify egg, larvae, juvenile, and adult phases of all California frog species, and eggs, juveniles, and adults of all California snake species through visual inspection, aural calls (typically only applicable to frogs and toads), habitat range, and habitat characteristics.

My research and study has also made me an international expert in the habitat and ecological needs of frogs and snakes, and the types of habitat modifications that threaten these species. I have studied the Oregon spotted frog (*Rana pretiosa*), a formal candidate for listing under the ESA, over much of the last 20 years in the Pacific Northwest. Via extensive surveys, I have shown that this species has probably been extirpated from the Willamette Valley floor in Oregon and across its geographic range in California. I have also shown that the Oregon spotted frog is resistant to the amphibian chytrid fungus, a pathogen known to have decimated frogs worldwide, but that Oregon spotted frogs are highly vulnerable to predation by introduced American bullfrogs because of their aquatic habits. In the region of Monteverde, Costa Rica, I worked on the entire amphibian and reptile fauna for over three years, and characterized the ecology and distribution of the over 110 species present, demonstrating marked changes in species composition across a rain- to dry-forest gradient.

I am personally very familiar with Sharp Park, including its main aquatic habitat features: Laguna Salada, Horse Stable Pond, and Sanchez Creek. I have visited Sharp Park on several occasions throughout my career, most recently on June 25, 2011, and I have observed and studied the CRLF at Sharp Park and at surrounding lands. Based on my personal site visits and my interactions with employees with the National Park Service ("NPS"), I am also familiar with restoration efforts that have occurred at Mori Point, a national park unit adjacent to Sharp Park, and the habitat enhancements that have been implemented there for both the CRLF and SFGS by the NPS. Given my expertise and background, I am well-equipped to offer expert opinions concerning the impact of defendants' activities at Sharp Park on both individual CRLFs and SFGSs, and on the prospects for the survival and recovery of the resident populations of these species.

Although I am not an attorney and I have not been asked to provide an opinion on the legal implications of the defendants' activities that affect the CRLF and SFGS, I have had extensive experience in assisting the State of Washington in developing applications for Incidental Take Permits ("ITPs") and associated Habitat Conservation Plans ("HCPs") in accordance with section 10 of the ESA. Accordingly, I am personally very familiar with the kinds of activities for which ITPs/HCPs are prepared, and the process for developing scientifically supportable mitigation and other measures necessary to obtain the FWS's approval for ITPs/HCPs, especially with respect to measures bearing on the survival and recovery of amphibians. For example, I have been directly involved in coordinating the adaptive management science involving the HCP addressing the largest landscape of any HCP in North America—the Forests and Fish HCP in Washington State—which encompasses over 9,000,000 acres of private timberlands and addresses ITPs/HCPs for no fewer than seven species of amphibians in that landscape. Accordingly, while it is not the principal focus of this expert report, as a Senior Research Scientist with the Washington Department of Fish and Wildlife who has worked closely with the FWS, I do have extensive personal familiarity with, and involvement in preparing applications for, ITPs/HCPs and in pursuing FWS approval of them, and I believe that this practical experience could be of assistance to the Service in evaluating this proposed project.

Thank you for reviewing my expert opinions and scientific assessments and data regarding the BA for the Pumphouse Project. If you have any questions, feel free to contact me at the address on this letterhead.

Sincerely,

Marc P. Hayes

Marc P. Hayes, PhD

cc: U.S. Army Corps of Engineers: Cameron Johnson, Ian Liffmann
U.S. Fish and Wildlife Service: Susan Moore, Jan Knight, Eric Tattersall, Cay Goude, Chris Nagano, Josh Hull

California Coastal Commission: Renee Ananda, Karen Geisler

CITY AND COUNTY OF
SAN FRANCISCO

SAN FRANCISCO
RECREATIONAL OPPORTUNITIES STUDY
SUMMARY REPORT

PREPARED BY:

pros consulting LLC

AUGUST 2008

- If no, what are the alternative uses and their cost to develop and operate?

KEY FINDINGS AND FACTS

PROS Consulting developed a Recreation Needs Assessment for San Francisco Recreation and Park Department in 2004 that outline the recreation needs for golf and sports fields in San Francisco. Within the Recreation Needs Assessment the Consulting Team conducted a Statistical Valid Household Survey with a margin of error of +/- of 3%. For golf courses there was a public need for golf courses in the city for 81,050 people of which 10% of the population surveyed felt that the city was meeting their needs at a 100% level; 10% said the city was meeting their needs at a 75% level; 25% of those surveyed said the city was meeting their needs for golf at a 50% level; 24% of those surveyed said the city was meeting their needs at a 25% level and 31% of those surveyed indicate that the city was meeting 0% of their golf needs.

As for the household survey respondents need for youth sports fields, 54,034 people had a need for sports fields in the city. Of the people responding 7% of the respondents indicated that their needs for youth sports fields were 100% met; 11% of respondents indicated that 75% of their needs were met, 32% of those surveyed indicated that 50% of their needs were being met; 25% of those respondents indicated that 25% of their needs were being met; and 25% of respondents indicated that the city was meeting 0% of their needs for sports fields.

In terms of importance, golf course were more important than sports fields to citizens by 2% of respondents, which 13% indicated that golf was one of the four most important amenities for the city to provide and 11% indicated that outdoor sports fields where one of the four most important amenities to them for the city to provide. This would indicate that the city of San Francisco is a very adult driven city as it applies to recreation facility needs. In addition, the Needs Assessment Study demonstrated that survey respondents are not very satisfied with the availability of golf courses and youth sports fields, but neither scored as high on the importance level which was strongly outpaced by the importance of walking and biking trails at 55%, pools at 27%, indoor exercise and fitness facilities at 22%. Other key findings from the study include the following:

- The city of San Francisco is subsidizing golf by approximately $2.5 million annually, and is anticipated to grow to $3 million annually by 2012 if management and capital improvement changes are not made as outlined in the 2007 National Golf Foundation study conducted by the city
- The city has struggled for years in creating a management philosophy toward golf services and courses, which is seen in the various management modes that currently operate in the city today
- The city does not have the necessary capital dollars to invest in their golf courses today to keep them competitive in the marketplace. All the city's public golf courses

are in need of major capital dollars to keep the courses positioned in the marketplace including Harding Golf Course which went through extensive renovations in 2005 but not all the improvements needed were made to generate the amount of revenue needed to offset operational and capital cost.

- Golf is a politically charged activity that incorporates high levels of entitlement by players and staff involved in golf in the city which makes it difficult to manage in the most appropriate and successful manner
- Currently, the city lacks an effective marketing approach toward golf to encourage players to play the golf courses
- There is nobody accountable for the complete operations and management of golf in the city due to the present makeup and operational models in place. The golf courses operate on a social management model versus a business management model for a public owned facility

CAPACITY AND DEMAND SUMMARY

The golf industry experienced an unprecedented expansion of courses during the 1990's; during this time, thousand of courses opened throughout the nation. This market trend has drastically shifted over the course of the past five years. Barring a catastrophic event, for the first time in history, 2006 and 2007 experienced a net reduction in course supply – more courses closed than opened. In retrospect, the course expansion period had a negative effect on the industry; as supply was increasing, the demand – the total number of golfers – was remaining relatively even. This excess supply of golf courses created a discounting trend that rampantly spread throughout the majority of the industry; this trend created a cannibalistic operational strategy amongst many public courses that resulted in subpar course conditions and a disloyal participation base. The recent trend of net reduction in supply, more course closures than openings – has allowed the industry to begin to realign itself.

The participatory market has remained steady; it was reported in 2006 that there was an estimated twenty-seven (27) million golfers. For comparison, this total participation base is larger than the participatory base of all traditional sports except basketball – a sport which is relatively free of barriers to entry. Although participation is healthy, composition of the market is changing. The aging baby boomer demographic combined with continued diversification of the general population has the potential to magnify the greatest threat to the industry – the current trend of decreasing frequency of play. Frequency of play is at its lowest point since the last benchmark period. In 2006, golf recorded a drop in average rounds played per year per player from 23.4 to 21.5 with the majority of current participants playing 11 or fewer times per year.

Potential to expand the games reach is seen in the junior and women market segment. Junior golf initiatives appear to be increasing the market capture of youth golfers. Training

estimated to be operating at 115% capacity; pushing more rounds through than what is optimal.

The main capacity and demand factors are as follows:

- Demand and capacity differs based on service area
  - From a Bay Area regional standpoint, excess capacity does exist
    - 195 total golf courses (as of 2000; classifications not known)
    - Estimated Demand (Rounds) – 9,302,323
    - Projected Capacity (Rounds) – 15,326,220
    - Regional courses are operating at 60.7% capacity
  - The Lincoln and Sharp service area participants are estimated to exceed available capacities
    - 55 total courses (as of 2000 there have been no new golf courses opening in the 45 minute drive; classifications not known)
    - Estimated Demand (Rounds) – 4,972,605
    - Projected Capacity (Rounds) – 4,322,780
    - 45-minute drive time courses are operating at 115% capacity

Analyzing the capacity and demand of the City golf courses, only Harding is operating above 50% capacity (76.9%). This is slightly higher than what is considered the industry average – many courses operate around 60% of available capacity. Both Sharp Park and Lincoln Park Golf Courses operate in the mid- to upper-40% capacity.

- Of the three City 18-hole courses (Harding, Lincoln Park, and Sharp Park), only Harding operates above 50% capacity (76.9% capacity)
  - Lincoln Park operates at 44.8% capacity
  - Sharp Park operates at 44.2% capacity

Course	Harding / Fleming		Sharp Park	Lincoln Park	Golden Gate Park	Gleneagles
Location	Lake Merced		Pacifica, CA	Lincoln Park	Golden Gate Park	McLaren Park
Acreage	170		146	99	14	56
Total Holes	18	9	18	18	9	9
Rounds in FY 2005-06	60,464	41,503	35,186	34,736	47,113	36,038
Projected Capacity:	78,596		78,596	78,596		
Percent Capacity	76.9%		44.8%	44.2%		

Figure 1 - Golf Course Demand and Capacity

Golf courses operating below full capacity are not uncommon in the golf course industry. Following such an intense development stage in the 1990's and the subsequent industry contraction, many courses are just beginning to realign their operations with their customer base, which many times results in an operational capacity of 60% to 70%. Historically, rounds at the City courses have been decreasing rather rapidly.

Course	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Harding	89,600	83,905	75,069	85,978	87,085	82,675	82,992	Closed	N/A	71,425	60,464
Lincoln	65,620	68,153	49,924	66,376	68,588	64,645	58,003	54,945	40,848	33,274	34,748
Sharp	58,291	61,768	52,243	59,189	66,080	63,318	68,137	67,600	50,674	42,549	35,197
Three Course Total	213,511	213,826	177,236	211,543	221,753	210,638	209,132	122,545	91,522	147,248	130,409

Figure 2 - Rounds Played Annually

Operating at less than the industry average, and substantially less than optimal levels, could imply a multitude of variables, some of which may be:

- Volume course in the market (High volume/low cost)
- A course offering a high value of experience
- High intensity of private courses in the area
- A market anomaly in which a larger than normal portion of the market does not participate in golf
- Course playability not suited for the average golfer
- Subpar complimentary offerings which reduce the incentive for making the course a "home course"

The estimated need for increased capacities within the 45-minute drive time market due to higher levels of density occurring in the city and region is an opportunity which both Lincoln Park Golf Course and Sharp Park Golf Courses should embrace. The higher demand is directly related to a greater population density than that of the region as a whole. This density represents an attentive and attractive audience which with the proper course modifications and marketing efforts could be pursued to fill the excess capacity of both Sharp Park and Lincoln Park Golf Courses based on the current level of yearly play occurring in the city. As the traditional golfer demographic begins to come to an end, the ability of a golf course to accurately market and program to the junior golfer, women golfer and early family/career demographic through junior initiatives, learning centers, and aggressive programming to create a new lifetime user will become paramount.

KEY RECOMMENDATIONS

The Key Recommendations come from a combination of statistical data on the market demand and the capacity available in the city and from the PROS Team assessment of the golf course management operations, current conditions, organizational culture and political

environment, capital improvement monies available, and the city's desire to be in the golf course business.

1. Change the management model for four (4) out of the five (5) public golf courses (PROS is counting Harding and Fleming as one course operation) in the city to management model #6 as outlined in this report. Model #6 is to fully outsource the operations and management of all elements including capital improvements to a private operator for a long term lease. This would require the city entering into long-term leases with private golf management companies that are proven operators to invest in additional capital dollars to keep the golf courses competively positioned and to lower the existing high level of entitlement by staff and the public in the city toward golf. Golf is a management headache for the city, and the city has never achieved success in managing public golf in the city over the last 80 years which requires a new management model for public golf to be successful.

2. Redesign Lincoln Park Golf Course to accommodate a nine-hole golf course, with a driving range, an improved clubhouse and add needed park amenities in the city to include a nature center/hospitality center, trails, sports fields and special events area on the remaining nine holes. Seek a private operator to make the needed nine-hole golf course improvements, development of the driving range and an improved clubhouse for a long-term lease. Seek out a private contractor/operator to build the nature center and hospitality center for the city with a percentage of gross revenues coming back to the city. Park related improvements would be made by the city.

3. Allow Sharp Park Golf Course to be redesigned to build back as much as possible the Alister MacKenzie design and privately raise the money for the capital improvements over a period of five years combined with public funds for environmental mitigation/management to protect the endangered species on the golf course. PROS recognizes that various regulatory agencies will need to weigh in on this recommendation but there are several examples in the San Francisco region where golf course have endangered species on existing golf course sites and are being managed well in allowing both golf and endangered species to co-exist.

4. Continue to make on-course improvements at Harding and Fleming Golf Courses. Seek a long-term management lease with a private operator to make the necessary improvements and operate and manage the golf course for a percentage of gross dollars. This would allow the golf course contractor to operate with the highest level of flexibility to market and manage the golf course to its fullest capability without interference of the city. This would require the city to have a well written operator agreement to hold the contractor accountable to a set of measureable performance measures that supports keeping the golf course assets in top condition as a

signature golf course for those residents and visitors who desire a high quality experience.

5. Allow the Lincoln Park Golf Course manager to manage the Golden Gate Golf Course and make the necessary improvements to the golf course on a long-term lease with a percentage of gross dollars coming back to the city.

6. Allow the Gleneagles Golf Course operator the opportunity to accept the nine (9) year lease extension option in exchange for needed capital improvements on the golf course with a restructured contract and a percentage of gross revenues going back to the city.

7. Hire a golf manager to hold the golf course lease contractors accountable to agreements made with daily, weekly, and monthly documentation of measureable outcomes desired by the city.

8. Invest in the opportunity costs for additional park related recreation amenities at Lincoln Park Golf Course and seek private partnership dollars from potential recreation suppliers for new recreation amenities desired that compliment Sharp Park Golf Course and do not negatively impact the endangered species on site.

9. The population base and market demand for golf in the city of San Francisco exists and should be served by five quality golf operations. Dollars earned from private contracts need to repay the open space fund and support the recreation improvements at Lincoln Park Golf Course. The city needs to establish a maintenance endowment from revenues earned from long-term lease contracts so funds will always be available to keep golf assets well-maintained in the city.

FINAL CONCLUSIONS

Based on the analysis completed by the PROS Consulting Team, the following questions and recommendations are addressed and answered.

CAN A GOLF COURSE SUCCEED ON SHARP PARK GOLF COURSE PROPERTIES?

Yes Sharpe Park Golf Course can succeed under the following arrangements:

- Sharp Park Golf Course needs to have an upgraded re-design that supports as close as possible the original Mackenzie design with an influx of capital dollars from private funding sources and from a private long term management lease contractor [illegible] PROS recognizes that there are several regulatory agencies that will need to be involved in the final design and redevelopment requirements for the golf course for this to happen.

- The private management contractor must be able to manage the golf course to the value and prestige it is capable of performing to and re-establish the golf course as one of the United States lost golf treasures with the freedom to manage the asset to its highest level of productivity without public government influence. While the golf course is going through regulatory review and redesign the city should implement a short term (five year) management contract with a private operator to maximize its use and value.

- The management structure will require an operator to participate in some level of the capital costs for the golf course and the club house improvements to maximize the revenues of the golf course and pay back to the city of San Francisco a percentage of gross dollars. The City does not have the capital resources to invest in the golf course but can add public funds for environmental mitigation and management in the form of capital improvements through other mitigation funding resources to protect the San Francisco garter snake and the red legged frog by incorporating weed drainage improvements on the site, enhancing Mori Park, just south of the golf course and managing the golf course to the highest available environmental standards. There are other golf courses in the United States that have been able to operate a golf course within a endangered species area that demonstrates protection of the endangered species while providing a outstanding golf experience for golfers. This will require a very coordinated effort between the city, the private management company, the United States Fish and Wildlife Department, California Fish and Game, the Corp of Engineers, the California Coastal Commission and the Golden Gate National Recreation Area. The total amount of investment will be approximately $12-$14 million for golf course improvements and clubhouse improvements. This amount could be increased by adding additional recreation amenities to the extra property south of the golf course and or adding a first tee program on that site with a driving range. The golf market demand and capacity is available to support the golf course and improvements to be paid out over time with the right infrastructure, management approach and private financing to re-establish this golf course to its historical value.

CAN LINCOLN PARK GOLF COURSE SUCCEED ON THE EXISTING PROPERTY?

No, Lincoln Park Golf Course cannot succeed under its current design and management structure. The current golf course design is too severe for current golf course standards today and new golf equipment standards and it would be very costly to renovate with a very poor level of return to make the golf course a profit center for the city. Lincoln Park Golf Course is a poorly designed golf course and would be better served as a nine hole Executive Golf Course with a driving range and golf learning center along with adding needed park

Study demonstrates that survey respondents are not very satisfied with the availability of golf courses and youth sports fields in the city but neither scored as high on the importance level which was strongly outpaced by the importance of walking and biking trails at 55%, Pools at 27%, Indoor exercise and fitness facilities at 22% (**Figure 7**).

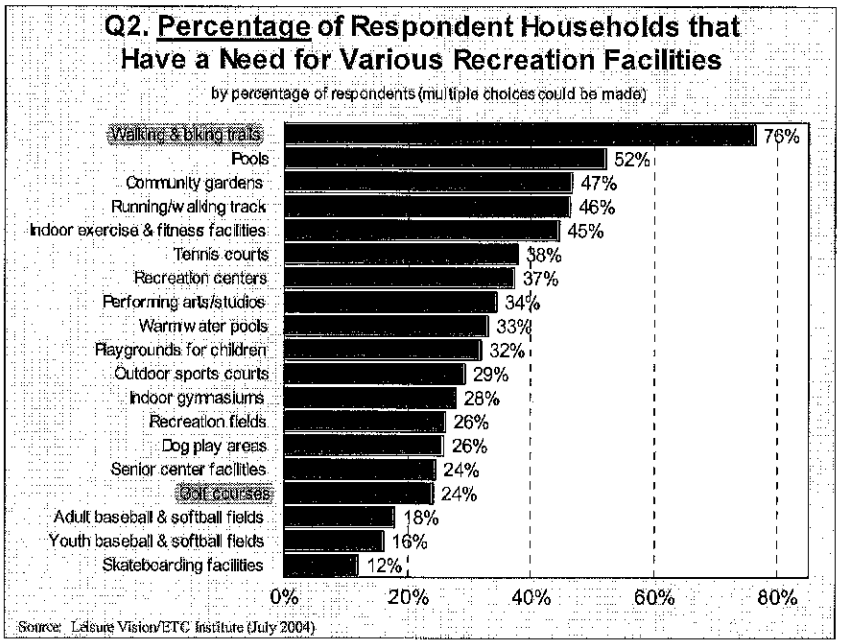


Figure 3 - Percentage of Respondent Households that Have a Need for Various Recreation Facilities

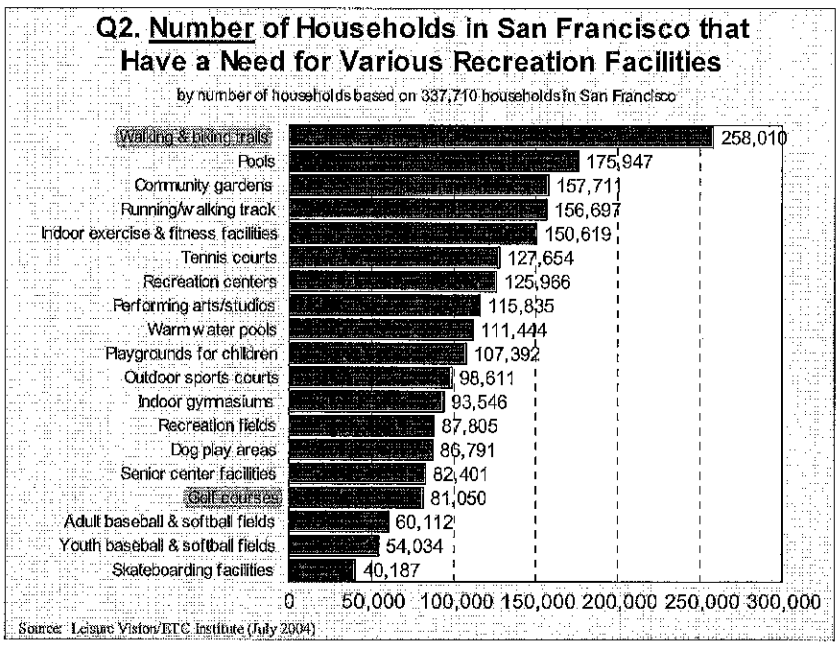


Figure 4 - Number of Respondent Households that Have a Need for Various Recreation Facilities

ANALYSIS OF THE CAPACITY AND DEMAND IN THE SAN FRANCISCO BAY AREA REGION

CAPACITY AND DEMAND SUMMARY

The golf industry experienced an unprecedented expansion of courses during the 1990's; during this time, thousand of courses opened throughout the nation. This market trend has drastically shifted over the course of the past five years. Barring a catastrophic event, for the first time in history, 2006 and 2007 experienced a net reduction in course supply – more courses closed than opened. In retrospect, the course expansion period had a negative effect on the industry; as supply was increasing, the demand – the total number of golfers – was remaining relatively even. This excess supply created a discounting trend that rampantly spread throughout the majority of the industry, this trend created a cannibalistic operational strategy amongst many public courses that resulted in subpar course conditions and a disloyal participation base. The recent trend of net reduction in supply, more course closures than openings – has allowed the industry to begin to realign itself.

Throughout this intense development period, the participatory market has remained steady; it was reported in 2006 that there was an estimated twenty-seven million golfers. For comparison, this total participation base is larger than the participatory base of all traditional sports except basketball – a sport which is relatively free of barriers to entry. Although participation is healthy, composition of the market is changing. The aging primary demographic combined with continued diversification of the general population has the potential to magnify the greatest threat to the industry – the current trend of decreasing frequency of play. Frequency of play is at its lowest point since the initial benchmark period. In 2006, the golfer reported a drop in average rounds played per year from 23.4 to 21.5; the majority of persons participate 11 or fewer times per year.

Potential to expand the games reach is seen in the junior and women segment. Junior golf initiatives appear to be increasing the market capture of youth golfers. Training centers represent an increasingly popular and affective tool to introduce new golfers to the game. The female demographic, an underserved segment, represents slightly more than half of the populace yet currently make up just 20-25% of the market. Unique, gender specific programming combined with the training centers assisted the growth in the female demographic of 300,000 women golfers between 2005 and 2006.

CAPACITY AND DEMAND PROCESS

- Understand the shape of the golf industry as a whole
- Analyze demand for golf on two levels

Days of Participation and Estimated Total Participatory Days and Rounds	Part. Rate by Days of Part.	Total Market by Days of Part.	Average Total Participatory Days	Estimated Rounds per Day	Total Estimated Rounds
Average Days Participated; 1 to 3	27.8%	115,554	231,109	1	231,109
Average Days Participated; 4 to 6	21.2%	87,857	439,285	1	439,285
Average Days Participated; 7 to 11	12.1%	50,162	451,462	1	451,462
Average Days Participated; 12 to 24	16.3%	67,492	1,214,848	1	1,214,848
Average Days Participated; 25+ Days	22.7%	94,139	2,541,762	1	2,541,762
Total Estimated Participatory Days and Rounds per Year:			4,878,466		4,878,466

Estimated Participatory Days and Total Rounds; By Facility Used Most Often	% of Users to Total	Adjusted (Excl. Not Reported)	Est. Total Users	Est. Total Part. Days	Est. Total Rounds
Private Country Club	8.8%	11.9%	48,956	579,318	579,318
Private Golf/Tennis Club	2.4%	3.2%	13,294	157,320	157,320
Semi-Private Golf Club	7.0%	9.5%	39,104	462,737	462,737
Public Golf Course	51.0%	68.9%	284,099	3,361,888	3,361,888
Community Facility	2.5%	3.4%	13,901	164,494	164,494
Other Facility	2.3%	3.1%	12,905	152,708	152,708
Not Reported	25.9%	N/A	N/A	N/A	N/A

***Average days of participation was calculated at 28*

****All participatory data is based on American Sports Data Superstudy of Sports Participation, 2005*

Figure 11 - Estimated Participation, Combined Market

- Projected Capacity (Rounds) – 4,322,780
  - 55 total courses (as of 2000; classifications not known)
  - Based on the assumptions presented, estimated capacity of a course was calculated at 78,596 rounds of golf
  - Total estimated weekday (Monday-Thursday) rounds possible – 45,023
  - Total estimated weekend (Friday-Sunday) rounds possible – 33,573
  - It is presumable that capacities of courses can differ based on various operating procedure
- 45-minute drive time courses are operating at 115% capacity
  - 4,322,780 estimated capacity divided by 4,878,466 projected rounds demanded

OTHER RECREATIONAL ACTIVITIES - A COMPARISON

OTHER RECREATIONAL TRENDS

- Many traditional sports have experienced a loss of participant base in recent years
- The biggest shift in recreational and sporting activities has been towards self directed activities
  - Self directed activities do not restrict schedules
  - Most self directed activities have few, or no, barriers to entry

The realignment in the golf industry has placed new meaning on the value of experience received. Affectively marketing and programming course assets and amenities to the target market are as important as ever. The trends presented on the following pages of this report will provide insight into the industry and participant both; this information is key in providing a valued experience to the "local" 45-minute Lincoln Park and Sharp Park participant – a market which projects demand exceeding the capacities. From a Bay Area regional standpoint, a market which more closely mimics the national scene with operations at 60- to 70% capacities, the ability to differentiate assets and amenities is at a premium.

A densely populated area can be expected to offer greater economies of scale – the more potential participants with fewer course options naturally lends itself to greater operational efficiencies. These trends would indicate that with the proper marketing and programming both Lincoln Park and Sharp Park Golf Courses should be able increase the respective user base within the existing "local" market.

THE GOLF INDUSTRY HEALTH

The 2007 State of the Industry Report conducted by Pellucid was utilized for industry trends. Challenges and opportunities identified by the survey include:

- Overall recreational activity in the U.S. is declining – including traditional sports and golf participation
- Golf's share of total recreational activity opportunities is also declining
- The aging of the Baby Boomer generation will be a double-edged sword providing annual rounds growth of between 1.5% and 2.0% over the next decade; however, the increasing level of golf played at senior rates could become a burden on golf course profitability
- Junior Golf initiatives appear to be working in cultivating youth participation
- As with many recreational and sport activities, the golf industry continues to struggle with female participation
- Not unlike many other recreational and sport activities, the golf industry has identified what appears to be a problem in the 25 – 44 age group (GenX) regarding reduced participation and early indications that golf frequency is not increasing as they reach the age of 40

INDUSTRY OVERVIEW

- The golfer base has remained healthy; with 25.6 million participants (*2008 Superstudy of Sports Participation*), golf outpaces every major traditional sport in total participation by 10+ million participants except basketball (32.3 million participants)
- Rounds demand is stagnant; not increasing, but not decreasing

- Weather was a national non-factor in 2007
- Supply is hovering near annual "net zero"; course openings and course closings are near identical; however, the composition of the supply is changing
    - Country club courses are opening up to non-members; public premium courses are cannibalizing private course participation base which is having a trickle down affect on all other course type
- The impact of generations, gender & recreation on the golfer base
    - Economics: course affordability, U.S. economy, and course operating costs all impact the sustainability of a given course
    - Marketing fluctuations: participation base is solid, but new-career population segment's participation is waning and the golfer in general is playing less frequent
    - Time has become the new "commodity" for the American consumer; the ability to participate in a time efficient and effective manner has become essential when participating in entertainment, leisure, and recreational activities

2007 INDUSTRY SNAPSHOT

- Rounds for 2007 were relatively flat when compared to previous years totals; as can be expected, summer months on average provide for better weather conditions and longer days (more sunlight) which equal more opportunities for play
- Although rounds played have been increasing since 2003, growth is relatively flat (about a 1% annual increase)

INDUSTRY SUPPLY

- Openings and closings for 18-Hole Equivalent courses (EHE) in 2007 balanced out (0.1% reduction in supply)
- 2006 and 2007 were the first years in history (barring any catastrophic event) that the industry had a net reduction in supply
    - 2006 – 120 courses opened; 146 closed nationally
    - 2007 – 113 courses opened; 122 closed nationally

	1990 Holes	%of Tot.	2000 Holes	%of Tot.	2006 Holes	%of Tot.	Pt. Chng. vs. 1990
Private	60,066	30.0%	68,103	27.1%	72,153	27.0%	(3.0)
Public Premium	25,497	12.7%	42,606	16.9%	48,195	18.0%	5.3
Public Value	64,449	32.2%	81,054	32.2%	84,726	31.7%	(0.5)
Public Price	38,763	19.4%	44,514	17.7%	45,882	17.2%	(2.2)
Learning & Practice	11,304	5.6%	15,255	6.1%	16,245	6.1%	0.4
Total	200,079		251,532		267,201		

Figure 17 - Course Composition

THE GOLFER – WHO IS IT?

- Many segments of the population have remained steady participants in golf over the 16-year study period
  - Juniors (7-17 years of age)
  - Mid-Career (35-54 years of age)
  - Late-Career (55-64 years of age)
- Two segments have experienced a decline
  - Early-Career (18-34 years of age)
  - Senior (65+)
- Lifetime participation activities experience different trends when analyzing age segment participation

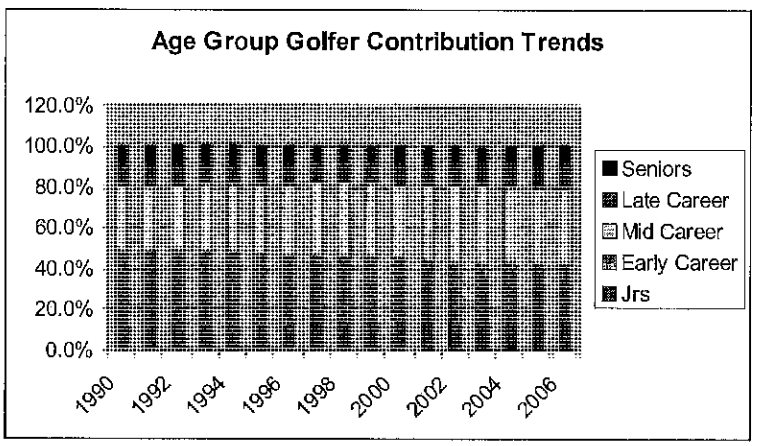


Figure 18 - Age Group Golfer Contribution Trends

- Traditional "bat and ball" sports have mandated age limits for the most popular series
- When age limits are extended or non-existent one or two results are normally experienced
  - A higher level of physical fitness is required (adult soccer, adult basketball leagues, etc.) which effectively reduce the participation base
  - The activity becomes direct competitors with the "Entertainment" sector and participation begins to decline due to the increased demand for time amongst the broader Entertainment and Leisure Industry, of which recreation belongs

- Golf is a lifetime activity that requires unique assets which can allow for a user to grow and mature with the course

PARTICIPATION BY AGE SEGMENT

- Trends confirm that an estimated 75% of all golf in the U.S. is currently played by golfers over the age of 43
- It is projected that by 2010, 50% of all golf will be played by persons aged 55 years and above

Year	1990 Pop. (Ms)	1990 Part. Rate	2006 Pop (Ms)	2006 Part. Rate	Net Golfer Gain/Loss (Ks)
7-17	53.0	4.5%	61.1	5.3%	879
18-24	18.9	16.4%	21.0	14.1%	(132)
25-34	43.4	14.9%	40.4	12.5%	(1,375)
35-44	37.6	13.0%	42.5	13.7%	924
45-54	25.1	11.3%	43.4	10.3%	1,653
55-64	21.1	10.8%	32.6	9.3%	733
65+	31.2	8.0%	38.4	6.8%	100

Figure 19 - Participation by Age Segment

GOLF AND RECREATION

- Golf peaked in both participants and share of recreation around the turn of the century with just under 30 million golfers
  - This equates to a roughly 12% share of total recreation
- If industry participation had retained a steady "share-of-recreation" at the 2000 level of 11.6% participation, roughly 3 million more golfers would be participating today
- Golf's decline in share-of-recreation is primarily concentrated among the Gen X/Y crowd – the same demographic which not only traditional recreation providers and

programmers have difficulty serving, but a demographic which is constantly creating a headache for corporate America

CURRENT PARTICIPATION BASE

- After healthy growth in late 1990s, consumer base is roughly 26-27 million golfers after nearly hitting 30 million golfers between 1999 and 2003
- The industry's "old reliable" participation base of a predominantly white populace is changing to an increasingly diverse U.S. population
- Future population diversification has the potential to retard both golfer and rounds growth if past trends continue and the industry fails to properly adjust marketing efforts
    - Fast-growing Hispanic segment dramatically under-consumes golf
- However, current trends project lack of Hispanic user base will be somewhat offset by significant gains in the Asian participation base

FREQUENCY

- Frequency of play continues to decline; as with many other recreation and sport activities, golf has fallen prey to the ever increasing inefficient multi-tasking society in which the user base participates in a plethora of activities over the same period of time as opposed to a dedicated window for each individual activity as many from past generations did
- 2006 frequency declined from 23.4 rounds per year per golfer in 2005 to 21.5 rounds per golfer per year
- Time required for a round of golf is the biggest deterrent to the early career and early family oriented participant
- Many persons weight the 4+ hours needed to complete a round of golf against what other personal, family, or social activities they would rather do or are obligated to do

NUMBER OF ROUNDS PLAYED

- Committed golfers – although a relatively small portion of the golf market (20%) – have remained constant
    - Committed golfers are comprised of individuals which play 40+ rounds per year
    - There were an estimated 5.2 million committed golfers in 2006
- Decreased rounds per year can be attributed in part to the reduction in the number of dedicated golfers
- Trends show golfers that were playing in the 20–39 rounds per year are reducing their frequency and becoming casual participants

EXISTING GOLF COURSE OPERATIONAL ASSESSMENT

The following key points, as based on the on-site review of the golf course and the situational assessment, are presented below to describe current operational conditions of Sharp Park, Lincoln Park, Harding, Golden Gate, and Glen Eagles golf courses:

SHARP PARK GOLF COURSE OPPORTUNITIES AND CONSTRAINTS

HISTORY

- A historic golf course designed by the most celebrated golf architect, Alister MacKenzie, who designed Cypress Point, part of Pebble Beach, Augusta National and many more. It is much like having a park designed by Olmstead or a Frank Lloyd Wright building.
- It has been featured in a book on lost golf courses published in 1995. The golf community around the world is aware of this golf course, its past and future potential.
- With its proximity to the Ocean and its design by Alister MacKenzie, it has the potential to be one of the best public golf courses in the United States.
- Because of its heritage it has the potential for private fund raising or an endowment for restoration and remodel. Probably one of the few in America.
- It is important because it has the potential to be the "average golfer's" Cypress Point. By this the consulting team means that Cypress Point, arguable the best golf course in the world is very private and has very limited access to outside play. Sharp Golf Course, with it Ocean frontage, Monterey Cypress Trees and Mackenzie's artistic design has the potential, as it once was, to be of similar character and at the same time open to public play. It provides the average golfer access to design greatness.
- It should be a crown jewel of the Recreation and Park Department and the city of San Francisco, a prominent fixture extolling the quality of life in this area. A proud heritage of some of the best golf in the world and it relationship to the sea.
- It would also become a great revenue source (especially with private funds for restoration /remodel) for the Recreation and Parks Department, as it would be a great local golf course but also a destination golf course for golfers all over America.

INFRASTRUCTURE

- The golf course has poor infrastructure consistent with a golf course of this age and lack of improvements.

- The irrigation system, normally planned to last 20 years, is 60 years old. It needs to be updated to improve turf conditions, as well as reduce environmental impacts with the use of less water and a better distribution of water.
- Existing drainage is very poor and is in a critical state. The area of the golf course drains a watershed area of over [illegible] acres before it flows into the ocean. Currently, due to poor drainage, water backs up on the golf course negatively affecting the condition and playability of the golf course. The existing soils of the golf course are poor draining lowland soils contributing to the problem.
- Adjacent city streets outfall drainage onto the golf course contributing to the drainage issue of the golf course.
- All drainage flows through Horse Stable Pond, which then mechanically pumps the water over the sea wall for positive drainage. These pumps are outdated, often non-working and either need to be replaced or a new outflow system designed with a non-mechanical system if possible.
- The features of the golf course; greens, tees, bunkers and fairways of the golf course are seriously in need of an upgrade for acceptable golf playing conditions. The turf quality of the golf playing surfaces is reflective of the poor and outdated infrastructure of these features. Greens need new drainage and growing medium (modified soil). Tees need new drainage and soil. Fairways need new drainage and growing medium (modified soil). Bunkers need to be rebuilt with new drainage and fresh bunker sand.
- Much of the MacKenzie artwork of the bunkers and greens that add so much value to the golf course have been lost over the years because of decades of minimum maintenance practices.
- Many original bunkers have been removed or modified over the past decades due to past remodels or low maintenance budgets.
- The existing sea wall while protecting the surrounding area from storms backs up drainage across the golf course. This important sea wall needs to be reviewed for its stability as well as potential percolation of salt water into the golf course.
- Cart paths are out of date and need to be replaced, preferably with an imperious surface like gravel or stone, which is more in character with the historic design of the original golf course.

ENVIRONMENTAL

- The endangered San Francisco Garter Snake is the single most important aspect of Sharp Golf Course. By this the Consulting Team means that it should be the [illegible] force behind all improvements in the immediate area of the [illegible] wetland. The golf course can be a valuable tool in enhancing the habitat for this endangered species. [illegible], just south of the golf course, is one of only [illegible] areas of significant population of the San Francisco Garter Snake and it is under stress.

Management Audit

of the

Recreation and Park Department

Prepared for the

Board of Supervisors
of the City and County of San Francisco

by the

San Francisco Budget Analyst

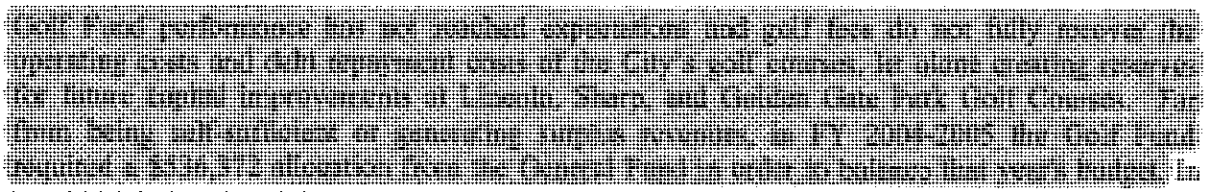
January 12, 2006

plus matching Open Space Fund funds, which equaled $2,238,218, for a total payment due by the Golf Fund to the Open Space Fund of $18,865,845, plus interest.[3]

By using State Proposition 12 grant funds to renovate the Harding and Fleming Golf Courses, the availability of such State Proposition 12 grant funds was significantly delayed for recreation and park projects in historically underserved or economically disadvantaged communities.

To date, the Golf Fund has not repaid the Open Space Fund any of the $18,865,845 principal advanced from the State Proposition 12 grant funds or the Open Space Fund matching funds, and has only repaid the Open Space Fund $490,000 in interest payments on the $18,865,845 principal funds. The Department did not include sufficient funds in the FY 2005-2006 Golf Fund budget to pay the Open Space Fund for the total amount of interest on the principal payment, and will need to increase the FY 2005-2006 budgeted payment of $544,467 by $390,953, or 71.8 percent, to $935,420 in order to meet the correct debt service schedule.

The Department should review available strategies, including modifying Harding and Fleming Golf Courses' fee structure and increasing the percentage of rounds available for non-residents' use, in order to increase fee revenues to pay back the Open Space Fund for the total amount of the State Proposition 12 funds and Open Space Fund matching funds, equal to $18,865,845, as early as possible so that repayment will not take the full 25 years as is currently scheduled. By not taking the full 25-year repayment period, the total interest payments by the Golf Fund to the Open Space Fund would be reduced. Further, by paying the principal amount of $18,865,845 in less than 25 years, such monies plus the interest payments would become available earlier to the Open Space Fund in order to pay for a portion of the Department's Capital Program Phases I - III which is currently underfunded by $589,125,057.



In FY 2004-2005, the Golf Fund revenues were $8,698,044, including $536,372 transferred from the General Fund, compared to total expenditures of $8,500,811, resulting in a year-end fund balance of only $197,233. By contrast, the 2001 pro forma financial analysis, prepared for the Department by an outside consultant, Economics Research Associates, projected a net operating income of $6,471,000 over the first six years of the renovated Harding and Fleming Golf Courses' operation.

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[3] Administrative Code Section 12.100-256 required payment by the Golf Fund to the Open Space Fund of the total amount of State Proposition 12 grant funds and Open Space Fund matching funds allocated to the Fleming and Harding Golf Courses project, including interest, although Administrative Code Section 12.100-256 does not refer to the subject funds as a "loan."

Although demand to play at Harding and Fleming Golf Courses is high and the greens fee revenues have increased at the two subject courses, since Harding and Fleming Golf Courses reopened in 2003, there has been decreased play at the City-operated Lincoln, Sharp, and Golden Gate Golf Courses, thus partially offsetting the revenue growth at the renovated Harding and Fleming Golf Courses. Since 2000, the number of rounds played at the Lincoln Park Golf Course has fallen by 50 percent and the number of rounds played at the Sharp Park Golf Course has fallen by 38 percent.

Although FY 2003-2004 saw 92,664 rounds played at Harding and Fleming Golf Courses, the net impact across all golf courses was only 52,480 because 40,184 less rounds were played at Golden Gate Park, Lincoln, and Sharp Golf Courses. This situation was exacerbated in FY 2004-2005. Although 116,603 rounds were played at Harding and Fleming Golf Courses, the net impact across all golf courses was only 51,849 because 64,754 less rounds were played at Golden Gate Park, Lincoln, and Sharp Golf Courses.

The Department advises that the decline in rounds in FY 2004-2005 was exacerbated, to some degree, by the extraordinary amount of rain experienced by the City that winter. Nevertheless, the general downward trend experienced by the Lincoln and Sharp Golf Courses was also reflected at the better maintained Golden Gate Park Golf Course which saw an approximately 27.3 percent reduction in the number of rounds played in the three years between FY 2002-2003 and FY 2004-2005. Since the golf fees chargeable at Lincoln, Sharp, and Golden Gate Park Golf Courses have not changed in some time, the declining number of rounds has resulted in declining golf fee revenues from those three City-operated golf courses.

This downward trend in golf fee revenues from Lincoln, Sharp, and Golden Gate Golf Courses, coupled with the existing fee structure and the requirement that 65 percent of Harding and Fleming Golf Courses' tee times be set aside for San Francisco residents, generates insufficient revenue for the Golf Fund to (a) repay the Open Space Fund in accordance with Administrative Code Section 10.100-256, (b) construct and maintain capital improvements for all five Department-operated golf courses, and (c) generate funding for other recreation and park facilities, as intended by the Open Space Fund under Proposition C.

[redacted]

The October of 2005 World Golf Championships - American Express Championship tournament held at Harding and Fleming Golf Courses resulted in direct costs exceeding revenues by $141,619 ($641,619 in lost green fee revenues and increased operating costs, less the PGA Tour, Inc.'s $500,000 payment). The $141,619 net costs to the Recreation and Park Department is equivalent to the annual salary and mandatory fringe benefit costs of between 2.18 and 2.65 FTE

more than offset by the PGA Tour, Inc.'s payments to the City and by increased use of Harding and Fleming Golf Courses by higher paying non-resident and tourist golfers. Once the Harding and Fleming Golf Courses' renovation projects were complete, the Department anticipated an ongoing materials and supplies cost increase of $100,000 annually, plus the labor costs of an additional 9.31 full time equivalent staff. These additional costs were to be paid for by the Golf Fund.

Subsequently, the PGA Tour Championship was relocated to Atlanta, Georgia, the home of the PGA Tour Championship's new sponsor, Coca Cola. In March of 2004, the Master Tournament Agreement was amended to provide for the use of the Harding and Fleming Golf Courses by either the PGA Tour Championship tournament, the American Express Championship tournament, or the NEC Invitational tournament. Under the amended Master Tournament Agreement, there would be five tournaments held over a 15 year period between 2005 and 2020, with three nine-year extension options. The Master Tournament Agreement's financial terms were altered to:

- An up-front use fee of $500,000 per tournament (Consumer Price Index adjusted). This would result in $2,500,000 (plus any Consumer Price Index adjustments) of direct payments to the City over 15 years.

- A set payment of $500,000 per tournament (Consumer Price Index adjusted) to the First Tee Program. This would result in $2,500,000 (plus any Consumer Price Index adjustments) of direct payments to the First Tee Program over 15 years.

- A one-time contribution of $100,000 to defray the design costs for a new clubhouse.

- For [illegible] design services for the Lincoln and Sharp Golf Courses valued at $1 million. The Department advises that this agreement has not yet been executed. It would not be prudent to have the PGA Tour, Inc. embark on design services for the golf courses until the Department has developed overall plans for each golf course. For example, in the case of Lincoln Golf Course, the Department might opt to relocate the clubhouse, the cart barn, and/or the maintenance facility. Relocation of any of these buildings might change the golf course's design and routing. In addition, a sizable portion of the services included in the $1 million estimate would occur during the actual construction phase. Construction funding has yet to be identified. The Department has no estimate as to when the PGA Tour, Inc.'s design services will be requested.

- Periodic agronomic reviews and training for City golf course maintenance staff, approximately three times per year.

- 6.66 percent of any gross operating revenues in excess of $10 million for each tournament, to be paid to the City and the First Tee Program.

Golf Course Rounds and Revenues

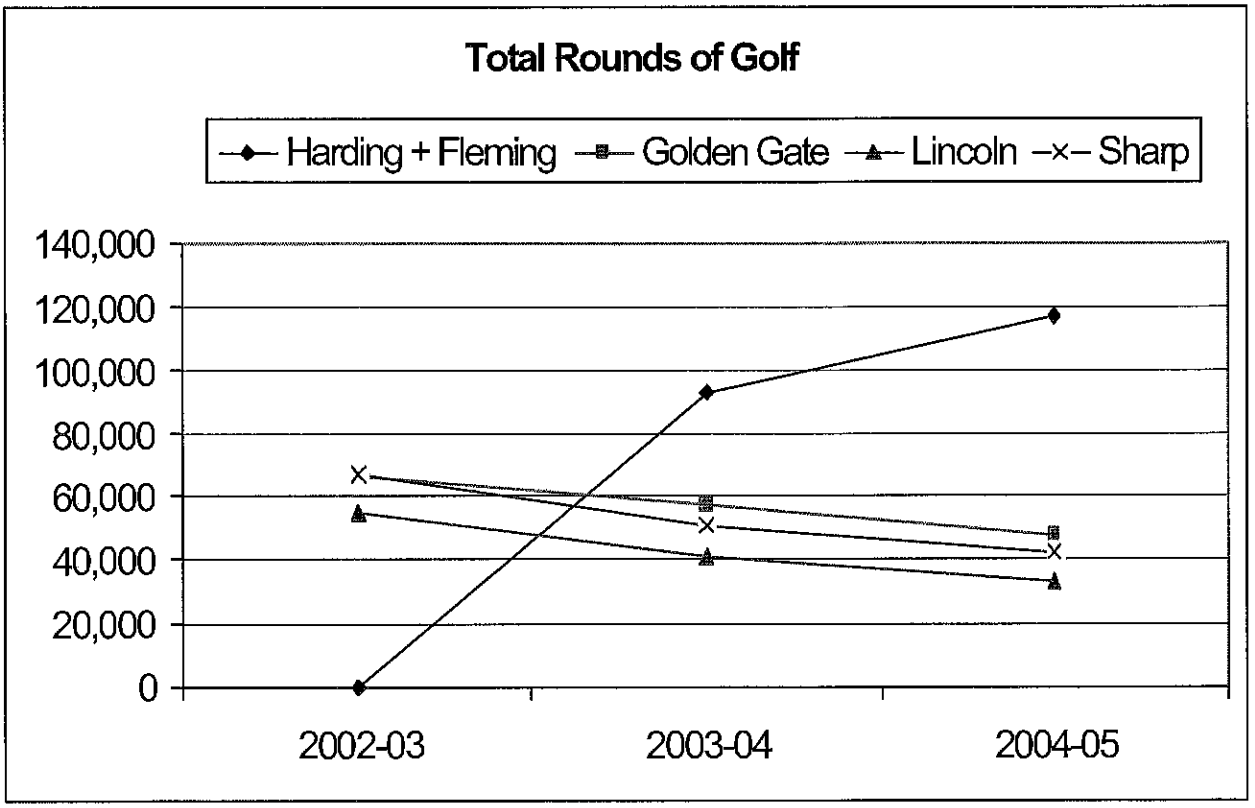
All Golf Courses

Since 2002, the number of rounds played at the Lincoln Park Golf Course has fallen by 30 percent and the number of rounds played at the Sharp Park Golf Course has fallen by 34 percent. The Department advises that the decline in rounds in FY 2004-2005 was exacerbated, to some degree, by the extraordinary amount of rain experienced by the City that winter. Nevertheless, the general downward trend experienced by the Lincoln and Sharp Golf Courses was also reflected at the better maintained Golden Gate Park Golf Course which saw an approximately 27.3 percent reduction in the number of rounds played in the three years between FY 2002-2003 and FY 2004-2005. Since the golf fees chargeable at Lincoln, Sharp, and Golden Gate Park Golf Courses have not changed in some time, the declining number of rounds has resulted in declining golf fee revenues from those three City-operated golf courses.

Table 6.5 and Exhibit 6.1 below show the relationship between the declining number of rounds played at Golden Gate Park, Lincoln, and Sharp Golf Courses in relation to the number of rounds being played at the renovated Harding and Fleming Golf Courses after they were returned into service in FY 2003-2004. Although FY 2003-2004 saw 92,664 rounds played at Harding and Fleming Golf Courses, the net impact across all golf courses was only 52,480 because 40,184 less rounds were played at Golden Gate Park, Lincoln, and Sharp Golf Courses. This situation was exacerbated in FY 2004-2005. Although 116,603 rounds were played at Harding and Fleming Golf Courses, the net impact across all golf courses was only 51,849 because 64,754 less rounds were played at Golden Gate Park, Lincoln, and Sharp Golf Courses.

Exhibit 6.1

Total Golf Rounds, FY 2002-2003 Through FY 2004-2005



Source: Recreation and Park Department

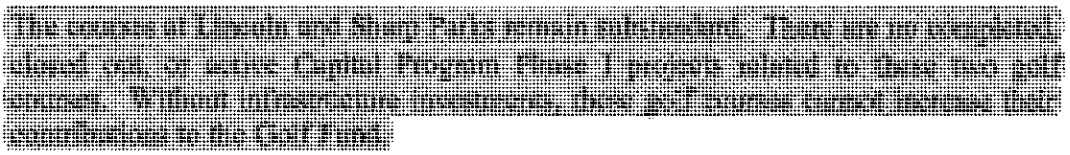
Harding and Fleming Golf Courses, Before and After Renovation

Table 6.6 below shows Harding and Fleming Golf Course rounds and revenues before renovation in FY 2000-2001 (the last full year before construction began in May of 2002), and after renovation in FY 2004-2005 (the first full year after the golf courses reopened in August of 2003). It should be noted that the Department still limited the number of rounds played at Harding and Fleming Golf Courses in FY 2004-2005 due to the immaturity of the course turf and greens.

Based on the information shown in Table 6.6, renovation of the Harding and Fleming Golf Courses has had the following effects:

- Resident Rounds: While the total number of resident rounds dropped by approximately 12.2 percent, from 86,040 to 75,515, the revenues earned increased by approximately 119.7 percent, from $912,472 to $2,004,541.

by the highly visible new amenities (while maintaining lower greens fees for residents), plus the unquantifiable revenues generated by increased tourism during international tournaments which do not accrue to either the Golf Fund or to the Recreation and Park Department.

- 

- To date, PGA Tour, Inc. has not yet invested the estimated $1 million worth of design services to renovate Lincoln Park and Sharp Park it is required to provide under its contract with the City. This is because the Department has neither an overall plan for each golf course, nor identified construction funding, nor an estimated project schedule.

- In FY 2004-2005, 238,440 rounds of golf were played on the City's six golf courses. Therefore, demand remains high in the system as a whole. However, Lincoln and Sharp Parks have declining numbers of rounds played, thereby depressing greens fee revenues. Further, both Lincoln and Sharp Parks are currently operating on month-to-month operating agreements which discourages long-term capital investments. Meanwhile, other Bay Area municipal golf courses have been renovated over the last decade which means that golf courses such as Poplar Creek (San Mateo), the Presidio (San Francisco), and Monarch Bay (San Leandro) are in much better condition than Lincoln and Sharp Golf Courses and, consequently, more attractive to potential clients.

- There is considerable political resistance to increasing golf course fees. Nevertheless, the declining revenues from Lincoln, Sharp, and Golden Gate Park Golf Courses, the existing fee structure, and the requirement that 65 percent of Harding and Fleming Golf Courses' tee times be set aside for residents, generates insufficient revenue for the Golf Fund to sustain the City's golf course operating costs and debt repayment, let alone create reserves for future capital improvements at Lincoln, Sharp, and Golden Gate Park Golf Courses. The Department states that its focus is on making the Golf Fund viable. Nevertheless, in the future, if the Department is not going to be allowed to develop sufficient ongoing funding for the Golf Fund due to constraints on golf fees and non-resident usage of Harding and Fleming Golf Courses, then the Department may need to consider using some of the land currently devoted to golf to other, equally valid recreational uses which are cheaper to provide and maintain.

Conclusions

The Golf Fund faces significant financial challenges. Although demand to play at Harding and Fleming Golf Courses is high and their greens fee revenues have grown, since Harding and Fleming Golf Courses reopened in 2003, there has been decreased play at Lincoln, Sharp, and Golden Gate Park Golf Courses, thus partially offsetting the

WILD Equity INSTITUTE

Building a healthy and sustainable global community for people and the plants and animals that accompany us on Earth

The Wild Equity Institute is working to build a new public park at Sharp Park in Pacifica, CA. With our partners at the NPCA, the Neighborhood Parks Council, the National Japanese American Historical Society, and many other organizations, we have proposed to close the course and partner with the National Park Service to restore the land and interpret its hidden history, including the former WWII internment camp and prehistoric artifacts that have been found on the site.

Perhaps in response to this idea and litigation, **for the first time San Francisco is proposing to landmark Sharp Park Golf Course. This proposal is not well informed.** Below you will find background information about this proposal.

Although Alister MacKenzie, the original architect of Sharp Park Golf Course, has made some important golf courses, there is significant disagreement about (a) the quality of the original architectural design at Sharp Park and whether it is a reflection of Mackenzie's signature design, and (b) its current integrity. **Every history written about this course before the restoration proposal we are advancing was announced concluded that the original MacKenzie design no longer exists at Sharp Park today.**

Some contemporary golf advocates have suggested that these previous assessments were based on misinformation or bad data. They have gone as far as suggesting that several of the links at Sharp Park remain consistent with Sharp Park's original design. As a preliminary matter, **golf courses are not simply a collection of links: they are a course, and to suggest that because a few golf links remain in the places Alister MacKenzie placed them does not answer the question about the historic integrity of the course as a whole.**

But more importantly, these assessments are directly contradicted by assessments made away from the heat of this dispute, and not conducted by individuals with a stake in the outcome. **Indeed, the only individuals who have asserted that Sharp Park is historic are associated with the San Francisco Public Golf Alliance—a golf activist organization that is not qualified to provide these assessments, and has an inherent conflict in doing so regardless.** Therefore, the previous assessments are more likely to be unbiased and accurate: even if the historians who wrote them would prefer the original course be restored, instead of than the natural areas upon which the course was built.

Some of MacKenzie's courses should be considered for recognition. But Sharp Park is simply not the place to start. There is not a single Alister MacKenzie golf course presently listed on the California or federal registers of historic places, and most everyone would agree that Sharp Park is not one of the greatest examples of his work. Indeed, **the litany of problems the golf course faces—from chronic annual flooding, to the killing of endangered species, to the low grades given the course by its own golfers, to the chronic financial instability of the course, to the inevitable loss of the site to sea level rise as our climate changes—all indicate that this particular course does not exemplify the work of a master implementing his art.**

P.O. Box 191695 ❧ San Francisco, CA ❧ 94119 ❧ P: 415-349-5787 ❧ info@wildequity.org ❧ http://wildequity.org

Moreover, the San Francisco Public Golf Alliance has distributed false information to the Planning Department and to the Historic Preservation Commission arguing that Sharp Park Golf Course itself has been designated an historic landmark by the City of Pacifica. **This is not true: indeed, to the extent any historic preservation has been provided to Sharp Park, it has been equally provided to the trees, lagoon, and marsh on the property,** as will be shown below. Indeed, a proposal to try and landmark the golf course was tabled indefinitely by Pacifica's Planning Commission in 2009.

The Pacifica General Plan (as updated August 2005) Historic Preservation Element. This section includes a "list and map of all of the sites and structures felt to be of historic significance in Pacifica."

With regards to Sharp Park, the Pacifica Historic Sites list includes:

Number 18. Laguna Salada & Marsh
Number 19. Sharp Park Golf Course & Clubhouse
Number 20. Trees in Sharp Park

However, this section also states that "the element would be implemented by an Historic Ordinance which would establish a Pacifica Historic Sites Advisory Committee to review proposed changes to sites and structures designated on the Historic Sites Map and advise the Planning Commission and City Council of the appropriateness of the proposal." **No such Historic Ordinance or Advisory Committee was ever created: instead Pacifica implemented this through its zoning code.**

Title 9 of Pacifica's Zoning Code, Chapter 7 covers Historic Preservation. Section 9-7.208 of the Code lists Pacifica's designated Historic Sites:

Sec. 9-7.208. - Final designations.
The following structures, having been approved by the Planning Commission and Council for designation as historic landmarks pursuant to the procedures of this article, are hereby given final landmark designation:

(a)Sanchez Adobe;
(b)Sharp Park Golf Course Clubhouse;
(c)Little Brown Church;
(d)San Pedro Schoolhouse;
(e)185 Carmel Avenue;
(f)Vallemar Station, 2125 Cabrillo Highway;
(g)Anderson's Store, 220 Paloma Avenue;
(h)165 Winona Avenue; and
(i)Dollaradio Station.

(§ 1, Ord. 482-C.S., eff. May 27, 1987, as amended by § 1, Ord. 533-C.S., eff. September 27, 1989, § 1, Ord. 534-C.S., eff. September 27, 1989, and § 2, Ord. 569-C.S., eff. July 10, 1991, § II, Ord. No. 770-C.S., eff. May 26, 2010)

As you can see, only the golf course clubhouse has been designated historic by Pacifica. **Laguna Salada itself, along with the golf course, are 'potential' historic resources according to the general plan, but because these potential resources were never finalized into actual landmarks, they are not so protected.**

Only Sharp Park Golf Course's clubhouse is listed as an historic landmark in Pacifica, an uncontroversial finding that is not impacted in any way by the restoration proposals we have all pursued. However, **to rely on Pacifica's general plan as reason to landmark the golf course takes one only so far, because the marsh, lagoon and trees—all directly threatened by the course, are provided the same level of so-called protection as the course itself.**

San Francisco's own Historic Preservation Commission, the City's agency responsible for identifying and designating landmarks, disagreed with this assessment. **On September 21, 2011, the Commission ordered staff to prepare comments stating that they do not concur in the Recreation and Parks Department's position that Sharp Park retains historic integrity.**

There is good reason for this determination:

- The Recreation and Parks Department's Historic Resources Evaluation provides **insufficient information and evidence to support its conclusion that Sharp Park retains historic integrity.**
- The evaluation also **lacks a proper analysis of the historic landscape**, and thus there isn't an appropriate baseline to judge integrity.
- The Evaluation also **fails to consider a range of mitigation measures**, and thus precludes restoration of endangered species habitat. Historic preservation and natural resources protection are not exclusive – Crissy Field and Muir Woods restoration are examples of natural resource restoration projects where historic resources existed.
- The National Park Service has asked to play a role in any historic resource evaluation of the golf course – per their 2009 statement – because the course is within their historic boundary and they are undertaking a multi-million dollar wildlife habitat restoration project adjacent to Sharp Park, yet the City has not engaged the Park Service. The **Park Service is considered the most respected expert in historic resource preservation.**

Attached to this memo are previous statements by the National Park Service and the City of San Francisco opposing landmarking the golf course in Pacifica; written histories about how the course no longer retains integrity; and a link-by-link assessment of what has been lost at the golf course.

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Sharp Park today bears no resemblance to Alister MacKenzie's original design. **Every link has been changed at Sharp Park—in many cases radically, and many holes have been lost completely.** It is misleading to claim that any historical integrity exists at the course.

- The water features on five MacKenzie holes east of Laguna Salada, original holes 1, 9, 15, 16, & 17, have been culverted, eliminating crucial water hazards essential to his design.

- Five holes west of Laguna Salada, including original holes 3, 4, 6, 7, & 8 were destroyed completely by massive coastal storm surges and the subsequent construction of the berm.

- Two others, original holes 2 & 5, were severely damaged and modified to eliminate additional water features and other elements of their design. Now the site of hole 12, the original hole 2 was shortened by 60 yards and a stroke while the strategic features—including its proximity to a much larger Horse Stable Pond than exists currently—are almost completely irrelevant to the hole's play today. Hole number 5, which was considered by Jack Fleming to be "one of the most interesting holes on the course, similar to Dr. MacKenzie's 'ideal golf hole,'" is now the current site of hole 17, but other than occupying the same space the hole bears absolutely no resemblance to the original hole 5: a tee shot over Laguna Salada has been removed, and dual fairways have been combined into one, eliminating strategy alternatives integral to MacKenzie's design.

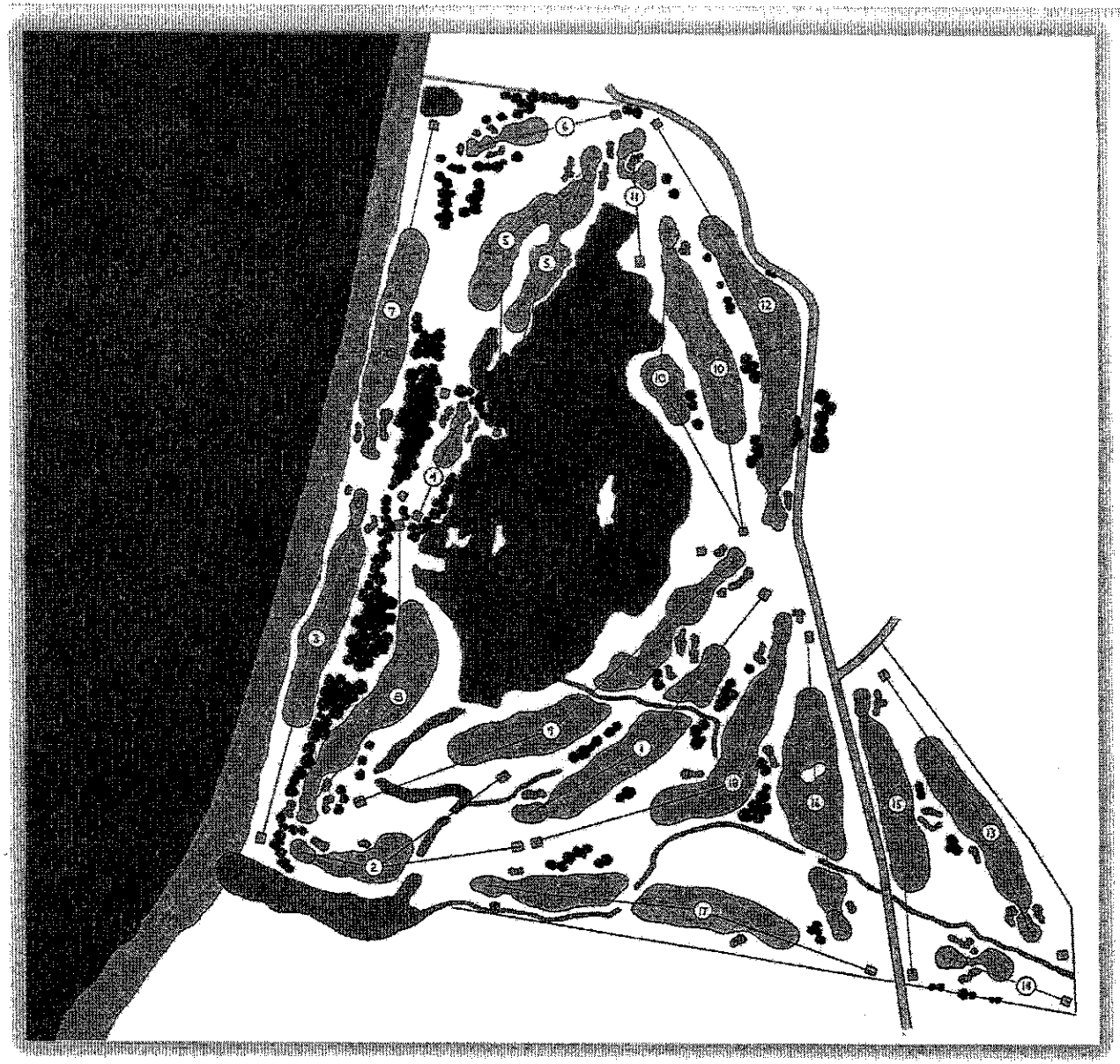
- Original holes 10 and 11, now the location of holes 14 and 15, have likewise been modified with changed greens and fairways that bear no resemblance to MacKenzie's layout. Indeed, Daniel Wexler argued that the original hole 10 was perhaps the course's best link, but its essential feature—a double fairway—no longer exists.

- Original hole 12, now the location of hole 18, has had sand traps removed from the design. In addition, original hole 13 (now 3), and original holes 14 and 15 (now the location of holes 8 and 2) described by Wexler as "not among the layout's finest" to begin with, have likewise had hazards reconfigured, as has the final original hole, 18 (now the location of hole 10).

- In addition, the theory of the course—the creation of a links-type, seaside course—was entirely upended when the berm was built separating the course from the ocean.

MISSING LINKS

DANIEL WEXLER



SHARP PARK																			
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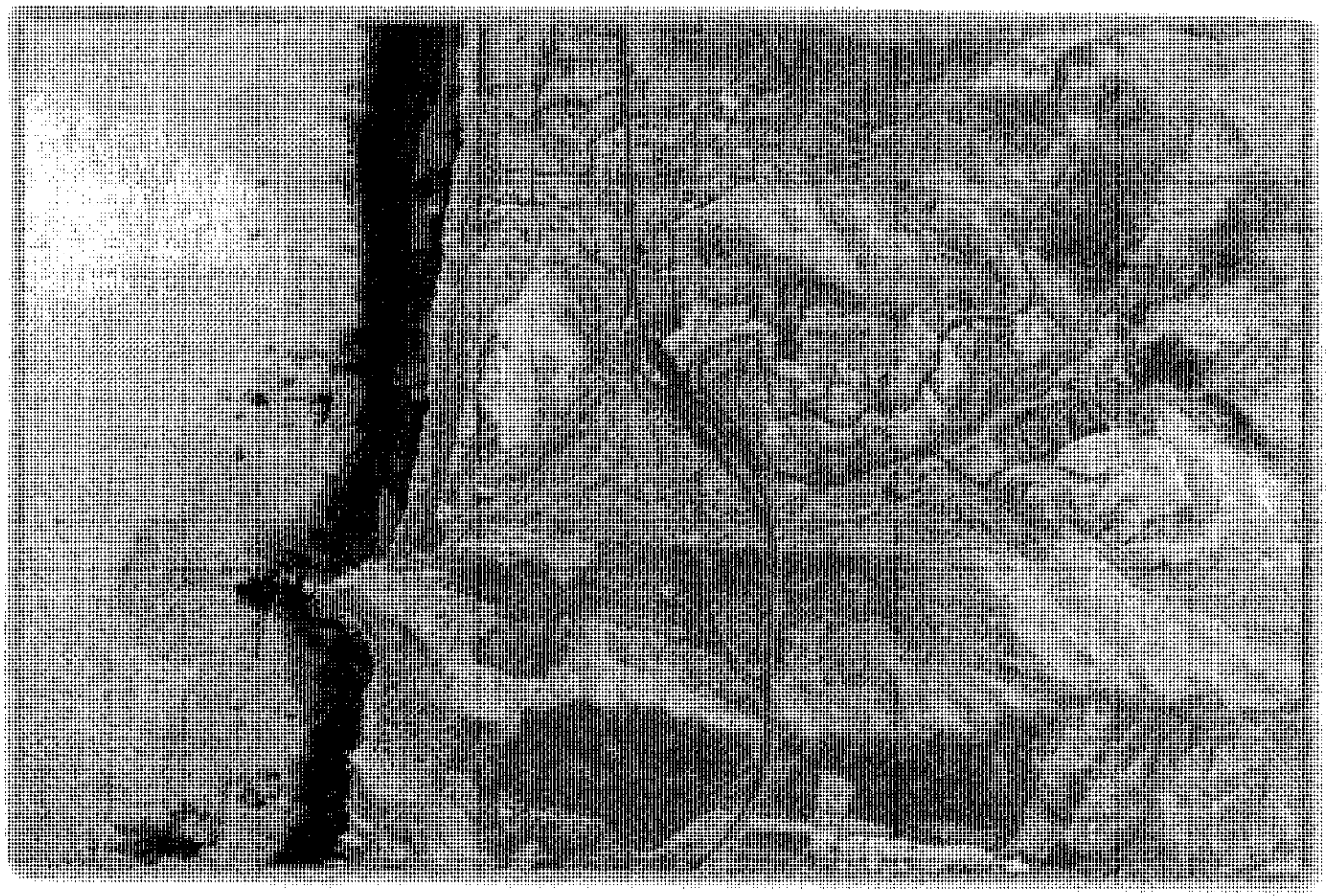


1943 aerial survey reveals a number of MacKenzie's original holes still intact, plus four newer ones built to the east. (National Archives)

SHARP PARK GOLF COURSE

PACIFICA, CA

Opened in 1931 / 6,154 yards Par-71

As today, some 65 years after his death, Dr. Alister MacKenzie remains perhaps the most celebrated golf architect in history, it is truly remarkable that two public courses he laid out in major American metropolises could have been so short-lived and poorly documented. Yet Bayside, as we have seen, labored in (and vanished into) almost complete obscurity—and it cannot even begin to compare with the briefly-lived legacy of San Francisco's Sharp Park.

MacKenzie's Sharp Park layout is surely one of golf architecture's most enduring mysteries. Owing to the fact that it was built in 1931, then washed into oblivion by a coastal storm shortly thereafter, its original design was seen firsthand by very few. Nor was this initial version in any way adequately recorded, with few photographs of any kind known to remain in existence. Further, a visit to today's 6,299-yard facility offers little; this vastly-altered layout serving mostly to make one wonder if a vintage MacKenzie design ever *could* have existed upon this site.

But the Doctor's original, located very much upon this same land, was all that its tantalizing prospects have suggested, a marvelous golf course featuring seaside holes, two double fairways, a large lake, and a cypress-dotted setting fairly reminiscent of Monterey. It was, in short, a municipal masterpiece.

Located just 10 miles south of downtown San Francisco, the site given to MacKenzie was uncommonly fine for a public facility, including a nearly 1,000-yard oceanfront stretch along Salada Beach. For a county whose public course facilities at Harding and Lincoln Parks were among the busiest in the nation, the development of Sharp Park was a godsend, but this wonderful property was not without its drawbacks.

For one thing, a fair amount of the land required shoring up with massive quantities of dredged sand in an expensive, Lido-like operation. Second, the site was partially divided by a small county road, a circumstance dictating that three of MacKenzie's back-nine holes be separated from their 15 brethen. Years later this road would be rerouted, though by that time the storm-driven reconfiguration of the golf course would still leave four newer holes separated, about the only commonality between MacKenzie's work and the course in play today.

The 1931 layout began with a dogleg-right par-4 of 400 yards, a strong but not especially memorable opener. But things changed quickly at the second, a 274-yard par-4 with alternate tees situated on either side of the first green. In what today might be referred to as "risk/reward" style, this nearly-driveable hole featured a large bunker front-right of the putting surface and a lake to the left of the fairway, creating the wonderful question of just how near the water one dared to venture in pursuit of an easier angle for his second.

The third was a long two-shotter of 423 yards, playing directly north along the beachfront. Again the risk/reward question was laid before us: play safely down the middle and deal with a front-right greenside bunker or aggressively skirt the beach in pursuit of an open second? Seaside winds generally affected play at Sharp Park greatly, bringing those most unlinkish of obstacles—trees—into play along the right side as well.

Following the short fourth, a precise pitch played along the lake's westward shoreline, one reached the first of the dual-fairway holes, the 338-yard fifth. Here the player's options were numerous with a "safe" left-side route leaving the most difficult second-shot, a dangerous lakefront fairway opening up a more direct line, or the all-out blast over everything leaving a mere pitch from a wide-open angle. As at the second hole, a second tee positioned left of the previous green served to create additional angles and variety.

The 385-yard seventh was the course's second and last seaside hole, playing directly south to a long, narrow green flanked on either side by sand. The slight angling of the putting surface again tempted one to drive close to the beach (particularly if the pin was cut back-left), but the lesser presence of trees at least made this tee shot a bit more forgiving.

The 398-yard eighth, though built with only one fairway, offered two very distinct lines of play. A drive aimed safely left was simple enough but set up a nearly all-carry approach across two front-left greenside bunkers. For the man capable of controlling a long fade, however, there was the option of skirting the treeline, a shot which, if brought off successfully, again yielded a more favorable approach.

Though one hesitates to name a best hole among so many good ones, the 392-yard 10th did

a fine job of nominating itself. Here was the double fairway concept played out to the fullest, the right side providing ample safety but a bunker-obscured second, the left requiring a gutsy tee shot to a water-guarded fairway but yielding a straight-on approach. Yet again, dual tee boxes varied the challenge from day to day, making the 10th a truly great hole—but an intimidating prospect for anyone hoping to slip past the starter and begin play on the back nine.

Following the 142-yard 11th came the long 12th, a 493-yarder distinctly reachable in two, provided one avoided several prominent trees and the out-of-bounds which ran down the entire left side.

Perhaps not surprisingly, the three holes exiled across the county road were not among the layout's finest, the 345-yard 13th being the best of the bunch with out-of-bounds also threatening its more-favored left side.

With the routing having returned to the clubhouse for a third time, one set out again at the 363-yard 16th, a par-4 following much the same path as today's first hole. Here a large mound punctuated the fairway some 175 yards off the tee, offering several different angles of play. The more difficult drive was the one aimed down the right side, close to a clump of trees. Naturally this choice also provided the better approach angle to a deep, narrow putting surface.

MacKenzie closed out Sharp Park with a pair of long finishers beginning with the 471-yard 17th. Though not a particularly difficult hole, this short par-5 often faced a strong sea breeze and featured out-of-bounds left, two bunkers, a meandering brook and a green laid precariously close to a rough, marshy depression. The 18th, by contrast, was a bit of a monster, its 443 yards requiring more brute strength than finesse, though the ability to draw one's tee shot would obviously have come in handy.

It was indeed unfortunate for Sharp Park that so many of its best holes fell along the property's ocean side, for it was this flank which took the brunt of any incoming storms. Following the early 1980s deluge that washed several of these gems out to sea, a massive berm was constructed (largely upon land once occupied by holes three and seven) to prevent history from repeating itself. The subsequent rerouting of the county road and reconfiguring of the lakeside holes has further muddled things so that today only a handful of holes run consistent with MacKenzie's originals, and no appreciable trace of his strategy remains in play.

How Sharp Park Would Measure Up Today

Oceanfront holes, double fairways, MacKenzie bunkering, marvelous scenery...

Any way you look at it, even at only 6,154 yards, Sharp Park would have to stand well out in front as America's finest municipal golf course.

Restoration anyone?

SHARP PARK

Being that the City had come by the lots at Sharp Park so cheaply(free in fact)they decided to bring in one of the world's foremost golf architects, Dr. Alister Mackenzie. The fact that Mackenzie and his assistant at that time, Jack Fleming, were able to design a golf course along the San Mateo County coast line was quite an accomplishment in itself. They managed to accomplish this difficult feat by dredging for fourteen months in order to build up the fairways.

On May 15, 1930 Robert Hunter, Jr. was appointed the superintendent of construction for Sharp Golf Course at a fee of $750 for ten month's work. Four and a half months later on October 2, 1930 Willis Polk and Company was authorized to prepare plans and specfications for the starter's house at the golf course. The original cost of playing golf was $2.00 per month and a card good for all three courses became available in May 1932 for $5.00.

The courses's opening in 1932 was twice delayed due to wet conditions. The golf course officially opened April 1, 1932. Perhaps the fact that even the opening of the course had to be delayed twice due to winter rains should have warned of the drainage problems this site would always face. Normally a golf course will welcome the rest and revitalization the winter rains bring. In Sharp Park's case the winter rains brought about the annual flooding of Laguna Salada out on to playable portions of the golf course. This problem still persists 47 years later even though a 4,000 gallon water pump has been installed. Two factors contribute to the poor drainage problem at the Sharp Park site. First and foremost

is the fact that the course is built at sea level and thus was susceptable to changing tides. The second factor was the annual flooding of Laguna Salada itself.

The golf course that opened on April 1, 1932 was becoming increasingly popular until it was severely damaged by high tides in a storm during the winter of 1938. The holes constructed on or near the beach were unlndated by the unchecked tides of the storm. This resulted in severe damage to the beach holes - Numbers 2 through 8. The course, generally considered one of the best tests of golf in Northern California would never be the same. The beach holes had to be abandoned and reconstruction was forced across the Coast Highway up into what is now referred to as "The Canyon Holes". The effect was much the same as taking a house with a beach view and turning it 180 degrees to face a mountain slope. This was the most drastic architectural change the Sharp Park layout would ever face. Even the State Highway construction in the early 1960's that wiped out one par three hole would not have as damaging effect as nature.

Sharp Park remains very busy to this day drawing players both from the City and from down the peninsula. During the winter, however, as the water table rises, the course becomes less playable and suffers a significant drop in play - more so than other municipal courses during the winter. One winter in the early 1970's flooding was so thorough that the unchecked water nearly reached the clubhouse.

City and County of San Francisco
Recreation and Park Department

McLaren Lodge in Golden Gate Park
501 Stanyan Street, San Francisco, CA 94117
TEL: 415.831.2700 FAX: 415.831.2096 WEB: www.parks.sfgov.org

September 1, 2009

Honorable Julie Lancelle
Mayor, City of Pacifica
City of Pacifica City Hall
170 Santa Maria Avenue
Pacifica, CA 94044

Michael Crabtree, Planning Director
City of Pacifica
Planning Department
1800 Francisco Blvd.
Pacifica, CA 94044

Re: Proposed Designation of Sharp Park Golf Course as a Pacifica City Landmark

Dear Mayor Lancelle and Director Crabtree,

I am writing in regard to the City of Pacifica's application to designate the Sharp Park Golf Course a Historic Landmark under Pacifica Municipal Code, Chapter 7. We think this action is both inappropriate and unnecessary. Under California law, the City of Pacifica cannot regulate land use at Sharp Park which is owned by the City and County of San Francisco. (*See*, Cal. Govt. Code §§ 53090, et seq., *Akins v. County of Sonoma*, 67 Cal. 2d 185 (1967).) Therefore, any designation of the Sharp Park Golf Course as a historic landmark by the City of Pacifica will have no legal effect and, frankly is not helpful in furthering a legitimate public policy debate here in San Francisco.

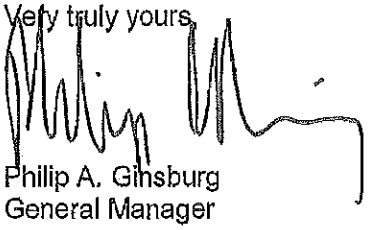
We certainly recognize that Sharp Park Golf Course is used and enjoyed not just by many San Franciscans, but also by the residents of Pacifica, and that your City is concerned about any potential changes to it, and particularly to the golf course. As you may know Sharp Park is approximately 400 acres -- 237 of those acres are included in the San Francisco Recreation and Park Department's Significant Natural Resource Areas Management Plan (SNRAMP). This Plan is currently undergoing environmental review under the California Environmental Quality Act. We appreciate the historic and cultural value of the golf course, and an evaluation of the effects of the SNRAMP on the golf course as a potential historical resource will be included in the SNRAMP EIR.

As you also likely know, the area around the Sharp Park Golf Course contains habitat that support two special status species: San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), listed as endangered under the federal Endangered Species Act, and classified as a fully protected species under California Fish and Game Code § 5050; and the California red-legged frog (*Rana draytonii*), listed as threatened under the federal Endangered Species Act and a state species of special concern. Under federal and state law, the City and County of San Francisco must ensure that the golf course operation does not endanger or harm either of these species. Recently, the San Francisco Board of Supervisors enacted legislation directing the Recreation and Park Department to develop a plan for

restoring the habitat for the garter snake and red-legged frog in conformance with federal and state law. Currently, we are preparing option plans, including schedules and costs for presentation to the public and to the Board which we hope to have preliminarily completed in October 2009.

We take our stewardship responsibilities at Sharp Park very seriously. In a very difficult financial climate, we must manage the recreational, cultural and biological uses of the park in a manner that best balances legitimate recreational needs with our fiduciary and legal responsibility to protect the habitat. We will continue to include the City of Pacifica in our discussions as we evaluate plans Sharp Park's future.

Very truly yours,



Philip A. Ginsburg
General Manager

cc: Mayor Gavin Newsom
Members of the Board of Supervisors
City Attorney Dennis Herrera
Members of the Recreation and Park Commission

United States Department of the Interior

NATIONAL PARK SERVICE
Golden Gate National Recreation Area
Fort Mason, San Francisco, California 94123

IN REPLY REFER TO:

L1415 (GOGA-PLAN)

July 20, 2009

Mr. Michael Crabtree
Planning Director
170 Santa Maria Avenue
Pacifica, CA 94044

Re: Proposed Historic Landmark Designation for Sharp Park Golf Course. HLD-6-09

Dear Mr. Crabtree:

Enclosed is our statement regarding the proposed action above. Please make this part of the July 20, 2009 City of Pacifica Planning Commission hearing. If you have any questions, contact Nancy Hornor at (415) 561-4937.

Sincerely,

Frank Dean
Acting General Superintendent

Enclosure:

United States Department of the Interior

NATIONAL PARK SERVICE
Golden Gate National Recreation Area
Fort Mason, San Francisco, California 94123

IN REPLY REFER TO:

NPS Statement on Pacifica Landmark Designation for Sharp Park

July 20, 2009

We learned of the City of Pacifica's proposal to designate Sharp Park Golf Course as a Pacifica Historic Landmark when we received the public hearing notice. We were not notified of this proposal through the Pacifica GGNRA Advisory Committee, which was set up by the Pacifica City Council to discuss items pertinent to both bodies.

As you know, Sharp Park is within the boundary of the Golden Gate National Recreation Area and adjacent to lands that we manage at Sweeney Ridge and Mori Point. We are currently completing a multi-year restoration project at Mori Point, to protect the Endangered San Francisco Garter snake and the threatened Red-legged frog and provide for compatible recreation and community stewardship and educational activities. Therefore, we have an interest in the future of Sharp Park.

Although we concur that the golf course and club house, as well as the remains of the WWII internment camp, should be evaluated, we request that you not make a landmark designation without a professional assessment of the significance and integrity of the property. We can assist with such an evaluation and would like to work with City of Pacifica and the City of San Francisco to define an appropriate process that includes all stakeholders.

PGA design INC
LANDSCAPE ARCHITECTS

CELEBRATING 30 YEARS

October 27, 2011

Bill Wycko
Environmental Review Officer
Planning Department
City of San Francisco
1650 Mission Street, Ste 400
San Francisco, CA 94103-2479

RE: **Sharp Park Golf Course – Historic Resource Evaluation**

Dear Mr. Wycko,

I have reviewed Appendix C of the DEIR for the *Significant Natural Resource Areas Management Plan: Sharp Park Golf Course* and question the determination of eligibility for listing on the National Register of Historic Properties (NRHP). On page 5-4 the author suggests that Sharp Park Golf Course has historic significance under Criterion A and C under the NRHP and Criterion 1 and 3 for the California Register of Historic Resources (CRHR). Criterion C/3 requires that "a property embody the distinctive characteristics of a type, period, or method of construction that represents the work of a master, or that possesses high artistic values". Based on the number and extent of alternations that have taken place since the period of significance (1929 – 1932) I question the validity of finding Sharp Park eligible as a historic resource.

Bulletin 18 "How to Evaluate and Nominate Designed Historic Landscapes,"[1] states "As defined by the National Historic Preservation Act of 1966 and the National Register criteria, to be eligible for the National Register a designed historic landscape must possess significance ..... and integrity of location, design, setting, materials, workmanship feeling and association." Sharp Park Golf Course lacks integrity.

The *Historical Resources Evaluation Report* (HRER) prepared by Tetra Tech, Inc. describes many alterations made to the course since 1932. Comparing the course layouts depicted in the two exhibits included in the Evaluation Report[2] one finds very few similarities between how the course was designed and how it exists today.

[1] National Park Service, "How to Evaluate and Nominate Designed Historic Landscapes," *National Register Bulletin No. 18*, p. 6.
[2] The original Sharp Park Golf Links plan prepared by Mackenzie, Hunter & Egen (Figure 3) and the aerial of the Existing Golf Course (Figure 2).

Chris Pattillo **Cathy Garrett** **Christopher Kent**

444 - 17th Street Oakland CA 94612
Tel 510.465.1284 Fax 510.465.1256

1. The original hole 1 (now hole 11) was a long, straight shot. The reconfigured hole doglegs to the right.
2. The original hole 2 (now hole 12) was a dogleg that wrapped around the south end of the course. Hole 12 is now a lot shorter with no dogleg.
3. The original holes 3, 4, and 8 were destroyed in a big storm and not replaced.
4. The original hole 5 offered multiple fairway options – a unique design feature of Mackenzie. Hole 17 which replaced 5 is a single straight shot.
5. The original hole 6 that ran east-west at the north boundary no longer exists.
6. The original hole 7 appears to be similar to current hole 16 identified on Figure 2 as having been built after 1941, after the period of significance.
7. The original holes 9 and 10 each offered double fairways. The replacement holes 13 and 14 eliminated these special features.
8. The original hole 11 – a short run - appears to be similar to current hole 15.
9. The original hole 12 was a long straight shot. It has been replaced by hole 18 that is longer with a dogleg.
10. The original holes 13, 14 and 15 were on the east side of the county road and generally paralleled the road running north-south. Today this area has four holes that all run east-west.
11. The original hole 16 was a dogleg left replaced by hole 3 a straight shot.
12. The original hole 17 ran east-west and was a long shot with a dogleg. Hole 8, a short, straight fairway replaced it.
13. The original hole 18 was a dogleg. This hole has been replaced by hole 2, a straight shot.

In summary only hole 11 (now hole 15) is similar to the original design. The layout of the remainder of the course has been substantially altered. The change to the order of how the holes are played is significant as it materially alters the sequence and nature of views the player experiences making it unlike what was intended by the designer. Other major changes implemented since the period of significance include:

A. Elimination or reconfiguration of several sand traps.
B. Construction of a seawall in 1941 to prevent flooding of the golf course. This eliminated views to the beach and Pacific Ocean and the essence of the links design concept.
C. Filling a portion of the lagoon as part of the reconfiguration of hole 10.
D. Installation of concrete golf cart paths along the back nine holes in 1996 where none existed previously.
E. Culverting of water features on five holes and the elimination of water hazards – an important component of the original design.
F. Installation of a 4000-gallon pump to help with annual flooding of Laguna Salada.
G. Alternations made between 1985 and 1994 to accommodate female players such as shortening of the fairways.

Adding together all of these alterations it is apparent that Sharp Park Golf Course lacks sufficient integrity to qualify as a historic resource under criterion C/3. The course no longer reflects the work of Alister Mackenzie. The land use remains a golf course but otherwise there are few similarities between the course that existed during the period of significance and what remains today.

The Evaluation Report notes that Alister Mackenzie attained status as a master golf course architect. Appendix C on page 4-7 notes, "George Shackelford, in his book *Grounds for Golf*, describes Mackenzie as a master designer and offers that Mackenzie's secret to creating unique courses was his talent for routing." Regrettably, today nothing remains of Mackenzie's unique routing. He continues to explain that his work "was known for its original and distinctive bunkers, with irregular shapes and each with its own design." And "Distinctive bunkering, the use of small hillocks around greens, and exciting hole locations were Mackenzie's trademark".

Another of Mackenzie's trademarks was his talent for working with natural landform and subtlety integrating his courses with a site's topography to take full advantage of the unique qualities of each site. Quoting from the HRER, "Mackenzie felt that the success of golf course construction depended entirely on making the best use of natural features and devising artificial ones indistinguishable from nature." The HRER continues with, "..... while many architects try to create a special course, Mackenzie could figure out how best to fit holes into a property and situate a golf course to evoke a comfortable, settled, connection to the ground. His course routings are always functional and original but rarely do they fight the contours of the property."

In summary, defining characteristics of Mackenzie's design style included unique course routing, a talent for adapting a course to fit the land, an ability to offer challenge to players of varying skill levels, distinctively designed bunkers, and inclusion of multiple fairway options – offering advantage to those to took greater risks in their play. The vast majority of these features have been eliminated from the course. According to Wexler, in a recently published article "no appreciable trace of his strategy remains in play."[3]

Unfortunately, Sharp Park Golf Course began to fail even before the course opened in 1932 because Mackenzie failed to fully understand the forces of nature at this site. Page 4-3 of the Evaluation Report notes that the opening was delayed twice due to "drainage problems on the course due to winter rains." Shortly after the course opened a major storm washed out a large portion of the course and necessitated construction of the seawall in 1938 intended to prevent similar damage in the future. This type of damage has continued – as recently as 1982 a major storm wiped out several holes. In 1990 another breach killed many of the cypress trees on the course. Few of the golf courses designed by Alister Mackenzie remain intact today. It would be ironic and misplaced if this course – one that represents a failure in design – became a lasting representative of his life's work by being officially designated as a historic property.

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[3] Dr. Alister Mackenzie, "Sharp Park Golf Course", Pacifica, CA page 113

The determination of historic significance is tied to a site's level of integrity. According to *A Guide to Cultural Landscape Reports: Contents, Process, and Techniques*[4] "The historic integrity of a cultural landscape relates to the ability of the landscape to convey its significance." And "Historic integrity is assessed to determine if the landscape characteristics and associated features, and the spatial qualities that shaped the landscape during the historic period of significance, are present in much the same way as they were historically." Emphasis added.

The guide continues, "Historic integrity is determined by the extent to which the general character of the historic period is evident, and the degree to which incompatible elements obscuring the character can be reversed". In the case of Sharp Park Golf Course the changes to the course were not the result of the normal evolution of a living landscape – maturing trees and other plantings, but rather major changes that were forced to solve functional problems that resulted from flaws in the original design – a failure to fully understand the power of nature and it's ability to wreak havoc. The changes made to Sharp Park Golf Course cannot be reversed because doing so would recreate the conditions that necessitated that the alterations be made in the first place.

Page 5-2 of the HRER notes, "Because landscape features change over time, a landscape need not retain all of the original features it had during its period of significance, but it must retain the essential features and characteristics that make its historic character clearly recognizable."

In essence for a site to meet the criteria of historic significance most of the designed features must look as they did during the period of significance. This may be true for the Clubhouse and maintenance building which are not addressed here, but it is not the case at Sharp Park Golf Course and no doubt explains why "None of the state or national registers identified Sharp Park Golf Course as a historical resource" as noted on page 4-1 of the HRER.

By making the finding that the existing golf course represents a historic resource under criterion C/3 it seems that Tetra Tech failed to appreciate not only the subtleties of golf course architecture but its essential features. Just because there was a golf course present in 1932 the fact that there is still a golf course present today, does not qualify the current course as a historic resource.

---

[4] A Guide To Cultural Landscape Reports: Contents, Process and Techniques by Robert R. Page, Cathy A. Gilbert, and Susan A. Dolan, US Department of the Interior, National Park Service, Cultural Resource Stewardship and Partnerships, 1998.

Sharp Park Golf Course lacks integrity. While a golf course at this site is consistent with the historic land use, that fact is insufficient evidence for a finding of historic significance. Failure to demonstrate significance voids eligibility for historic resource status. I urge you to consider this as you plan for the future use of Sharp Park.

Sincerely,

Chris Pattillo, ASLA
Historic Landscape Architect
President, PGAdesign[inc]

CHRIS PATTILLO

HISTORIC LANDSCAPE ARCHITECT

PROFESSIONAL EXPERIENCE

PGAdesign^{inc}, 1979 to present

EDUCATION - REGISTRATION

Master of Landscape Architecture, 1975, UC Berkeley
Bachelor of Arts, 1972, UC Berkeley
California Landscape Architect, #1925

ASSOCIATIONS

Historic American Landscapes Survey (HALS), No. California Chapter, Co-Founder 2004, Chair 2004-2009 & Vice Chair 2010
American Society of Landscape Architects (ASLA), Member
ASLA Historic Preservation Professional Practice Committee, National Chair & Vice Chair 2006-2009
California Genealogy Society, Vice President & Board member 2010
Garden Conservancy, Member
California Preservation Foundation, Member
National Trust, Member
Oakland Heritage Alliance, Member
Oakland Chamber of Commerce, Member
Oakland Chamber of Commerce Economic Develop Committee
Open Space, Conservation & Recreation Elements (OSCAR), Advisory Committee

AWARDS

Oakland Chamber of Commerce: "Small Business of the Year" 1995
Oakland Chamber of Commerce: "Woman Owned Business of the Year" 2000

RELEVANT PROJECT EXPERIENCE

Badger Pass Ski Area CLR, Yosemite Natl. Park, CA
Doyle Drive in San Francisco Presidio HALS, San Francisco, CA
Atchison Village HSR, Richmond, CA
Meyers Estate Garden Master Plan & Maintenance Guidelines, Union City, CA
Roeding Park HALS, Fresno, CA
Sakai-Oishi Nurseries HALS, Richmond CA
William Land Park Cultural Landscape Survey & Evaluation, Sacramento
Berkeley City Club Gardens HALS, Berkeley, CA

PUBLICATIONS

"Preparing a Historic American Landscapes Survey (HALS) History: Brief Guide to Identifying and Documenting HALS Sites," co-author, *National Park Service, US Dept of the Interior,* Washington DC, August 2010

"Doyle Drive: Using Innovation HALS Methodology," SF Heritage News, Vol. XXXVII, No. 2, Summer 2010

"Innovation HALS Methodology Developed for SF Presidio Project," CPF News, Summer 2009

PRESENTATIONS

Documenting our Heritage, Annual ASLA conference, San Diego, California, October 2011

Historic American Landscapes Survey – An Introduction, for ASLA Chapter Presidents, October 2011

Exploring Cultural Landscapes through Case Studies, California Preservation Foundation (CPF), August 2010

Historic American Landscapes Survey – An Overview, American Society of Landscape Architects (ASLA), July 2010

Doyle Drive HALS at the Presidio of San Francisco, CPF, May 2010

Landscape Within The Historic Context, American Institute of Architects (AIA) Historic Resources Committee, San Francisco, CA, June 2009

Historic American Landscapes Survey – Toals of Preservation, UC Berkeley Extension, Landscape Architecture Program, May 2009

Alviso Adobe Park: History & Design Process – Opening Remarks, Pleasanton, CA, October 2008

Historic American Landscape Survey – A Panel Discussion, ASLA Annual Conference, San Francisco, CA, October 2007

Olmsted in the East Bay – tour leader & speaker, ASLA Annual Conference, San Francisco, CA, October 2007

Oakland Waterfront Parks – tour speaker, ASLA Annual Conference, San Francisco, CA, October 2007

Historic American Landscapes Survey – An Overview, Oakland Heritage Alliance (OHA), Oakland, CA, Summer 2007

Historic American Landscapes Survey – An Overview, Town & Gown Club, Berkeley, CA Spring 2007

Cleveland Cascade – Rehabilitation of a Howard Gilkey Landscape, OHA, Oakland, CA, March 2007

Making a Splash: Preservation of Pools and Fountains, CPF Conference, Sacramento, CA, April 2006

Peralta Hacienda Historical Park – Planning and Design, Friends of Peralta Hacienda, Oakland, CA, December 2005

Kaiser Roof Garden and the Gardens of the Museum of California: Comparing Two Mid-Century Modern Roof Gardens, OHA, Oakland, CA, July 2005

Planning and Public Policy: The Urban Planning Process, Department of City & Regional Planning, UC Berkeley, April 1983

HISTORIC AMERICAN LANDSCAPES SURVEY (HALS) NOMINATION FORMS

Anderson Marsh State Historic Park, Lake County, 2011
Berkeley Women's City Club, Berkeley, 2011
Bidwell Mansion, Chico, 2011
Bidwell Park, Chico, 2011
Boyd Memorial Park, San Rafael, 2010
California Nursery Company Historic Park, Niles, 2008
Call Ranch at Fort Ross State Park, Jenner, 2009
Captain Fletcher's Inn & Manager's House, Navarro, 2009
Centerville Pioneer Cemetery, Fremont, 2008
Children's Fairyland, Oakland, 2009
China Camp State Park, San Rafael, 2009
Fern Dale (Shaw House), Ferndale, 2009
Forest Theater, Carmel, 2010
Henry H. Meyers Garden, Union City, 2010
La Mirada Adobe, Monterey, 2010
Marin Art and Garden Center, Ross, 2009
McConaghy Estate, Hayward, 2009
Meek Mansion & Carriage House, Hayward, 2009
Mendocino Woodlands Demonstration Recreation Area, Mendocino, 2009
Micke Grove Park, Lodi, 2009
Mountain View Cemetery, Oakland, 2010
Point Arena Cove, Point Arena, 2010
Point Arena Lighthouse, Point Arena, 2010
Point Cabrillo Lighthouse, Casper, 2009
Rancho Higuera Adobe Historical Park, 2008
Ravenswood Estate, Livermore, 2009
Robson-Harrington Park, San Anselmo, 2009
Shibata Japanese Garden (Mount Eden Nursery), Hayward, 2010
Shinn Historical House & Arboretum, Fremont, 2008
Sun House, Ukiah, 2009
Tor House, Carmel, 2010
Wassama Village, 2010

SF Historic Preservation Commission: Sharp Park Golf Course Lacks Historic Integrity

06 October 2011 - 22:38
Permalink | Share Item on Facebook

See also:

- Restore Sharp Park — Latest News

In a stunning rebuke to golfers grasping to keep San Francisco subsidizing suburban golf in San Mateo County, on September 21, 2011 San Francisco's Historic Preservation Commission stated that it does not concur that Sharp Park Golf Course is an historic resource.

Watch this annotated audio excerpt of the Historic Preservation Commission hearing.

Sharp Park Golf Course has been losing money and killing endangered species for many years. In September Supervisor John Avalos introduced legislation to transform Sharp Park into a new national park, while providing Sharp Park's current golfers with additional access to affordable golf courses in San Francisco.

But golf privatization groups who oppose national parks convinced San Francisco's Recreation and Parks Department to make-up a case that Sharp Park Golf Course should be protected as an historic resource under the California Environmental Quality Act. As part of this process, the Department asked the Historic Preservation Commission to rubber-stamp its proposal.

However, the Commissioners reviewed the proposal and raised several objections to the Recreation and Parks Department proposal. Led by Commissioner Alan Martinez—who explained that the existing golf course is "a fragment of what it once was"—the Commission could not reach consensus on the golf course's integrity, and unanimously voted that "the commission did not concur on the integrity of the golf course."

The Wild Equity Institute is working with dozens of community, environmental, and history organizations to ensure that the California Environmental Quality Act and San Francisco's historic preservation laws aren't abused by golf privatization groups. The next step in this process is to ensure that the Planning Commission evaluates Sharp Park separately from other natural areas in San Francisco that are undergoing environmental review. Keep your eyes and ears peeled for more updates in the coming weeks.

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Historic Photos, Field Notes Show Sharp Park Has Always Been Habitat for Herps--and the Golf Course is Harming Them

19 July 2010 - 18:58

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See also:

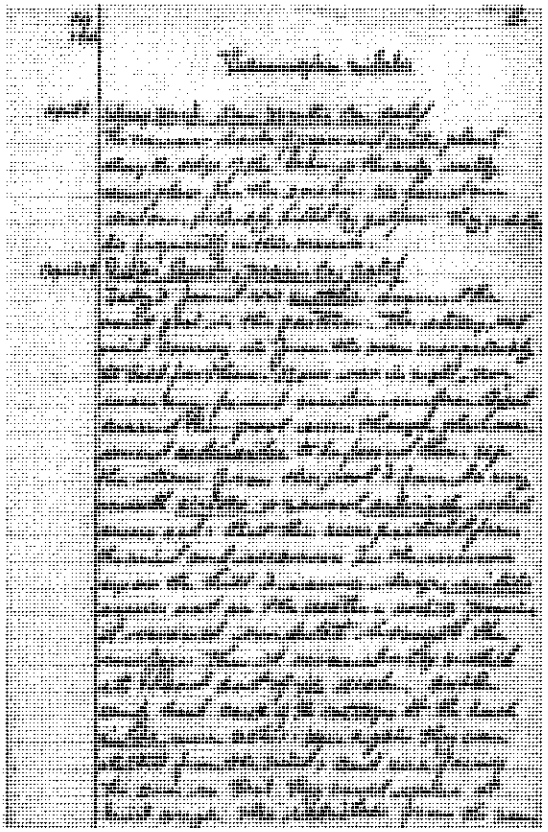
- Restore Sharp Park — Latest News

Rediscovered historic photos of Sharp Park, along with field notes stored at UC Berkeley's Museum of Vertebrate Zoology, indicate that Sharp Park was once excellent habitat for the San Francisco garter snake and the California red-legged frog: and that Sharp Park Golf Course is the primary threat to both species at the site.

This undated photo of Sharp Park shows Laguna Salada before the golf course was built, with Mori Point Ridge in the background.

In this photo, the lagoon is clearly fringed with cattails, vegetation that can't grow in saline environments. This indicates that Laguna Salada was not a "salt lake" as golf privatization advocates have argued, but a fresh lagoon where the San Francisco garter snake and the California red-legged frog could thrive.

At least until Sharp Park Golf Course was built. The earliest systematic biological surveys of San Mateo County were conducted by Dr. Wade Fox—the man who would eventually scientifically describe the San Francisco garter snake—when he was a graduate student at UC Berkeley. Although he died in his prime, Dr. Fox's field notes have been preserved at the UC Berkeley Museum of Vertebrate Zoology. These notes have finally been digitized, and they show that in 1946 Dr. Fox found a dead San Francisco garter snake at Sharp Park, which he concluded was "probably killed by golfers—they probably die frequently in this manner." Presaging the species precipitous decline, Dr. Fox also noted that the only secure area remaining for the species at Sharp Park was in the wet grasses near the lagoon: the surrounding golf links were deadly to the species.



The San Francisco garter snake is now on the brink of extinction, and is probably the most imperiled vertebrate species on the San Francisco Peninsula. Yet since the 1940s Sharp Park Golf Course has been killing this species, and more recently the Golf Course has been found killing both the San Francisco garter snake and the California red-legged frog. We can do better: let's restore Sharp Park and build a better public park on the property. Find out how you can help restore Sharp Park here.

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415-349-5787

DRAFT

Operational Review and Recommendations For City of San Francisco Golf Operations

San Francisco, California

Prepared For:
City of San Francisco

Prepared By:
MGF CONSULTING
1150 South U.S. Highway One, Suite 401
Jupiter, Florida 33477
(561) 744-6006

January 2007

Capital Improvement Program

Other than a Capital Reserve item for Harding Park (set aside is budgeted at $251,364 annually), there appears to be no capital improvement plan for the City's golf courses, with the following exceptions:

- At Golden Gate Park, a 9-station driving cage was installed, and the City agreed to pay Manager $65,461.54 reimbursement for planning, design, purchase and other costs, payable in five annual installments.
- The Gleneagles Tenant (who may be allowed rent credits for City-required improvements upon City approval) agreed to make specific facility improvements:
  - Year 1-2: Improvements to entrance, clubhouse, kitchen and patio area; trim and remove tree limbs. Explore adding a driving range/cage. $50,000 estimated cost.
  - Years 2-4: Review possibility of adding forward tees on several holes; lease new equipment. $50,000 estimated cost.
  - Year 4-5: Based on financial feasibility studies, implement driving range. Purchase new TVs for clubhouse. $50,000 estimated cost.
  - Year 6-7: Review cart path and conduct major renovation of cart paths; review condition of parking lot and driveway and possibly repave and stripe. $100,000 estimated cost.
- [illegible]

[illegible]

Harding Park Renovation

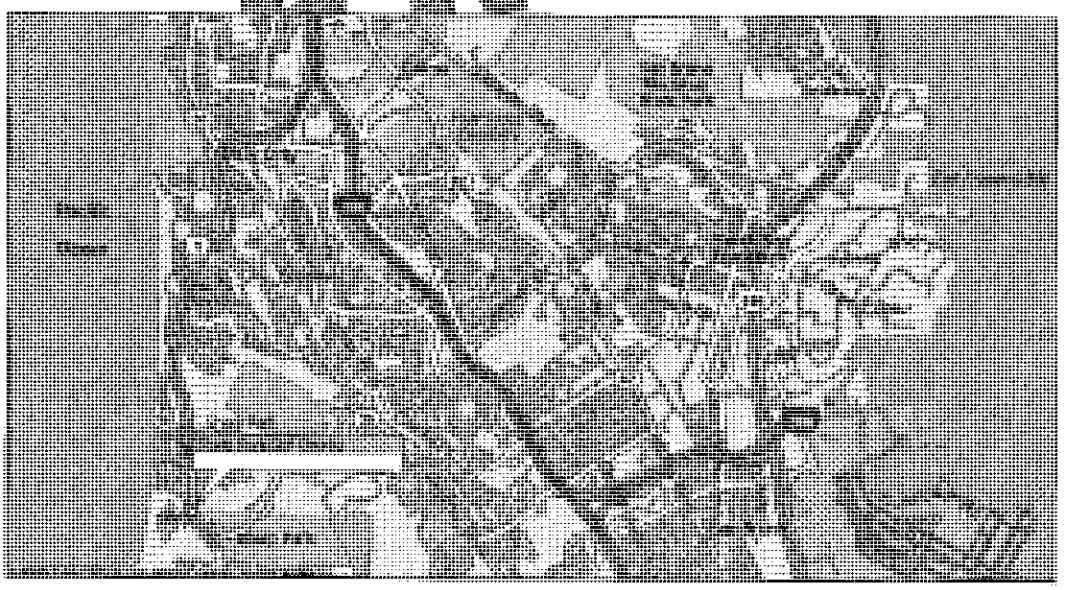
Background

As noted elsewhere in this report, the once-proud Harding Park had fallen into a state of disrepair by the time the year 2000 came around. The City agreed that a total renovation of the facility was needed, and its original plan to finance the makeover was to raise private funds. That idea failed, evidently because of the varied special interest groups that make up the political spectrum of the city. Unions demanded that civil servants continue to maintain the golf course, and supervisors resisted any increase of green fees (about $20) for city residents. The city found itself unable to cut labor costs or increase revenues. Arnold Palmer Golf Management Co. then backed out of its deal with the city to oversee the renovation and manage the course.

SHARP PARK GOLF COURSE

The Sharp Park Golf Course is an 18-hole golf facility located in Pacifica, California immediately adjacent to the Pacific coast. The facility includes an 18-hole golf course and clubhouse that sits on direct oceanfront property acquired by the City of San Francisco sometime around 1930. The facility offers a very playable, hilly golf course with outstanding views and vistas of the Pacific Ocean.

Sharp Park GC Location and History



Sharp Park GC History

Sharp Park Golf Course was originally designed by Dr. Alister Mackenzie, one of the most celebrated and respected golf architects of all time. The course is located in Pacifica, a nearby community of the San Francisco Bay Area. While located in Pacifica, the land remains in control of the City of San Francisco. The golf course sits within an area designated as The Golden Gate National Recreation Area, managed by the U.S. Department of the Interior.

The history of Sharp Park begins with Mackenzie's well-intentioned design of an 18-hole course along the coastal dunes of Pacifica. With Lincoln Park and Harding Park busy on weekends, another course was needed. The City of San Francisco purchased lots in San Mateo County from 1929 to 1930, paving the way for creating another golf course.

Jack Fleming was Mackenzie's assistant at the time. The approach to the Sharp Park site was to dredge material in order to build up fairway grades. This work took a reported 14 months. In mid 1930, Robert Hunter was appointed to direct construction of Sharp Park Golf Course. Hunter is thought to have a great deal to do with the design of Sharp Park. Joe Faulkner, in his San Francisco Golf History, notes that Hunter was paid $750 for his ten months duration of work at Sharp Park. After delays due to wet conditions, the course opened in April of 1932.

the State constructed a major highway across the course. This necessitated the re-design of a few holes and created a separation of the original portion of the course from the lower holes in the canyon area.

There are many more "tales" of remodeling at Sharp Park, but the changes noted above constitute the primary alterations. Even with so many significant changes, Sharp Park remains an engaging and interesting golf course. This is a testament to Alister Mackenzie's skill at creating interesting greens and a routing that unfolds like any good and exciting story. While the "story" would be much better with holes along the ocean – as per the original design—the course as it is today remains a very enjoyable routing when conditions are good.

Inventory of Facilities

Sharp Park Golf Course includes an 18-hole golf course, clubhouse, practice green and maintenance area. A summary of these amenities follows:

Golf Course

The Sharp Park golf course plays to a total of 6,476 yards from its longest tee, down to 5,793 yards from its shortest tee. The shortest yardage is traditionally used by the female segment of golfers and NGF Consulting notes that 5,800 yards is very long for women. Female golfers usually hit golf balls about 75% as far as male golfers, meaning that a 5,800-yard golf course for women is equivalent to a 7,730-yard golf course for men (longer than PGA TOUR courses). The Sharp Park GC operators have recognized this length issue and assigned a 'women's par' of 74, instead of the standard 72. The United States Golf Association (USGA) has also recognized the length and difficulty of the red tees and assigned a higher slope and rating to the Red Tees (72.9 rating – 120 slope) than to the longer Blue Tees (71.2 rating – 119 slope).

The golf course setting is links, meaning it occupies land formed by erosion of the seashore caused by winds, tides and inland drainage. *(A "links" is defined as: A seaside golf course constructed on a natural sandy landscape that has been shaped by the wind and receding tides [from the Old English "lincas", meaning the plural of a ridge, a Scottish term to mean the undulating sandy ground near a shore]).*

The set-up of the golf course is rather unique in that four (holes #4-7) of the 18 holes are on the east side of Cabrillo Highway (U.S. Highway One), connected by a tunnel under the freeway. The routing offers several parallel fairways divided by several rows of mature trees. The central lagoon comes into play on three of the holes, while hole #16 plays along the Pacific Ocean. In general, the course is walkable, but some hills, particularly on the east four holes, are such that the site it is only walked by the hearty and well conditioned golfer.

Practice Facilities / On-Course Restrooms

Besides a practice putting green there is no formal practice opportunity beyond a series of hitting cages. Restroom facilities are temporary and inadequate for modern golf facilities. In addition to being an 'eyesore,' there may be safety and health issues to consider as well. Permanent on-course restroom facilities are recommended.

Concession Agreements

The concession agreement in place at Sharp Park is summarized below:

Consent to Assignment of the Sharp Park Golf concession lease from Jack Gage and Joan Lantz to Sharp Park Restaurant and Pro Shop, Inc. dated September 15, 1988. Approved by the City. The concession involves starter services; full bar, restaurant, and banquet facilities; lessons, equipment and cart rentals; and merchandise sales.

Lease for establishing and operating a restaurant and a professional golf shop, dated April 22, 1983. Between Recreation and Park Commission on behalf of City and County of San Francisco (Commission) and a joint venture of Jack Gage, Joan Lantz and Mike Shannon (Lessee). Terms go through 2003. Lessee pays minimum annual rent of $30,000 first year and $75,000 each year thereafter. Percentage of gross revenue, (all income less sales taxes) payable monthly:

10%	merchandise sales
20%	lessons/instruction, club rental, practice balls
12%	cart rental
10%	cart rental after April 1, 1984
5%	food & beverage
11%	alcoholic beverages and banquets

If percentages do not add up to minimum annual rent, Lessee pays the minimum 10 days after the end of the fiscal year. Minimum annual rent is adjusted each January 1, based on CPI, beginning in 1991. Lessee must give employees pay and benefits and working conditions generally same as City/County employees, but Lessee may collectively bargain with union for rates.

Lessee pays for utilities, equipment, materials, supplies, etc. and maintains at its own expense, the leased facilities, furniture, and equipment. Lessee pays all taxes, licenses, permits, and assessments. Capital improvements of $575,000 in three stages were agreed upon in the lease.

Stage One – within 120 days of date of lease:	
$250,000	remodel, refurbish, and rehabilitate the clubhouse
$25,000	construct cart enclosure area and golf driving cage
Stage Two – approximately 2 years from lease date:	
$150,000	construct deck on west side of clubhouse with underground cart storage and maintenance facility
Stage Three – on or before 5th year of operation:	
$150,000	construct deck on south end of clubhouse

Lessee required to provide 3 separate performance bonds:

50%	of amount of contracts for completion of work, guaranteeing payment of wages, materials, supplies and equipment,
50%	of total estimated construction costs, guaranteeing completion of improvements and repairs
$25,000	surety bond renewable annually through term of lease, as security for collection of any damages or breach of lease

Rent credits will be allowed for improvements beyond those set forth in lease.

Sharp Park Golf Course - Golfer Survey

Overview

NGF implemented GSP at Sharp Park to gauge opinions from the facility's golfers. A total of **143 surveys** were collected by NGF, with 47 completed by those identifying themselves as City residents. The ratings are displayed in the table below. More detailed findings are contained in the associated **GSP Appendix Book**.

Grades

Sharp Park Golf Course
143 Responses
11/14/2006 – 1/8/2007

Factor	Average Score (Scale 1-5)	Standard Benchmark Grade
6-Scenery and Aesthetics of Course	4.2	B+
14-Affordability	4.2	A+
2-Convenience of Course Location	4.1	B
10-Friendliness/Service of Staff	3.7	F
1-Overall Value of Course	3.6	C
3-Tee-time Availability	3.6	D+
13-Overall experience	3.3	F
7-Pace of Play	3.2	D
11-Food and Beverage Service	3.2	D-
8-Condition of Golf Cars	2.9	F
4-Overall Course Conditions	2.6	F
9-Amenities (clubhouse, pro shop, locker room)	2.5	F
5-Condition of Greens	2.5	F
12-On-course Services (restrooms, drinking water)	2.3	F

Other Findings

1. Overall, Sharp Park golfers are showing very little loyalty compared to national benchmarks. It is clear that golfers at this facility are very unsatisfied on the issues of pace of play, on-course services (restrooms, drinking water), food/beverage service, condition of golf carts and friendliness of staff. However, we note that in addition to location and aesthetics being rated above average, this survey group seems to appreciate the affordability and overall value. The survey group noted that the golf course conditions, and the condition of the greens in particular, were in most need of improvement.

2. Our surveys also show a wide variety of other golf courses that are also played by Sharp Park golfers, including other City courses like Harding Park and Lincoln Park (both in the top five). Crystal Springs and the Presidio are the most popular other local facilities with this group, in addition to many other area golf facilities both public and private (consistent with lower loyalty).

3. The profile of the Sharp Park golfer is predominantly male (90%) and somewhat older (58% over 50) than the national benchmark. One key finding was that the course is as popular with Pacifica residents (22%) as San Francisco City residents (21%). The map displaying the origin of customers is displayed in ***Appendix F*** to this report.

4. The survey indicated that 74% of respondents think that the overall quality of the City's golf courses would improve if oversight and management of the golf system were not the

NGF Consulting believes that Lincoln Park has an excellent opportunity to draw significant tourist play through aggressive marketing, but that this opportunity will be achievable only after the facility is brought up to standard. We also feel that there is potential to raise non-resident play significantly once the facility is improved and marketed. High fee tournament/ outing business should also improve markedly after improvements.

Finally, the legacy of Jack Neville (co-designer of Pebble Beach) and Herbert Fowler (a respected British designer) are all but forgotten at Lincoln Park. While much of Neville's work is likely lost to years of remodeling and change, it can certainly be said that both men were responsible for establishing much of the routing and anatomy of Lincoln Park's current layout. This legacy is worth marketing and touting by the City.

Fee Structure
The pricing structure for Lincoln Park is outlined in the table shown below:

Lincoln Park		
Weekday		**Weekend**
Standard	$32	$36
Resident	$20	$24
Senior	$12	$19
Junior	$10	$19
Back 9/10	$11	$15
Twilight	$19	$23
Tournament	$38	$47
Driving Range/Cage: Cage	Call for Info	
$1.00 per person will be added to above rates if reservations are made through the Automated Reservation System Weekday = M-Th; Weekend = F-Sun		

With green fees identical to those at Sharp Park, fees at Lincoln Park are among the lowest in this municipal market. Also like Sharp, the fees at Lincoln are market appropriate given the poor conditioning of the course and the quality of the support amenities, and the facility must first be rehabilitated before any meaningful price increases would be absorbed by the market without a further decrease in rounds.

Lincoln Park – Golfer Survey

Overview
NGF implemented GSP at Lincoln Park to gauge opinions from the facility's golfers. A total of **144 surveys** were collected by NGF, with 67 completed by those identifying themselves as City residents. The ratings from the total survey group are displayed in the table below. A complete listing of results from the survey is provided in the **GSP Appendix Book** for complete GSP responses.

Th 8a

Edwin M. Lee, Mayor
Philip A. Ginsburg, General Manager

April 13, 2015

Ms. Stephanie R. Rexing
Coastal Planner, North Central Coast District Office
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, California 94105

Dear Ms. Rexing:

Thank you for all your work to review San Francisco Recreation and Park Department's (SFRPD) Coastal Development Permit Application for the Sharp Park Safety, Infrastructure Improvement and Habitat Enhancement Plan and to prepare the staff report. We have reviewed the staff report and agree with most of the Special Conditions described in the report. Our comments and concerns specifically related to Items 2d, 4f and 7c and generally related to the timing of plan reviews and approvals are described below.

Item 2d: *Groundwater Monitoring.*

Based on the staff report and conversations with Coastal Commission staff, SFRPD understands that Item 2d, the installation of the shallow piezometers, is intended to address salinity intrusion as a way to measure the health of the wetlands. The U.S. Fish and Wildlife Service (USFWS) in the 2012 Biological Opinion (BiOp) raised the concern that pumping could promote the movement of saline groundwater into the surface water thus potentially affecting the salinity of the wetlands and California red-legged frog breeding habitat. The BiOp states that "lowered water levels due to pumping activity may increase the likelihood of salinity intrusion to Laguna Salada and Horse Stable Pond. If water levels in Laguna Salada and Horse Stable Pond fall below sea level and beach groundwater levels, then saline ground water may flow into the lagoon from the beach."

The relationship between pumping and salt water intrusion was extensively measured, modeled and evaluated by Kamman Hydrology and Engineering Inc (Kamman) in 2008 and 2009 (see attached reports). In order to get a full hydrologic evaluation, three piezometers were installed west of Laguna Salada and three specific analytic modeling tools (water budget, salinity mass balance and hydraulic models) were developed. One primary purpose of this year long study was to determine whether pumping influenced salt water intrusion at Sharp Park.

Kamman found that routine pumping did not affect the salinity of the surface water at Sharp Park. Saline groundwater west of Laguna Salada was measured at 15 parts per thousand (ppt) while the surface water was measured at 2ppt. In addition, Kamman found that the hydraulic gradient of the groundwater is directed westerly and "freshwater pushes back salt water from the ocean". Only under conditions of extreme drawdown, Kamman concluded, could the hydraulic gradient be reversed and subsurface water of relatively high salinity may flow into the ponds.

Therefore, routine pumping does not affect salinity levels in the wetlands, nor does it change the already saline groundwater.

The reports note that salinity levels in the Laguna Salada are "primarily driven by concentration of salts due to evapotransipration losses." Further, these documents note that salinity ranged between 0.7 and 2.5 ppt and that similar salinity levels were reported in 1990-1991 suggesting that surface water salinity levels throughout the last 25 years have remained the same, despite on-going flood control pumping over the last two decades.

Since the time of the Kamman study, pumping protocols and measures have been put in place that have resulted in higher overall water levels throughout the wetland complex. The overall amount of drawdown that has occurred in a typical year after 2012, when the pumping protocols were put in place, is significantly less that it was in 2008. Furthermore, minimum water levels are required by the BiOp through the late summer and fall and the average water levels throughout the CRLF breeding season are significantly higher. So under the "worst-case conditions" in 2008 (in the midst of a multi-year drought and under a more intensive pumping regime), there was no evidence of increased surface and groundwater salinity. Therefore it stands to reason that under the current water management regime with more freshwater held on site, the possibility of salinity impacts is even less.

Furthermore, SFRPD believes that the other conditions in the staff report are sufficient to meet the primary surface water quality, wetland health and species habitat protection goals. SFRPD, through the BiOp and the other measures described in the Pumping Protocol Plan (Special Condition 2), will perform extensive planning, monitoring, and reporting on surface water and general wetland conditions, including salinity. To the extent salinity is a concern for the wetlands, SFRPD is measuring salinity directly from surface waters as well as evaluating the species composition of the wetland, which would also respond to salinity if present.

Finally, SFRPD deems the installation of piezometers as infeasible and cost prohibitive. Installing the piezometers would require permitting, utility clearance, driller materials, well development, preparation of a well report, hardware costs, and oversight by an environmental firm. Permitting, contracting and installation of piezometers would require approximately 6 months; however in order to complete the work required under the BiOp, SFRPD needs to initiate construction in two months. SFRPD estimates that the installation of piezometers would cost approximately $90,000.00 ($30,000.00 for each piezometer). There is currently no funding source for this, nor prospects for justifying funding of such superfluous equipment.

SFRPD believes that because 1) it has been shown that under current protocols, there is no impact on groundwater salinity associated with pumping, 2) the overall health and salinity of the wetland can be effectively and sufficiently measured and monitored through surface water quality monitoring and other conditions required in the staff report and 3) the infeasibility of installing piezometers, we request that Special Condition 2d be removed from the permit conditions.

Condition 6f: *Restoration*

Construction is scheduled to end in September, which will likely be too dry and too early to seed the disturbance zones. Typically, in order to maximize germination success, seeding occurs after the first major rain when the soils are saturated. The SFRPD requests the following language be used:

- Restoration of disturbed sites will be completed within 3 weeks of the first major rain event (greater than 0.25 inches) of the fall. Erosion control measures shall be put in place within three days of completion of construction.

Condition 7c: *Future removal of Development*

The pumping infrastructure and outfall are not included in this CDP. The SFRPD requests that the following amendments to the conditions

- Line 2 remove "including but not limited to pumping infrastructure and outfall and any other development authorized under this CDP,"
- Line 4 replace "government agency" with "Coastal Commission"

Timing

The SFRPD is concerned that the conditions that require plan review and approval prior to issuance of the permit could delay construction such that our Department cannot meet the requirements of the BiOp. Review of the four plans, including the Pumping Protocol Plan, Final Dredging Plan, Construction Site Plan and the Mitigation Monitoring and Reporting Plan will require significant staff time. The USFWS requires the construction of the pond by July 2, 2015 and all the construction activities to be completed by October 2015 in order to avoid California red-legged frog breeding. It is estimated that a three-month construction window will be required. SFRPD would like some assurance that the Commission's review and approval process will be swift so that we can meet our deadlines.

We look forward to continuing to work with staff to come up with mutually feasible alternatives to the above reference conditions. Thank you in advance for your time and consideration. Please do not hesitate to call me to discuss these issues further.

Sincerely

Lisa Wayne
Open Space Manager
San Francisco Recreation and Park Department

MEMORANDUM

Kamman Hydrology & Engineering, Inc.
7 Mt. Lassen Drive, Suite B-250, San Rafael, CA 94903
Telephone: (415) 491-9600
Facsimile: (415) 680-1538
E-mail: Shawn@KHE-Inc.com

Date: December 12, 2008

To: David Munro

From: Shawn Higgins and Greg Kamman

Subject: Preliminary Summary of Monitoring Data from the Laguna Salada

Kamman Hydrology & Engineering, Inc. (KHE) initiated a hydrologic monitoring study of the Laguna Salada field site near Pacifica, California in April of 2008. The purpose of this memorandum is to present a preliminary summary of the data collected through November 11, 2008. Primary sampling locations include: (1) a water level recorder installed on the west shore of Laguna Salada; (2) a water level recorder installed on the north shore of Horse Stable Pond; and (3) groundwater level and quality measurements at two locations in the area between Laguna Salada and the seawall (Figure 1). The monitoring data will be incorporated into a suite of hydrologic analyses that will be presented in a more comprehensive report at the completion of the study. Observations of water level, temperature, and salinity are presented in Figure 2.

Changes in water levels for Laguna Salada and Horse Stable Pond reflect the progressive drawdown due to pumping, evapotranspiration, and seepage. Water level data for both the Laguna and Pond show an initial drawdown of approximately 0.3 feet on April 10. The pump in Horse Stable Pond cycled on/off multiple times to maintain a consistent water level over the next two weeks. On April 24 the probes controlling the pump were adjusted by staff at Sharp Park due to anticipated flushing of fire hydrants by the city of Pacifica (S. Sweeny, personal communication on 11/12/2008). For an unknown reason the pump did not turn off and water levels in Horse Stable Pond dropped 1.8 feet overnight. The probes were adjusted the next morning and the pond filled back in to a water level of about 7.4 feet (NAVD) or about 0.2 feet below the level on April 24. Water level in Laguna Salada dropped an equal amount. Water level in both ponds then maintained a consistent elevation until the end of May when water levels began to gradually recede due to evapotranspiration and seepage losses. The two ponds receded at equivalent rates until mid-September when it appears that water level dropped below the sill elevation (approximately 6.2 feet) in the channel connecting the Laguna and Pond. After mid-September, the two ponds functioned independently of each other. The rate of recession increased in Horse Stable Pond in second half of September and reached its minimum elevation (5.6 feet) on October 4. Several light rainfalls in October produced minor increases in the water level of Horse Stable pond but had little affect on water level in Laguna Salada. A moderate rain event on

November 1 (0.75 inches reported at San Francisco) raised water level in both ponds to approximately 6.8 feet (NAVD88).

Observations of salinity in both ponds suggest that salinity levels are primarily driven by concentration of salts due to evapotranspiration losses. Salinity ranged between 0.7 and 2.5 parts per thousand (ppt) during the monitoring period. Similar salinity levels were reported for 1990-1991 in the Laguna Salada Resource Enhancement Plan prepared by Phil Williams and Associates. Salinity concentrations decreased in Horse Stable Pond between April and June while salinity levels increased somewhat over the same period in Laguna Salada. We attribute this difference to the rapid drawdown in Horse Stable Pond on April 24 which nearly emptied the pond. The pond likely filled with water stored in the adjacent groundwater system which we have measured to have a lower salinity concentration (approximately 0.6 ppt). During the remainder of the summer, salinity level increased with decreasing water level in both water bodies due to concentration of salts. A sampling investigation on August 20, 2008 collected vertical profiles of salinity at three locations in Laguna Salada accessed by kayak. The sampling locations were spaced longitudinally to sample opposite ends of the pond and the middle. No variation, either vertically or spatially, was observed in salinity levels on that date. Wind-driven mixing likely maintains the homogeneous salinity concentration in the Laguna.

Subsurface investigations in the area between Laguna Salada and the seawall provide additional information to understanding of the interactions between the salinity in the ponds and the adjacent ocean. Unfortunately, vandals removed a pair of piezometers shortly after they were installed on April 7, thwarting our monitoring of shallow groundwater conditions. A replacement piezometer installed in the sandy material about 300 feet west of Laguna Salada was sampled on November 11, 2008. Salinity level of the subsurface water was about 15 ppt while salinity in the adjacent pond was 2 ppt. Measured Laguna and groundwater levels in April and November indicate groundwater flow is from the Laguna towards the Ocean. Although data do not indicate an influx of salts into the wetland during the monitoring period, the close proximity of subsurface water with relatively high salinity levels suggests the possibility for such an influx to affect salinity levels in the ponds should Laguna water levels drop further below the level observed in 2008.

Using our monitoring data, available meteorological data and preliminary Laguna/Pond bathymetry surveys, we have prepared a detailed water budget model for the Laguna and Horse Stable Pond system. Preliminary results of this water budget analysis suggest that the increased salinity observed is likely attributable to evaporation concentrating salts in both water bodies. It does not appear from the data that seawater intrusion has much effect on salinity levels in the ponds during our monitoring period.

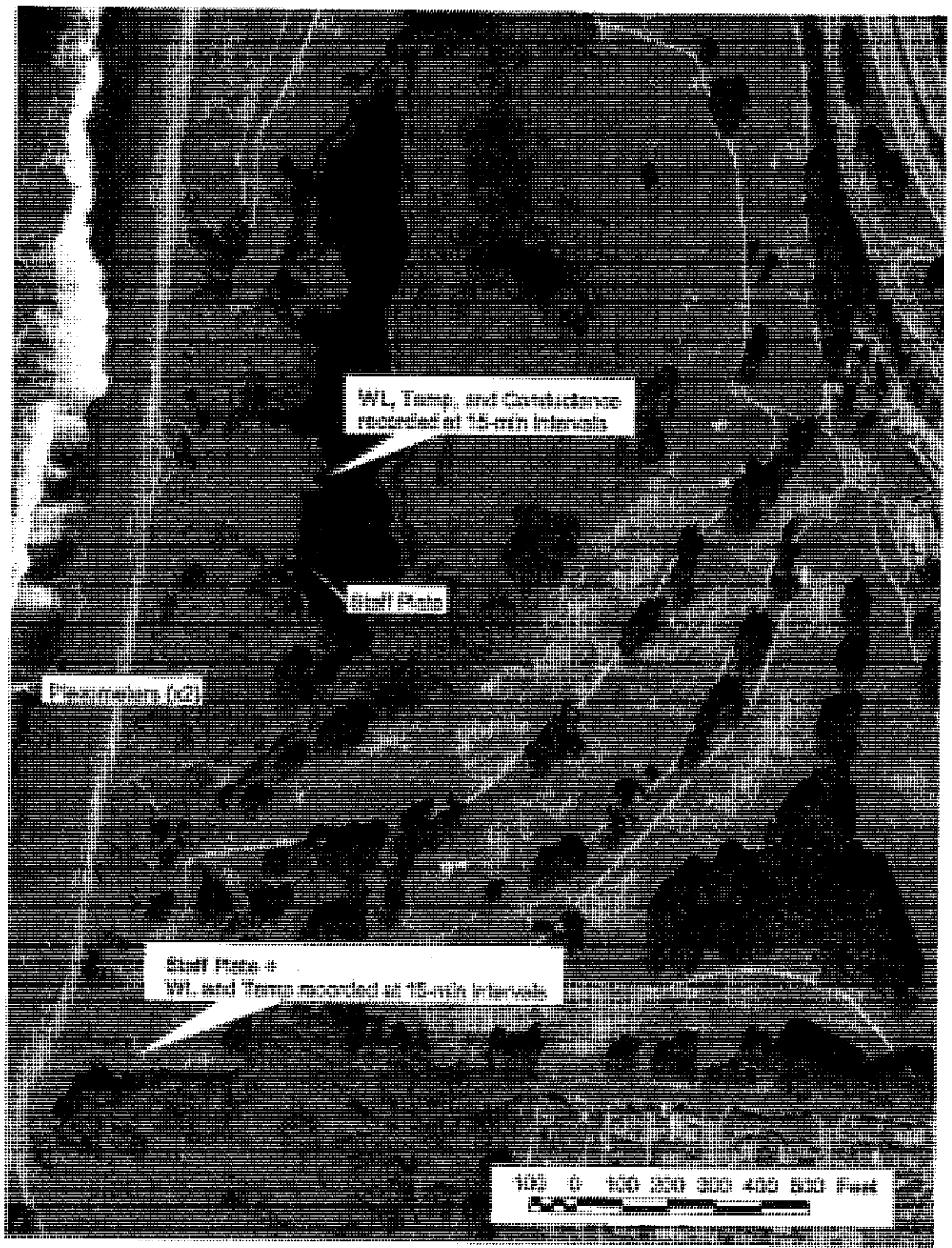


Figure 1. Site map indicating locations of hydrologic monitoring components.

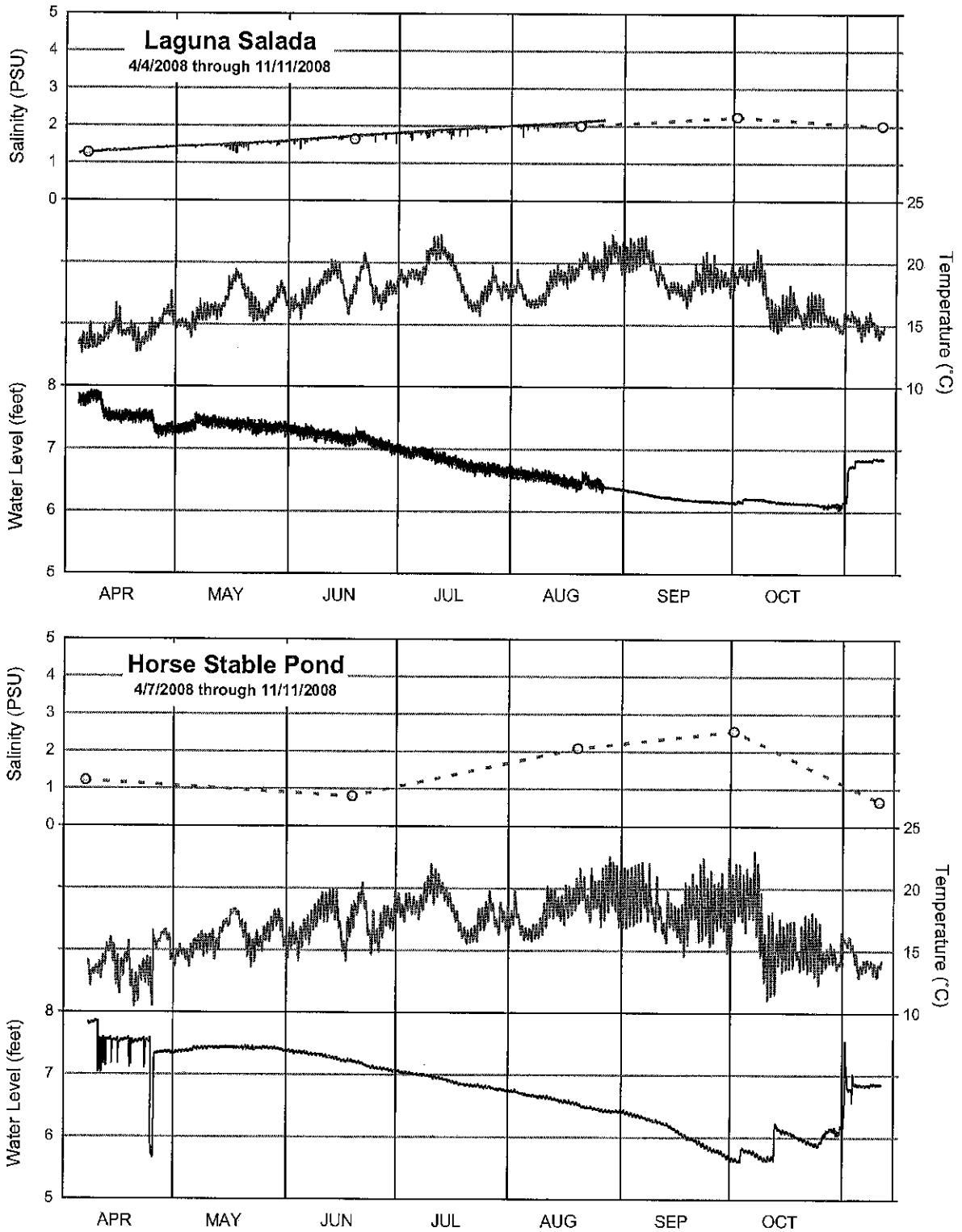


Figure 2. Plots of water level, temperature, and salinity observations at Laguna Salada (top) and Horse Stable Pond (bottom). Shaded circles in the salinity panels denote discrete observations and are connected by dashed lines to infer linear increases/decrease between samples.

Report for the Hydrologic Assessment and Ecological Enhancement Feasibility Study: Laguna Salada Wetland System Pacifica, California

Prepared For:

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San Francisco, California

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March 30, 2009

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1.0 INTRODUCTION

Laguna Salada is the main water body of a freshwater wetland complex covering approximately 25 acres within Sharp Park near the city of Pacifica, California. The site is presently isolated from the ocean by an earthen dike and provides habitat for various freshwater species; most notably the endangered San Francisco garter snake (SFGS) and the threatened California red-legged frog (CRF). The San Francisco Recreation and Parks Department (SFRPD) administers the property and is creating a management plan focused on enhancement of suitable habitats for the SFGS and CRF. Kamman Hydrology & Engineering, Inc. (KHE) has collaborated with a project team led by Tetra Tech, Inc. to assist SFRPD with preparation of the enhancement plan. This report presents the findings of KHE's hydrologic and hydraulic analyses as they relate to proposed ecological enhancements of the Laguna.

1.1 Objectives and Scope

The purpose of this assessment is to improve understanding of the hydrologic processes which affect the distribution of ecological habitats in the wetland system and flooding of the adjacent golf course. Much of what is currently known about the hydrology of the Laguna Salada wetland system was presented by PWA et al. (1992) in an earlier Resource Enhancement Plan. The PWA report includes a description of historical conditions at the site as well as results from a hydrologic monitoring study during the period 1990-1991. The present study aims to expand on the findings of the earlier research to reflect current conditions at the site and to extend those findings into a suite of analytical models that can assist Tetra Tech and the SFRPD in the planning and design for marsh, pond, and stream restoration alternatives.

An approach was developed to address the project objectives with a suite of tasks that included compilation of existing data sources, field data collection, and analytical modeling. KHE maintained a hydrologic monitoring network at the site during the period April 2008 to April 2009. Field data collection focused on understanding the variability of water level and salinity in system. Monitoring data were utilized to characterize current site conditions and to calibrate

analytical models for additional investigation. Three specific analytical modeling tools were developed:

- A water budget model to investigate the seasonal variations of water supply and demand at the site.
- A salinity mass balance model to investigate the sources and relative impact on water quality.
- A hydraulic model to simulate the water level response in the wetland system to winter storm runoff.

This report presents findings which focus on understanding existing conditions at the site. We anticipate that the modeling tools developed in this study will contribute to the feasibility assessment of conceptual project alternatives under consideration in the enhancement plan.

1.2 Site Description

The project site is located in San Mateo County near the city of Pacifica, California (Fig. 1). Prior to development of the Sharp Park Golf Course, environmental conditions at Laguna Salada were representative of a coastal lagoon system (Fig. 2). Environmental changes during recent decades have modified the hydrologic characteristics of the system by isolating Laguna Salada and the adjacent wetlands from the ocean. An earthen seawall spanning the western boundary of the site obstructs natural drainage and eliminates the episodic tidal exchange characteristic of a coastal lagoon.

The drainage basin contributing storm runoff to the wetland complex encompasses an area of approximately 980 acres (Fig. 3). There are three inflows of surface water entering the site. Sanchez Creek, augmented in its lower reaches by highway drainage and runoff from a residential neighborhood, is the largest source of storm runoff. The creek flows westerly through the Sharp Park Golf Course before it is directed into a culvert across the #9 fairway that discharges into a channelized drainage and flows into the wetland near Horse Stable Pond. A reservoir in the upper Sanchez Creek watershed stores runoff for a portion of the wet season, thus reducing the area contributing flow to the wetlands. A second inflow collects runoff from a network of storm drains which enter the site near the golf coarse club house via an underground culvert that discharges into the eastern margin of Laguna Salada. A third inflow collects runoff from a network of storm drains that enter the site via an underground culvert that discharges into the northern extent of Laguna Salada. Additional runoff inputs to the site include overland flow across the golf course property and from the Golden Gate National Recreation Area property to the south.

The current wetland system is composed of two freshwater ponds connected by a narrow channel and bordered by emergent wetlands (Fig. 4). Laguna Salada is the larger and deeper of the two remnant ponds, with a bottom elevation ranging between 0 to 2 feet (NAVD 88[1]). The Horse

[1] All elevations in this report reference NAVD 88, a fixed vertical datum. For reference, mean sea level is equivalent to an elevation of 3.26 feet on the NAVD 88 datum at the NOAA tide gaging station at San Francisco.

Stable Pond is located approximately 1,000 feet south of Laguna Salada and is considerably smaller and shallower, with bottom elevations ranging between 3.5 and 5 feet. The connector channel enables bi-directional flow depending on the relative water surface elevations in the two ponds. Portions of the connector channel are very shallow and at extremely low water levels the ponds become hydraulically disconnected.

Drainage from and water levels in the Laguna Salada wetlands are presently maintained by the operation of a pumping station located at the southern extent of Horse Stable Pond. The pumping station contains two pumps; a large pump with a flow capacity of 10,000 gallons per minute (GPM) and a smaller pump with a flow capacity of 1,500 GPM, which transfer excess runoff from the ponds to an outfall on the beach. The probes which trigger the pump operation are adjusted seasonally to control the pumping operations. At the beginning of the wet season the small pump is set to activate when the water surface elevation in Horse Stable Pond exceeds approximately 6.9 feet (NAVD 88) and the large pump is set to activate when the water surface elevation exceeds 7.5 feet (NAVD 88)[2]. The probe settings are adjusted during the CRF egg-laying season in order to maintain a water level above all identified egg masses. Additional adjustments to the probe settings and pond water levels are needed following major rainstorms as subsequent CRF egg laying occurs at higher elevations.

The Sharp Park golf course is irrigated during dry weather periods with freshwater from two sources; runoff captured and stored in a small reservoir on Sanchez Creek located in the hills east of Highway 1 and potable water delivered by a local water agency. There are potential plans to introduce reclaimed water for irrigation of the golf course in the future. It is believed that the majority of applied irrigation is consumptively used, with any excess going towards groundwater recharge. Water budget calculations and analysis monitoring data do not indicate significant contributions of excess irrigation as either surface runoff or groundwater inflow to the wetlands.

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[2] Corresponding gage heights on the staff plate attached to the intake structure are 1.0 and 1.6 feet, respectively. Probe settings provided by Sean Sweeney in an email communication on 11/4/2008.

2.0 SUMMARY OF KEY FINDINGS

Assessment of existing hydrologic conditions focused on characterizing the seasonal and inter-annual variability of water level fluctuations in the Laguna Salada wetland system. Hydrologic monitoring at the site documented water level fluctuations over a range of 3.2 feet during the period April 2008 through February 2009. Observations noted a gradual recession of the water surface elevation in Laguna Salada from 7.3 feet (NAVD 88) in May 2008 to 6.1 feet in October 2008. Rainfall in early November 2008 quickly filled Laguna Salada and the water surface elevation remained near 7 feet (NAVD 88) through the early winter. A storm event in mid-February 2009 increased the water surface to an elevation of 9.3 feet.

Results from a water budget investigation reveal that the system is supplied with adequate water to fill the ponds even in dry years. This study and the previous hydrologic site assessment (PWA, 1992) were both completed during multi-year droughts and reflect "worst-case" scenarios with respect to water supply and water quality conditions in the Laguna Salada wetlands. However, conditions observed and monitored during these studies reflect suitable conditions to sustain desired ecological habitats.

Inter-annual variability of water levels in the wetlands is low due to the operation of the pumping station. Early spring water levels in the pond areas are consistent between dry, normal, and wet water year types because water level is controlled by the pumping station. Dry season losses due to evapotranspiration and seepage do not likely vary much year to year. Surface water inflows associated with winter storm events provide the primary source of water to the wetland system. Groundwater inflow exceeds groundwater outflow (seepage); as a result, groundwater inflows contribute to the overall water budget of the system. As a result of groundwater contributions, dry season water level recession occurs at a slightly slower rate than would be expected due to evapotranspiration losses alone.

The hydraulic connectivity of the wetland system was evaluated by monitoring concurrent water surface elevations in Laguna Salada and the Horse Stable Pond. The connector channel enables hydraulic exchange of water between the pond areas at water surface elevations greater than 6.2

feet (NAVD 88). The connector channel limits the rate at which water can be exchanged between the two pond areas. Dense vegetation growth within the channel creates hydraulic friction that slows the movement of water.

The seasonal variation of salinity in the wetland system was monitored to characterize existing conditions and to assess potential impacts associated with saltwater encroachment. Salinity in the pond areas ranged between 0.7 and 2.5 parts per thousand (ppt) during the monitoring period. Salinity within Laguna Salada appears uniform and well mixed. The total mass of dissolved salts in the wetland system increased by 8 percent (8%) during the monitoring period. Relatively saline groundwater with a salinity of 15 ppt was observed in the sandy flat between Laguna Salada and the seawall,however, measured groundwater gradients indicate net groundwater movement in this area is westward or from the Laguna towards the ocean. The small net increase observed in the total mass of dissolved salts may be explained by short-term encroachments of saltwater towards the wetlands or concentration of salts by evaporation of relatively fresh (low salinity) sources, however, the observed increase falls within the likely range of uncertainty associated with the accuracy of existing data sources and the mass balance calculations. Any encroachment of saltwater in recent years has not produced accumulative effects on the salinity of the pond areas. Salinity observed in 2008 ranged within the values reported by PWA et al. (1992) for observations in 1990-91.

A modeling system was developed to integrate the rainfall-runoff, flood routing, and pond storage characteristics of the wetland system. Findings from the modeling investigation present the water level responses to a range of design storm events based on existing conditions at the site. The model provides an analytical tool which can be utilized in future investigations to evaluate the potential impacts to flood hazards associated with various conceptual design alternatives.

3.0 HYDROLOGIC ASSESSMENT

3.1 Summary of Monitoring Results

KHE collected hydrologic monitoring data at the project site during the period April 2008 through April 2009. Field data were utilized to describe the hydrologic conditions representative of the monitoring period and to calibrate analytical models of hydrologic processes at the site. The primary components of the monitoring network are Solinst-brand Levelogger instruments (devices recording water level and temperature or water level, temperature, and conductance) installed along the west shore of Laguna Salada and along the north shore of Horse Stable Pond. Data recorders were programmed to store readings continuously at 15-minute intervals and suspended inside 2-inch diameter stilling wells by stainless steel cables. Water level monitoring locations are indicated on Figure 4.

Each water level recorder was contained in a stilling well and paired with a staff gage for which the elevations were surveyed relative to the NAVD 88 vertical datum. Adjustment factors to convert gage height (*GH*) readings to NAVD 88 elevations were determined to be $GH + 2.29$ feet for the staff gage in Laguna Salada and $GH + 0.85$ feet for the staff gage in Horse Stable Pond. The observed water level elevations determined from staff gage readings were then compared to the corresponding water depth recorded by the Levelogger instruments to calculate the datum adjustment factors needed to adjust water level data to NAVD 88 elevations. Time series plots of the NAVD 88 water surface elevations for Laguna Salada and Horse Stable Pond over the study period are presented in Figure 5.

Observations during a site reconnaissance in February 2008 noted that the ponds were full and low-lying portions of the adjacent golf course were inundated. Late-Spring 2008 water levels were driven by operation of the pumping station at Horse Stable Pond. The probes controlling the pump were adjusted by staff at Sharp Park on April 10th and again on April 24th reducing water levels in both ponds to an elevation of about 7.4 feet (NAVD 88) by the end of the month. Water levels then maintained a nearly constant elevation throughout the month of May 2008.

Water level recession due to natural seepage and evapotranspiration losses began in early June. Both ponds receded at a nearly constant rate (approximately 1 inch per week) between June 1st and August 31st. Water levels in Horse Stable Pond diverged from those of Laguna Salada beginning in early September. The rate of water level recession for Horse Stable Pond increased to approximately 3 inches per week while Laguna Salada continued to recede at its previous rate of approximately 1 inch per week.

The lowest observed water levels and highest observed salinity occurred during the month of October 2008. Horse Stable Pond receded to its minimum water level of 5.6 feet on October 3rd. Water level then fluctuated in Horse Stable Pond throughout October in response to minor inflows. Laguna Salada maintained a nearly constant water level throughout October 2008 reaching its minimum water level of 6.1 feet on October 30th.

Early winter water levels in November 2008 were controlled primarily by operation of the pumping station in Horse Stable Pond. Water levels in both ponds increased rapidly in response to rain events totaling 1.3 inches on November 1st and 0.3 inches on November 3rd. The pumping station was activated when water level in Horse Stable Pond exceeded an elevation of 7.5 feet. The net water level response from the early November 2008 rainfall increased water levels by 0.8 feet in both ponds. The remainder of November was relatively dry; water levels in both ponds maintained a nearly constant elevation at 6.8 feet (NAVD 88) for the remainder of the month. A slight increase in water level of approximately 0.2 feet was observed during a two-week period in late November and early December. This increase, along with a slight increase in water level in mid-October do not coincide with storm runoff as no significant rainfall was reported for Pacifica.

Monitoring data were not recorded between December 12, 2008 and February 5, 2009 due to equipment failures[3]. Rainfall totals during this early 2009 included 2.3 inches in December, 0.8 inches in January, and 0.4 inches in early February. Water levels in both ponds had increased

[3] Note: additional processing may salvage some data from this period. If available, data will be included in a final version of this report.

slightly to an elevation of 7.2 feet on February 5th. The probes controlling the pumping station had been adjusted during the intervening period due to the presence of CRF egg masses.

Data recorders were reprogrammed during the February 5th site visit. Subsequent rains on February 15th, 16th, and 17th (3-day total of 4.3 inches) increased water levels in the pond to an elevation of 9.3 feet. The larger of the two pumps did not activate during the mid-February storm as expected although the smaller pump did discharge some water from the system. [NOTE: further text and findings forthcoming after final monitoring visit in April 2009].

The April 2008 to March 2009 period was representative of a conditions during a dry water-year type; approximately 16 inches of rain, 64% of the climatic normal, was recorded at Pacifica during the 11 month period. The National Weather Service station at San Francisco reported the driest spring (March-May 2008) on record with 0.47 inches of precipitation. December 2008 and January 2009 precipitation was also below normal.

Groundwater sampling targeted the relatively flat area between Laguna Salada and the seawall. Two piezometers (PZ-1 and PZ-2), or shallow groundwater monitoring wells, were installed in April 2008 (see Fig. 4). Initial groundwater elevations had been measured relative to the top of the piezometer casings (an arbitrary datum). The field task to survey instrument elevations was scheduled for later in the summer at which time the groundwater observations were to be adjusted to NAVD 88 elevations for comparison to water level data in the pond. Unfortunately, vandalism of the piezometers (removal and destruction) rendered much our data unusable in this study. A subsequent piezometer installation in Novermber 2008 (PZ-3; see Fig. 4) utilized a stainless steel casing that was driven into the soil with a slide hammer; a design much more difficult to remove. Groundwater level and basic water quality parameters (temperature, salinity, and pH) were sampled from PZ-3 during the November 11, 2008 site visit and again in February 2009. Groundwater levels and salinity were also measured in shallow wells located immediately east of Horse Stable Pond and within the Mori Point Park property. The locations of the Mori Point wells are also plotted on Figure 4.

3.2 Water Budget

A water budget provides a quantitative accounting of water supplies and demands to a water body. The primary components of the water budet equation are:

$$I - O = \Delta S/\Delta t \qquad \text{(Eq. 1)}$$

where:

I is the volume of inflow,

O is the volume of outflow, and

$\Delta S/\Delta t$ is the net change in the volume of water storage per unit time, t.

Surplus water is stored within the pond/wetland system during periods in which inflow exceeds outflow. Conversely, water is removed from storage during periods in which outflow exceeds inflow. The corresponding rise or fall in water level to a given increase or decrease in storage is also influenced by the topographic characteristics of the storage site

An analytical water budget model was developed to evaluate the seasonal and inter-annual variability of hydrologic conditions. The water budget model discretizes the primary inflow and outflow components into monthly volumes and provides an analytical solution to the water balance equation for each time step. The expanded water balance equation utilized for Laguna Salada takes the form:

$$P + Q_{in} + G_{net} - Q_{out} - ET = \Delta S/\Delta t \qquad \text{(Eq. 2)}$$

where:

P is direct precipitation,

Q_{in} is surface water inflow,

G_{net} is net subsurface (groundwater) inflow (*i.e. inflow – seepage*),

Q_{out} is surface water outflow (discharge from pump station), and

ET is evapotranspiration.

The relationship between pond stage, or water surface elevation, and the available cumulative (Laguna Salada and Horse Stable Pond) water storage capacity was determined by terrain analysis of topographic and hydrographic survey data collected by Lee & Associates in 2008 (Fig. 6). Laguna Salada has a much larger storage capacity than the Horse Stable Pond. At the lowest observed stage during the monitoring period (6.1 and 5.6 feet, respectively for Laguna Salada and Horse Stable Pond), Laguna Salada retained approximately 23 acre-feet[4] of water in storage while the Horse Stable Pond retained less than 0.5 acre-feet of water in storage. At the stage where water begins to spill out of the ponds and flood low-lying portions of the adjacent golf course (approximately 8.5 feet), about 62 acre-feet of water is stored within Laguna Salada and an additional 4 acre-feet is stored with the Horse Stable Pond (cumulative total of 66 acre-feet).

Rainfall at the project site is characterized by wet winters and dry summers. Typically, more than 85% of the annual rainfall occurs during the period between November and March. Data from the National Weather Service station at Pacifica (NWS Coop ID: 46599) reveal a mean annual precipitation of 28.5 inches for the period 1983-2007. Inter-annual variability of rainfall is moderate. The lowest rainfall observed in the last 25 years occurred in 1990 when 15.9 inches were recorded. The highest rainfall observed during this period was 1998 when 46.9 inches were recorded.

Surface water inflows appear to be intermittent or seasonal, with low base flow occurring only during the wet season. No surface inflows were observed during the period April 1 to October 1, 2008 and similar conditions were reported by PWA et al. (1992) for the period 1990-91. The surface inflows are ungaged and few data are available to describe the unimpaired runoff characteristics of coastal watersheds in San Mateo County. A mean annual runoff of 7.9 inches, 28 percent of the mean annual precipitation, was estimated for the project site from a regional rainfall-runoff relation developed for the San Francisco Bay area by Rantz (1974).

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[4] An acre-foot is a standard unit of water volume measurement. It is the volume of water, 43,560 cubic feet, that will cover an area of one acre to a depth of one foot.

Estimates of precipitation and surface inflow values representative of dry, normal, and wet water year types were determined in order to assess inter-annual variability of the water budget. Dry, normal, and wet water years are represented by historical values having a 0.8, 0.5, and 0.2 exceedance probability[5], respectively (Table 1). The ratio of annual precipitation at a given exceedance probability to the long-term mean annual precipitation was multiplied by the mean annual runoff to estimate annual runoff totals for the different water year types.

A seasonal distribution of surface inflow was derived from mean monthly streamflow data at the U.S. Geological Survey gaging station on Pescadero Creek (station ID: 11162500). The resulting distribution curve was modified for the period April to October to reflect the lack of sustained baseflow to the project site during months of low rainfall. The monthly percentage of annual runoff was then multiplied by the estimated annual runoff total to determine a time series of monthly surface inflow for the dry, normal, and wet water year types

Surface water outflows are blocked by the earthen seawall under existing conditions. Excess water is drained from the wetlands via the pumping station in Horse Stable Pond. Pumping is controlled by the adjustment of probes which activate the pumps at a given water level as described above (section 1.2). As such, surface water outflow is estimated in the water budget as the volume of water required in each time step to pump the ponds down to the water level at which the pumps are activated. Water budget modeling assumed that the pumping station maintained water levels at 6.9 feet (NAVD 88) at the beginning of the winter and is adjusted in February to maintain water levels at 7.3 feet.

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[5] An exceedance probability is the probability that a specified variable (e.g., total annual discharge or annual precipitation) will be exceeded during the year. In the context of this discussion, exceedance probability expresses the likelihood of a given value to be exceeded in a given year. When applied to an annual time series, exceedance probabilities of 0.8 and 0.2 can be expected, on average, to be the 2nd wettest and 2nd driest annual totals in any given 10-year period.

Evapotranspiration estimates were determined using the cover coefficient approach as described by Allen (1998). Monthly average reference evapotranspiration values for the Coastal Plains Heavy Fog Belt Zone (DWR, 2005) were multiplied by a cover coefficient which is a lumped parameter used to describe the relative differences between the wetland conditions and the reference crop (grass). The cover coefficient for wetland vegetation ranges seasonally. Data presented by Allen (1998) for a cattail marsh were utilized to derive cover coefficients that ranged from 0.75 during the dormant winter period to 1.25 during the midseason period between May and September. The resulting evapotranspiration estimates range between 0.5 inches in January and 5.8 inches in July.

The groundwater inflow/outflow terms are the most difficult parameters of the water budget to quantify. A conceptual model of surface water-groundwater interactions was developed from a combination of existing data sources and field observations. Shallow groundwater is present to the east and south of the wetland complex. The water table follows a gradient directed toward the ocean and intersects the ground surface at the open water ponds. The rate of groundwater flow is proportional to (1) the slope of the water table, or the hydraulic gradient, and (2) the hydraulic conductivity, or permeability, of the soil materials. The net difference between groundwater inflow and outflow is determined by the relative subsurface conditions east and west of the open water ponds. If the product of the hydraulic gradient and conductivity is greater to the east of the pond, subsurface inflow will exceed outflow and additional water will be stored in the pond/wetland system.

Water level observations recorded from a monitoring well positioned between Laguna Salada and the seawall (PZ-3) reveal shallow groundwater levels approximately 0.5 feet below the water level in the adjacent pond. These observations indicate a hydraulic gradient of approximately 0.002 directed toward the ocean. For comparison, previous monitoring of groundwater wells in the area east of Laguna Salada by PWA (1992) indicated a hydraulic gradient of approximately 0.007 directed toward the pond. All else being equal (i.e. same hydraulic conductivity), if the hydraulic gradient of the groundwater inflow coming from the east exceeds the hydraulic gradient of the outflow directed towards the ocean, then groundwater inflow exceeds groundwater outflow and increases the volume of water stored in the ponds.

The net volume of groundwater inflow (G_{net}) to Laguna Salada was evaluated quantitatively by use of the water budget model. The model was configured to solve the water budget equation for G_{net}:

$$\Delta S/\Delta t + P + Q_{in} - Q_{out} - ET = G_{net} \qquad \text{(Eq. 3)}$$

Precipitation, surface inflow, and surface outflow can be removed from the equation by isolating the data record for the dry summer months in which those terms were observed to equal zero. This simplifies the summer (dry season) water budget equation for the period May through Septhember 2008 as:

$$\Delta S/\Delta t - ET = G_{net} \qquad \text{(Eq. 4)}$$

During the period May – September 2008, water level in Laguna Salada dropped 1.0 feet, however, the estimated evapotranspiration during the same period totaled 1.8 feet. The difference suggests that the summer recession of pond water levels is moderated by a net inflow of groundwater to the pond/wetland complex. A linear relation between stage and G_{net} was developed to quantify groundwater contributions in the water budget analyses. It is likely that the relation becomes nonlinear at low stages because further declines of the pond water level would reverse the hydraulic gradient between the ocean and the ponds.

Annual water budgets derived from simulations of dry, normal, and wet water year types are presented in table 2. The normal water year type is represented by the median annual totals of precipitation and runoff. Dry and wet water year types are represented by annual totals of precipitation and runoff with an exceedance probability of 0.8 and 0.2, respectively.

Results from the water balance simulations show that the variation of water year types does not affect the annual change in the volume of water stored in the wetlands. Wet years do not produce an annual increase in water storage and dry years do not lead to an annual decrease in storage. The water budget simulations confirm that adequate water is supplied to the system to

maintain the open water ponds during dry years. Increases in precipitation and runoff seem to only affect the volume of water drained from the system via the pumping station in Horse Stable Pond.

Data from the water balance simulations suggest that groundwater contributions effect water levels in the pond/wetland system, however, the magnitude of this effect is not large. During the normal (median) water year type, surface inflows exceed the net volume of groundwater inflow by more than 600 percent (600%) and by 250 percent (250%) during dry year types.

Table 1. Representative values of dry, normal, and wet water year types utilized in modeling the water budget.

Exceedance Probability	Annual Precipitation (inches)	Relation to Mean Annual	Annual Runoff (inches)	Water Year Type
0.80	19.8	69%	5.5	Dry
0.50	29.4	103%	8.1	Normal
0.20	34.6	121%	9.6	Wet

Table 2. Annual water budget for the Laguna Salada wetland complex. AF is Acre-feet.

Water Year	P (AF)	Q_{in} (AF)	Q_{out} (AF)	ET (AF)	G_{net} (AF)	ΔS (AF)
Dry	27	104	121	52	42	0
Normal	38	266	294	52	42	0
Wet	49	540	578	52	41	0

3.3 Hydraulic Connectivity

The two main pond areas, Laguna Salada and the Horse Stable Pond, are hydraulically linked by a connector channel. At low water levels (less than 7 feet NAVD 88) the connector channel is approximately 20 feet wide. The channel is shallow; minimum bed elevation ranges between 3.1 and 6.2 feet. The highest point along the longitudinal profile of the channel is located just north of the cart path culvert passing under the 12th fairway of the golf course. When water surface elevations recede below 6.2 feet, the two ponds are hydraulically disconnected. This is evident in the water level data when the pond recession rates for Laguna Salada and Horse Stable Pond diverge in mid-September (Fig. 5).

The channel is spanned in places by emergent vegetation. The dense stems of cattails, in particular, create frictional resistance to the hydraulic exchange of water between the pond areas. Field observations during the monitoring period noted a dense stand of cattails adjacent to the culvert within the connector channel. As water level increases following winter storm events, hydraulic exchange seems to improve as water can pass around the cattail bunches. Once water levels equilibrate between ponds, there is little, if any, circulation or water transfer through the ditch between ponds.

Time series plots of the water surface elevations for Laguna Salada and the Horse Stable Pond illustrate the hydraulic exchange between the two pond areas during a storm event (Fig. 7). The November 1, 2008 rainfall event was the first storm of the monitoring period and brought approximately 1.3 inches of precipitation. Prior to rainfall, the water surface elevations for the two pond areas were in equilibrium at 6.2 feet. The initial water level response of Horse Stable Pond to rainfall was a rapid increase in stage relative to Laguna Salada. Hydraulic resistance in the connector channel noticeably restricted the runoff entering Horse Stable Pond to flow into the larger storage basin of Laguna Salada A burst of rainfall around 7:00 PM increased the water surface in Horse Stable Pond above 7.5 feet and triggered the 10,000 GPM pump. The pump operated for approximately 45 minutes and lowered the water surface in Horse Stable Pond below 6.9 feet at which point the pump shut off. Additional runoff increased water level in Horse Stable Pond by about 0.2 feet before water level in the pond began to recede. Water level

in Laguna Salada continued to rise gradually over several hours. Hydraulic exchange between the two pond areas brought the water surfaces back into equilibrium approximately 24 hours after the initial rainfall began.

The November 1 example represents a small rain event that did not trigger a dramatic water level response. Flow in the connector channel was likely directed north (from Horse Stable Pond to Laguna Salada) for the entire event. In a larger storm event that increases water levels in both pond areas above the elevation which activates the pump, flow in the connector channel would be expected to be reversed (i.e. from the Laguna towards Horse Stable Pond). The relatively small storage capacity of Horse Stable Pond causes its water surface to rise rapidly. The relatively large storage capacity of Laguna Salada, in contrast, produces a more moderate response. The hydraulic gradient between the two pond areas initiates flow from Horse Stable Pond towards Laguna Salada when Horse Stable Pond water levels are higher relative to those in the Laguna and from the Laguna towards Horse Stable Pond when the Laguna water levels are higher. As the pumping station lowers the water surface in Horse Stable Pond below that of Laguna Salada, flow in the connector channel responds accordingly. In the absence of additional runoff inputs, the two pond surfaces would be expected to equilibrate and recede until the pumping station is shut off.

4.0 SALINITY ASSESSMENT

Salinity is a measure of the concentration of dissolved salts in water. The salinity characteristics of the pond/wetland system were evaluated by an approach that utilized a combination of field monitoring data and analytical modeling. Monitoring data were collected to describe the seasonal range and variability of salinity. Sampling included measurements from the open water ponds and groundwater monitoring wells. An analytical model was then developed to derive the mass of salt in the pond/wetland system given a known concentration and a known volume of water. Temporal changes in the mass of salts were evaluated to assess the physical processes affecting salinity in the wetland system.

The salinity assessment was developed to test the hypothesis that the seasonal change in salinity was affected by shallow groundwater conditions. Given its location along the coastline, there is the potential for seawater intrusion to increase salinity and alter the habitat conditions of the system. Salinity is expected to increase during the summer when evapotranspiration losses decrease the volume of water in storage and thus increase the concentration of dissolved salts.. If the seasonal variability of salinity is controlled by evapotranspiration, then the overall mass of dissolved salts should remain stable throughout the year even though the concentration may fluctuate. If, however, relatively saline water is being added to the pond during a portion of the year, the mass of dissolved salts in the system could increase over time.

4.1 Salinity Observations

Salinity was calculated from measurements of specific conductivity and temperature. Conductivity measures the ability of a material to carry an electrical current. In general, the higher the concentration of dissolved salts and minerals in the water, the higher the conductivity. A Solinst-brand Levelogger instrument collected water level, temperature, and conductivity readings from Laguna Salada for the period 4/7/2008-8/26/2008. Salinity was calculated from the conductivity data using an equation presented by Schemel (2001). Additional discrete samples of conductivity/salinity were collected using an YSI-brand 556 multi-probe system.

Salinity in the open water ponds generally varied inversely to water level over a range of 0.7 to 2.5 parts per thousand (ppt) during the monitoring period (Figs. 8 and 9). For comparison, PWA et al. (1992) reported a range of salinity between 1.0 and 3.0 ppt during their 1990-1991 study. A sampling investigation on August 20, 2008 collected vertical profiles of salinity at three locations in Laguna Salada accessed by kayak. The sampling locations were spaced evenly along the axis of deepest water (oriented north to south) to sample opposite ends of the pond and the middle. No vertical or spatial variations of salinity were observed on that date.

Initial sampling in Laguna Salada during April 2008 yielded a salinity of 1.3 ppt. The continuous data recorder then indicated a steady increase in salinity through the month of August (see Fig. 9). Discrete measurements indicate that this trend continued through the month of September. The highest recorded salinity in Laguna Salada was 2.3 ppt observed on October 2nd. Additional discrete measurements in November 2008 and February 2009 revealed salinity levels of 2.0 and 1.9 ppt, respectively, for Laguna Salada.

Salinity observations in Horse Stable Pond varied over a slightly higher range. Following the initial observation of 1.2 ppt in April 2008, salinity dropped to 0.8 ppt by the next sample on June 19th. This decline in salinity differs from the expected inverse relationship between water level and salinity. The decline in salinity is likely explained by the rapid drawdown of Horse Stable Pond in late April when the pump failed to shut off as expected and water level dropped 1.8 feet overnight. It is likely that the pond refilled with relatively fresh groundwater from the saturated soils adjacent to the pond. Observations between June and early October display a similar increasing trend to that reported for Laguna Salada with the highest observed salinity, 2.5 ppt, recorded on October 2nd. A subsequent sample on November 11th followed the first storm event of the year and yielded a result of 0.7 ppt. By early February 2009 salinity increased to 1.2 ppt.

Salinity of the groundwater inflows was sampled from monitoring wells on the GGNRA property by Mori Point near the marsh draining into Horse Stable Pond and from ponded water in the drainage channel where Sanchez Creek enters the wetland complex. Observations reveal a

groundwater salinity ranging from 0.5 to 0.7 ppt. Initial plans to sample the salinity of groundwater in the area between Laguna Salada and the seawall were inhibited by the vandalism of the piezometers installed in April (PZ-1 and PZ-2). Samples from PZ-3 in mid-November revealed a salinity of 15 ppt; a much higher concentration than the salinity measured in the ponds or in groundwater wells installed between the Laguna and seawall in 1990-91.

4.2 Mass Balance Calculations

The mass of dissolved salts is calculated as the product of salinity and the volume of water stored in the pond/wetland system. Each salinity observation in the open water ponds is paired with a corresponding water level reading. The volume of water in storage at a given water level is obtained from the stage-storage relationship based on topographic and hydrographic survey data collected by Lee & Associates in 2008 (Fig. 6).

Time series plots of salinity, water level, and the calculated mass of dissolved salts are presented in Figures 8 and 9. Results from the mass balance calculations suggest that the total mass of dissolved salts in Laguna Salada increased approximately 11 percent over the monitoring period while the total mass of dissolved salts in Horse Stable Pond decreased approximately 25 percent over the same time interval. Although the data from Horse Stable Pond showed a larger percent of change, the relative contribution from Horse Stable Pond to the total salt budget for the system is minor due to its low storage capacity. The combined data for the total system reveal a net increase of 8 percent between April 7, 2008 and February 5, 2009.

The temporal fluctuations of the total mass of dissolved salts are subtle but reveal additional characteristics of the system. In April 2008, the total mass of dissolved salts in Laguna Salada decreased rapidly following two pumping events which drew down the water level by 0.8 feet. The mass of dissolved salts increased, however, between pumping events and throughout the month of May 2008. Data from summer show a slight decrease from mid-June through August. Subsequent sampling in October, November and February show increases in the total mass of dissolved salts.

Data from the Horse Stable Pond reveal a slightly different pattern. Following the April drawdown event, salinity decreased from 1.2 to 0.7 ppt. The salinity following pumping (0.7 ppt) is equivalent to the salinity measured in groundwater monitoring wells adjacent to the pond on the GGNRA property. Subsequent sampling indicated an increase in the mass of dissolved salts between June and August followed by a decrease between August and early-October. The mass of dissolved salts then maintained a constant level through early-November 2008 and increased before the last sample in early-February 2009.

The suggested decrease in the total mass of dissolved salts in Horse Stable Pond between August and October is questionable. Water level declined during this period, salinity increased, yet total mass of salt decreased. It is likely that the data suggest a decrease in the mass of dissolved salts because the stage-storage relationship underestimates the volume of water in storage at the low water levels observed in September and early-October. Given this observation, data were checked to evaluate whether the stage-storage relation was introducing errors in the calculation. Sampling events on June 19, 2008 and February 5, 2009 were collected at approximately equivalent water levels in the ponds. As such, temporal trends can be assessed without the need to account for the volume of water in storage. Salinity on June 19 was 1.6 ppt in Laguna Salada and 0.8 ppt in Horse Stable Pond. Following the summer drawdown period and subsequent refilling of the ponds due to storm runoff, salinity had increased to 1.9 ppt and 1.2 ppt in Laguna Salada and Horse Stable Pond, respectively. Comparing results from these two dates increases confidence in the calculated results.

4.3 Effect on Wetland Habitats

Observations from the period April 2008 to February 2009 and water/salt budget analyses suggest that groundwater contributions led to small increases in the total mass of dissolved salts in the pond/wetland system. Salinity in the ponds remained slightly brackish throughout the monitoring period and ranged between 0.7 and 2.5 ppt. Shallow groundwater entering the site

has a background salinity of about 0.7 ppt. Sampling from the sandy flat between Laguna Salada and the seawall revealed a shallow groundwater salinity of 15 ppt.

There are two existing environmental processes that may have significant impacts on the salinity of the pond/wetland system: (1) the remobilization of salts stored in the adjacent soil materials from previous periods of inundation or wave overwash; and (2) saltwater intrusion of the coastal aquifer. A conceptual model is offered to explain the potential impacts of saltwater intrusion to the wetlands:

- The coastal aquifer is composed of a zone of fresh water (salinity < 1 ppt) to the east, a zone of salt water (salinity > 18 ppt) to the west, and a zone of transition between.
- The zone of transition can be a narrow. Sampling in 2008 revealed shallow groundwater salinity of 15 ppt at a distance of less than 300 feet from the shore of Laguna Salada which had a salinity of 2 ppt.
- Throughout all monitoring periods, the hydraulic gradient of the shallow groundwater outflow from the pond is directed westerly and the fresh water pushes back saltwater from the ocean.
- Under certain conditions, such as rapid drawdown due to pumping or extreme low water during late summer, the hydraulic gradient may reverse and subsurface water of relatively higher salinity may flow into the ponds.

The impact of shallow groundwater contributions to the salinity budget does not appear to be producing any long term trends. Overall, salinity observations from the open water ponds were not significantly higher than observations from 1990-1991 (PWA et al., 1992). It is likely that a high turnover rate associated with high inflows of surface runoff and shallow groundwater from the east continue to flush the system and maintain the slightly brackish condition.

The observation of relatively saline (15 ppt) shallow groundwater in close proximity to the ponds should warrant caution concerning the long term maintenance of freshwater habitats at the site. PWA's (1992) monitoring at a nearby location did not observe salinity greater than 2 ppt. It is possible that the 2008 observation of 15 ppt is indicative of an eastward progression of the

transition zone defining the interface between fresh/saline groundwater conditions. It is also possible, however, that this zone fluctuates from year-to-year and that the previous monitoring occurred during a period when the transition zone was located further west. Further monitoring with a more extensive network of monitoring wells would be required address the issue with more confidence. Regardless, water and salt budget analyses indicate that the maximum salinity of groundwater inflow to Laguna Salada did not exceed a salinity concentration of 2.5 ppt during the 2008/09 monitoring period (and was probably much lower), indicating seawater intrusion was not a significant factor or impact to Laguna salinity during the monitoring period.

A future salinity source may be introduced to the Laguna Salada watershed in the form of irrigation with treated effluent. The impact of this potential source of salts was not evaluated as part of this study but should be considered as part of enhancement plan development if treated effluent is used for irrigation in the watershed. Sea level rise and climate change may also alter seasonal and long-term ocean levels and wave energy, potentially reversing shallow groundwater gradients between the lagoon and ocean and allowing more salts to migrate into the Laguna. The existing salinity and water budget models will prove to be useful tools in evaluating and quantifying potential benefits and impacts to wetlands under proposed enhancement plan alternatives.

5.0 STORM RESPONSE MODELING

A modeling system was developed to simulate the water level response to winter storm runoff entering the Laguna Salada wetland complex. The model integrates the rainfall-runoff, flood routing, and pond storage characteristics of the system. Modeling the hydraulic and hydrologic characteristics of the site allows for: (1) evaluation of water operations under existing conditions (e.g. areas of inundation for a given storm magnitude); and (2) evaluation of hydraulic/hydrologic changes associated with enhancment plan alternatives.

5.1 Rainfall-Runoff Simulation

A rainfall runoff model was developed for the drainage basin contributing runoff to the Laguna Salada wetland complex. The model is based on the Natural Resource Conservation Service method (also known as the SCS method) of estimating direct runoff from storm rainfall and was developed with the WinTR-55 computer program. The drainage basin is divided into eight subareas of varying size between 20 and 283 acres. Each subarea is characterized by unique values of surface area, curve number[6], and time of concentration. The calculated weighted curve number for the entire drainage basin is 78.

The model generates hydrographs for each subarea and a composite hydrograph for the cumulative inflow to the wetland complex. Simulated runoff from subareas not directly connected to the wetland complex are routed downstream along the lower portion of Sanchez Creek.

The rainfall runoff model was utilized to develop two sets of inflow hydrographs. The first set represented design storm hydrographs. Published depth-duration-frequency data for the San Francisco Bay region (Rantz, 1971) were consulted to determine the expected 24-hour storm

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[6] Curve number is a dimensionless parameter used to describe the hydrologic characteristics of a given land cover and soil type combination.

rainfall totals for a range of storm recurrence intervals between 2- and 100-years (Table 3). An additional baseflow component was added to the storm runoff hydrographs. Baseflow on the rising limb of the hydrograph was set equal to one percent (1%) of the peak flow rate. Baseflow contributions on the falling limb of the hydrographs were set equal to two percent (2%) of the peak flow rate for the 2-, 5-, and 10-year recurrence interval events and five percent of the peak flow rate for the 25-, 50-, and 100-year recurrence interval events. Estimates of baseflow contributions were based on the estimated peak flow response to rainfall on February 15th and 19th 2009 and flow measurements made in Sanchez Creek on the afternoon of February 16th.

The second set of inflow hydrographs generated for the study represented historical (observed) events. As the watershed is ungaged, rainfall-runoff simulations were utilized to estimate inflow hydrographs for discrete storm events observed during the monitoring period. Rainfall data for these events were obtained from weather stations published for Pacifica, California, on the Weather Underground website (http://www.wunderground.com/). The resulting hydrographs were utilized in calibration of a hydraulic modeling component.

Table 3. Rainfall-runoff characteristics of design storms ranging between the 2- and 100-year recurrence interval events.

Return Period (years)	Rainfall Depth (in)	Runoff Depth (in)	Runoff Volume (AF)	Peak Flow Rate (cfs)
2	3.1	1.2	77	136
5	4.0	2.0	127	254
10	4.7	2.5	161	348
25	5.5	3.1	199	468
50	6.1	3.7	238	564
100	6.6	4.1	263	646

5.2 Hydraulic Model Development

The U.S. Army Corps of Engineers' River Analysis System (HEC-RAS) version 4.0 (March 2008) software was used to perform a one-dimensional unsteady flow analysis of the Laguna Salada system. The system consists of two basins, a connector channel linking the two basins, and a water-level activated storm water pumping system which pumps water out of the system into the Pacific Ocean.

Both basins within the system are governed by stage-volume relationships identified by the topographic and hydrographic survey by Lee & Associates in 2008 (Figure 6). Laguna Salada, the larger northernmost basin, contains nearly 12 times the volume of Horse Stable Pond. The Horse Stable pond contains the intake to the storm water pumping system, which controls the water level of the entire system. Parameters determining operations at the pumping station (e.g. flow capacity, water surface elevations to turn the pumps on/off) were based on existing operating criteria provided by SFRPD (Table 4 ; email communication with Sean Sweeny on November 4, 2008).

The connector channel is represented in the model as a series of nine cross-sectional profiles and includes the 48-inch corrugated metal culvert passing under the golf cart path on the 12th fairway. Model cross-sections were extended approximately 2,000 feet allowing for simulated water to spill out of the main channel into the off-channel marsh areas. Flow in the connector channel is bi-directional and is determined by the relative water surface elevations in the two pond areas.

Model simulations were run for a 48-hour period. Inflow hydrographs created from the rainfall-runoff modeling component are routed into the wetland complex at the three points of channelized flow indicated in Figure 4. For each time step during the simulation, the model determines the change in the volume of water in storage for each pond area by balancing the inflow and outflow rates. The relative increase/decrease in water surface elevation is determined from the corresponding stage-volume relationship. Transfer of flow between pond areas via the connector channel is simulated based on the hydraulic gradient at a given time step.

Roughness characteristics of the cross-sectional profiles were calibrated in a simulation of an observed storm event on November 1, 2008. Hydrologic monitoring data revealed that the transfer of water between the two pond areas is slowed by the frictional resistance of the channel boundary and by vegetation growing within the channel (section 3.3). The Manning's roughness coefficient (n) of the channel cross-sections was adjusted through an iterative process until the resulting time series plots of water surface elevations in both the Laguna and pond most closely approximated the observed condition (Fig. 10). A Manning's n value of 0.15 was selected as the best representation of channel roughness characteristics.

Table 4. Pump operation parameters assumed in hydraulic model of existing conditions. WS Elev is water surface elevation (NAVD 88).

	Flow Rate (GPM)	WS Elev On (ft)	WS Elev Off (ft)
Pump #1	10,000	7.5	7.0
Pump #2	1,500	6.9	6.4

5.3 Design Storm Simulations

Design storm simulations utilized the rainfall-runoff and hydraulic models to evaluate the water level response to a range of storm events. Initial model runs focused on simulating existing conditions of the wetland system. All simulations assumed an initial water surface elevation of 6.8 feet (NAVD 88) in both pond areas. The assumed water level approximates conditions when the ponds have filled following previous runoff events and the pump, operating under criteria specified in Table 4, has maintained a water level just below the elevation that would trigger pump activation. It should be noted, however, that the actual water level in the ponds at the beginning of a storm event can vary from the assumed elevation due to: (1) adjustments to the probes controlling the pumping station that increase water levels such that all identified CRF egg

masses remain inundated; and/or (2) timing of the storm such that rainfall "piggybacks" on a previous event that triggered an increase in water level.

Results are presented to illustrate the water level response in Laguna Salada to the design storm runoff for rainfall events at recurrence intervals of 2, 5, 10, 25, 50, and 100 years (Fig. 11). The capacity of the pumping station to discharge water from the system is exceeded in all design simulations. The simulated water level responses for the two pond areas display a similar form as that observed in the monitoring data. Flow in the connector channel is bi-directional; flow is directed towards Laguna Salada during the peak of the storm event and reverses flow direction as the inflow rates of storm runoff entering the system decrease and pumps dewater Horse Stable Pond.

The 48-hour simulation periods capture the maximum water surface for rainfall events at a recurrence interval of 10 years or less. Water level continues to increase beyond the 48-hour simulation period for the more extreme storm events, however, the rate of increase at the end of the simulations are minimal. The results are comparable to previous model simulations of the water level response to a 100-year recurrence interval rainfall presented by PWA et al. (1992). PWA predicted a maximum water surface elevation of 13.7 feet NAVD 88 (10.9 feet NGVD 29 as presented in the report). Results from the most recent study suggest a maximum water surface elevation approaching 15 feet NAVD 88 during the 100-year rainfall event. The primary difference between the model presented by this study and earlier results by PWA (1992) is that the PWA data do not include a baseflow contribution to the simulations. At the end of the 24-hour storm event, PWA's discharge data decreases to zero and water level begins to recede. If the baseflow component is removed from the KHE runoff simulations, the model predicts a maximum water surface of approximately 13.5 feet NAVD 88.

Results of the design storm simulations describe the hydraulic processes that contribute to flood hazards of the adjacent properties. Maps illustrating the predicted areas inundated under the design storm simulations depict the potential for widespread flooding of area (Fig. 12). The primary contribution of the storm response modeling investigation is its quantification of hydrologic and hydraulic characteristics based on a given set of assumptions representative of

the existing site conditions. The model provides an analytical tool which can be utilized to evaluate the potential impacts to flood hazards associated with various conceptual design alternatives. For example, if physical modifications are proposed that would affect the stage-storage relationship, enhance hydraulic connectivity, or modify the pumping station, the model could be adjusted to reflect the proposed conditions. Results from the proposed condition simulations could then be compared to the existing conditions simulations to evaluate potential impacts to the flood hazards at the site.

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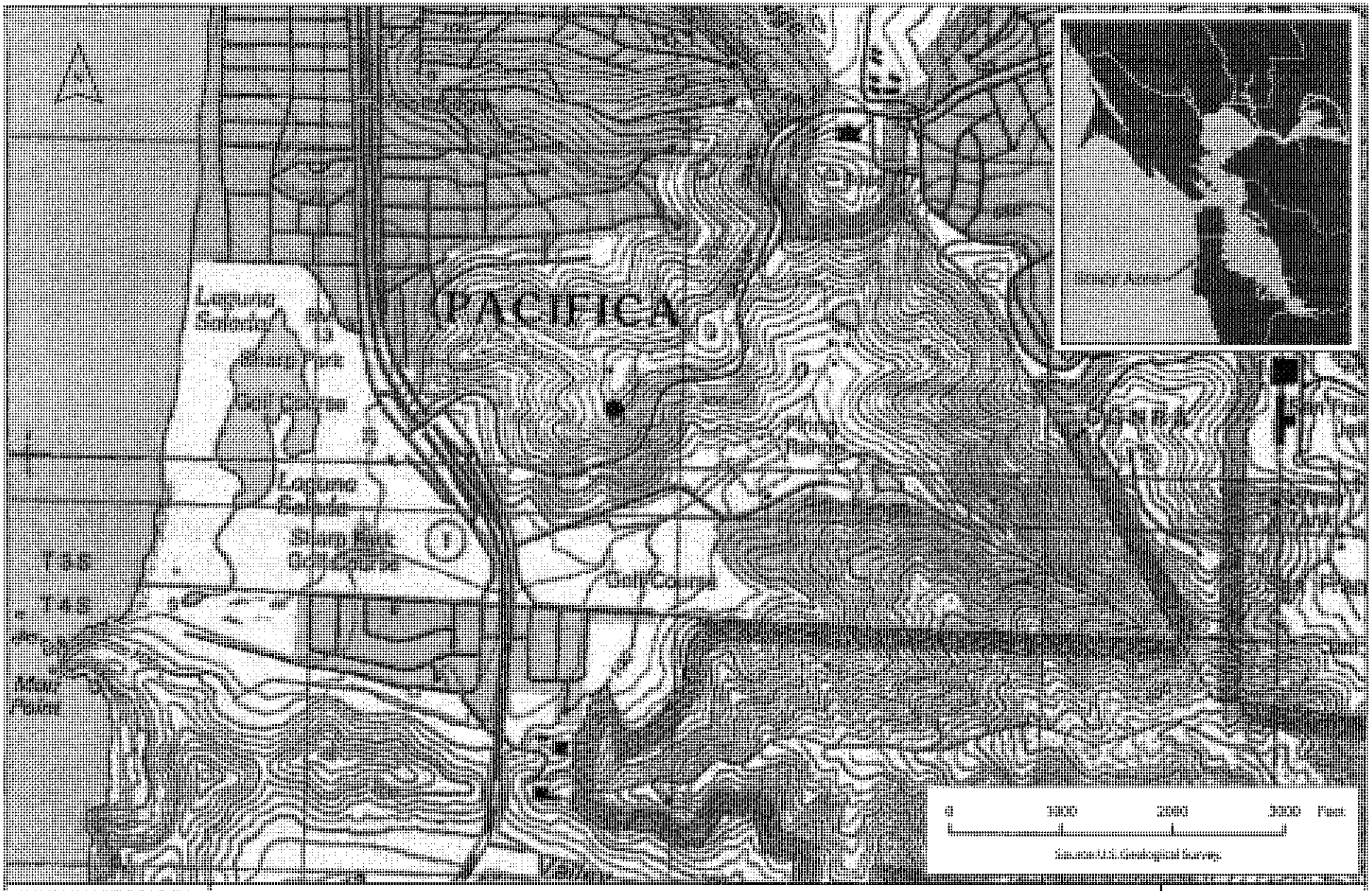
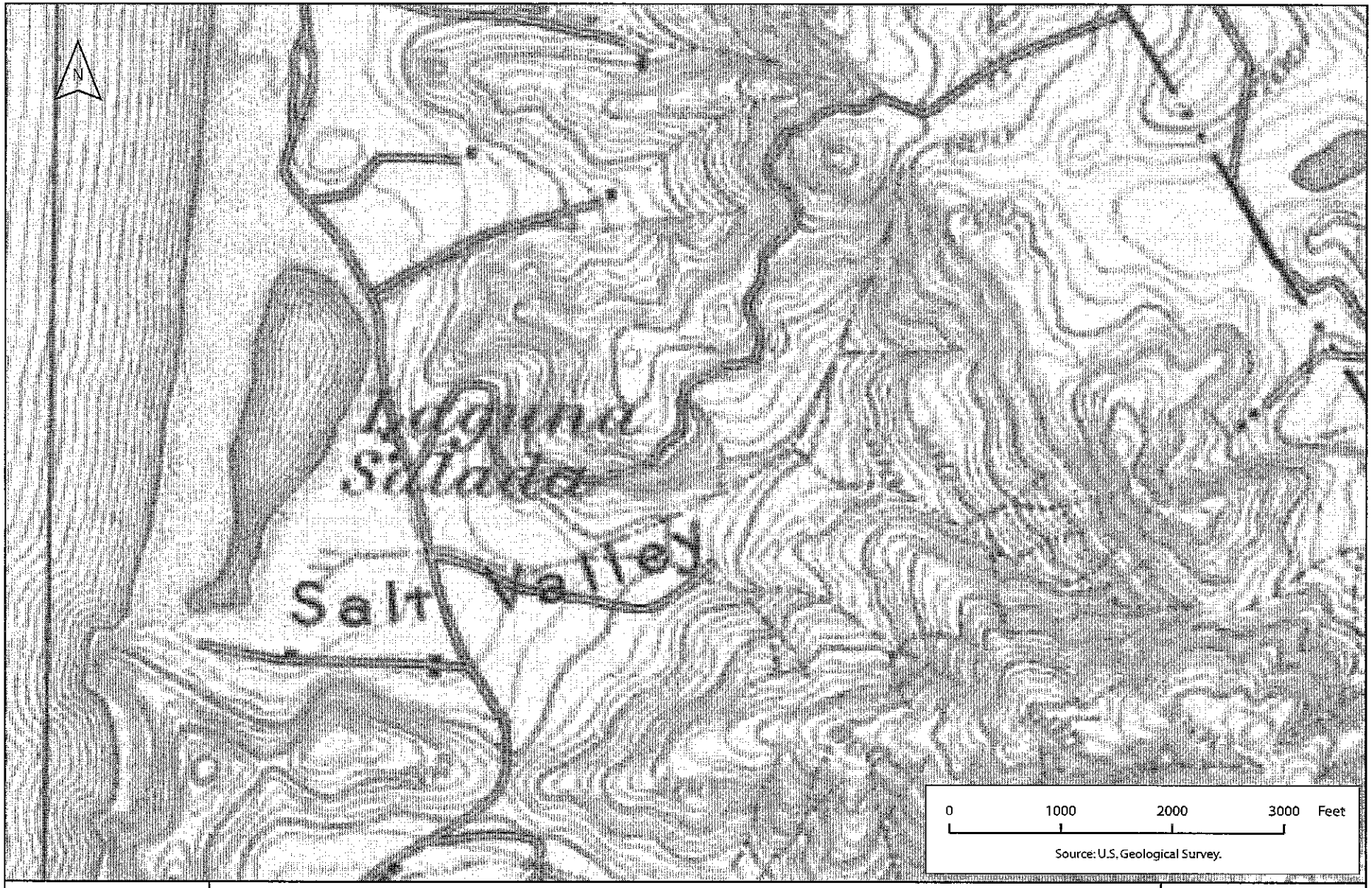


KAHAN HYDROLOGY & ENGINEERING, INC.

Reference Map of Study Area
Laguna Salada Wetlands

FIGURE
1



KAMMAN HYDROLOGY & ENGINEERING, INC.

1899 Topographic Map of Watershed Area
Laguna Salada Wetlands

FIGURE

2

KAMMAN HYDROLOGY & ENGINEERING, INC.

Drainage Network Map
Laguna Salada Wetlands

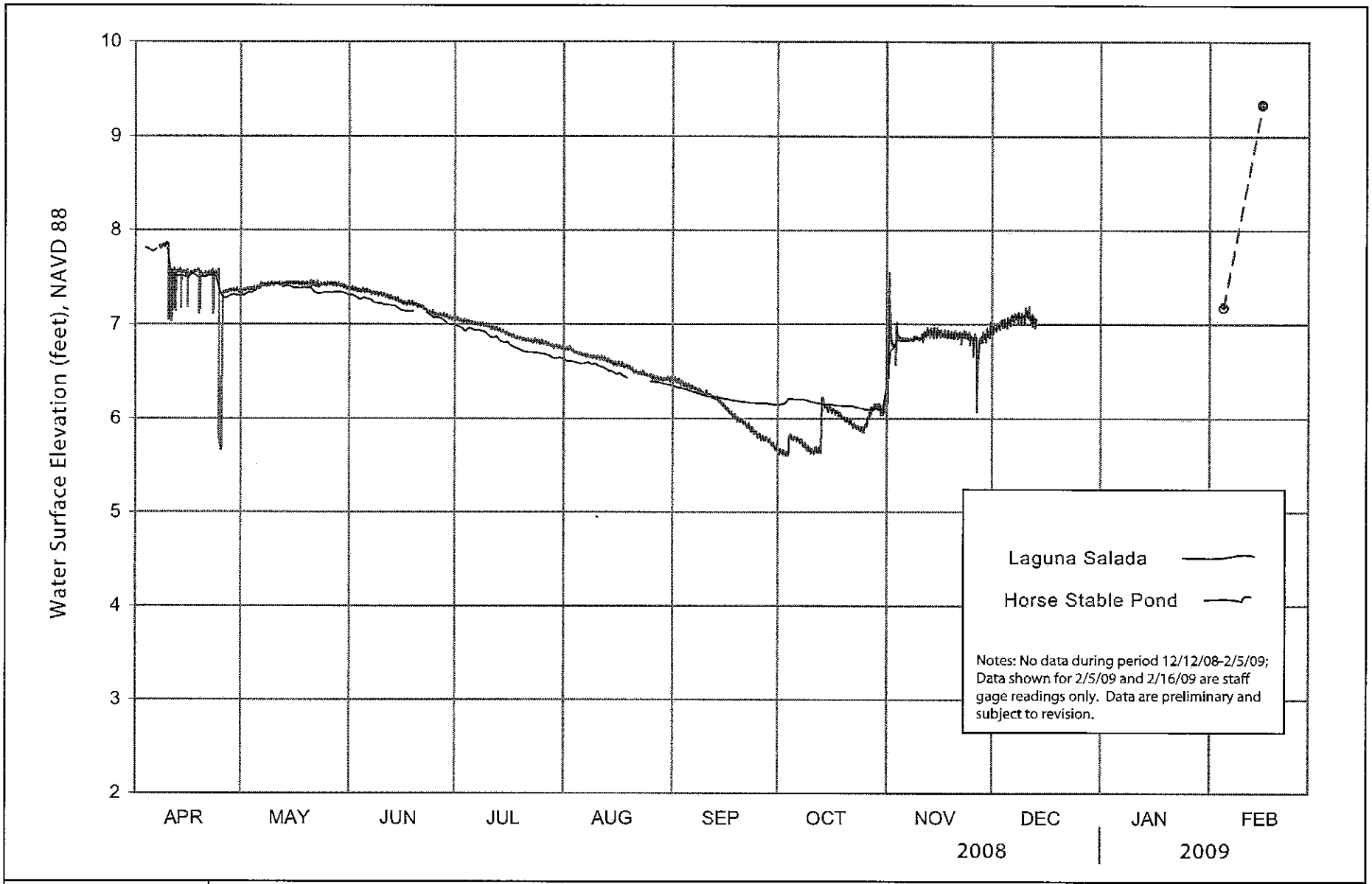
FIGURE

3

KAMMAN HYDROLOGY & ENGINEERING, INC.

Hydrologic Features and Monitoring Locations
Laguna Salada Wetlands

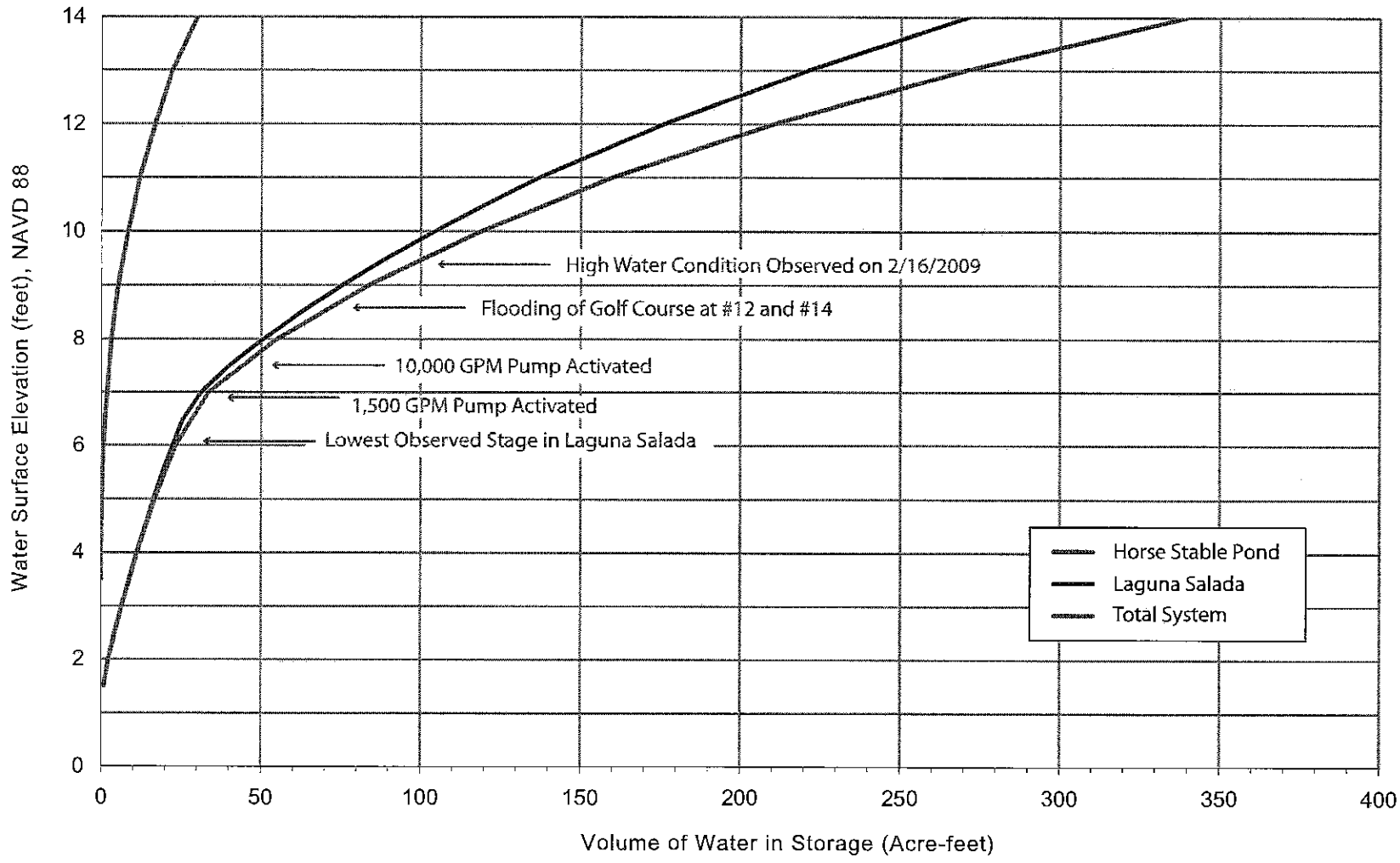
FIGURE
4



KAMMAN HYDROLOGY & ENGINEERING, INC.

Observed Water Level Fluctuations
Laguna Salada Wetlands

FIGURE 5

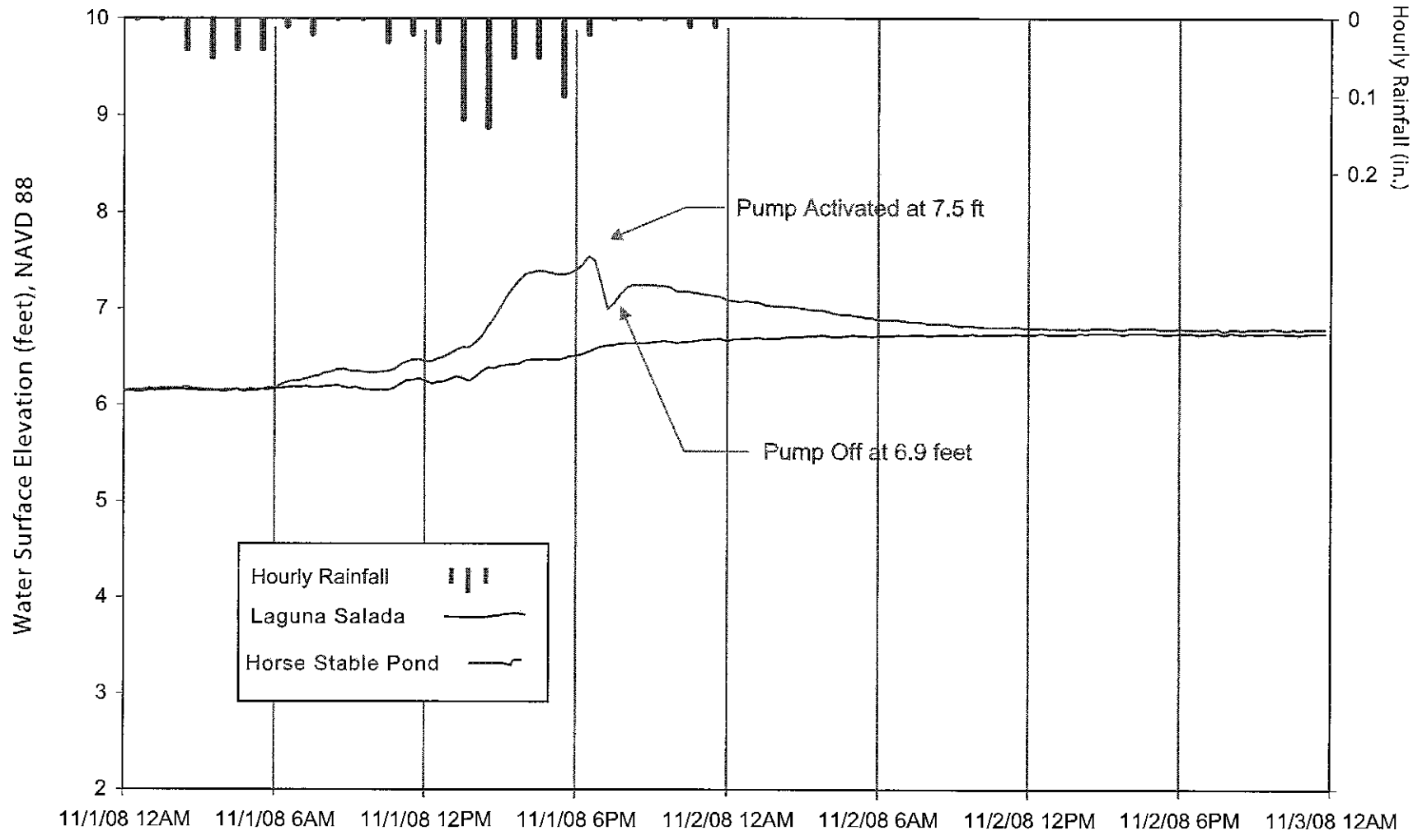


KAMMAN HYDROLOGY & ENGINEERING, INC.

Stage - Volume Rating Curves
Laguna Salada Wetlands

FIGURE

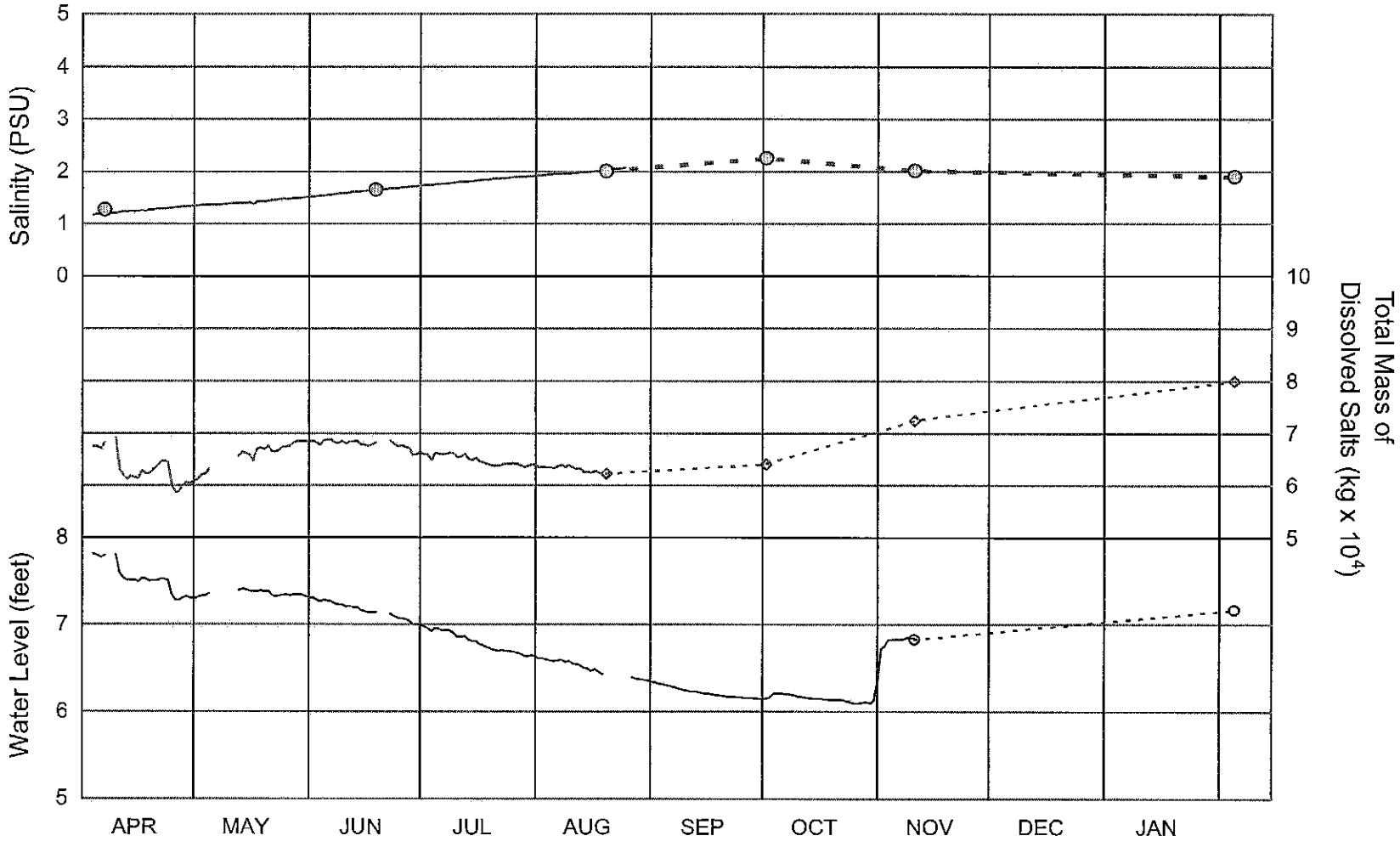
6



KAMMAN HYDROLOGY & ENGINEERING, INC.

Water Level Response to Nov. 1, 2008 Rainfall Event Laguna Salada Wetlands

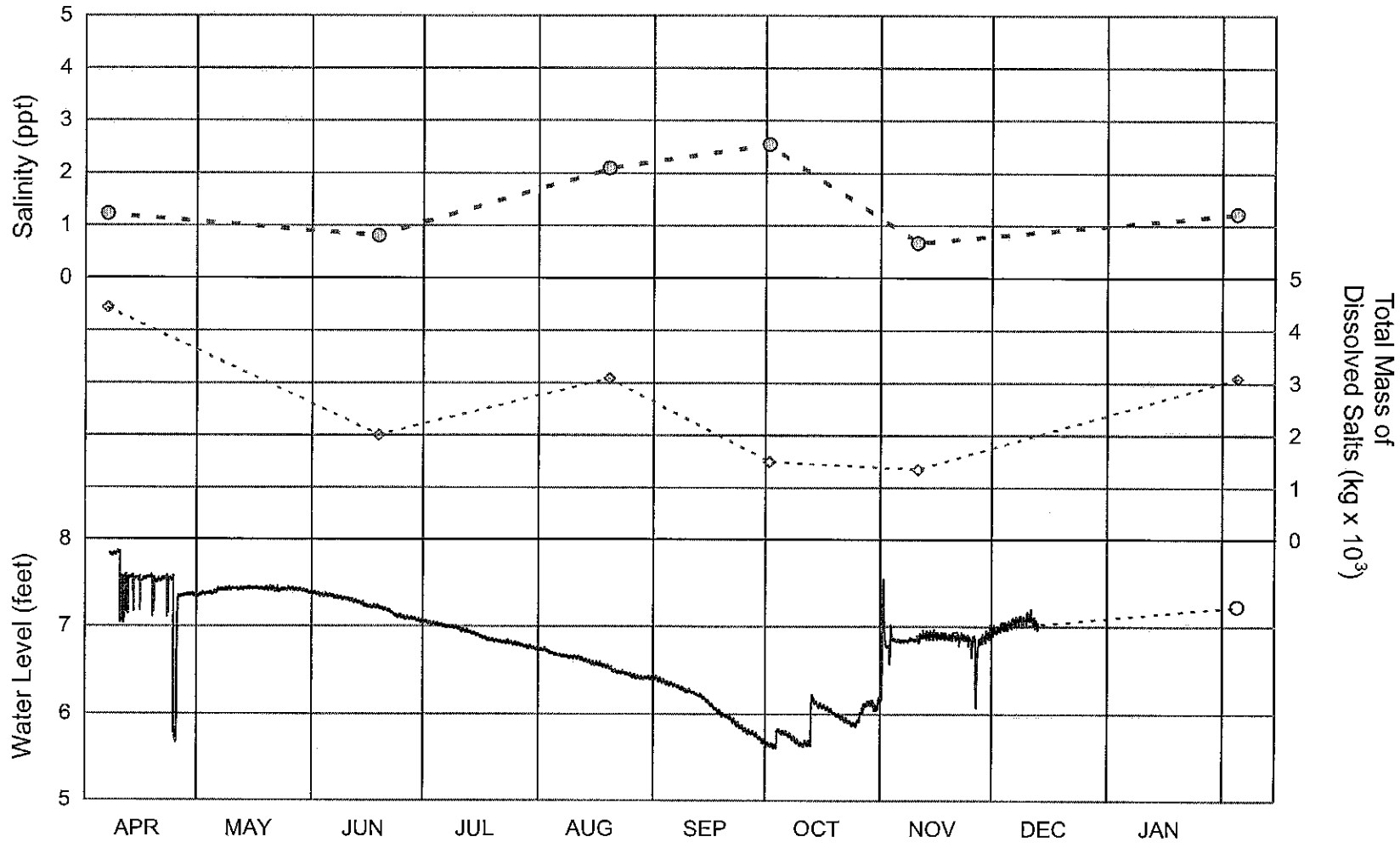
FIGURE 7



KAMMAN HYDROLOGY & ENGINEERING, INC.

Water Level and Salinity Observations: Laguna Salada
Laguna Salada Wetlands

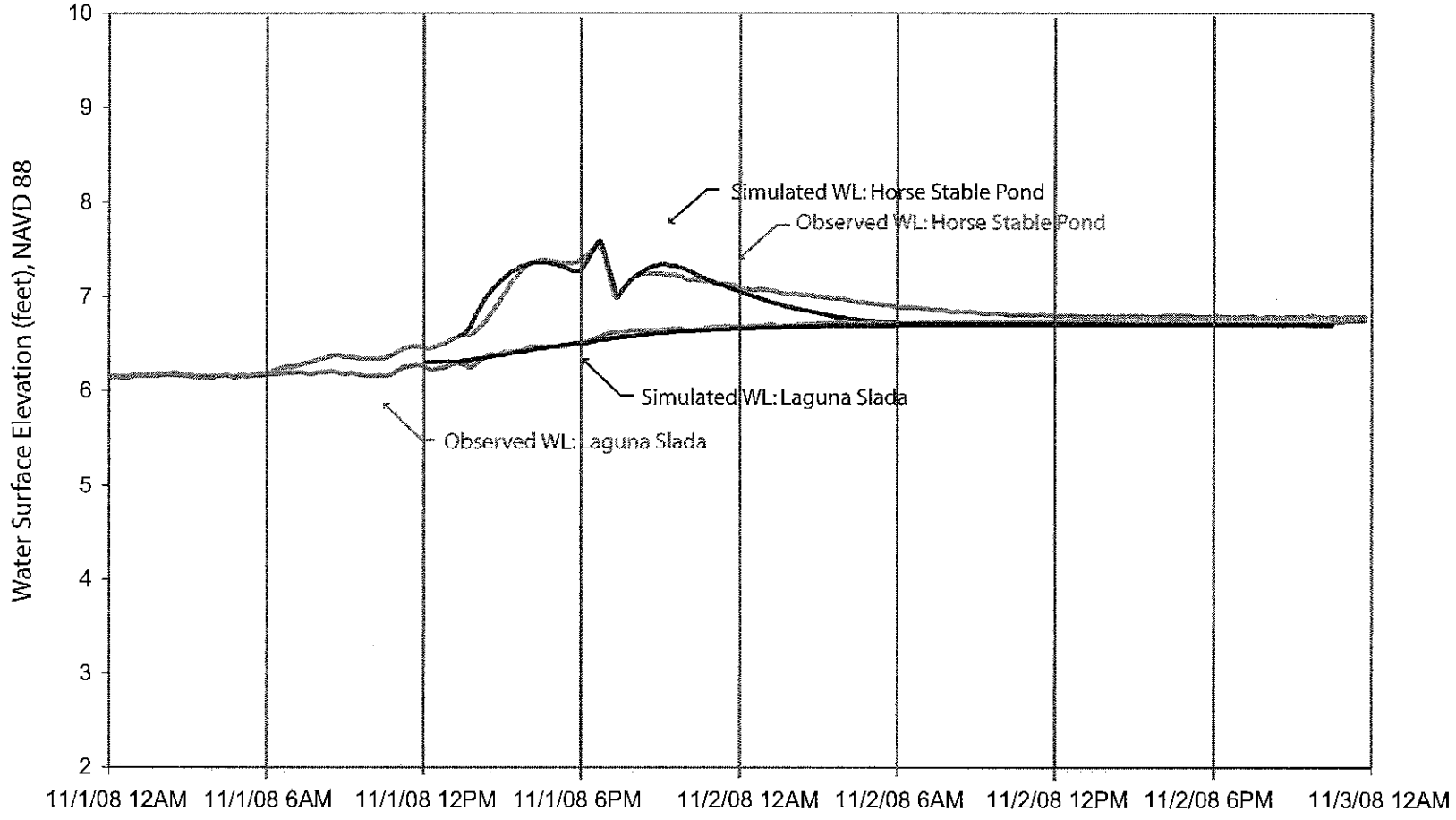
FIGURE 8



KAMMAN HYDROLOGY & ENGINEERING, INC.

Water Level and Salinity Observations: Horse Stable Pond Laguna Salada Wetlands

FIGURE 9

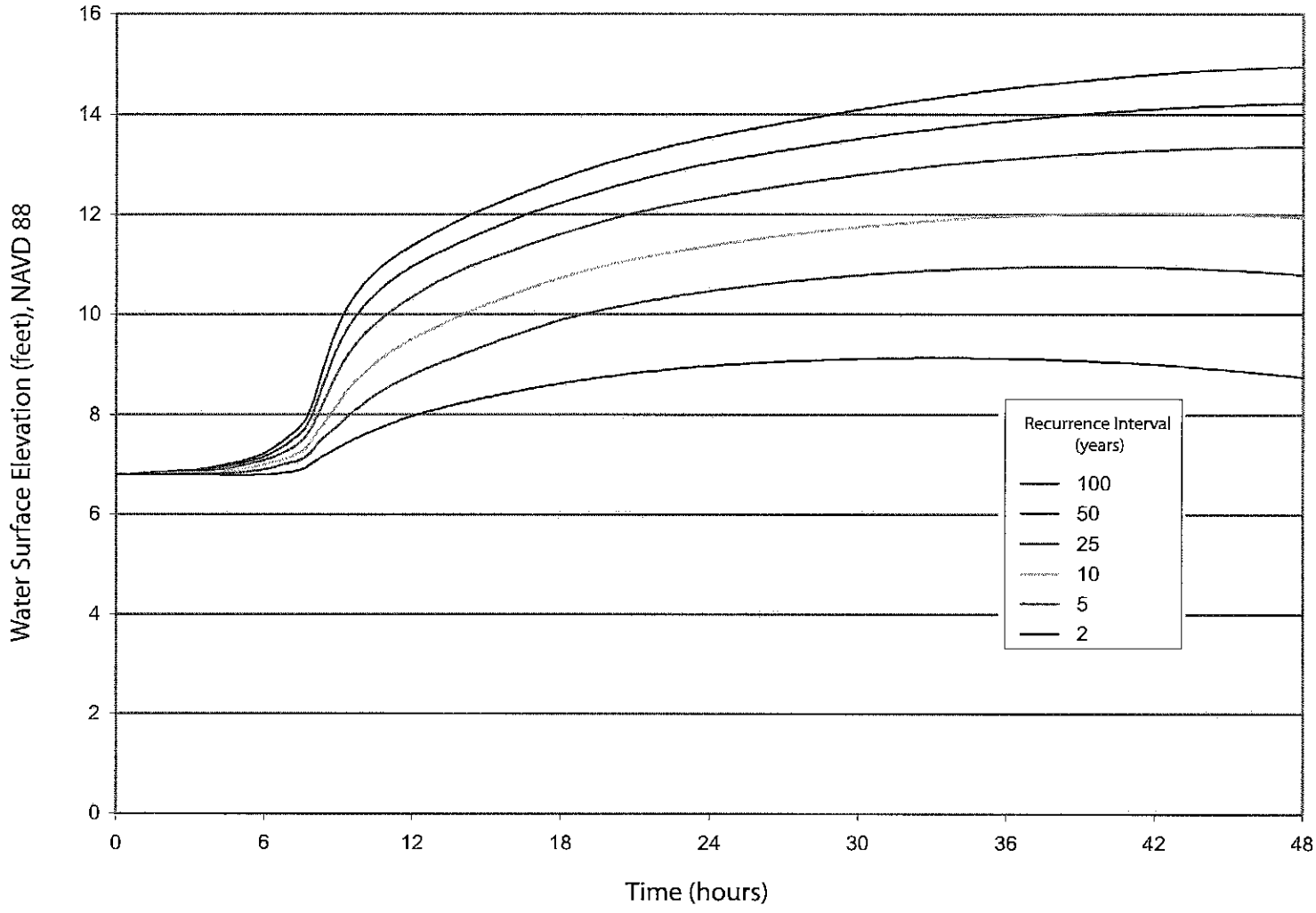


KAMMAN HYDROLOGY & ENGINEERING, INC.

Hydraulic Model Calibration Results
Laguna Salada Wetlands

FIGURE

10



KAMMAN HYDROLOGY & ENGINEERING, INC.

Water Level Responses to Design Storm Simulations
Laguna Salada Wetlands

FIGURE 11

KAPPAN HYDROLOGY & ENGINEERING, INC.

Simulated Water Surface Elevation and Area of Inundation Laguna Salada Wetlands

FIGURE

12

Th 8a

CITY AND COUNTY OF SAN FRANCISCO

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OFFICE OF THE CITY ATTORNEY

ROBB KAPLA
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Direct Dial: (415) 554-4647
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April 13, 2015

Stephanie Rexing
California Coastal Commission
North Central Coast District Office
45 Fremont Street, Suite 2000
San Francisco CA 94105

Re: CDP Application 2-12-014 Sharp Park Pumphouse and Safety Infrastructure Improvements

Dear Ms. Rexing:

The San Francisco Recreation and Park Department is submitting this letter in response to comments provided to the Commission by Wild Equity Institute through their counsel, Ralph Faust, on the Department's application for a Coastal Development Permit (CDP) for the Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project.

I. BACKGROUND

Sharp Park is owned by the City and County of San Francisco, but located in the City of Pacifica within San Mateo County. The Sharp Park golf course was designed by the famed golf course architect Alister MacKenzie. The course opened in 1932. In 1941, a portion of the course was reconfigured and a berm was built in the western edge of the course to protect it from inundation during storm events. At that time, an outfall was constructed through the berm, a pumphouse was built, and a pump was installed at Horse Stable Pond for flood control purposes. A report completed in 1959 indicated that as of that time a second pump was installed in the pumphouse at Horse Stable Pond. The course has been operating on a continuous basis for more than five decades, and the pumps have been operating (predominantly during the rainy season) for a similarly extended period of time.

The Department began planning for the Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project in April 2011. Since that time, the Department prepared a mitigated negative declaration for the project that was subject to public review and comment, and certified and approved by the San Francisco Planning Department. Wild Equity Institute unsuccessfully appealed the Planning Department's decision to the Planning Commission and the Board of Supervisors. In addition, the Department obtained a permit under section 404 of the Clean Water Act from the Corps of Engineers for the project. In conjunction with that permitting process, the Corps consulted with the U.S. Fish and Wildlife Service regarding the anticipated effects of project on the California red-legged frog and San Francisco garter snake under section 7 of the Endangered Species Act. As a consequence, the Fish and Wildlife Service issued a biological opinion and incidental take statement for the project. Further, the Department obtained a water quality certification from the Regional Water Quality Control Board under section 401 of the Clean Water Act. Finally, the Department obtained a lake and streambed

alteration agreement from the California Department of Fish and Wildlife under section 1602 of the Fish and Game Code.

A. Issue #1: The adequacy of the project description

Wild Equity argues that "[t]he proposed project is not protected from scrutiny by Section 30608 [of the Coastal Act]." The Department agrees; it is for this reason that the Department applied for a CDP. While there is no question that Sharp Park itself, the golf course, and the pumphouse (and pumps) were in existence and operation prior to the enactment of the Coastal Act, the Department has not sought or secured a vested rights determination from the Commission with respect to any element of the project. In light of questions that arose respecting the pumps at Horse Stable Pond during the application process (which have been replaced at least twice since enactment of the Coastal Act), staff requested and the Department agreed to a change to the project description to include a request for the increase in the capacity of the pumps. The request for an after the fact permit for the increase in capacity of the pumps at Horse Stable Pond is part of the project description reviewed by staff and subject to consideration by the Commission. Therefore, the Department and Commission staff have addressed this issue raised by Wild Equity.

B. Issue #2: Whether a portion of the project site is an Environmentally Sensitive Habitat Area

Wild Equity asserts that the wetlands complex at Sharp Park and adjoining uplands constitute an Environmentally Sensitive Habitat Area (ESHA). But the authority to designate ESHA is vested with the Commission (*Douda v. California Coastal Commission* (2008) 159 Cal.App.4th 1181), and heretofore the Commission has not designated any portion of Sharp Park as ESHA. Certainly, Wild Equity does not have the authority to designate ESHA.

In any event, as Commission staff have explained, Sharp Park includes wetlands and adjacent upland areas that have ecological value and are habitat for the California red-legged frog and San Francisco garter snake. Staff Report, p.27. These species in this region are conservation reliant, meaning that they are reliant of human intervention to survive as Dr. Dennis Murphy, a renowned conservation biologist engaged by the Department, explained in an expert report submitted in federal district court [attachment 1] in an unsuccessful legal challenge to ongoing maintenance of the Sharp Park golf course. The Department manages Sharp Park, and is pursuing the project, in order to meet the needs of the California red-legged frog and San Francisco garter snake. In sum, the project site is not designated as ESHA, but the Department manages the area to protect against any significant disruption of California red-legged frog and San Francisco garter snake habitat.

C. Issue #3: Whether development in the wetlands is regulated by section 30233

Wild Equity argues that "[c]ertain development in wetlands is regulated pursuant to Coastal Act section 30233, even if those wetlands also meet the definition of ESHA." We agree with this statement, while noting that no portion of Sharp Park has been designated as ESHA. We also agree with Wild Equity that – where both sections 30233 and 30240 apply -- the more specific provisions of section 30233 govern. The Court of Appeal made this clear in *Bolsa Chica Land Trust v. Superior Court* (1999) 71 Cal.App.4th 493 ("the ESHA protections provided by section 30240 are more general provisions and the wetland protections provided by section 30233 are more specific and controlling when a wetland area is also an ESHA").

As Commission staff have concluded, those portions of the project within wetlands may be authorized by the Commission pursuant to section 30233(a)(4) (covering incidental public service purposes) and (a)(6) (covering restoration purposes). Staff Report, p.21.

D. Issue #4a: Whether there is evidence that vegetation and sediment removal is being undertaken for restoration purposes

Wild Equity contends that removal of sediment and vegetation from the wetlands "is being done solely to reduce obstructions to water flow into the pump intake structure." Wild Equity claims this proposed activity makes "the operation of the pumps," at Horse Stable Pond, "more efficient." Wild Equity then reasons that removal of sediment and vegetation from the wetlands cannot constitute restoration because it makes the operation of the pumps more efficient.

This chain of logic cannot withstand scrutiny.

To begin with, the claim that removal of sediment and vegetation from the wetlands is being done solely to reduce obstructions of water flow into the pump intake structure is false. For a period going back at least to the point when the City prepared to first draft biological assessment [attachment 2] for the project (in February 2012), the project was characterized as a safety, infrastructure improvement, and habitat enhancement project. The final biological assessment [attachment 3] submitted to the Fish and Wildlife Service in August 2012, explains that the project will result in California red-legged frog breeding habitat enhancement (stating removal of sediments and emergent vegetation will reduce obstructions to water flow to the pump intake and enhance breeding habitat for the CRLF).

Furthermore, the undisputed fact that removal of sediments and emergent vegetation will reduce obstructions of water flow to the pump intake does not countermand or otherwise call into question the fact that removal of sediments and emergent vegetation will both directly and indirectly enhance the habitat value of the wetlands complex for California red-legged frog. The Fish and Wildlife Service, in its biological opinion respecting the project, described the value of vegetation removal. E.g., Biological Opinion, p.34 ("The tule and cattail removal proposed as part o f the project will likely improve breeding habitat for California red-legged frog by creating additional open water habitat."). In a letter to Commission staff [attachment 4], Karen Swaim, an expert on both the California red-legged frog and the San Francisco garter snake, concurred explaining that "the Project benefits the species because cattail, bulrush, and sediment removal will increase open water and shoreline habitat in Horse Stable Pond, particularly breeding habitat for the frog." This sentiment was echoed by Dr. Mark Jennings, a leading expert on the California red-legged frog, in a letter to the Fish and Wildlife Service and Army Corps of Engineers [attachment 5] when they were consulting regarding the effects of the project (stating "vegetation removal will remove dense, tall emergent vegetation at all water depths to approximately 3-4 feet in water depth, thus increasing the area for all life stages of CRLF to utilize and allowing less dense aquatic vegetation such as silverweed (*Potentilla* spp.) to grow").

In addition to increasing open water and shoreline habitat in Horse Stable Pond for California red-legged frog, sediment and vegetation removal improve the overall functioning of the wetland complex. This is the case, because as Commission staff explain, the sediment and vegetation removal proposed will "at least maintain, and may potentially increase, the existing functional capacity of the wetlands." Staff Report, p.22. More specifically, sediment and vegetation removal will improve the capacity of the connecting channel to facilitate flows between Laguna Salada and Horse Stable Pond and also enhance otherwise degraded habitat within the connecting channel. This is expected to have the associated benefit of reducing the extent to which California red-legged frogs deposit egg masses in nearby ephemeral swales that have the potential to function as population sinks for the species. As Karen Swaim explained, "[t]he availability of more high quality breeding habitat at Horse Stable Pond and in the

connecting channel will increase the carrying capacity of the area for frog and may help to minimize the use of the areas of short-term ponding on the golf course."

The claim made by Wild Equity that "the City does not present any evidence that its proposed sediment and vegetation removal from Horse Stable Pond and the connecting channel is for restoration purposes," is undermined by the experts cited above as well as the conclusion drawn by the Fish and Wildlife Service in its biological opinion. The fact that the City describes the sediment and vegetation removal as habitat enhancement rather than habitat restoration in the biological assessment and other documents does not diminish the fact that the activities, which will occur in wetlands, are indeed being undertaken for restoration purposes consistent with section 30233(a)(6) of the Coastal Act.

E. Issue #4b: Whether there is a feasible less environmentally damaging alternative to the project

Wild Equity argues that even if the Commission agrees that the proposed sediment and vegetation removal from Horse Stable Pond and the connecting channel is for restoration purposes, the Commission must deny the permit because there is a feasible less environmentally damaging alternative. That alternative, they contend, is to use amphibious mowing equipment to remove the vegetation and allow the water level to increase substantially so as to inhibit the growth of new vegetation.

Commission staff considered this alternative, and rejected it. The alternative both has the potential to harm the local California red-legged frog population and to flood a substantial proportion of the golf course for an extended period of time. This is the case because of the topography of Sharp Park. As shown in figure 1 in the staff report, a relatively small increase in water depth in the wetlands complex will result in flooding of large areas of the golf course in the winter and spring.

This will increase the likelihood that frogs will deposit egg masses in ephemeral swales on the fairways, which are effective sinks because they will dry out before the early life stages of the species can move across upland areas to perennial water bodies. As a consequence, this alternative is more environmentally damaging than the proposed project.

In addition, managing to accomplish widespread flooding is inconsistent with the City's intent to continue to operate the golf course, which provides an affordable recreational opportunity along the Coast. As the staff report clarifies, the City's commitment to continue the longstanding recreational use of Sharp Park and provide for public access is consistent with multiple sections of the Coastal Act. Staff Report, p.32 ("Coastal Act Sections 30210, 30213, 30221, and 30223 affirmatively require that recreational opportunities along the coast be provided for all people, that lower-cost visitor and recreational facilities be protected and encouraged, especially when they provide recreation to the public; that oceanfront land suitable for recreational use be protected for that use; and that upland areas necessary to support coastal recreational uses be reserved for such uses, when feasible.")

F. Issue #5: Whether continued operation of the existing pumps violates the Coastal Act

Finally, Wild Equity contends that "[t]he only purpose of the pumping is to limit flooding on the golf course." Wild Equity characterizes the Department's claims to the contrary as "disingenuous." But in the Department's final biological assessment for the project, the Department states "staff will operate the pumps to ensure, to the maximum extent practicable, that CRLF egg masses at HSP, LS and the connecting channel are protected from desiccation as a result of pump operation by monitoring and adjusting pump levels to keep egg masses

hydrated." This same language is reproduced in the Fish and Wildlife Service's biological opinion with respect to the project. Compliance with the biological opinion is a prerequisite to secure take authorization under section 7 of the Endangered Species Act.

Furthermore, Commission staff have recommended that, prior to issuance of the CDP, the Commission should require the Department to provide a pumping plan that includes "verifiable criteria to protect sensitive species and the wetland habitat at the pumping site." Despite Wild Equity's claims to the contrary, these operational requirements will govern the Department's use of the pumps, rather than the physical attributes (including rating) of the pump and ancillary facilities.

The operational criteria, rather than the rating of the pumps, guide water management and the actual operation of the pumps. Because the Department has committed to operate according to the strict criteria set forth in the biological assessment and biological opinion, and those criteria have been adopted by the Fish and Wildlife Service as terms of its biological opinion and incidental take statement, the size of the pumps is not a basis for a claimed violation of the Coastal Act. In any event, as noted previously, the Department is seeking an after the fact permit for the increase in capacity of the pumps at Horse Stable Pond.

Very truly yours,

DENNIS J. HERRERA
City Attorney

/s Robb Kapla

Robb Kapla
Deputy City Attorney

Expert Report in the matter of

Wild Equity Institute v. City and County of San Francisco
N.D. Cal. Case No. 11-958

Dennis D. Murphy, Ph.D.
University of Nevada, Reno

January 2012

I have prepared this report at the request of the City and County of San Francisco in the matter of *Wild Equity Institute v. City and County of San Francisco*, N.D. Cal. Case No. 11-958.

Qualifications

I have an undergraduate degree in entomology from the University of California, Berkeley, and a doctoral degree in biology from Stanford University, where I studied under Professor Paul Ehrlich, and where I subsequently served as the director, then president, of the Center for Conservation Biology. I am a Pew Scholar in Conservation and the Environment. And, I am currently Research Professor in Biology at the University of Nevada, Reno.

I am past president of the international Society for Conservation Biology. I have served on the Board on Environmental Studies and Toxicology and the Water Science and Technology Board at National Research Council, the action agency for the National Academy of Sciences. I have also served on three committees under that organization: the Committee on Hydrology, Ecology, and Fishes of the Klamath River, the Committee on Endangered and Threatened Species in the Platte River Basin, and the Committee on Scientific Issues in the Endangered Species Act. The last of these delivered the congressionally mandated report *Science and the Endangered Species Act.* I have testified on ten occasions in front of United States Senate and House of Representatives committees and subcommittees on issues related to implementation of the federal Endangered Species Act (ESA).

I have served federal and state governments in science-driven regional conservation planning efforts targeting northern spotted owls (*Strix occidentalis caurina*), California gnatcatchers (*Polioptila californica*), bighorn sheep (*Ovis canadensis*), desert tortoise (*Gopherus agassizii*), and a host of other listed species. I served on the initial science advisory panel to the CALFED effort to restore the Sacramento-San Joaquin rivers estuary, and chaired the panel charged to deliver the Lake Tahoe Watershed Assessment to President Clinton. I engineered the scientific conservation planning guidelines to the state's first Natural Communities Conservation Plan in the coastal sage scrub in southern California, for which I received the California Governor's Leadership Award in Economics and the Environment. I have worked on or have intimate knowledge of dozens of habitat conservation plans, including the very first in the nation on San Bruno Mountain in San Mateo County, California, as well as on large scale conservation and restoration efforts in southern California, Central Valley, Sierra Nevada, Great Basin and Mojave Desert regions in Nevada, the Pacific Northwest, and lands of the Navajo Nation. I have led or been involved with the development of adaptive management strategies for protected lands in six western states, in planning efforts that have included red-legged frogs (*Rana aurora* and *Rana draytonii*) and mountain yellow-legged frogs (*Rana boylii, Rana muscosa,* and *Rana sierrae*), Amargosa (*Anaxyrus nelsoni*), arroyo (*Anaxyrus californicus*), and western (*Anaxyrus boreas*) toads, and dozens of snake and lizard species.

I currently serve as co-chair of the Independent Science Advisory Panel advising government agencies and stakeholders on the Missouri River Restoration Implementation Committee regarding hydrological operations and three species listed under the ESA, the pallid sturgeon (*Scaphirhynchus albus*), piping plover (*Charadrius melodus*), and least tern (*Sterna antillarum*). The Panel's charge includes evaluating the adaptive management of the habitats of these species and their essential resources on the Missouri River, in the geographically most extensive ESA-driven habitat management effort in the country. I also am actively involved as the only out-of-state participant on the Stakeholder Advisory Group in the process of developing the California Fish and Wildlife Strategic Vision, which was mandated by Assembly Bill 2376, and is intended to reformulate the State's approaches to wildlife resources management.

I have expertise in conservation planning for a wide variety of vertebrates and invertebrates in California and elsewhere in the West; and, I have a long history of work on listed species in the Bay Area, with dozens of my 200 scientific publications addressing at-risk species on the San Francisco Peninsula. I have petitioned the U.S. Fish and Wildlife Service for the listing of eleven species, the status of which I have unique applied knowledge. Perhaps most important to my experience pertinent for the purpose of the matters at issue in this dispute is my role in management planning for protected and other desired species, especially as an advisor in the development of adaptive management and population monitoring. As a conservation biologist with more than three decades of on-the-ground experience, my professional background allows me to contribute to the formulation of conservation plans for diverse at-risk species, using pertinent, reliable ecological information, particularly data on the population dynamics of targeted species, to guide reserve design efforts, to focus management planning schemes on the salient ecosystem attributes that are essential to species persistence, and to develop monitoring programs that can provide the information necessary to guide rapid responses to environmental threats.

My experience with California's endangered and threatened species spans three decades. During the past three years I have observed habitat areas at the Sharp Park site on multiple occasions, and have observed red-legged frog egg masses there. I have observed the San Francisco garter snake in areas beyond the boundaries of the Sharp Park site, and I am familiar with characteristic conditions of habitats that support the snake. The Sharp Park Golf Course, owned and operated by the City and County of San Francisco, and the adjacent National Park Service holding at Mori Point, managed as an element of the Golden Gate National Recreation Area, together appear to form a single contiguous habitat area for both species. Both species currently benefit from focused management and monitoring efforts at the open space sites at Sharp Park and Mori Point. I discuss below the status of the California red-legged frog at the Sharp Park Golf Course, and the important role of the current land management strategy there in the survival and recovery of local populations of those species. Focused conservation actions, including hands-on translocation of

frog egg masses, contribute to a robust and growing population of red-legged frogs. I also discuss the diminished status of the San Francisco gartersnake on the site relative to its apparent abundance reported half a century ago (before storms in the 1980s and associated seawater intrusion into Sharp Park), and offer an explanation for its local population trend. I conclude that ongoing golf course operations pose no threat to either species, and, in the case of the red-legged frog, the best available technical information derived from focused surveys indicates that land uses and conservation efforts at the Sharp Park Golf Course are combining to enhance its likelihood of survival.

The California red-legged frog

Scientists have been aware of widespread declines in amphibian and reptile populations for more than two decades, and over time it has become clear that losses of amphibian species, and even whole communities, has become global and epidemic (Beebee and Griffiths 2005, Gibbons et al. 2000). Dozens of amphibian species in particular have disappeared outright, many hundreds have declined catastrophically across much of their ranges, and some have experienced population losses at sites where habitats otherwise seem intact and secure from at least obvious environmental stressors and threats (Blaustein et al. 1994). But, only over the past decade have hypotheses been tested that address the causes of the species extinctions and extirpation events. The findings are stark. Combinations of factors insidiously interact and affect different species, and different populations within species, via distinct pathways, and amphibian losses appear to be ascribable to many combinations of factors as disparate as contaminants, diseases, and introduced species; all apparently exacerbated by patterns of environmental changes, which include broader environmental phenomena, such as increases in UV radiation (Blaustein et al 2001, Kiesecker and Blaustein 2002).

Amphibian declines as a global phenomenon provide the background for regional declines in the frog species that inhabit California. The listing of the California red-legged frog under the federal Endangered Species Act (ESA) in 1996 (U.S. Fish and Wildlife Service 1996) underscored that unique regional environmental changes had put the state's largest -- and once very widely distributed -- frog at demonstrable risk of extinction. At the time that that protection was conferred to the red-legged frog multiple hypothesized environmental stressors were thought to be the cause of the species' imperilment. The Service identified the following non-exclusive list of factors contributing to the decline of the species (1) urban encroachment, (2) construction of large and small reservoirs, water diversions and well development, (3) flood control maintenance, (4) road maintenance, (5) placer mining, (6) livestock grazing and feral pigs, (7) off-road vehicle use, and (8) introduction or presence of exotic predators and competitors (U.S. Fish and Wildlife Service 1996). The frog is at risk across much of its range due to a combination of local and global stressors on the species (U.S. Fish and Wildlife Service 2002, 2010).

The California red-legged frog once occupied much of the state, along the coast from Mendocino County south to Baja California, across portions of the northern Central Valley, and down the length of the Sierra Nevada at lower elevations. An exhaustive study of more than 200 sites across the broad distributional range that historically supported the California red-legged frog, established from museum and other historical records, showed slightly more than half of those sites to be occupied as of 2001 (Davidson et al. 2001). The geographic pattern of the sites that once were and still are occupied was skewed, with surviving populations disproportionally distributed in low elevation, more coastal locations. More than a century ago, thousands upon thousands of red-legged frogs supported an ongoing restaurant trade serving a growing California population, so widespread and abundant was the species. But, the contemporary context has become that of a rarely encountered species, with the California red-legged frog absent from great swaths of its former range (Fisher and Shaffer 1996).

The distribution of remaining populations of the California red-legged frog suggests an emerging importance for areas of the San Francisco peninsula that are inhabited by the species, including Sharp Park and Mori Point in San Mateo County. Davidson and colleagues (2001) documented that surviving populations tend to be located along the western (coastal) boundary of the species' former range, with populations in the Central Valley and in the Sierra Nevada foothills largely gone. The frog has experienced the insidious retreat of the boundaries of its overall distribution, near disappearance of extensive portions of its internal geographic range, and extirpation of the species outright in distinct ecological associations (Hayes and Jennings 1986, Fisher and Shaffer 1996). Sites currently occupied by red-legged frog populations, and their habitats and essential resources, tend to be those that are less urbanized, lack or support few introduced aquatic species, and are not subject to pesticide drift associated with agricultural activities. The loss of inland red-legged frog populations, and what appear to be few near-term prospects for reestablishment of populations at historical Central Valley and Sierra Nevada foothill sites, puts a premium on coastal populations for the persistence of the species. The population of California red-legged frogs on the Sharp Park-Mori Point site enjoys low pesticide exposure and few introduced aquatic predators. The population of red-legged frogs that is found in and around water bodies directly adjacent to the City of San Francisco's Sharp Park Golf Course is one of the densest and most productive in the state. The golf course property is serving as an essential contributor to the survival of the species, and is appropriately viewed as contributing to the ultimate recovery and delisting of the species under the ESA.

Immediately bounded to the west by the ocean and mostly by urban development to the north, a complex of wetlands at Sharp Park-Mori Point includes an extensive lagoon (or lake), Laguna Salada, a narrow stream-course feeding smaller Horse Stable Pond, which drains to the directly adjacent beach strand, Sanchez Creek which brings flows generated from mountains to the east in to Horse Stable Pond, and several constructed seasonal ponds on parkland administered by the National Park Service, south and east of Horse Stable Pond. Significant portions of the

contemporary coastal landscape area that supports the frog were not previously suitable and were unoccupied by the species. The construction of an earthen berm, a substantive sea wall that shelters the golf course and contiguous development from seawater intrusion under extreme tidal events, served to convert ecological conditions at Laguna Salada, the largest water body in the Sharp Park-Mori Point area, and adjacent wetlands from salt marsh to freshwater marsh, thereby shifting the landscape and ecological community from wholly inhospitable to red-legged frogs, to highly suitable for them. While the presence of red-legged frogs in areas surrounding the Sharp Park Golf Course predated the sea wall, the current large population at Sharp Park-Mori Point is directly dependent on the contemporary state of Laguna Salada and adjacent freshwater wetland areas -- witness the disappearance of the frog from its golf course redoubts after a lesser sea wall was breached during a winter storm in 1983, then again in 1986. A more-robust berm structure was built in 1989 and 1990, the red-legged frog re-established around Laguna Salada almost immediately; it was abundant in 1992, albeit several years passed before that demographic unit included significant numbers of mature, reproductive adults and vegetation structure became more favorable for the frog (Philip Williams and Associates 1992). The demographic status of the red-legged frog in the Sharp Park area is dependent on the presence and maintenance of the seawall and ongoing management of the Sharp Park-Mori Point wetland and upland landscape and its associated hydrodynamics, which, fortunately for red-legged frogs, serve to provide habitat in extent and condition that supports the species in relatively high abundance.

A collection of reports drawn from focused surveys on the Sharp Park-Mori Point site provides a lens into the status of the California red-legged frog and its population trend(s) in the area (Fong and Campo 2006, Fong et al. 2009, Swaim 2005, Swaim 2008). Mature female frogs annually produce a single large and conspicuous mass of hundreds to two thousand or more eggs. Frog egg-mass counts have been carried out over much of the past decade, although those counts have not been carried out in the context of a rigorous population monitoring program either on GGNRA lands or at Sharp Park Golf Course – that is, survey data are not systematically collected so that the sizes of separate demographic units of the frog can be accurately ascertained or readily compared, and inter-annual counts do not allow for finer, between-year comparisons. This situation limits the inferences available regarding census size of the red-legged frog demographic unit shared on the two properties. Nonetheless, sufficient knowledge can be gleaned from the counts and report assessments of the distribution and rough densities of the red-legged frog on the sites to allow conclusions to be drawn that relate the importance of the population in local, sub-regional, and regional contexts. A lot is now known about the red-legged frog, which in turn allows an assessment of conservation efforts and current land management activities. Among findings supported by counts and observations are the following --

- Red-legged frogs at the Sharp Park Golf Course and on national park lands at adjacent Mori Point population constitute a single demographic unit (one

population). The location of this population on the immediate coast of San Mateo County is bounded to the north and in part on the east by urban development. It extends as a demographic unit the length of the San Francisco property, including across Highway 1, with individuals at Arrowhead Lake and surrounding riparian and other mesic circumstances on San Francisco lands, to the lower slopes of Milagra Ridge, thus it includes within its metapopulational bounds individuals that may (infrequently) interact with red-legged frogs from more southern populations in watershed lands that extend down the spine of San Mateo County. Individuals that formerly occupied small ponds on the southern boundary of the Mori Point parklands were undoubtedly part of the population. The frogs at the Sharp Park site, along with a separate population of frogs in degraded habitat near the San Francisco Airport, constitute the northern-most individuals on the peninsula, hence serve as boundary populations for the species for the species south of San Francisco.

- The Sharp Park-Mori Point population is large in comparison to many other central California populations (though certainly not the largest), hence might be expected to be comparatively resistant to future environmental disturbances and environmental events that might cause localized mortality of adult frogs or early stages. The population likely includes at least several of hundred mature, reproducing adult females as evidenced by in excess of 150 egg masses observed in 2011 at Sharp Park alone (Campo 2011). At that size the population is one of the larger extant populations of the frog. There is free exchange of individuals between Sharp Park habitat areas and those recently constructed and restored at Mori Point. There is interdependence of Sharp Park-Mori Point populations in a local metapopulation that extends east to at least Milagra Ridge; the dynamics of that metapopulation is consistent with water bodies on the Sharp Park Golf Course serving as sources of frogs upon which other populations depend.

- The population at Sharp Park-Mori Point has been demographically stable for more than two decades. Noting that reproductively mature female red-legged frogs lay a single clutch (or egg mass) each year, observed egg masses provide a minimum estimator of the size of a demographic unit (assuming that the adult frog population is not less than two times the number of egg masses observed). At Laguna Salada, annual egg mass counts documented 55 in 2004, 19 in 2005, 57 in 2006, 30 in 2007, 119 in 2008, and 87 in 2009 (Fong et al. 2006, Fong et al. 2009). Furthermore, in 2011, the number exceeded 150 egg masses (Campo 2011). Accounting for inter-year differences in survey team composition and a host of other sources of observer "bias," the trend for the Sharp Park-Mori Point population is upward, and it can be fairly concluded that the occupied site, which is situated directly adjacent to active landscape management and recreation, supports a mature frog population that is large by red-legged frog standards, and appears to be growing in size.

- The population appears to be self-sustaining; no inference can be drawn that the population at Sharp Park-Mori Point requires immigrants from surrounding locations to support or sustain its population numbers, as do small populations in wetland circumstances that support less suitable habitat conditions.

- The portion of the population that occupies Laguna Salada and Horse Stable Pond has demonstrated its ability to provide colonists that may establish or reestablish populations at suitable unoccupied adjacent locations. Individuals from Horse Stable Pond and Laguna Salada immediately colonized constructed ponds on the adjacent north boundary of the Mori Point parkland. The complex of wetlands at Sharp Park-Mori Point can be characterized as supporting a "reservoir" population on a complex of habitat patches that, combined, serve as a source of frogs to the greater landscape – that is, it is a population sufficiently robust as to provide colonists to other sites (even unoccupied sites). This status stands in contrast to a marginal, "satellite" population that would depend on steady migration from a separate source population.

- The core habitat areas on San Francisco lands at Laguna Salada and Horse Stable Pond provide the individuals that contribute to a more widely-distributed metapopulation that includes frogs on Milagra Creek and a (oxidation) pond above on Milagra Ridge that are likely largely demographically independent of the next-northernmost population complex of red-legged frogs on and around Sweeney Ridge and adjacent reservoirs to the south.

- The Sharp Park-Mori Point population has persisted and grown over the past two decades, since a sea wall to its immediate west was secured, limiting salt water intrusion to the water bodies surrounding the golf course. While select management actions could be undertaken to restore or enhance current habitat conditions (particularly control of tules now dominating open water circumstances at Laguna Salad and Horse Stable Pond) and, perhaps, carrying capacity for the red-legged frog, physical circumstances if maintained (or enhanced) should contribute to sustaining red-legged frogs on the sites.

- The population is part of a richly structured food web that supports and is supported by many desired species. The presence of red-legged frogs on the Sharp Park-Mori Point site is an essential component of a complex of ecological interactions among many species at the site.

Combined these observations suggest high compatibility of California red-legged frogs with ongoing land uses and recreational activities that occur on the Sharp Park Golf Course, on surrounding San Francisco lands, and on adjacent public and private

lands. In addition to the seawall that shields Laguna Salada and western portions of the golf course and adjacent neighborhoods, active management on and adjacent to areas subject to golf course maintenance and play includes salvage of red-legged frog egg masses deposited in ephemeral portions of water bodies, where the likelihood of predation is relatively high and the inundated habitat conditions that are required during early life stages are unlikely to persist for the period necessary to produce a next frog generation. The well-documented translocation efforts, which have salvaged hundreds of egg masses over the past several years, likely contributing to many thousands of frogs surviving into later life stages, constitutes the most aggressive and affirmative unforced conservation agenda on non-federal lands targeting a federally listed species of which I am aware. In turn, the egg mass-recovery effort contributes to sustaining the rich ecosystem supported by Laguna Salada and the adjacent wetlands, where the presence of red-legged frogs, especially their juvenile stages, provide forage for dozens of other vertebrate species, including highly desired, predaceous wetland bird species, mammals, other amphibians, and reptiles, including the once abundant and now very occasional San Francisco gartersnake. One is pressed to identify a richer ecosystem embedded in an urban context anywhere in the San Francisco bay area than that co-occurring with the Sharp Park Golf Course and adjacent natural lands.

The San Francisco gartersnake

The San Francisco gartersnake is frequently described as the most narrowly distributed vertebrate species that is protected under the federal ESA. That superlative actually applies to southern California's Pacific pocket mouse (*Perognathus longimembris pacificus*); but the point is a fair one. The snake occurs at several dozen known locations in San Mateo County from Sharp Park-Mori Point and near the San Francisco Airport in the north, to the coast plains and mountains near Waddell Creek at the Santa Cruz County line, and inland to just above the Santa Clara County line to the south. Documented to have been abundant in the northern part of its distribution decades ago, with hundreds of snakes apparently occurring at some locations, it now is sparse or very rare almost everywhere it is found. Habitat alteration or destruction, and collection of the snake for the pet trade, are the principal factors that contributed to the decline of the species (U.S. Fish and Wildlife Service 1985).

The San Francisco gartersnake existed at relatively high population densities on and in areas surrounding the Sharp Park Golf Course several decades ago; many dozens apparently were collected by herpetologists, and it has been surmised that those collectors ravaged the local population in the middle of the last century (U.S. Fish and Wildlife Service 1985). At the time of sea water intrusion into western portions of the Sharp Park site in 1983 and 1986 (described above as causing the disappearance of red-legged frog from Laguna Salada and adjacent wetlands), when saline conditions rendered otherwise suitable habitat inhospitable to the gartersnake and its amphibian prey, the species seemed to have disappeared in areas surrounding the golf course (Geomatrix Consultants 1986). The absence of

observations of San Francisco gartersnakes was striking from a site noted for their presence. Systematic surveys were not de rigueur in the early 1990s, but the multi-colored snake is so eye-catching, and incidental observations cause such a stir, that the absence of reports of the snake at that time probably reflects its extirpation around the golf course, or decline to a small, but persistent, remnant population in or adjacent to the Sharp Park-Mori Point area. From 1990 to 1992, a team led by Philip Williams & Associates logged 68 hours of survey time at Sharp Park and 13 hours at Mori Point; they observed nearly 300 gartersnakes at Sharp Park, but not a single San Francisco gartersnake (Philip Williams & Associates 1992). At Mori Point, then not yet protected as parkland, they identified three juvenile San Francisco gartersnakes. Subsequent survey efforts for the snake have been informal, but reasonably frequent over recent years to the present. And, public awareness has become such that observations of the snake seem to be reported as they occur; indeed, the most recent observation of a dead snake was reported to wildlife authorities in immediate hours following its finding in 2009 (Wayne pers. comm.).

Reports document San Francisco gartersnakes were observed and collected in abundance at Sharp Park-Mori Point in the 1940s (Philip Williams & Associates 1992, Swaim 2008). Recent annual observations (as real numbers observed) suggest that the Sharp Park-Mori Point population is very much less than robust (see table, next page).

Although it may be that the contemporary San Francisco gartersnake population is not being sampled in systematic fashion via observations along the golf course-park boundary -- that is, the actual population is centered somewhere well away from the golf course and Sharp Park-Mori Point boundary zone -- species numbers are so low as to indicate that the population from which they are drawn is at a size that may not be viable over time. At the same time, available information does indicate that, over a period of decades while the golf course was in operation, the San Francisco gartersnake inhabited the area in substantial numbers.

Tellingly while San Francisco gartersnakes have demonstrably declined in numbers relative to the abundance described in the historical record, another gartersnake species occurs in abundance --124 coast gartersnakes (*Thamnophis elegans terrestris*) were observed in protocol surveys of lower Sanchez Creek on San Francisco lands compared to just one San Francisco gartersnake from May to July, 2004 – see Swaim 2005, USFWS 2008). The presence of coast gartersnakes in substantial numbers goes back at least two decades (Philip Williams & Associates 1992). The decline of the San Francisco gartersnake in the Sharp Park-Mori Point area reflects environmental stressors acting through some unique adaptive attribute that that species does not share with other gartersnake species – clearly not prey related, since the San Francisco gartersnake is known to rely heavily on red-legged frogs in its diet.

Table -- Summary of San Francisco gartersnake observations at Sharp Park-Mori Point.

Date	Location	Source	Summary
1990-91	Mori Point	Philip Williams & Associates 1992	Two juveniles observed
1992	Mori Point	Philip Williams & Associates 1992	One juvenile observed
2004	Mori Point	Swaim 2005, Swaim 2008	Eleven individuals captured
2004	Horse Stable Pond	Swaim 2005	Four individuals captured
2004	Laguna Salada	Swaim 2005	One juvenile captured
2005	Sharp Park Golf Course	Salisbury 2011	Single dead snake collected
2006	Mori Point	Swaim 2008	Thirteen individuals captured
2008	Mori Point	Swaim 2008	Five individuals trapped
2008	Horse Stable Pond	Swaim 2008	Two individuals observed during tire removal project
2009	Fairway Drive	Wayne pers. comm.	Single dead juvenile observed

Why numbers of San Francisco gartersnakes have staggered at seemingly near-nonviable levels over the past two decades at Sharp Park-Mori Point is unknown. But, seawater intrusion on multiple occasions in the 1980s, and changes in landscape features and conditions, independent of golf course management and beyond the golf course footprint, have likely been detrimental to habitat quality for the snake, especially "upland habitat" structure -- in areas where the snakes bask and engage in other non-foraging activities -- may have suffered directional, successional changes that are averse to the snake. Absent recent fire or grazing, grassland areas are now extremely dense with non-native grasses and forbs and ground surfaces are tight with thatch. The removal of a tire pile proximate to Horse Stable Pond, a process during which two San Francisco gartersnakes were observed, suggests that unfavorable natural upland circumstances exist in the area, with exposed areas that potentially could be used for "sunning" having been lost to invasive weedy species, and with an absence of natural landscape structures that can serve as shelter and refugia, relegating resident snakes to artificial structures. The San Francisco gartersnake is disappearing, and not because of recreational activities, which were ongoing for decades before the apparent decline of the local population.

A newly published study from southern (coastal) San Mateo County may offer explanatory insights to San Francisco gartersnake population numbers and environmental conditions associated with healthy and productive habitat for the species. Halstead et al. (2011) show that comparatively robust, or at least apparently stable populations have hundreds of individuals (which if such occurred at Sharp Park-Mori Point would produce, if not frequent, at least regular observations). The southern site is associated with ranchland that was grazed for at least a century, until 1998, and has been subject to three prescribed fire events since (hence is being actively managed, despite being far from urban development). Despite low daily captures and few within-season recaptures, Halstead and his colleagues document a growing population of several hundred San Francisco gartersnakes in habitat with undetermined boundaries on pasture of more than 400 hectares in extent, proximate to diverse water features, set in an extensive, continuous open spaces and natural areas on the least-developed far fringe of the Bay Area.

Inferences from the south country site that might prove useful in conservation planning for San Francisco gartersnakes in the Sharp Park-Mori Point area should be drawn cautiously, but it is not unreasonable to think that the snake requires more extensive open space, supporting more diverse plant communities and upland physical features, and a more continuously reliable prey base than it has been afforded in recent decades in its northern distributional range (recognizing that the seawall breaches in the 1980s interrupted the ready availability of red-legged frogs as prey at Laguna Salada). A now declining, but previously dense population, exists in highly disturbed circumstances near the San Francisco Airport (at the so-called Bayshore site), suggesting that land disturbances and concomitant open areas with limited vegetation, could well contribute to enhanced site quality for San Francisco

gartersnakes (U.S. Fish and Wildlife Service 1985, 2006). The outlook for San Francisco gartersnakes on the northern San Mateo County coast is poor; a state of affairs that appears to be wholly independent of recreational activities on and around the Sharp Park Golf Course.

Conservation-reliant species

Criticism of management operations and recreation activities on the Sharp Park-Mori Point site implicitly assumes that the California red-legged frog and the San Francisco gartersnake would be better served if the landscape were returned to an unmanaged condition; that a return to what might be characterized as a (more) "natural" landscape condition would obviate the need for the active management. Such an assessment of the conservation status of red-legged frogs on and adjacent to the Sharp Park Golf Course ignores an acknowledged reality associated with species conservation under the federal ESA -- most listed species are substantively dependent on active management intervention to enhance the likelihood of their survival -- the ostensible purpose for listing organisms in the first place. Imperiled species embedded in urbanized landscapes, in particular, require the stewardship of deftly applied management -- for a textbook example, a well-maintained sea wall to protect habitat and translocation of egg masses to enhance survivorship of red-legged frogs -- to assure their persistence.

A survey of the more than 2,000 federally protected species concluded that that nearly four-fifths of them require both active management to achieve species or population conservation goals, and then ongoing, hands-on management to sustain their recovered status, if achievable (Scott et al. 2010). Listed species at Sharp Park-Mori Point, including the demographically robust red-legged frog, are quintessential examples of species that are "conservation reliant."

The requirement of active management intervention is commonplace for listed threatened and endangered species in California generally, and particularly on the San Francisco Peninsula, where a fragmented natural landscape and dispersed open spaces are subjected to myriad sources of ecosystem disruption, such as altered hydrology and invasive species. On the other side of San Francisco Bay, a collection of endangered plants and a butterfly on just a few dozen acres of bluff-top dune habitat at Antioch require continuous weed control and periodic targeted out-planting of desired species to sustain their populations. Ocean-bound Chinook salmon (*Oncorhynchus tshawytscha*) stocks that make their migratory pass through the estuary below the bluffs are largely made up of hatchery-generated individuals. And, water-cooled power plants that generate electricity nearby, meet stringent operations schedules to avoid entrainment of protected delta smelt (*Hypomesus transpacificus*) and longfin smelt (*Spirinchus thaleichthys*). Conservation-reliant species all.

And, one only has to look a few miles east from Sharp Park to San Bruno Mountain for a telling example of unintended consequences that can result from a well-

intended attempt to return open space from "managed" conditions to "natural" or pre-settlement conditions. San Bruno Mountain had been grazed continuously for more than 150 years when the nation's first habitat conservation plan under the federal Endangered Species Act was implemented in 1981. One of the many actions under the plan was to codify the cessation of cattle grazing that was initiated several years previously – livestock grazing being a distinctly unnatural impact on the mountain's grassland ecosystem. Unappreciated was the fact that the cattle on San Bruno Mountain had been selectively grazing on non-native annual grasses that threatened to replace the native forb species (wildflowers) that were essential forage for the caterpillars of the federally listed Bay checkerspot butterfly (*Euphydryas editha bayensis*). Just a few years later, after livestock grazing was eliminated, the butterfly's host plants disappeared from that northernmost location in San Mateo County occupied by the butterfly, and along with them, the butterfly itself disappeared. Subsequently, with cattle grazing curtailed in grasslands along the Highway 280 corridor, the Bay checkerspot butterfly vanished from the county entirely by the middle 1990s (see Murphy and Weiss 1989).

This anecdote, from a different species on the San Francisco Peninsula, serves as an instructive tale. Few, if any, sites that now support or have supported federally listed species do so under "natural" conditions, and without the deft assistance of resource managers. For another example, to the north of Sharp Park, mission blue butterflies (*Icaricia icarioides missionensis*) that feed on native lupine plants, just this past spring were reintroduced on Twin Peaks in San Francisco concomitant with implementation of an effort to remove non-native plant species that compete with the native flora there. And, to the south of Sharp Park, adjacent to the southern limits of the San Francisco gartersnake at Stanford University, California tiger salamanders (*Ambystoma californiense*) must be shepherded across an historically lethal roadway on campus during their post-hibernation migration from upland terrestrial refuges to reproduce in man-made Lake Lagunita on the campus.

Although the Sharp Park-Mori Point site is unique in its landscape and hydrological attributes, making it distinctly favorable for the California red-legged frog, like the examples above, the site is and will only stay suitable for the species with active management. The scenario of isolated populations, anthropogenic stressors, and ongoing management is the repeated story at all sites and for each of the listed species on the San Francisco Peninsula (including in the GGNRA and adjacent landholdings). Active management is necessary to respond to the reality of isolated populations and anthropogenic stressors; the construction of new breeding ponds and wooden boardwalks, and reestablishing lost native plant species on parkland acres directly adjoining the Sharp Park Golf Course provides another highly relevant example.

Three conservation requirements for the survival of red-legged frogs are strategically addressed only through active intervention -- habitat management designed to sustain dynamic hydrological features, and vegetation structure and composition; control of direct human impacts can that result in species mortality;

and control of invasive competing species -- require essentially perpetual hands on management of the Sharp Park-Mori Point frog population. On the San Francisco peninsula landscape, natural ecosystem processes are disrupted, natural landscape features are fragmented, natural hydrological conditions are altered, naturally occurring populations of at-risk species have been lost, and remaining populations are now isolated, hence are permanently at certain risk. Just meters over the property boundary between the golf course and the federal parkland, the National Park Service is carrying out archetype active management for the benefit of conservation-reliant species in the form of restoration and rehabilitation activities designed to bring the conditions that are favorable to red-legged frogs and San Francisco gartersnakes around the Sharp Park Golf Course to the Mori Point park unit -- including construction of raised boardwalks to service pedestrian traffic, monitoring for and removal of feral cats, the mechanical construction of ponds, pesticide application and manual weeding of targeted non-native grasses and forbs, and out-planting of desired native plants.

The desired physical circumstances on the golf course site are a unique amalgam of natural and anthropogenic elements, ongoing natural and controlled disturbances, and management responses. These include the City's extraordinary management effort to salvage egg masses that are or could be stranded, or that are located in circumstances that place early life stages of the species at high risk of mortality. Like the neighboring Golden Gate National Recreation Area lands, the Sharp Park Golf Course displays numerous hallmarks of active management for conservation-reliant species.

Allegations of inadvertent take

California red-legged frogs are present in large numbers in and adjacent to the Sharp Park Golf Course, as is well documented in a variety of reports and discussed above, and San Francisco gartersnakes appear to be nearly extirpated there. At the intersection of land and resource management, recreational activities, and existence on the urban edge, red-legged frogs and San Francisco gartersnakes may interface individually with human activities that might cause injury or mortality. As a theoretical matter, that sort of "take" might occur on the Sharp Park-Mori Point site in four contexts – 1) mortality to juvenile and adult frogs dispersing from natal sites and resident areas and snakes moving between foraging areas and other habitat areas, 2) stranding of red-legged frog egg masses, 3) entrainment of frog life stages at the outflow at the west end of Horse Stable Pond, or 4) losses of individuals of either species to contaminants or pesticides. However, concerns should be very low to non-existent in each of these contexts.

First, take of dispersing individuals of either species is not occurring around the golf course and its associated facilities, witness the lack of records of dead or injured frogs over years, despite high abundances. The San Francisco gartersnake is now so infrequent that it is simply not being encountered by people in day-to-day activities at Sharp Park and on Mori Point. Note dispersal by both species tends to be

crepuscular and nocturnal. Both are large and obvious to a highly aware public; should losses of either species occur from vehicle impacts, they surely would be reported. (The two San Francisco gartersnakes found dead in the Sharp Park area over the past six years were reported to authorities immediately.) Given the size of the resident population, the lack of reports of red-legged frog fatalities on and adjacent to the golf course over multiple years is persuasive evidence that the benefits of ongoing management there are not being counter-balanced by losses of frogs generated by other human activities. The contention that scavenging birds may be clearing the golf course site of frequent San Francisco gartersnake fatalities is speculative and not tenable given the lack of any such observations. Any suggestion to the contrary based on the use of data from surrogate frogs or snakes in different environmental circumstances to draw inferences regarding mortality of red-legged frogs or San Francisco gartersnakes at Sharp Park is improper unless the use of such data is first validated (Landres et al. 1988; Andelman and Fagan 2000; Caro et al. 2005).

Second, red-legged frog egg masses are being salvaged during active efforts to reduce flooding. Searches are thorough; hundreds of thousands of eggs have been translocated and "saved," with substantial, but not-quantified contribution to the current growing population. City personnel are familiar with the life history of the red-legged frog and the pertinent environmental attributes of Sharp Park, and they are well trained to search out and identify egg masses. Those personnel conducting survey and egg mass relocation efforts also have demonstrably positive relationships with regulatory personnel at the Fish and Wildlife Service. Despite criticism of the effort to salvage egg masses, experiences by scientists and resources managers indicates that collection, transfer, and even brief storage of frog egg masses can be carried out with insignificant losses of individual eggs and high degrees of hatching success after targeted placement.

Third, no evidence exists that entrainment of frog life stages is occurring at Horse Stable Pond. Red-legged frogs have multiple adaptations that secure them from the threat of being swept by flowing water from preferred habitats in managed and unmanaged circumstances, such as adhesive eggs that are placed on vegetation and strong swimming capacities of juvenile-stage individuals. It is highly improbable that the juvenile life stages of the species that emerge from egg masses located along the shoreline of Horse Stable Pond in relatively near proximity to the intake structure of the pump house would swim into the open water where they could enter the zone of influence of the pump.

Fourth, no pesticides are being used in golf course maintenance.

The implication by opponents of current land uses at Sharp Park that those uses are conferring deleterious impacts on the federally listed California red-legged frog and San Francisco gartersnake are unsupported. Scant evidence exists that incidental (and accidental) take of individual members of the species is occurring. Frog losses, if they were occurring, would be certainly be available for consideration given the

abundance of the species on the site and adjacent parklands, and the frog's conspicuous presence in all of its life stages. No such data exist. In contrast, while the gartersnake with its striking markings is even more conspicuous, that species' current rare status and infrequency of observations reflects the lack of known mortality of that species at Sharp Park. One disputed incident of asserted mortality of a San Francisco gartersnake at Sharp Park Golf Course over nearly a quarter of a century since a sea wall breach rendered the site briefly unsuitable (for both species) constitutes a record of unmatched protection for the imperiled snake.

It is in that light, that the unique commitment of the City and County of San Francisco to manage its golf course operation to benefit listed species and in compliance with directives from the U.S. Fish and Wildlife Service should be viewed. Operations on the golf course site and mitigation actions are accompanied by a demonstrated increase in red-legged frog numbers on the site, recorded colonization by the frog of constructed wetland features on adjacent parkland, almost certainly from Sharp Park as the source population, and persistence of a documented frog metapopulation in the extreme north of San Mateo County that has been sustained and is apparently growing. Not only is the Sharp Park Golf Course not posing a threat to the survival of listed species on the San Francisco Peninsula, it is demonstrably contributing to their conservation. A cessation of ongoing conservation activities and/or substantive changes in the management of the Sharp Park landscape and hydrodynamic regime are much more likely to be detrimental to the listed species than beneficial to them. It can be surmised that the current land use scheme, with its focused commitment to recreation and conservation, serves to reduce many of the environmental stressors that plague red-legged and other native frog species on lands with lesser stewardship commitments. In countless cases, unmonitored access to frog habitats has led to releases of alien species, including non-native fishes and bullfrogs, which prey upon desired native amphibians, and in the case of bullfrogs can introduce the devastating chytrid fungal disease that can wipe out entire local frog populations (Johnson and Speare 2005).

San Francisco has requested authorization from the Fish & Wildlife Service to undertake further proactive steps that would likely further enhance the habitat conditions and carrying capacity of the Sharp Park wetlands complex for both listed species. Seeking to implement recommendations of expert conservationists, San Francisco intends to remove rapidly proliferating tules in component subareas of Laguna Salada, Horse Stable Pond, and the connecting channel between those two water bodies (see Geomatrix 1986, Phillip Williams and Associates 1992, Tetra Tech 2009).

Facts and Data Considered

In addition to the facts and data described above and included in the literature cited below, I have reviewed the expert declarations filed in this case and portions of some of the legal briefs filed in this case prior to preparing this report. I have also

relied on conversations with persons with local or expert knowledge, including Mark Jennings, Wayne Kappelman, Alan Launer, Karen Swaim, and Lisa Wayne.

Supplemental Opinions

I am informed that discovery is continuing in this matter. Consequently, I may supplement or modify my opinions, and I may respond to the opinions of others in this case.

List of Publications

A list of the publications I have authored or co-authored in the past 10 years is included with a curriculum vitae, which is attached to this report.

List of Cases

I have not testified as an expert at trial or by deposition in any other case during the past four years.

Statement of Compensation

I am being paid $175 per hour for the time I spend working on this case.

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DRAFT
BIOLOGICAL ASSESSMENT

SHARP PARK SAFETY, INFRASTRUCTURE IMPROVEMENT AND HABITAT ENHANCEMENT PROJECT

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Recreation and Park Department
City and County of San Francisco

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SECTION 1.0 – INTRODUCTION

1.1 DOCUMENT PURPOSE

This Biological Assessment (BA) has been prepared to evaluate the potential effects of the Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project (Project) on listed and proposed species and designated and proposed critical habitat for such species. It has been prepared to facilitate a consultation, pursuant to Section 7 of the Endangered Species Act, 16 U.S.C. 1536(c), between the U.S. Army Corps of Engineers (ACOE) and the U.S. Fish and Wildlife Service (USFWS). The consultation is part of the ACOE review of a Nationwide Permit No. 25 application for the Project. This BA has been prepared in conformance with Final Rule regarding Interagency Cooperation (50 CFR pt. 402) promulgated by the Department of the Interior and Department of Commerce, dated June 3, 1986, and the guidelines provided in the final *Endangered Species Consultation Handbook* prepared by the U.S. Fish and Wildlife Service and National Marine Fisheries Service, dated March 1998.

1.2 LISTED SPECIES CONSIDERED

Based on the location of the Project and available data regarding species occurrence, three wildlife species were included in the BA because of their potential or actual occurrence onsite. The three federal endangered wildlife species included the endangered San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) (SFGS), the threatened California red-legged frog (*Rana draytonii*) (CRLF) and the endangered Mission blue butterfly (*Icaricia icarioides missionensis*). No other listed or proposed species have the potential to occur on the Project site.

1.3 ORGANIZATION OF THE BIOLOGICAL ASSESSMENT

This BA is for the Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project. The Project site is Sharp Park, a public park owned and operated by the City and County of San Francisco (the City) that is located in the City of Pacifica, San Mateo County, California. The San Francisco Recreation and Park Department

(SFRPD), a Department of the City, is responsible for the maintenance of Sharp Park. A description of the Project is provided in Section 2.0. Section 3.0 describes the existing conditions and general environmental setting. Section 4.0 discusses the listed wildlife species. Section 5.0 discusses the direct, indirect, and cumulative effects of the proposed Project on the listed species. Section 6.0 provides the conclusion and determination of whether or not the activity proposed by the federal action agency "may affect" a threatened or endangered species due to the direct, indirect, and/or cumulative effects associated with the activity. The references and list of preparers is included as Sections 7.0 and 8.0, respectively.

1.4 PREVIOUS CONSULTATIONS

The Project site has been the subject of extensive regulatory oversight. In 2008, the City sought and secured a permit from ACOE under section 404 of the Clean Water Act, 33 U.S.C. § 1344, for repair work to an outfall to allow for continued operation of water pumps at Horse Stable Pond (HSP) and to eliminate the potential for erosion of the seawall that separates Sharp Park from the Pacific Ocean. After receiving the permit application from the City, ACOE initiated consultation with USFWS under section 7(a)(2) of the ESA. In October 2008, USFWS issued a biological opinion and incidental take statement for the storm drain repair project (USFWS 2008).

In November 2010, the City contacted ACOE and USFWS to request reinitiation of consultation under section 7(a)(2) of the ESA in order to secure approval to remove accumulated sediment from the entrance to the pumphouse at HSP and to replace the pump. USFWS amended its 2008 biological opinion and incidental take statement for the storm drain repair project (USFWS 2010a).

Separately, in April 2009, the City developed an Endangered Species Compliance Plan for Sharp Park Golf Course. The Compliance Plan includes measures to address potential effects of course management and operation, flood control and drainage operations, integrated pest management, and application of recycled water on SFGS and CRLF. The

City anticipates that, upon completion of consultation and issuance of a biological opinion for the Project, the biological opinion will supersede the Compliance Plan.

In 2009, the USFWS issued a Biological Opinion for the Pacifica Recycled Water Project (81420-2008-1-1643), which included a new pump station, installation of a new 400,000-gallon recycled water storage tank located on Gypsy Hill, and approximately 17,000 linear feet of new 8-, 10- and 12-inch-diameter recycled water pipeline originating at the Calera Creek Water Recycling Plant. This project, which will provide recycled water to Sharp Park, was determined to have potential direct and indirect effects on CRLF and SFGS. Construction of the Pacifica Recycled Water Project is currently underway.

SECTION 2.0 – DESCRIPTION OF THE PROPOSED PROJECT

2.1 PROJECT LOCATION

Sharp Park is a public park located in the City of Pacifica in San Mateo County. The Park is approximately 417 acres (see Figure 2-1). The Pacific Coast Highway (PCH) runs through Sharp Park. To the west, the Park is bordered by the Pacific Ocean. To the north and south, portions of the Park are bordered by residential development. To the south and east, Golden Gate National Recreation Area, which is managed by the National Park Service, borders the Park.

2.2 PROJECT DESCRIPTION

The Project site contains an 18-hole golf course, an approximately 27 acre wetland complex, an archery range, a remediated rifle range, a clubhouse, parking lot, and extensive natural areas. The wetlands complex is composed of Laguna Salada (LS), Horse Stable Pond (HSP), a channel that connects the two water bodies, and adjacent wetlands. A seawall on the western boundary of Sharp Park eliminated the historic hydrologic connection between the Pacific Ocean and the wetlands complex. The wetlands are believed to be maintained by ground water but are also fed by surface water inflow due to precipitation in the winter. A flood control pump system in HSP affects water levels in that body, and it may affect water levels in LS when the channel connecting the two water bodies creates a surface water connection between them. The pump system consists of a large pump (rated 10,000 gpm) and a small pump (rated 1,500 gpm) located in a pumphouse adjacent to HSP and pipes built through the seawall to an outfall.

Operation of the flood control pump system is necessary to manage floodwaters both on the Property and on adjacent properties. During normal rainfall years, floodwaters into LS back up onto the golf course path. As a result, carts must venture off the cart path onto the fairway and other vegetated areas in order to continue play. During heavy rainfall years, extensive flooding can occur in areas of play on the golf course and can

Figure 2-1 [Project site]

also threaten adjacent residential areas. Operation of the flood control pumps can limit the extent of such flooding.

The Project Description includes two parts: (1) the construction action, which is the subject of the section 404 permit and (2) golf course maintenance and operations. Pursuant to the Final Rule regarding Interagency Cooperation (50 CFR pt. 402), this BA evaluates the potential effects of the action, which include the direct and indirect effects of the Federal action (that is, authorization to fill waters of the United States) as well as the effects of other activities that are interrelated or interdependent with that action (see Section 2.3) See 50 CFR 402.02 (definition of "effects of the action"), 402.12(a), (f).

2.2.1 Construction Action

The construction action is intended to 1) ensure the ongoing operation of the flood control pumps and worker safety when operating and maintaining the pumps 2) to replace minor infrastructure (pathways) and 3) to enhance existing habitat for CRLF and SFGS.

Currently, two factors adversely affect the operation of the pumps. First, pump operation is adversely affected by sediment buildup and vegetation growth around the pump intake structure and along the connecting channel between LS and HSP. Second, pump operation is adversely affected by the buildup of vegetation on the pump intake screens. In order for the pumps to function properly, the existing screens at the intake must be kept clear of vegetation buildup. The maintenance of the screens, including the removal of debris buildup, can be necessary as frequently as daily during the rainy season. Such maintenance often occurs while the pumps are being operated during or immediately after storm events when poor visibility, slippery conditions, and high water levels present hazards to access and maintenance. Currently, there is no safe walking and working surface and access to the screens is only possible by lifting a heavy piece of chain link fence while clearing the screens.

Portions of the golf cart paths along the eastern side of LS regularly flood, even during drought years. Two sections of cart path, which total approximately 190 feet are located in low lying depressions such that water does not drain to LS and ponds on the pathway. CRLF have deposited egg masses on these sections of cart path. Because there is no surface water connection between these areas and LS, they cannot sustain CRLF through metamorphosis. In addition, because the paths flood, golfers using carts must venture off the pathway in order to continue play.

In order to address these issues, the following water flow, safety and path repair components are proposed (see Figure 2-2 through 2.4 and Appendix A):

- Removal of sediments and emergent vegetation within the HSP wetland near the intake structure in order to reduce obstructions to water flow to the pump intake and to enhance breeding habitat for the CRLF. Approximately 435 cubic yards of sediment in an area of approximately 5,900 square feet (0.14 acres) would be removed. Approximately 2,350 square feet (0.05 acres) of this 5,900 square foot area is occupied by cattails and bulrush; the remaining area is open water.
- Removal of sediment and emergent vegetation that impedes water flow and reduces habitat suitability for CRLF in select locations within the connecting channel and culverts that link HSP and LS. This removal work would not exceed 480 cubic yards of removed sediment and vegetation, within an area of approximately 6,500 square feet or 0.15 acres.
- Installation of steps leading down the slope from the access road to the pumphouse and the intake structure (approximately 47 square feet or 0.001 acres). A fence with a locking gate will restrict access to the steps and boardwalk.
- Construction of a walkway on concrete support structures around the front of the pump intake box. This walkway, which will be approximately 42 feet long at the perimeter and 4.6 feet wide, will wrap around the intake structure. The walkway will be made of wood and supported by approximately 6 concrete support structures to be placed in the water (approximately 6 square feet). It is anticipated

Insert Figure 2-2

Insert Figure 2-3

Insert Figure 2-4

that the footings will be placed by installing cylindrical metal casings into the water, dewatering and excavating sediment from the inside of the casings and then filling the casings with concrete. If feasible, a secondary screening system may be installed below the walkway surface and between the pilings to further reduce the amount of detritus, such as dead floating cattails, from entering the pumps. It is anticipated that if feasible[1] the secondary screening system will be similar to the existing screens that separate the pump from the pond. This screen is a metal mesh with holes measuring approximately one inch by one half inch. It is estimated that this component of the project will require the placement of approximately 1.2 cubic yards of fill (concrete) in wetlands and waters of the United States.

- Replacement of the failing wooden retaining wall next to the pumphouse (at the base of the levee slope between the uplands and the wetland) with a concrete retaining wall to prevent further soil deposition from the uplands from entering the waterway. The retaining wall, which will measure approximately 12 feet long and five feet high, will be placed in jurisdictional wetlands and is estimated to result in 0.4 cubic yards of fill (approximately 6 square feet surface area)
- Repair of two cart paths (total of approximately 570 square feet or 0.01 acres) located adjacent to, but not within, the LS wetland. Repairs to the cart paths will involve moving the paths away from the wetland and into the golf course, installing interlocking pavers to support the downslope embankment and backfilling the area with drain rock to raise elevations.

Excavation of sediments and vegetation will be conducted from the golf course uplands wherever possible, thus minimizing impacts to the wetlands. The sediment and vegetation removal along the connecting channel between HSP and LS can be accomplished with little or no impact to the adjacent wetland. It is anticipated that an

[1] The secondary screening will be deemed feasible if it will not compromise the operation and longevity of the pumps.

excavator or Grade-all stationed on the golf course would be used for vegetation and sediment removal along the channel. The excavation around the pumphouse will likely require establishing an equipment access route through the jurisdictional wetland on the north side of HSP. Due to limited bank access into HSP, the optimal method for sediment and vegetation removal from HSP would be to use a compact multi-purpose aquatic vessel (i.e., an Aquamog) or similar equipment with long boom and clam shell or bucket type attachment that can reach sediment and vegetation near the pumphouse. This would avoid impacts to steep intact upland habitats adjacent to HSP and allow a shorter construction window in the habitat without compromising the ability to avoid take of species. The emergent vegetation would first be removed from the sediment removal foot print using a bucket with a thumb. After the vegetation is removed, the Aquamog would be fitted with a clamshell attachment for sediment excavation. Vegetation that is removed from both locations (the channel and HSP) will be placed in an elevated dewatering container located in an adjacent cleared upland or placed directly into a dump truck and hauled to either the organic dump or reclaimed rifle range east of the PCH. No at-grade dewatering vehicles or containers will be left on site overnight.

Construction at HSP, LS and the connecting channel is expected to occur between July 1 and October 31. Pre-project clearing and construction actions occurring in the uplands (staging areas, pathway repair and step construction) would begin in June. This project phasing will minimize and/or avoid impacts to aquatic stages of the CRLF. Implementation of the construction action is expected to be phased over a two year period.

The sediment and vegetation removal is intended to improve water flow to the pumps; however, the sediment and vegetation removal also benefits the CRLF by re-establishing open water habitat amongst the emergent vegetation at the wetland margins where CRLF have been known to breed.

The Project site is intended to encompass the action area, which includes the area affected directly and indirectly by the Federal action, here, issuance of a permit for the Project. 50 C.F.R. 402.02 (definition of "action area"). For the purposes of this BA, the construction site is that portion of the Project site within which the direct effects of the Project (e.g., vegetation removal, walkway construction, and path repair) will occur.

2.2.2 Golf Course Maintenance and Operations

The SFRPD currently employs seven staff members who perform the year-round operation and maintenance of the golf course. These activities include mowing; application of water for irrigation; application of fertilizers and compost tea; controlling for gophers; tree removal and trimming; landscaping; maintenance of golf course features, structures, and cart paths; and plumbing and electrical operations.

2.2.2.1 Current course maintenance

Mowing of the golf course occurs on fairways, tees, greens and surrounds. In general, greens are mowed daily, tees twice a week, and the fairways are mowed twice weekly during spring, summer, and fall, and weekly during the winter. The greens are mowed to a height of $^{1}/_{8}$ inch while the tees, surrounds and fairways are mowed to ½ inch. Although a triplex riding mower is used for greens, tees, and surroundings, hand mowing and trimming are necessary in some locations, such as around the clubhouse, tree basins, steep slopes and other small areas where the larger mowers cannot be used. The SFRPD uses an automated and quick coupler system to irrigate the golf course. Weather and climate conditions dictate how often the golf course is irrigated; however on average the course is irrigated twice a week in the dry season (May to October).

Other maintenance actions include hand or mechanized application of organic fertilizer and seed, raking bunkers, rodent control, repairing divots and erosion, cleaning out drainage sumps and tree and vegetation pruning, removal and planting. Golf course staff manage bunkers daily, Monday through Friday, by raking the sand to remove foreign

objects and pulling weeds as needed, and fill divots on the tees and fairways as needed by hand using a mixture of sand and seed mix as needed.

The Park drainage sumps are below grade settling basins that separate large debris from the drainage system. Several drainage sumps are interspersed on one culvert system that enters the golf course from Francisco Boulevard and, running east to west, crosses tee number 3 in front of number 2 Green, and numbers 1, 10, 11, and 13 fairways until it daylights into a ditch leading into LS. Annually, the golf staff enter the sumps via an at-grade lid, to remove debris by hand.

2.2.2.2 Flood Control and Drainage

Sharp Park Golf Course is located within an 845-acre watershed. Historical maps show a salty/freshwater brackish lake in the area now predominantly occupied by the lower golf course. Sanchez Creek and its tributaries provide a riparian corridor for the watershed that at one time drained by gravity into the ocean through a sandy barrier dune that seasonally formed along the beach, similar to that on many California coastal streams. In the 1930s, Sanchez Creek was blocked from discharging to the ocean, which transformed the marine influenced lake into a fresh water wetland (including LS and HSP). In addition to watershed drainage, LS and HSP receive runoff from PCH, residential streets in Pacifica, undeveloped areas managed by the Golden Gate National Recreation Area (GGNRA), and surrounding subdivisions constructed after the golf course.

The SFRPD currently pumps storm water from HSP to the Pacific Ocean. The pumps that control the water levels in HSP and LS are located in a pumphouse at the southwest corner of HSP. There are two electric pumps located in the pumphouse, a large pump with a rated capacity of 10,000 gallons per minute (gpm) and a smaller pump with a rated capacity of 1,500 gpm. The pumps sit in a wet well and are controlled by electric probes, which are adjustable and set by SFRPD engineers. A gauge board is mounted to the outside of the pumphouse that allows monitoring of the water levels. Pumping takes

place primarily during the rainy season between November and May. The Director of the Natural Areas Program determines whether and when the pumps are operated and communicates target water levels to an SFRPD Stationary Engineer that adjusts the pump setting accordingly. In order of priority, operation of the pumps occurs (1) to manage water levels for the protection of CRLF and SFGS, (2) for flood control purposes in order to protect public health, safety, and adjacent property, and (3) to facilitate recreational activity at Sharp Park.

2.2.2.3 Integrated Pest Management

The SFRPD recognizes unique linkages between the golf course and environmental attributes of the site that provide habitat for native species. In 2001, the SFRPD, in consultation with city, state, and federal agencies, began to examine fertilizer and pesticide application practices at the golf course. After a successful pilot study that analyzed the effectiveness of alternatives that lessen adverse environmental effects, the SFRPD implemented a bio-organic program for the entire golf course that is subject to an annual review by a Certified Pest Control Advisor working in the SFRPD's Integrated Pest Management Division. Today, only organic fertilizers are used at Sharp Park and only on the greens, tees and surrounds. Organic dry fertilizers are applied on average four times a year to the greens and three times a year to the tees. Liquid organic fertilizers such as compost tea are applied on average once a week throughout the year. At this time, the City does not use any chemical pesticides in any landscaped or natural area at Sharp Park.

Gophers are common on golf courses. Gopher mounds may damage mowers, and gophers can damage turf roots as well as other plants. SFRPD staff manage gopher populations by raking down gopher mounds. If an active burrow is present on a green or in a tee box, traps may be set by making an opening in the middle of a main tunnel to install a U-shaped wire sprung gopher trap (MacAbee trap) in the burrow. The access hole is then immediately filled in with the excavated materials. Typically the traps are checked and removed before the end of the work day.

2.2.2.4 Park User Habits

Park use includes foot and cart traffic on or around the course. Golfers frequently deviate from the fairway searching for lost balls. However, within the last few years, golf course rules have been modified such that the rough adjacent to the wetlands is out of play and golfers are not allowed to seek lost balls there. The golf course and surrounding environs have also attracted dog walkers who use a strip of land between LS and the seawall as an off-leash dog area even though this area is off limits to dogs under SFRPD policy and a fence has been installed. There is currently no barrier between this strip of land and LS that prevents dogs from accessing the water body. Dog owners/walkers may be unaware that dogs are not permitted on the golf course or LS because of insufficient signage on the course and surrounding areas.

2.2.2.5 Circulation

The golf course contains an interconnected system of paved paths intended for golf cart use and service roads used by SFRPD staff to access the golf course and by users of the archery range. Approximately 30-40% of the golf course users rent carts. West of Highway 1, there are service roads between the number 1 tee and the number 2 tee and on the sea wall from the 16th tee to the pumphouse. On the east side of Highway 1, a paved road runs east from Lundy Way along the north side of the number 7 fairway to a compost site, the defunct rifle range, and ends as a dirt and gravel road at the Archery Range. There are a series of unpaved roadways and trails within the Archery Range. The SFRPD also maintains an easement over a dirt road (Mori Point Road) along GGNRA property just south of the lower course that leads to the seawall. Recently portions of this road were converted to a boardwalk and at that time the SFRPD relinquished its rights to use this easement as the regular vehicular access to the pumphouse and sea wall. While the easement is still considered an emergency access route, this access is maintained by a locked gate and the SFRPD's only regular access on this route is on foot. The only current vehicle access to the pumphouse is via the sea wall road and the pumphouse access road off of Mori Pont Road. This route is also used regularly by the City of

Pacifica, which maintains the garbage receptacles and the County of San Mateo Mosquito Abatement, which conducts regular treatments in the LS wetland complex.

2.2.2.6 Application of Recycled Water for Irrigation

State law prohibits the use of potable water for golf course irrigation wherever suitable recycled water is available at a reasonable cost. The North Coast County Water District (NCCWD) is implementing the Pacifica Recycled Water Project to provide treated water from the City of Pacifica's Calera Creek Water Recycling Plant (CCWRP) to irrigation sites within the City of Pacifica and San Mateo County, including Sharp Park Golf Course. The CCWRP currently discharges tertiary treated recycled water to Calera Creek. The Recycled Water Project is currently underway and is scheduled to be completed in 2012. The Park currently uses approximately 30 million gallons per year of imported surface water from the regional water system operated by the San Francisco Public Utilities Commission to irrigate the golf course. In December 2005, the Park discontinued use of the water in Arrowhead Reservoir (east of PCH) to irrigate the golf course. Flows to and from Sanchez Creek and Arrowhead Reservoir now function under natural conditions increasing with winter rains and decreasing with summer evaporation.

The Pacifica Recycled Water Project Revised Biological Opinion specifies that irrigation runoff into Sanchez Creek, HSP, and LS is not permitted, consistent with permit requirements for the application of recycled water for irrigation uses (USFWS 2009). The Recycled Water Biological Opinion contains reasonable and prudent measures and terms and conditions that will ensure that the use of recycled water is restricted to the approved golf course area, including time and flow limitations, automatic shut-off valves, training for staff and ongoing monitoring (USFWS 2009).

2.2.3 Natural Areas Restoration

The wetlands associated with HSP, LS and the connecting channel are considered Natural Areas as described in the Final Draft of the City's Significant Natural Resources Areas

Management Plan (2006). As such these areas are to be managed and restored for their biodiversity. Maintenance activities, such as hand removal of vegetation within and adjacent to HSP, LS and the connecting channel, contribute to the preservation and enhancement of habitat for the species. These activities would be undertaken by the Natural Areas Program, a division of the SFRPD responsible for the conservation and management of biological resources including endangered species on SFRPD Natural Areas. The activities would include the removal of vegetation overhanging and shading the wetlands such as acacia, Monterey cypress, as well as vegetation within the wetlands such as cattails and bulrush that reduce the quality of CRLF breeding habitat. In areas where appropriate, native plants and erosion control measures would be installed to replace and augment the wildlife habitat and reduce soil loss.

2.3 MINIMIZATION AND MITIGATION MEASURES

The following minimization and mitigation measures are proposed as part of the Project in order to minimize its potential effects on the listed species or their habitat.

Minimization and mitigation measures for construction activities

2.3.1 All sensitive habitats outside the Construction site shall be avoided during and following Project implementation. A USFWS-approved lead biological monitor familiar with the listed species and their habitats shall be part of the Project implementation team. Prior to commencement of any Project-related construction activity, the biological monitor will flag the sensitive areas and/or the limits of the Construction site with suitable markers that are easily discernible by construction equipment operators. No one will enter the sensitive areas of the Construction site unless authorized by the biological monitor.

2.3.2 The lead USFWS-approved biological monitor will be present at all planning meetings prior to Project implementation. A USFWS-approved biological monitor shall present an educational program at one or more such meetings regarding the

listed species and their habitats. Every person who works on Project implementation must receive this education program.

2.3.3 A USFWS-approved biological monitor will be present at the site during all construction activities including but not limited to, vegetation and sediment removal, placement of concrete support structures for the walkway, replacement of the retaining wall and pathway repair. The biological monitor will have the authority to stop work temporarily in order to protect the listed species or the flagged sensitive areas.

2.3.4 Prior to commencement of any construction activities, the lead USFWS-approved biological monitor shall survey the site for the listed species and oversee the installation of exclusion fencing in segments or fully enclosing components of the construction site as appropriate. The biological monitor will periodically inspect the integrity of the exclusion fencing.

2.3.5 During dredging and vegetation removal activities, if required, up to three (3) biological monitors will be present to 1) monitor the area of vegetation or sediment removal, 2) observe the material as it transferred to the shoreline and 3) to inspect material as it is loaded into the dewatering container or dump bed.

2.3.6 The USFWS-approved biological monitor will record notes daily during the project. These notes shall document the dates and locations of such activities. Within 60 days of completion of the Project, the biological monitor will submit a report to the City and USFWS that summarizes his or her notes.

2.3.7 No earthmoving or soil disturbing work shall occur between November 15 and April 15, the breeding season for the CRLF and the season when SFGS are less active on the site.

2.3.8 Terrestrial vegetation in undisturbed areas around HSP and the connecting channel will be cleared by manual means to a height of 4 inches (or a height that allows visibility of the ground) and checked for the presence of CRLF and SFGS.

2.3.9 Prior to ground disturbing activities associated with construction, including the use of staging or vehicle access areas or the removal or placement of fill or

construction materials, rodent burrows in the construction site will be hand excavated by a USFWS-approved biologist until the burrow terminates or until a maximum depth of 30 centimeters.

2.3.10 Vehicle speeds in the project area will not exceed 10 miles an hour. The USFWS-approved biological monitor will inspect for snakes and frogs underneath any vehicle that is parked for 30 minutes or more prior to moving the vehicle. Vehicles accessing the construction site will be limited to the minimum necessary to complete the project. Project personnel shall park personal vehicles at a staging area located away from all aquatic habitats or areas of sensitive upland habitat.

2.3.11 Any workers on the site that observe a frog or snake will immediately report their findings to the on-site biological monitor and immediately suspend work. The monitor will identify the animal if it has not left the area. If a CRLF is observed in the work area, it will be relocated by a USFWS-approved biological monitor to the nearest suitable aquatic habitat out of harms way. If an SFGS is observed in the work area and does not move of its own accord into adjacent habitat, USFWS and CDFG will be contacted immediately for guidance. Work may only recommence if the CRLF or SFGS moves out of harms way or the animal is relocated by the biological monitor. Work may not recommence until the biological monitor has returned to the work area and gives approval.

2.3.12 Non-permitted personnel will not attempt to capture or move any frog or snake. Only USFWS persons in possession of a valid permit from the USFWS may handle a CRLF or SFGS.

2.3.13 Erosion control best management practices (silt fences, coir rolls, straw bales) would be employed as part of the dewatering activities and while soils are exposed. The erosion control measures will not include netting, plastic or natural monofilament netting or other materials that may entrap frogs or snakes.

2.3.14 After completion of the project, the access routes in the wetland will be revegetated with appropriate native plants and erosion control measures will be installed on exposed soils with slopes of 3:1 or greater.

2.3.15 To the maximum extent possible, all construction activities will occur in uplands and on the golf course. Stockpiling and staging areas will be located in the uplands and in areas cleared for species and the golf course. Construction materials (bricks, boards, shoring, concrete forms, etc.) shall be elevated approximately four to six inches above ground whenever feasible to minimize the potential for species to take cover under these items.

Minimization and mitigation measures for golf course maintenance and operations

2.3.16 During and following completion of the Project, the water pumps will be operated pursuant to the following criteria:

- SFRPD staff will operate the pumps to ensure, to the maximum extent practicable, that CRLF egg masses at HSP, LS and the connecting channel are protected from desiccation as a result of pump operation by monitoring and adjusting pump levels to keep egg masses hydrated.
- A biological monitor from the SFRPD Natural Areas Program with appropriate experience, knowledge and permit authority from the USFWS, will monitor closely CRLF egg masses and water levels.
- Appropriate water levels will be determined by conducting visual surveys of CRLF egg masses in potential habitat areas around HSP, LS and the connecting channel.
- Visual surveys will commence following the first rains in November or thereafter and continue throughout the CRLF breeding season after each major rain event but not less than once every three weeks until all the tadpoles have hatched. If, for example during drought years, rains do not commence in November or December, surveys should begin in the first week of January.
- During the visual surveys, data on the CRLF egg masses including attachment type, water depth, size of egg mass, and Gosner stage will be taken, and a determination of potential stranding will also be made.
- If CRLF egg masses are observed at HSP, Laguna Salada or the connecting channel and there is sufficient water surrounding the mass, no adjustments to the water level will be made. But if one or more egg masses are observed to not possess sufficient water around it to prevent stranding, the water level that triggers operation of the pumps will be adjusted upwards, even at the risk of flooding the golf course.
- Pump levels will be set relative to the CRLF egg mass with the least amount of water around it; in other words, the pumps will be set to a level to protect the most vulnerable egg masses.
- Following pump adjustments, the site will be resurveyed to ensure that the new pump levels have been achieved and the vulnerable egg masses are safe from desiccation.
- Once all the CRLF eggs have hatched and the tadpoles are no longer aggregating about the egg mass, the water level will be lowered incrementally and the dewatering is monitored to ensure that CRLF tadpoles are not stranded by receding waters.
- When no egg masses are present, the water levels may be lowered to reduce flooding on the Property or in advance of the rainy season in November in order to increase flood storage capacity and to reduce the potential formation of ephemeral swales in unsustainable habitat areas (such as those on the eastern side of LS).

2.3.17 During and following completion of the Project, if CRLF egg masses are determined to be at risk because they are deposited in ephemeral swales or in other conditions that are not sustainable, an SFRPD biological monitor with the Natural Areas Program will apprise USFWS of the situation, and provide USFWS with an opportunity to request that the City implement protective measures such as bending vegetation to adjust the egg mass to the water level or relocating egg masses to more sustainable habitats.

2.3.18 During and following completion of the Project, mowing will occur pursuant to the following criteria:

- The area to be mowed will be the minimum required to maintain the golf course. A no-mow zone area, which includes the roughs adjacent to the wetlands, will be identified with stakes or other markers on the ground (see Figure 2-5). Golf staff will be instructed not to mow in these areas.
- Regular mowing schedules will be adjusted in the areas adjacent to the LS wetlands to minimize the potential for encounters with frogs and snakes. To the extent feasible, mowing of fairways and greens adjacent to LS would occur in the early morning hours before 9:00 a.m.
- If mowing occurs prior to dawn, for example in the winter, the SFRPD will ensure that the mowers are equipped with lights so that drivers can see the turf in front of them.
- All mower operators will be trained to identify the CRLF and SFGS and instructed to stop any activities if they observe any red or brown frog or any garter snake on the course.
- If any red or brown frog or any garter snake is encountered in the pathway of a mower, the operator will cease the mowing activity and wait for the animal to remove itself from harms way or discontinue the mowing activity in that area for the day. If the animal does not move out of harms way, the SFRPD biological monitor with the Natural Areas Program will be contacted. Work may not recommence in the area until the area has been determined to be clear of CRLF or SFGS.

2.3.19 During and following completion of the Project, only organic fertilizers, such as pro-biotics and compost tea, will be used at Sharp Park, and they will only be applied to the greens, tees and surrounds. No fertilizers will be applied to fairways.

2.3.20 During and following completion of the Project, the City does not anticipate the need to use any chemical pesticides on the golf course or associated landscaped

areas at Sharp Park. In the unlikely event of a major fungal outbreak on the golf

Figure 2-5 No Mow Area [TO COME]

course, the City would consult with the San Francisco Department of the Environment's Integrated Pest Management Program to identify the least toxic material to use to control the outbreak and would comply with labeling and other restrictions imposed by the U. S. Environmental Protection Agency. In addition, the City would notify USFWS prior to the application

2.3.21 During and following completion of the Project, gopher control will occur pursuant to the following criteria:

- Whenever gopher mounds are formed, the mounds will be raked away from the opening of the hole
- In order to set gopher traps, a clump of turf and dirt will be removed from the ground such that the middle of the main tunnel is exposed. U-shaped wire sprung gopher traps will be placed in the burrow on either side of the hole. The clump of turf will then be immediately placed back in the hole.
- Typically, traps will be checked and removed before the end of the work day and will not be left in place for more than 24 hours.

2.3.22 During and following completion of the Project, vehicle use on the golf course will be reduced. The City will reduce golf cart use on turf areas by establishing, posting, and enforcing cart path only and 90-degree only rules on the course. In areas adjacent to sensitive habitats (i.e., Holes 9 through 17 west of the Pacific Coast Highway (PCH) and adjacent to LS, HSP, Sanchez Creek and the connecting channel) rules will stipulate that golf carts will be restricted to paved paths only. In the rest of the course, carts may be taken off the path but only following the 90 degree rule (golfers may drive to their ball by entering the golf course from the cart path at 90 degrees to their ball and returning to the golf cart along the same route after completing the swing). In order to implement these rules, the City will post signs throughout the course and in the golf carts stating where golf carts must stay on paths and where the 90-degree rule applies. The Golf Course marshals and golf course maintenance staff will be instructed to enforce these rules throughout the course.

If non-mowing vehicles associated with golf course maintenance must be taken off path on the golf course, the area must be visually surveyed in advance for

CRLF and SFGS. If a CRLF or SFGS is sited in the maintenance work area and the animal does not relocate itself to adjacent habitat and out of harms way, the SFRPD biological monitor with the Natural Areas Program will be notified of the location and condition of the animal. If the animal is at risk due to other conditions (e.g., if it is located in the parking lot or maintenance area) the SFRPD biological monitor will relocate the animal to suitable nearby habitat and/or contact the USFWS and/or CDFG for guidance. If the animal is at risk, work must be suspended until the CRLF or SFGS removes itself from harms way.

2.3.23 The SFRPD will continue to conduct regular staff training. SFRPD staff will be taught how to identify species of concern, conduct activities incorporating the required minimization measures in areas where appropriate, and determine what conditions require cessation of work and what situations require notification of a biological monitor. Upon completion of additional training, staff will be able to perform routine maintenance tasks within the golf course footprint such as changing pin placements; removing ball marks from surfaces; roping off, repairing, and reporting damage to sensitive areas to the SFRPD Natural Areas Manager; filling divots with seed mixes; removing foreign objects; replenishing and raking sand in bunkers; removing debris from fairways; conducting landscaping activities; mowing fairways and greens; hand or mechanized trimming of vegetation that cannot be mowed; applying organic fertilizers and compost tea with machinery, aerating and irrigating play surfaces; controlling gophers; and maintaining plumbing and electrical systems.

2.3.24 All golf course related activities occurring in the no-mow zones adjacent to LS, HSP, Sanchez Creek and adjacent wetlands must be overseen by the SFRPD biological monitor with the Natural Areas Program. Prior to the commencement of any work in these areas, the biological monitor with the Natural Areas Program must be contacted. The biological monitor will evaluate whether the activity requires that measures such as exclusion barriers, burrow collapsing or incremental vegetation removal be implemented in order to protect the species.

The Natural Areas Program biological monitor will oversee the implementation of these measures.

2.3.25 The SFRPD will distribute educational materials developed in cooperation with USFWS to staff, Park users, and golf patrons. These materials will include means to identify CRLF and SFGS, a synopsis of their natural history, including habitat requirements, information on their distribution and abundance at the facility, and procedures for avoidance and who to contact in case of a question.

2.3.26 The SFRPD will distribute or install educational materials (brochures, or interpretive or regulatory signs) where appropriate around LS and HSP, the golf course entrances, and in the clubhouse stating that golfers and park users and their pets are prohibited from entering LS and HSP, dogs are to remain on leash, and that leaving food for cats is prohibited. The signs will also state that releasing animals in the park is prohibited. If a feral cat feeding station is discovered at Sharp Park, it will be removed as soon as practicable. The SFRPD will cooperate with GGNRA on their regional effort to address free-roaming cats at Mori Point and Sharp Park

2.3.27 The SFRPD will maintain a 3 foot wood fence around HSP and a 3 foot wire-mesh fence along the eastern edge of the seawall, to keep dog walkers and other park users from entering HSP and LS from the seawall. "No Access" signs will be installed on the fence.

2.3.28 The SFRPD will restrict the use of vehicles on Mori Point Road, from Moose Lodge to HSP, over which the City has an easement.

2.3.29 Routine annual surveys for potentially detrimental non-native invasive animal species, particularly bullfrogs, predatory fish and non-native turtles, will be scheduled and supervised by the Natural Areas Program biological monitor. Monitoring surveys for bullfrogs would be conducted in the spring and could consist of searches for egg masses, calling surveys and visual surveys. If individuals of potentially destructive animal species are encountered, control methods will be developed and, with USFWS approval, implemented. Among the methods that could be employed include draining of the water body (Arrowhead

Reservoir), hand removal of egg masses, dipnetting for tadpoles and culling of adults. These control activities would be conducted by a USFWS-approved biologist.

2.3.30 Surveys for infestations of invasive non-native and particularly aggressive native plant species that reduce habitat value for desired wildlife will also be conducted annually. Where feasible and with the approval of USFWS, hand removal of these aggressive species would be conducted. Large-scale mechanical control or eradication efforts will be initiated as part of the long-term restoration plan of the site.

2.3.31 Golf course staff engaged in activities and who detect any CRLF or SFGS on the course that does not move of its own accord and would otherwise be in harm's way, must immediately report their finding to the biological monitor with the Natural Areas Program and attempt to prevent harm to the individual(s).

2.3.32 During and following completion of the Project, the SFRPD shall maintain and keep in good repair the sea wall road, which provides the only vehicle access to the pumphouse and for garbage collection and mosquito abatement as described in paragraph 2.2.2.5, above.

SECTION 3.0 – GENERAL ENVIRONMENTAL SETTING

3.1 SIGNIFICANT LANDFORMS, GEOLOGICAL FEATURES, AND SOILS

Elevations in Sharp Park range from sea level to approximately 750 feet above sea level in the southeastern corner of Sharp Park. The western portion of the park is relatively flat, with most of the elevation change occurring on the east side of Highway 1. Soils in the park have been mapped as the Barnabe-Candlestick complex and Candlestick Variant (loams), with sands along the ocean and disturbed soils (cut, filled, graded) in the golf course area (Brabb and Pampeyan 1983; USDA 1991).

3.2 WATERSHED BOUNDARIES AND DRAINAGE PATTERNS

The 411-acre Sharp Park property lies within an approximately 980-acre watershed that includes both developed and undeveloped areas (see Figure 1-1). Runoff from the watershed – including runoff from PCH – that is not captured at a small reservoir east of Sharp Park and does not percolate into the ground flows to the wetlands complex at Sharp Park.

In addition to sheet flow from neighboring lands, there are three sources of surface water inflows to the Project site. Sanchez Creek, augmented in its lower reaches by highway drainage and runoff from a residential neighborhood, is the largest source of storm runoff. The creek flows westerly through portions of the golf course before it is directed into a culvert that discharges into a channelized drainage and flows into the wetland near HSP. A second inflow collects runoff from a network of storm drains that enter the Project site near the golf course clubhouse via an underground culvert that discharges into eastern side of LS. A third inflow collects runoff from a network of storm drains that enter the site via an underground culvert that discharges into the northern side of LS.

From 1941 to 1952, a seawall was constructed, which eliminated a hydrologic connection between the Pacific Ocean and LS, the principal surface water body in Sharp Park. Prior

to the construction of the seawall, there was an interemittent connection between LS and the Pacific Ocean such that water fluctuated from salty to brackish to fresh. Construction of the sea wall greatly reduced tidal exchange with, as well as outflow to, the Pacific Ocean. In the past, the seawall has been breached during large storm events, most recently in the mid-1980s.

3.3 BIOLOGICAL SURVEYS

Numerous field surveys have been conducted on the Project site by Swaim Biological and City staff as well as other consultants. Reports documenting the results of these surveys are as follows:

* Fong & Campo (2006);
* Fong et al. (2009);
* Geomatrix (1986);
* Philip Williams & Associates (1992);
* Swaim (2008); and
* Swaim (2005).

In addition, background materials regarding vegetation and wildlife was adopted from the Final Draft of the City's Significant Natural Resources Areas Management Plan (2006).

3.4 SITE VEGETATION COMMUNITIES AND ASSOCIATIONS

The vegetation of Sharp Park was classified into 29 series (Table 3-1). Of the total 237.1 acres of natural areas at Sharp Park, approximately 64 percent of the area is non-native forest; 18 percent is native and non-native scrub; 5 percent is grassland (annual and perennial) and herbaceous series; 9 percent is wetland; and 4 percent is classified as "other" (open beaches, open water, roads, and other developed areas).

3.4.1 Forest

Four forest series were mapped at Sharp Park and they account for over half of the natural areas' total acreage. The majority of the area was mapped as blue gum forest and mixed exotic forest covering approximately 66.07 and 70.72 acres, respectively,

primarily east of the PCH. Slightly less than 12 acres of cypress forest were mapped, primarily along the edges of the golf course on the western side of the PCH.

3.4.2 Scrub

The Natural Areas at Sharp Park support a wide array of scrub habitats. Most of these are located in the upper canyon area east of the PCH. Of the 10 types of scrub habitats mapped at Sharp Park, nine are dominated by native species. The willow (7.23 acres), dogwood (1.86 acres), and thimbleberry (0.46 acres) scrub series are found in the lower canyon along the creek. Oceanspray (10.07 acres) and red elderberry (3.57 acres) series are scattered midway up the slopes throughout the canyon. The California sagebrush (4.19 acres) and most of the coyote brush (11.49 acres) series are found on the upper slopes of the canyon. A small patch of California blackberry scrub (0.20 acres) is in the marsh area of LS. The only non-native scrub formation mapped at Sharp Park is French broom scrub (4.25 acres) that is scattered through the eastern portion of the park.

3.4.3 Grassland, Herbaceous, and Open Water

The open water of LS, HSP, and Arrowhead Reservoir comprise approximately 4 acres of the Natural Areas. Of the eight grassland/herbaceous series, iceplant (*Carpobrusus edulis*) (1.45 acres), purple false brome grassland (3.00 acres), and orchard grass grassland (5.45 acres) account for the majority of area covered by the grassland and herbaceous series.

3.4.4 Wetland

Seven wetland series were mapped at Sharp Park. All of these can be found around and within LS. In 2001, the bulrush/cattail wetland occupied approximately 18.1 acres around LS. Over the last several decades, the extent of this vegetation has increased, replacing the open water. The 2008 wetland delineation prepared for Laguna Salada indicated that freshwater wetland occupies 19.6 acres (Tetratech 2008). A small wetland around LS

contains salt-tolerant marsh species, which may be relicts from the time when the lagoon was connected to the ocean and subsequent saltwater intrusion.

Table 3-1 – Vegetation at Sharp Park

	Vegetation Series	Total Acreage
Forest	blue gum forest	66.07
	cypress forest	11.81
	mixed exotic forest	70.72
	pine forest	2.20
	Subtotal	**150.80**
Scrub	California sagebrush scrub*	4.19
	California blackberry scrub*	0.20
	dogwood scrub*	1.86
	coyote brush scrub*	11.49
	French broom scrub	4.25
	oceanspray scrub*	10.07
	poison oak scrub*	0.33
	red elderberry scrub*	3.57
	thimbleberry scrub*	0.46
	willow scrub*	7.23
	Subtotal	**43.66**
Grassland	ripgut brome grassland	0.38
	purple false brome grassland	3.00
	orchard grass grassland	5.45
	Subtotal	**8.84**
Other Herbaceous	poison hemlock	0.09
	mixed exotic herbaceous	0.42
	iceplant herbaceous	1.45
	Subtotal	**1.96**
Wetland	lady fern wetland*	0.04
	bulrush/cattail wetland*	18.11
	horesetail meadow*	0.02
	pondweed marsh*	0.67
	rush meadow*	0.02
	saltgrass/pickleweed marsh*	0.75
	silver weed marsh*	1.58
	Subtotal	**21.20**
Other	open water	3.93
	developed	6.73
	Subtotal	**10.67**
Grand Total		**237.12**

3.5 WILDLIFE

3.5.1 Birds

The variety of habitats at Sharp Park provide suitable foraging, nesting, and roosting habitat for a number of bird species. The forest habitat of Sharp Park provides potential nesting habitat for raptors and owls. Both red-tailed hawk (*Buteo jamaicensis*) and red-shouldered hawk (*Buteo lineatus*) are known to breed within Sharp Park. The complex of scrub habitats in the upper canyon provides habitat for resident and migratory songbirds including dark-eyed junco (*Junco hyemalis*), California towhee (*Pipilo crissalis*), Western scrub-jay (*Aphelocoma californica*), and American robin (*Turdus migratorius*) among others. The wetland habitats surrounding LS provide habitat for marsh species, such as saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*), Virginia rail (*Rallus limicola*), sora (*Porzana carolina*), red-winged blackbirds (*Agelaius phoeniceus*), and others. The saltmarsh common yellowthroat is not listed under the ESA, but it is a California species of special concern. In the middle of the canyon, the area surrounding Arrowhead Reservoir and a nearby patch of willow scrub provide nesting, roosting, and foraging habitat for swallows, flycatchers, thrushes, and other birds that prefer to use dense riparian scrub or forests closely associated with water.

3.5.2 Mammals

The diversity of habitats, especially the upper canyon areas, likely supports a relatively wide array of small mammals. A California meadow vole (*Microtus californicus*) was observed near LS (EIP field visit, April 12, 1999). Species that likely are present include dusky-footed woodrat (*Neotoma fuscipes monochroura*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and Virginia opossum (*Didelphis virginiana*). Surveys, conducted in 2008 for the dusky-footed woodrat, determined that the woodland and riparian areas east of Highway 1 are used extensively by this species (Wayne 2008). Review of relevant reports indicates that native gray fox (*Urocyon cinereoargenteus*) and the introduced red fox (*Vulpes fulva*) were common through the area in the past (Philip Williams & Associates 1992). Free-roaming domestic cats have been observed on site

and are relatively common.

3.5.3 Amphibians and reptiles

The LS area has been the subject of specific amphibian and reptile surveys. These efforts have documented the presence of western pond turtle (*Clemmys marmorata*), California slender salamanders (*Batrachoseps attenuatus*), Pacific chorus frog (*Pseudacris (Hyla) regilla*), CRLF, SFGS, western yellow-bellied racers (*Coluber constrictor mormon*), and coast garter snake (*Thamnophis elegans terrestris*). Pacific rubber boa (*Charina bottae bottae*) and rough-skinned newt (*Taricha granulosa granulosa*) have been reported from Sharp Park east of PCH (Swaim 2008; EIP field visit, April 12, 1999; Philip Williams & Associates 1992). The wetlands surrounding LS, HSP, Arrowhead Reservoir and Sanchez Creek provide habitat or potential habitat for these species. The western pond turtle is not listed under the ESA, but it is a California species of special concern.

3.5.4 Invertebrates

A population of San Francisco forktail damselfly (*Ischnura gemina*) was discovered in association with the wetlands of Sharp Park in 1988 (Philip Williams & Associates 1992). More recently, a single San Francisco forktail damselfly was observed on the northern side of HSP (Swaim 2008). The San Francisco forktail damselfly is not listed under the ESA, but it is endemic to the San Francisco Bay Area and is listed as an IUCN Red List Endangered species.

The 2006 Natural Areas Management Plan identifies Mission Blue butterfly (*Icaricia icarioides missionensis*) as being reported from Sharp Park in 1988 (SFRPD 2006). There is a small grassland area on the far eastern portion of the Sharp Park property that is contiguous to Sweeney Ridge, a site known to support Mission blue butterfly. In addition, the small grassland contains host plants for this species. The Mission blue butterfly is a federally listed endangered species.

4.0 LISTED SPECIES AND ASSESSMENT OF HABITAT

4.1 INTRODUCTION

Based on biological surveys conducted on the Project site, we identified SFGS and the CRLF as listed species that may be present on the Project site. Other listed species were removed from more detailed consideration because they were not observed during the extensive biological surveys that have been conducted onsite. The Mission blue butterfly is not expected to exist in the Project site as the suitable habitat is located over 0.5 mile away, this species is not known to venture from its habitat, and the habitat between the construction, operation and maintenance areas contain heavily wooded areas that are inhospitable to this species.

4.2 LISTED PLANT SPECIES

No known listed plant species occur on the Project site.

4.3 LISTED WILDLIFE SPECIES

4.3.1 San Francisco garter snake (*Thamnophis sirtalis tetrataenia*)

Description:

The San Francisco garter snake is a slender, colorful snake that is endemic to the San Francisco peninsula. The SFGS was listed as endangered in 1967 under a predecessor to the ESA, and it retains that status today (USFWS 2006). No critical habitat has been designated for this species. A recovery plan for this species was released in 1985 (USFWS 1985).

Biology of the Species:

The SFGS is one of a number of subspecies of the common garter snake (USFWS 1985). The SFGS is identified by a burnt orange head, yellow to a greenish-yellow dorsal strip

edged in black, and a red lateral stripe which may be continuous or broken with black blotches and edged in black. The belly color varies from greenish-blue to blue. Large adults can reach four feet in length (USFWS 1985).

The SFGS prefer habitat in vegetated ponds or marshes near an open hillside where they can bask in the sun, feed, and find cover in rodent burrows. They also show affinity for shallow, open water habitat, possibly because their preferred prey rely on such habitat (USFWS 2006). CRLF constitutes one important prey item of the species though it also feeds on other small amphibians and fish (USFWS 1985). Mature SFGS may also feed on small mammals (USFWS 1985). The SFGS is very wary and shows a great aversion to crossing over large open areas (USFWS 1985; Geomatrix 1986). The species shows a tendency to remain in close proximity to aquatic habitat (USFWS 2006).

The mating season for SFGS occurs in both the spring and the fall though it appears to be concentrated in the spring (USFWS 2006). The females of the species give birth to up to two dozen or more live young. After breeding, SFGS tend to be less active in the summer and fall. Peak basking time during the day is typically mid morning, with activity levels declining over mid-day; however these patterns are highly weather dependent.

Distribution:

The SFGS is endemic to the San Francisco peninsula, with all known historic and contemporary records of the snake limited to San Mateo County, California.

Status Onsite:

Over the last several decades, SFGS have been sighted sporadically at Sharp Park and adjoining properties (see Table 4-1). In 1986, following the breach of the seawall at Sharp Park due to winter storms in both 1983 and 1986, SFGS were not located on-site despite extensive surveys from March to July 1986 (Geomatrix Consultants 1986). Since then, SFGS sightings have been infrequent. The authors of a 1992 report on the LS wetlands stated that "[n]o SFGS were found on site" and went on to conclude that if they

do occur on site, "there numbers are extremely limited" (Philip Williams & Associates 1992). At the same time, they did report two SFGS occurrences in Mori Point in 1990-91 and a further, single occurrence in 1992. In recent years, there were few sightings. In 2004, seven SFGS were captured a total of ten times, including five captures at Mori Point, four at HSP, and one near LS (Swaim 2005). During a separate set of surveys, in 2004, six additional SFGS were captured at Mori Point (Swaim 2008). In addition, in May 2005, an individual reported to the Golden Gate National Parks Conservancy that he had located the remains of an SFGS on the Sharp Park golf course (Salisbury 2011). It is unclear how long the remains had been there and whether they were moved. In 2006, 13 SFGS were captured at Mori Point (Swaim 2008). Then in 2008, five SFGS were captured at Mori Point and two SFGS were observed in Sharp Park near HSP (Swaim 2008). Since 2008, no trapping or extensive visual surveys for he SFGS have been conducted at HSP or other wetlands and one has reported sighting an SFGS at Sharp Park. In November 2009, a single dead juvenile SFGS was found on Fairway Drive in the residential community south of Sharp Park (Wayne, pers. comm.). This animal had puncture marks throughout its body suggesting that the animal died from predation by a domestic cat or other predator. This snake was collected by K. Swaim under authorization by the USFWS Recovery Permit and DFG MOU. Feral cats and outdoor house cats frequent the ponds and wetlands at Mori Point during all times of the year and have been seen searching the perimeter of the ponds as they dry (Swaim, pers. comm. 2012).

Table 4-1. Summary of San Francisco Garter Snake Data [TO COME]

Date	Location	Source	Summary

4.3.2 California red-legged frog (*Rana draytonii*)

Description:

The California red-legged frog is one of two subspecies of the red-legged frog (*Rana aurora*). It is the largest native frog in the western United States, and it is endemic to California and Baja California, Mexico. In 1996, the CRLF was listed as threatened under the ESA (USFWS 1996). USFWS designated critical habitat for the species most recently in 2010 (USFWS 2010b). The recovery plan for this species was released in 2002 (USFWS 2002).

Biology of the Species:

The CRLF is California's largest native frog at a length of up to 138 mm for females and 116 mm for males (USFWS 2002). It is brown to reddish-brown with diffuse moderate-sized dark brown to black spots that occasionally have light centers. The CRLF is readily identified by its distinct dorso-lateral folds. Dark bands stripe the dorsal side of the hind legs and red coloration is typical of the ventral side of the hind legs.

CRLF males become sexually mature at 2 years of age and females become sexually mature at 3 years of age (Jennings and Hayes 1985). The CRLF breeds between November and April (USFWS 2002), with earlier breeding occurring in southern California. A reproductively active, female CRLF will only produce one clutch during a breeding season. Egg masses are commonly attached to vertical emergent vegetation such as cattails and tules, but they can also be attached to mud or other substrates (USFWS 2002). The CRLF deposits its eggs in masses (typically 2,000 to 5,000 eggs per mass) just below the water line of lakes, ponds, and streams during or shortly after significant rainfall events. Eggs hatch in 6 to 14 days (USFWS 2002). Nighttime is typically the most active time for CRLF to disperse and reproduce.

The CRLF is generally found near water but often disperses to upland habitat after rains where it forages (Swaim 2008). Scientists have observed a wide range of dispersal

distances. For example, Fellers and Guscio observed dispersal ranging from 30 to 1400 meters (Fellers and Guscio 2004). One hundred percent of CRLF egg masses die at salinity levels of 4.5 parts per thousand (ppt), and larvae cannot survive in concentrations higher than 7.0 ppt.

Distribution:

The CRLF ranges from the north coast and northern Sierra Nevada range of California into Baja California, Mexico (USFWS, 2002). The rangewide distribution of the species is described in detail in the Recovery Plan and Final Rule designating critical habitat (USFWS 2002; USFWS 2010b).

Status Onsite:

In 1986, following the breach of the seawall at Sharp Park due to winter storms in both 1983 and 1986, CRLF were not located on-site despite extensive surveys from March to July 1986 (Geomatrix Consultants 1986). During surveys conducted from May 1990 to May 1991, 100 juvenile CRLF were located around HSP while less than 20 frogs were counted around Laguna Salada proper, an area vastly larger than HSP. In March 1992, an unspecified number of egg masses were located at HSP (Philip Williams & Associates 1992).

CRLF surveys were reported for the periods 2004-2006 and 2007-2009 by the City working in cooperation with the National Park Service (Fong & Campo 2006, Fong et al. 2009). Egg mass counts at Sharp Park (which includes LS and HSP) were 55, 16, and 45 in 2004, 2005, and 2006, respectively (Fong & Campo 2006, Table 3) (See Table 4-2). Egg mass counts at LS were 30, 119, and 87 in 2007, 2008, and 2009, respectively (Fong et al. 2009). Whereas in 2004 and 2005, stranded egg masses accounted for 25 and 37 percent of observed egg masses in the LS watershed, in 2007 and 2008, they accounted for 10 and 3 percent of the observed egg masses (Fong et al. 2009). In 2011, there were 159 CRLF egg masses detected on Sharp Park property (Campo 2011).

Table 4-2: Summary of California Red-Legged Frog Egg Mass Data [TO COME]

Date	Sharp Park	Mori Point	Total

Swaim Biological captured numerous adult and juvenile CRLF in trapping studies at Sharp Park and Mori Point in 2004, 2006 and 2008 and documented rapid colonization of an enhanced wetland and three newly created ponds at Mori Point by breeding populations of CRLF (SBI 2009) (See Table 4-3).

Table 4-3: Summary of Juvenile and Adult California Red-Legged Frog Data [TO COME]

Date	Sharp Park	Mori Point	Total

4.3.3 Mission blue butterfly

Description

The Mission blue butterfly (*Icaricia icarioides missionensis*) is a small, nickel-sized member of the Lycaenidae family, or "gossamer-winged" butterflies. The males are silvery blue and the females are slate grey to brown, with some blue towards the middle of the upper fore and hindwings. In 1976, the Mission blue was listed as endangered

under the ESA (USFWS 1976). USFWS proposed critical habitat for the species in 1977 but never designated critical habitat (USFWS 1977). The recovery plan for this species was released in 1984 (USFWS 1984).

Biology of the Species

Contingent on the rainfall in spring, adults fly from mid-March to early June, with peak emergence in late May. The imago (adult phase) live eight to ten days (USFWS 1984). Females lay eggs on leaves, buds and seed pods on three types of lupine including silver lupine (*Lupinus albifrons* var. *collinus*), summer lupine (L. *formosus*) and varied lupine (L. *variicolor*) (Thelander and Crabtree 1994).

The eggs are round, bright, and white, typically laid singly on the upper surface of the lupine leaflet. Eggs hatch within 6 to 10 days and the first and second instar larvae feed on the leaf tissues. Approximately 3 weeks after the eggs hatch, the larvae enter an obligate diapause usually in the litter at the base of the plant. Larvae emerge and continue feeding the following spring. Ants (*Formica lasioides* and *Prenolepis imparis*) tend the third and fourth instar larvae, protecting them from predators and parasites in exchange for sugary secretions the ants feed on.

Adult Mission blue butterflies use many different nectar sources, including coast buckwheat (*Eriogonum latifolium*), California phacelia (*Phacelia californica*), checkerbloom (*Sidalcea malviflora*), yarrow (*Achillea millefolium*), blue-eyed grass (*Sisyrinchium bellum*), blue dicks (*Dichelostemma capitatum*), Ithuriels's spear (*Triteleia laxa*), coyote mint (*Monardella villosa*), golden aster (*Heterotheca sessiliflora bolanderi*), California horkelia (*Horkelia californica*), narrow-leaved mule ears (*Wyethia angustifolia*), and brownie thistle (*Cirsium quercetorum*). They are also known to use nonnative forbs such as Italian thistle (*Carduus pycnocephalus*), milk thistle (*Silybum marianum*), and rough cat's ear (*Hypochaeris radicata*)

Mission blue butterflies tend to fly low to the ground in search of potential mates, oviposition sites, and nectar sources. Trees, scrub, annual grasses, and tall forbs can create navigational challenges to Mission blues. Presence of adult Mission blue butterflies is correlated not only with host plant presence, but also with bare ground. A site dominated by host plant and nectar source vegetation and high cover of bare ground allows Mission blues to quickly and efficiently find mates and host plants during their short flight season (Bennett 2008, Lucas 1998).

Distribution

The Mission blue now occurs only in northern San Mateo County (San Bruno Mountain, Sweeney Ridge, and a small colony on Milagra Ridge), San Francisco County (Twin Peaks), and Marin County (small pockets along the Southern Headlands, Fort Baker, and along the eastern edges of the Golden Gate National Recreation Area [GGNRA]).

Onsite status

The 2006 Natural Areas Management Plan identifies Mission Blue butterfly (*Icaricia icarioides missionensis*) as being reported from Sharp Park in 1988 (SFRPD 2006). There is a small grassland area (less than an acre) on the far eastern portion of the Sharp Park property that is contiguous to Sweeney Ridge, a site known to support Mission blue butterfly. In addition, the small grassland contains host plants for this species.

There are no project activities that are proposed near the Mission blue butterfly habitat. The Project construction action is located over 1.25 miles away and the golf course maintenance and operations are at least 0.5 miles away from the Mission blue butterfly habitat. In addition, the Mission blue butterfly is a localized species which is known to only occur in areas containing host and larval food plants. This species is not expected to venture into the vast exotic forests that exist between its ridgeline habitat and the golf course. As such, the Mission blue butterfly is excluded from further consideration in the Biological Assessment as there are no direct, indirect, cumulative or interrelated or interdependent activities associated with this project that would affect this species.

5.0 EFFECTS ANALYSIS

This section assesses the potential effects of the proposed Project on the listed species present on the site. The Project Description is provided in Section 2, and it includes the construction action described in Section 2.2. In addition, the applicant has proposed minimization and mitigation measures to ensure that construction and operational impacts – including those described in Section 2.3 – are minimized and mitigated. These measures are described in detail in Section 2.4 and are part of the Project Description.

The effects of the action include "the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, which will be added to the environmental baseline." 50 C.F.R. 402.02. The environmental baseline encompasses the past and present impacts of all other actions and environmental stressors within the action area, which affect the listed species and its habitat. The focus of an effects analysis is evaluation of the effects of an action by a federal agency that has the potential to harm listed species and/or designated critical habitat. The ultimate purpose of the effects analysis is to inform the determination of the Fish and Wildlife Service as to whether a proposed action is either likely or unlikely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of its critical habitat. Here, because the action area is not designated critical habitat for the CRLF and because USFWS has not designated critical habitat for SFGS, the focus is on whether the action is likely to jeopardize the continued existence of CRLF and/or SFGS.

For the purpose of this BA, direct effects are direct or immediate effects of the Project on the listed species or their habitat. Indirect effects of the Project on the listed species or their habitat are those that are caused by or result from the Project, are later in time, and are reasonably certain to occur. An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation. The *Consultation Handbook* explains that "the analysis of whether

other activities are interrelated to, or interdependent with, the proposed action under consultation should be conducted by applying a 'but for' test" (USFWS and NMFS 1998). Cumulative effects include the effects of future State, tribal, local or private actions, not involving a federal action, that are reasonably certain to occur in the action area. 50 C.F.R. 402.02.

5.1 DIRECT EFFECTS

The potential direct impacts to SFGS and CRLF associated with Project implementation include effects of vegetation and sediment removal from Horse Stable Pond and the connecting channel, the construction of a walkway including placement of concrete support structures around the pump intake, and associated staging. These are illustrated in Figures 2-2 to 2-4. Acreages associated with the direct impacts are provided in Table 5-1.

Table 5-1: Acres of Vegetation within the Project Site and Estimated Acres of Impact from the Proposed Project

Vegetation	Total On-site (Acres)	Temporary Excavation	Permanent Excavation (footings and wall)	Permanent Steps, walkway	Permanent Cart path	Total Acres	% Total on-site
Upland – ruderal*	10.8	0.09		.001		0.091	.84%
Upland – golf	173.8	0.23			.01	0.24	.13%
Open Water	3.93	0.08				0.08	2%
Freshwater Wetland	18.11	0.21	.0003			0.223	1.2%
Totals		0.61	.0003	.001	.01	0.624	

Includes grasslands and other herbaceous

5.1.1 California Red-Legged Frog

Direct impacts to CRLF are possible as a result of project construction. Construction activities including pathway, walkway, retaining wall repair and construction and sediment and vegetation removal have the potential to result in injury or mortality due to construction vehicles and equipment. The project is being implemented in late summer and fall to avoid any impact on CRLF breeding activities. Because the vast majority of work is taking place on the golf course or from the access roads and during daylight hours, no significant impacts to CRLF dispersal between aquatic habitats or foraging activity is expected. CRLF in the immediate excavation and/or vegetation removal footprint may be disturbed by vibration of equipment near or in HSP and the connecting channel and temporarily flee into nearby cover. Pre-construction surveys, active removal of CRLF from construction zones and on-going monitoring during construction, are expected to protect individual frogs from being crushed by equipment or injured. Relocation may inadvertently harm or harass these individuals but not adversely affect them given the extensive amount of local and familiar habitat to which the individuals can be relocated. Construction activities that result in injury or mortality would adversely affect CRLF.

The direct effects of the Project on CRLF include both temporary and permanent impacts to upland habitat. Temporary impacts to upland habitat will result from the use of construction equipment at the Project site to 1) install steps and replace the retaining wall adjacent to the pumphouse at HSP, 2) construct the walkway and cart paths, and 3) excavate sediments and emergent vegetation from HSP and the connecting channel. Vehicle access routes and staging areas required for the construction of these project elements will largely be situated in the ruderal upland habitat and on the golf course see Figures 2-2 through 2-4). The use of such equipment could harm CRLF and temporarily reduce cover for the CRLF in localized areas used for access routes and equipment staging at HSP and along the connecting channel. Impacts to upland habitat would be short term, very localized, and in small disjunct patches that will continue to be surrounded by extensive cover. Implementation of post-construction restoration efforts

will further mitigate reductions in cover for CRLF. Permanent impacts to upland habitat will result from the placement of structures and materials at the Project site, namely, installation of the steps and realignment of the cart path. This impact will potentially reduce the quality of these small affected areas as habitat for the species. The total footprint subject to temporary disturbance is 0.09 acres of ruderal upland that provides potential habitat for CRLF and SFGS.[2] This area includes access and staging areas near HSP and the connecting channel. Additionally approximately 0.001 acres of potential ruderal upland habitat, associated with the construction of the steps to the pumphouse intake would be permanently affected. Combined, the temporary and permanent disturbance area is 0.091 acres, which represents 0.84 percent of the upland habitat on the Project site. The area affected is not designated as critical habitat for CRLF, but even if it was, it would only constitute 0.00004 percent of the critical habitat for the species. (The species' critical habitat is 1,636,609 acres (USFWS 2010b).)

The direct effects of the Project on CRLF also include both temporary disturbance and permanent impacts to wetland habitat. Temporary disturbance to wetland habitat will result from the removal of cattails, bulrush, and sediment from HSP and the connecting channel and associated short-term increase in suspended sediments in the water column. Use of construction and other equipment at the Project site to install concrete support structures for the walkway and the retaining wall on the west side of HSP adjacent to the pumphouse may also temporarily disturb areas used by CRLF. Permanent impacts to wetland habitat will result from the placement of structures and materials, namely, footings for the walkway and replacement of the existing retaining wall on the west side of HSP adjacent to the pumphouse. These impacts potentially lower the quality of the affected area as CRLF habitat. The total amount of wetland habitat subject to temporary impacts is approximately 0.21 acres (associated with excavation and access) and permanent impacts is 0.003 acres. Combined, this represents 1.2% percent of the wetlands on the Project site. The area affected is not designated as critical habitat for

[2] An additional and 0.23 acres of golf course will be temporarily impacted by the Project and 0.01 acres of golf course would be permanently impacted by the project. Affects to the golf course are not described in detail because the golf course is not considered suitable habitat for the species.

CRLF, but even if it was, it would only constitute 0.00001 percent of the critical habitat for the species. (The species' critical habitat is 1,636,609 acres (USFWS 2010b).

To minimize the potential for harm to CRLF stemming from the direct effects described above, the City will implement the measures set forth in Sections 2.3.1 to 2.3.15, above. Furthermore, the Project will have direct beneficial effects on CRLF and their habitat. Cattail, bulrush, and sediment removal from HSP and the connecting channel will restore and enhance shoreline and open water areas that provide CRLF habitat, particularly breeding habitat (Swaim 2008). This in turn benefits SFGS by increasing the prey base (CRLF and Sierran treefrog) in the aquatic habitats and making the most optimal foraging habitat structure (shallow open water at the shallow sloped edges of HSP) available to neonates and juvenile SFGS (Larsen 1994 Swaim 2008). Currently, this type of foraging habitat is almost completely unavailable at HSP.

SFRPD and Swaim Biological egg mass surveys at HSP have shown a trend toward decreasing numbers at HSP since 2005, despite an overall significant increase in CRLF population size at Mori Point and Sharp Park.[3] The availability of more high quality breeding habitat at HSP and in the connecting channel will greatly increase the carrying capacity of the area for CRLF and may help to minimize the use of the highly ephemeral areas that retain water in vegetated swales in the golf course rough areas and within the matrix of out of play area amongst the fairways and greens, as well as the poorly drained areas on and adjacent to the Fairway of Holes 14 and 15.

5.1.2 San Francisco garter snake

The direct effects of the Project on SFGS include both temporary disturbance and permanent impacts to upland habitat. Temporary disturbance to upland habitat will result from the use of construction equipment at the Project site to install steps to replace the

[3] While the number of egg masses at HSP is trending downward, the numbers of egg masses observed in Laguna Salada and the adjoining ephemeral swales has increased.

retaining wall, construct the walkway and pathways, and excavate sediments and vegetation at HSP and the connecting channel. The use of such equipment could temporarily reduce cover for the SFGS in localized areas used for access routes and equipment staging at HSP and along the connecting channel. Impacts to upland habitat would be localized and in small disjunct patches that will continue to be surrounded by extensive cover. Implementation of post-construction restoration efforts will further mitigate reductions in cover for SFGS. Permanent impacts to upland habitat will result from the placement of structures at the Project site, namely, installation of the steps to the pumphouse and realignment of the cart path. These impacts are expected to degrade the quality of these small affected areas as habitat for the species. The total amount of ruderal upland habitat subject to temporary impacts is 0.09 acres and permanent impacts is 0.001 acres. Combined, this represents 0.84 percent of the uplands on the Project site.

The direct effects of the Project on SFGS also include both temporary disturbance and permanent impacts to wetland habitat. Temporary disturbance to wetland habitat will result from the removal of cattails, bulrush, and sediment from HSP and the connecting channel and associated short-term increase in suspended sediments in the water column. Use of construction and other equipment at the Project site to install concrete support structures for the walkway and the retaining wall on the west side of HSP adjacent to the pumphouse may also temporarily disturb area used by SFGS. Permanent impacts to wetland habitat will result from the placement of structures at the Project site, namely, construction of the walkway and replacement of the existing retaining wall on the west side of HSP adjacent to the pumphouse. These impacts potentially lower the quality of the affected areas as SFGS habitat. The total amount of wetland habitat subject to temporary disturbance is approximately 0.21 acres and permanent impacts is .0003 acres. Combined, this represents 1.2 percent of the wetlands on the Project site.

To minimize the potential for harm to SFGS stemming from the direct effects described above, the City will implement the measures set forth in Sections 2.3.1 to 2.3.15, above.

5.2 INDIRECT EFFECTS

Indirect effects of the Project on the listed species or their habitat are those that are caused by or result from the Project, are later in time, and are reasonably certain to occur.

5.2.1 California Red-Legged Frog

The indirect effects of the Project on CRLF include the effects that result from operation of the pumps at HSP. Operation of the pumps has the potential to harm CRLF by lowering the water level in HSP during the breeding season and exposing egg masses to the air causing desiccation and entraining mobile life stages of CRLF. While the management of the pumps is intended to first and foremost to protect the CRLF egg masses by maintaining water levels to keep the masses hydrated, it is possible that due to human error and other unforeseen events, that pumping operations could directly or indirectly result in desiccation of egg masses. For example, during the monitoring surveys an egg mass (or masses) that is in a vulnerable situation could be missed in a visual survey or miscommunication regarding target water levels could occur between monitoring staff and the engineers. At the same time, however, operation of the pumps has the potential to benefit CRLF by maintaining the water level in HSP during the breeding season when egg masses are deposited there. If water levels are allowed to increase too much, the result could harm individual eggs and slow development by altering abiotic factors that contribute to development, including sunlight, temperature, and dissolved oxygen content. Also by managing water levels, the frequency of flooding and the subsequent creation of ephemeral ponds in which CRLF deposit eggs would be reduced, thus resulting in more sustainable habitat for the species at the site. The operation of the pumps is essential to the ongoing overall management of the ecosystem encompassing LS, HSP and the connecting channel as a freshwater marsh. This managed freshwater ecosystem provides the optimal ecosystem and maximum perimeter of the optimal habitat, freshwater wetland habitat, for the CRLF and the SFGS.

To reduce the potential for harm to CRLF due to operation of the pumps and to enhance the benefits of operation of the pumps, the City has adopted a hierarchical approach to managing the pumps. Priority is given to managing water levels for the protection of CRLF and SFGS. Secondarily, the City manages water levels for flood control purposes in order to protect public health, safety, and adjacent property. Finally, the City manages water levels to facilitate recreational activity at Sharp Park. Furthermore, a set of criteria for operation of the water pumps is set forth at Section 2.3.16, above. These criteria are intended to yield net benefits for the local CRLF population.

The potential for harm stemming from entrainment of mobile life stages of CRLF exists. No structured monitoring has been undertaken to falsify the hypothesis that entrainment is occurring, but there is no available evidence that entrainment of CRLF is occurring at HSP. CRLF have multiple behaviors to reduce the likelihood that they will be swept by flowing water from preferred habitats in managed and unmanaged circumstances, such as adhesive eggs that are placed on vegetation and strong swimming capacities of juvenile-stage individuals. It is improbable that the juvenile life stages of the species that emerge from eggs – even located along the shoreline of HSP in relative near proximity to the intake structure of the pumphouse – would swim into the open water where they could enter the zone of influence of the pump. Later life stages are less likely to be entrained in light of their swimming capacity.

5.2.2 San Francisco garter snake

The indirect effects of the Project on SFGS are limited to the effects that result from operation of the pumps at HSP, which have the potential to adversely affect an important component of the SFGS prey base, the CRLF. The likelihood and extent of this effect is documented in Section 5.2.1, above.

5.3 INTERRELATED AND INTERDEPENDENT EFFECTS

An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation. Golf course operations at Sharp Park constitute interdependent activities. This is the case because such activities would not occur but for the proposed action, which will allow for continued operation of the water pumps at HSP. As USFWS has explained, the relevant inquiry is "whether another activity in question [(here, golf course operations)] would occur 'but for' the proposed action under consultation" (USFWS and NMFS 1998). A description of golf course operations at Sharp Park is set forth at Section 2.2.2, above.

5.3.1 California Red-Legged Frog

Golf course operations – other than pumping operations that are analyzed above – have the potential to both harm and benefit CRLF. Potentially harmful impacts include mowing, application of fertilizers, gopher control, and vehicle (including golf cart) use.

Mowing has the potential to cause direct mortality of individual CRLFs. City personnel have on a number of occasions sighted individual CRLFs on areas of the golf course that are mowed. But there is no documented instance of CRLF mortality due to mowing at Sharp Park. Nonetheless, to reduce the potential for such mortality to occur, the City will implement the measures set forth in Sections 2.3.18, above.

Application of fertilizers has the potential to indirectly harm CRLF by encouraging the growth of aggressive emergent vegetation that reduces the value of the wetland habitat for the CRLF. To reduce potential harm to the species due to fertilizer application, over a period of several years the City has reduced both the quantity of fertilizer applied and the areas within which it is applied at Sharp Park. The proposed action limits the use of fertilizers to only organic fertilizers and limits fertilizer application to greens, tees and

surrounds, as explained in Section 2.3.19, above. The maximum total acreage treated is approximately seven acres, which is less than five percent of the golf course.

Gopher control has the potential to harm CRLF that occupy gopher burrows by trapping individual CRLFs during the process of raking down gopher mounds or by catching CRLFs in gopher traps. There is no documented instance of harm to CRLF at Sharp Park due to gopher control efforts. Nonetheless, to reduce the potential for such harm to occur, the City will implement the measures set forth in section 2.3.21, above.

Vehicle use (including golf cart use) at Sharp Park golf course has the potential to cause direct mortality of individual CRLFs. Although there are no documented cases of vehicles running over CRLF at Sharp Park, City personnel have sighted individual CRLFs in areas of the golf course that vehicles traverse. For example, City personnel have sighted individual CRLFs in the parking lot for the Sharp Park golf course. To reduce the potential for vehicle-related mortality to occur, the City will implement the measures set forth in Sections 2.3.22 to 2.3.25, above.

Potentially beneficial impacts of golf course operations on CRLF include suppression of invasive species that prey on or affect the prey base of the species such as raccoons and domesticated cats, as well as monitoring and control of impacts from human and dog use. Although some human and dog use is present on the western side of LS, the golf course monitors the use of the property and frequently removes unauthorized persons and dogs from the wetlands and other portions of the property. Furthermore, the affirmative determination to halt the use of chemical pesticides in landscaped areas likely is beneficial to the CRLF and/or its prey. In these ways, golf course operations actually enhance components of CRLF habitat.

Further, the CRLF population that includes those individuals within the boundaries of Sharp Park is conservation reliant (Scott et al. 2010). As such, it requires active

management in order to avoid extirpation. Benign neglect is almost certain to do more harm than good. The intensive management regime put into place at Mori Point affirms the need for active management of the local population. There, the Park Service has implemented a host of measures – construction of raised boardwalks to service pedestrian traffic, monitoring for and removal of feral cats, the mechanical construction of ponds, pesticide application and manual weeding of targeted non-native grasses and forbs, and out-planting of desired native plants – to improve CRLF habitat. These adjoining habitats, Mori Point and Sharp Park, when managed similarly with actions to benefit the species provide for a strong population that can better withstand stochastic events that could render either site, if isolated, extinct. The cooperation between the National Park Service and the City strengthens this benefit for both the CRLF and SFGS.

5.3.2 San Francisco garter snake

Golf course operations – other than pumping operations that are analyzed above – have the potential to both harm and benefit SFGS. Although the SFGS population is not being sampled in systematic fashion via observations at Sharp Park, species numbers are so low as to indicate that the local population is at a size that may not be viable over time. Even acknowledging that the species is secretive and therefore difficult to detect (Geomatrix 1986), the low number of observations at Sharp Park and Mori Point combined over the past decade suggests that the potential to affect the species is low. Nonetheless, potentially harmful impacts of golf course operations include mowing, application of fertilizers, gopher control, and vehicle (including golf cart) use.

Mowing has the potential to cause direct mortality of individual SFGSs. There is no documented instance of SFGS mortality due to mowing at Sharp Park. There is a single disputed instance of SFGS mortality that occurred almost seven years ago in 2005. At that time, a near-by resident, Steven Salisbury, claims to have found a dead SFGS at the golf course. There is no evidence regarding the time at which the snake died and the location at which it died. Furthermore, the cause of death is inconclusive. Nonetheless, to

reduce the potential for SFGS mortality to occur, the City will implement the measures set forth in Sections 2.3.18, above.

Application of fertilizers has the potential to indirectly degrade the SFGS habitat quality by encouraging the growth of aggressive emergent vegetation that reduces the value of the wetland habitat for the CRLF, one of its primary food sources. To reduce potential harm to the species due to fertilizer application, over a period of several years the City has reduced both the quantity of fertilizer applied and the areas within which it is applied at Sharp Park. The proposed action limits the use of fertilizers to only organic fertilizers and limits fertilizer application to greens, tees and surrounds, as explained in Section 2.3.19, above. The maximum total acreage treated is approximately seven acres, which is less than five percent of the golf course.

Gopher control has the potential to harm SFGS that occupy gopher burrows by trapping individual SFGS during the process of raking down gopher mounds or by catching SFGSs in gopher traps. There is no documented instance of harm to SFGS at Sharp Park due to gopher control efforts. Nonetheless, to reduce the potential for such harm to occur, the City will implement the measures set forth in section 2.3.21, above.

Vehicle use (including golf cart use) at Sharp Park golf course has the potential to cause direct mortality of individual SFGSs. But over a decades long period of golf course operations and golf cart use, there is no evidence of even a single instance of harm to SFGS due to cart use. This is unsurprising since SFGS is very wary and shows a great aversion to open areas (USFWS 1985; Geomatrix 1986). It is also unsurprising given the paucity of SFGS sightings at the golf course, which indicate that the local population is small. Nonetheless, to reduce the potential for such mortality to occur, the City will implement the measures set forth in Sections 2.3.22 to 2.3.25, above.

Potentially beneficial impacts of golf course operations on SFGS include suppression of invasive species that prey on or affect the prey base of the species, the population of predators such as raccoons, and domesticated cats as well as monitoring and control of impacts from human and dog use. Although some human and dog use is present on the western side of LS, the golf course monitors the use of the property and frequently removes unauthorized persons and dogs from the wetlands and other portions of the property. Furthermore, the affirmative determination to halt the use of chemical pesticides in landscaped areas likely is beneficial to the SFGS and CRLF, which is an important prey item for the species. In these ways, golf course operations actually enhance components of SFGS habitat.

Further, the SFGS population that includes those individuals within the boundaries of Sharp Park is conservation reliant (Scott et al. 2010). As such, it requires active management in order to avoid extirpation. Benign neglect is almost certain to do more harm than good. The intensive management regime put into place at Mori Point affirms the need for active management of the local population. There, the Park Service has implemented a host of measures – construction of raised boardwalks to service pedestrian traffic, monitoring for and removal of feral cats, the mechanical construction of ponds, pesticide application and manual weeding of targeted non-native grasses and forbs, and out-planting of desired native plants – to improve SFGS habitat.

5.4 CUMULATIVE EFFECTS

Cumulative effects are limited to: (i) the effects of future non-Federal actions, (ii) that are reasonably certain to occur, and (iii) that will occur within in the action area (USFWS and NMFS 1998). Here, the action area is Sharp Park.

5.4.1 Human population growth and increased use of Sharp Park

The human population in San Francisco and San Mateo Counties is projected to increase from 1,555,000 in 2010 to 1,606,000 in 2020 and 1,641,000 in 2030 (California Department of Finance 2007). Sharp Park is a popular recreation site, and traffic at Sharp Park is likely to increase as the population in the area increases. Increased human presence at the site could harm CRLF and SFGS, for example, due to the introduction of invasive species by visitors to Sharp Park. This risk of harm stems from greater use of the site by pets including dogs and cats. It also stems from the potential for humans to transport invasive species such as bullfrogs or mosquito fish to Sharp Park. To minimize the potential for harm to CRLF and SFGS stemming from the cumulative effects associated with human population growth in the region, the City will implement the measures set forth in Sections 2.3.23 through 2.3.28, above.

5.4.2 Climate change

Anthropogenic climate change is expected to result in warmer average temperatures over time. It is anticipated that this will increase the frequency and intensity of storm systems, alter precipitation patterns and reduce snowpack, and increase spring flooding and summer droughts (Cayan et al. 2009). All of these effects could trigger other changes, such as an increase in the frequency and intensity of wildfires and insect infestations. At Sharp Park, these effects of climate change could harm CRLF and SFGS in a number of ways. For example, sea level rise and/or more intense storm systems could lead to sea wall breach, which greatly diminished the local populations of these species in the past (Geomatrix 1986). But there is a high degree of uncertainty regarding the local effects of climate change; therefore, it is infeasible to predict the likelihood and magnitude of such effects.

5.4.3 Implementation of the Laguna Salada Restoration Plan

One foreseeable action within the action area that may affect the listed species is implementation of the Laguna Salada Restoration Plan or an alternative thereto, as described in the Laguna Salada Conceptual Alternatives Report. This plan is included in

the Draft Environmental Impact Report (DEIR) that analyzes the environmental impacts associated with implementing the City's Significant Natural Resource Areas Management Plan (SNRAMP) (SFRPD 2006.) The SNRAMP contains detailed information on the biology, geology, and trails within 32 Natural Areas owned by San Francisco, including Sharp Park. The City prepared the DEIR in order to comply with the California Environmental Quality Act. Cal. Pub. Res. Code § 21000 *et seq*.

The *Consultation Handbook* provides guidance to inform the decision whether a potential future action is reasonably certain to occur by identifying a number of indicators.

Inquiry	**Answer**
Have State, tribal or local agencies approved the action?	No.
Is State, local, or tribal agency approval of the action imminent?	No.
Has the project sponsor provided its assurance the project will proceed?	No.
Is capital set aside for the project?	No.
Has the project sponsor entered into contracts to implement the project?	No.

Here, implementation of the Laguna Salada Restoration Plan is not a cumulative effect because it is not reasonably certain to occur at this juncture.

5.4.4 Implementation of National Park Service actions at Mori Point

The argument may be made that National Park Service (NPS) activities at Mori Point are cumulative effects. But this is not the case for three reasons. First, those activities are ongoing rather than future in nature. The NPS issued a finding of no significant impact for the Mori Point Restoration and Trail Plan in 2006 (NPS 2006). Since then, the NPS has implemented the Plan in numerous respects. Second, those activities are Federal rather than non-Federal. Third, Mori Point is not within the action area. Although the list

species' at Sharp Park are both subgroups of local populations that include Mori Point, the geographic area encompassed by the population is not the appropriate metric to ascertain the action area.

6.0 CONCLUSION AND DETERMINATION

The proposed Project would result in direct and indirect impacts to CRLF and their habitat. Overall, the proposed Project "may affect" the CRLF according to ESA. The minimization and mitigation measures would limit or eliminate impacts to this species. Although adverse effects may occur during construction, the long-term benefits of the Project to the species would result in a net benefit to CRLF.

Impacts to the SFGS may result from changes to habitat that occur due to implementation of the Project. Overall, the proposed Project "may affect" the SFGS according to ESA Mortality of SFGS is considered unlikely due the facts that SFGS are not present (or if they are present, the population is very small) on the site and the City has proposed a Project that includes numerous minimization and mitigation measures to limit or eliminate impacts to the species. Construction activities have the potential to harm the species.

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APPENDIX A

BIOLOGICAL ASSESSMENT

SHARP PARK SAFETY, INFRASTRUCTURE IMPROVEMENT AND HABITAT ENHANCEMENT PROJECT

Prepared by:
Recreation and Park Department
City and County of San Francisco

May 16, 2012

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SECTION 1.0 – INTRODUCTION

1.1 DOCUMENT PURPOSE

This Biological Assessment (BA) has been prepared to evaluate the potential effects of the Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project (Project) on listed and proposed species and designated and proposed critical habitat for such species. It has been prepared to facilitate a consultation, pursuant to Section 7 of the Endangered Species Act, 16 U.S.C. 1536(c), between the U.S. Army Corps of Engineers (ACOE) and the U.S. Fish and Wildlife Service (USFWS). The consultation is part of the ACOE review of a Nationwide Permit No. 25 application for the Project. This BA has been prepared in conformance with Final Rule regarding Interagency Cooperation (50 CFR pt. 402) promulgated by the Department of the Interior and Department of Commerce, dated June 3, 1986, and the guidelines provided in the final *Endangered Species Consultation Handbook* prepared by the U.S. Fish and Wildlife Service and National Marine Fisheries Service, dated March 1998.

1.2 LISTED SPECIES CONSIDERED

Based on the location of the Project and available data regarding species occurrence, three wildlife species were included in the BA because of their potential or actual occurrence onsite. The three federal endangered wildlife species included are the endangered San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) (SFGS), the threatened California red-legged frog (*Rana draytonii*) (CRLF) and the endangered Mission blue butterfly (*Icaricia icarioides missionensis*). No other listed or proposed species have the potential to occur on the Project site.

1.3 ORGANIZATION OF THE BIOLOGICAL ASSESSMENT

This BA is for the Sharp Park Safety, Infrastructure Improvement, and Habitat Enhancement Project. The Project site is Sharp Park, a public park owned and operated by the City and County of San Francisco (the City) that is located in the City of Pacifica, San Mateo County, California. The San Francisco Recreation and Park Department

(SFRPD), a Department of the City, is responsible for the maintenance of Sharp Park. A description of the Project is provided in Section 2.0. Section 3.0 describes the existing conditions and general environmental setting. Section 4.0 discusses the listed wildlife species. Section 5.0 discusses the direct, indirect, and cumulative effects of the proposed Project on the listed species. Section 6.0 provides the conclusion and determination of whether or not the activity proposed by the federal action agency "may affect" a threatened or endangered species due to the direct, indirect, and/or cumulative effects associated with the activity. The references and list of preparers is included as Sections 7.0 and 8.0, respectively.

1.4 PREVIOUS CONSULTATIONS

The Project site has been the subject of extensive regulatory oversight. In 2008, the City sought and secured a permit from ACOE under section 404 of the Clean Water Act, 33 U.S.C. § 1344, for repair work to an outfall to allow for continued operation of water pumps at Horse Stable Pond (HSP) and to eliminate the potential for erosion of the seawall that separates Sharp Park from the Pacific Ocean. After receiving the permit application from the City, ACOE initiated consultation with USFWS under section 7(a)(2) of the ESA. In October 2008, USFWS issued a biological opinion and incidental take statement for the storm drain repair project (USFWS 2008).

In November 2010, the City contacted ACOE and USFWS to request reinitiation of consultation under section 7(a)(2) of the ESA in order to secure approval to remove accumulated sediment from the entrance to the pumphouse at HSP and to replace the pump. USFWS amended its 2008 biological opinion and incidental take statement for the storm drain repair project (USFWS 2010a).

Separately, in April 2009, the City developed an Endangered Species Compliance Plan for Sharp Park Golf Course. The Compliance Plan includes "interim actions" to address potential effects of course management and operation, flood control and drainage operations, integrated pest management, and application of recycled water on SFGS and

CRLF (SFRPD 2009, p. 8). The City anticipates that, upon completion of consultation and issuance of a biological opinion for the Project, the biological opinion will supersede the Compliance Plan. Appendix B provides comparative information regarding relative effects of the interim actions described in the Compliance Plan and the various actions described in this Biological Assessment that will protect or conserve CRLF and SFGS.

In March 2009, prior to the completion of the Compliance Plan, the USFWS issued a Biological Opinion to the U.S. Environmental Protection Agency and the North Coast County Water District for the Pacifica Recycled Water Project (81420-2008-1-1643) (USFWS 2009). The City was neither an applicant nor a non-Federal representative with respect to the consultation and issuance of the biological opinion. The project includes construction of a new pump station, installation of a new 400,000-gallon recycled water storage tank located on Gypsy Hill, and approximately 17,000 linear feet of new 8-, 10- and 12-inch-diameter recycled water pipeline originating at the Calera Creek Water Recycling Plant. This project, which will provide recycled water to Sharp Park and other open spaces served by North Coast County Water District, was determined to have potential direct and indirect effects on CRLF and SFGS. Construction of the Pacifica Recycled Water Project is currently underway.

The Pacifica Recycled Water Project biological opinion includes the following condition (USFWS 2009, p. 34):

> To further reduce take of red-legged frogs and/or garter snakes within Sharp Park Golf Course from regular operations and maintenance activities (e.g., mowing, irrigation, etc.), the City of San Francisco, Recreation and Parks Department will complete the Sharp Park Golf Course Compliance Plan (Plan) as part of the overall conservation plan for the red-legged frog and garter snake. The Service and California Department of Fish and Game shall have the opportunity to review and provide comments on the Plan to ensure that adequate conservation measures are implemented by the Golf Course to reduce take of listed species.

This condition states only that the City "will complete the Sharp Park Golf Course Compliance Plan (Plan) as part of the overall conservation plan for the red-legged frog

and garter snake," and that "[t]he Service and California Department of Fish and Game shall have the opportunity to review and provide comments on the Plan to ensure that adequate conservation measures are implemented by the Golf Course to reduce take of listed species." The City has fulfilled these requirements. Nonetheless, ACOE and the City are providing USFWS with comparative information regarding the interim actions described in the Compliance Plan and the various actions described in this Biological Assessment that will protect or conserve CRLF and SFGS, in order that USFWS can properly define the environmental baseline and effects of the action as part of its obligation to complete consultation. As Appendix B indicates, 18 of the actions will have no effect on the species relative to the Compliance Plan and 11 will have no effect or small beneficial effects relative to the Compliance Plan. The remaining nine actions described in Appendix B are set forth in this Biological Assessment but for which there is no comparable action in the Compliance Plan.

SECTION 2.0 – DESCRIPTION OF THE PROPOSED PROJECT

2.1 PROJECT LOCATION

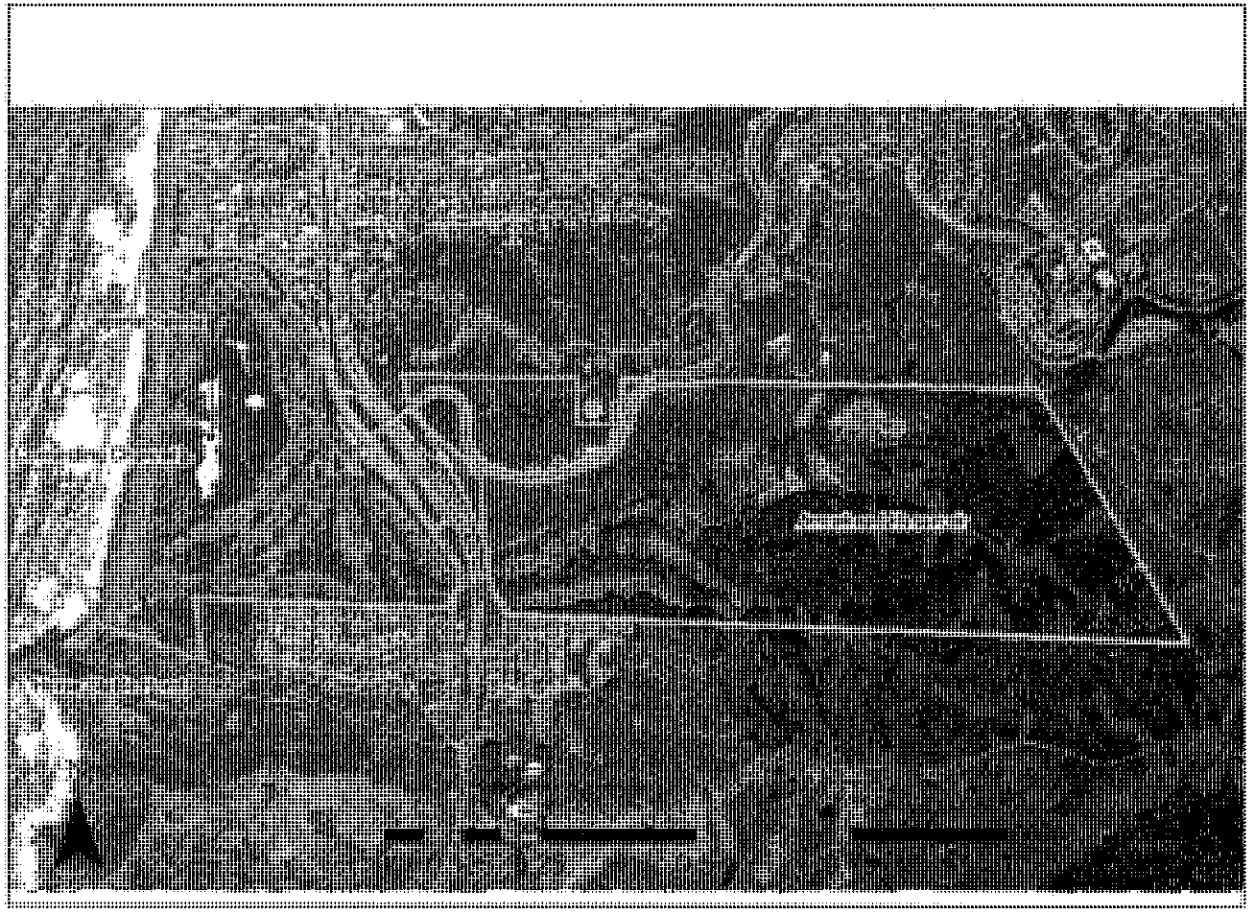
Sharp Park is a public park located in the City of Pacifica in San Mateo County. The Park is approximately 417 acres (see Figure 2-1). The Pacific Coast Highway (PCH) runs through Sharp Park. To the west, the Park is bordered by the Pacific Ocean. To the north and south, portions of the Park are bordered by residential development. To the south and east, Golden Gate National Recreation Area, which is managed by the National Park Service, borders the Park.

2.2 PROJECT DESCRIPTION

The Project site contains an 18-hole golf course, an approximately 27 acre wetland complex, an archery range, a remediated former rifle range, a clubhouse, parking lot, and extensive natural areas. The wetlands complex is composed of Laguna Salada (LS), Horse Stable Pond (HSP), a channel that connects the two water bodies, and adjacent wetlands. A seawall on the western boundary of Sharp Park eliminated the historic hydrologic connection between the Pacific Ocean and the wetlands complex. The wetlands are believed to be maintained by ground water but are also fed by surface water inflow due to precipitation in the winter. A flood control pump system in HSP affects water levels in that body, and it may affect water levels in LS when the channel connecting the two water bodies creates a surface water connection between them. The pump system consists of a large pump (rated 10,000 gpm) and a small pump (rated 1,500 gpm) located in a pumphouse adjacent to HSP and pipes built through the seawall to an outfall.

Operation of the flood control pump system is necessary to manage floodwaters both on the Property and on adjacent properties. During normal rainfall years, floodwaters into LS back up onto the golf course path. As a result, carts must venture off the cart path onto the fairway and other vegetated areas in order to continue play. During heavy rainfall years, extensive flooding can occur in areas of play on the golf course and can

Figure 2-1: Sharp Park Project Site



also threaten adjacent residential areas. Flooding of the golf course affects the playability of the course as well as golf course maintenance activities. In past years, flooding on the course has rendered entire holes or portions of holes unplayable including holes 9, 12 and 14. Flood waters back up onto the course such that players cannot not access greens and tees and holes are shortened to avoid flooded areas. Operationally, the course cannot be mowed or otherwise maintained under flooded conditions. Operation of the flood control pumps can limit the extent of such flooding.

The Project Description includes two parts: (1) the construction action, which is the subject of the section 404 permit and (2) golf course maintenance and operations. Current golf course maintenance and operations in relation to the 2009 Sharp Park Compliance Plan are described in Section 2.2.2. Pursuant to the Final Rule regarding Interagency Cooperation (50 CFR pt. 402), this BA evaluates the potential effects of the action, which include the direct and indirect effects of the Federal action (that is, authorization to fill waters of the United States) as well as the effects of other activities that are interrelated or interdependent with that action (see Section 2.3) See 50 CFR 402.02 (definition of "effects of the action"), 402.12(a), (f).

2.2.1 Construction Action

The construction action is intended to 1) ensure the ongoing operation of the flood control pumps and worker safety when operating and maintaining the pumps 2) to replace minor infrastructure (pathways) and 3) to enhance existing habitat for CRLF and SFGS.

Currently, two factors adversely affect the operation of the pumps. First, pump operation is adversely affected by sediment buildup and vegetation growth around the pump intake structure and along the connecting channel between LS and HSP. Second, pump operation is adversely affected by the buildup of vegetation on the pump intake screens. In order for the pumps to function properly, the existing screens at the intake must be kept clear of vegetation buildup. The maintenance of the screens, including the removal of debris buildup, can be necessary as frequently as daily during the rainy season. Such

maintenance often occurs while the pumps are being operated during or immediately after storm events when poor visibility, slippery conditions, and high water levels present hazards to access and maintenance. Currently, there is no safe walking and working surface and access to the screens is only possible by lifting a heavy piece of chain link fence while clearing the screens.

Portions of the golf cart paths along the eastern side of LS regularly flood, even during drought years. Two sections of cart path, which total approximately 190 feet are located in low lying depressions such that water does not drain to LS and ponds on the pathway. CRLF have deposited egg masses on these sections of cart path. Because there is no surface water connection between these areas and LS, they cannot sustain CRLF through metamorphosis. In addition, because the paths flood, golfers using carts must venture off the pathway in order to continue play.

In order to address these issues, the following water flow, safety and path repair components are proposed (see Figure 2-2 through 2.4 and Appendix A):

- Removal of sediments and emergent vegetation within the HSP wetland near the intake structure in order to reduce obstructions to water flow to the pump intake and to enhance breeding habitat for the CRLF. Approximately 435 cubic yards of sediment in an area of approximately 5,900 square feet (0.14 acres) would be removed. Approximately 2,350 square feet (0.05 acres) of this 5,900 square foot area is occupied by cattails and bulrush; the remaining area is open water.
- Removal of sediment and emergent vegetation that impedes water flow and reduces habitat suitability for CRLF in select locations within the connecting channel and culverts that link HSP and LS. This removal work would not exceed 480 cubic yards of removed sediment and vegetation, within an area of approximately 6,500 square feet or 0.15 acres.
- Installation of steps leading down the slope from the access road to the pumphouse and the intake structure (approximately 47 square feet or 0.001 acres). A fence with a locking gate will restrict access to the steps and boardwalk.

Construction of a walkway on concrete support structures around the front of the pump intake box. This walkway, which will be approximately 42 feet long at the perimeter and 4.6 feet wide, will wrap around the intake structure. The walkway will be made of wood and supported by approximately 6 concrete support structures to be placed in the water (approximately 6 square feet). It is anticipated that the footings will be placed by installing cylindrical metal casings into the water, dewatering and excavating sediment from the inside of the casings and then filling the casings with concrete. If feasible, a secondary screening system may be installed below the walkway surface and between the pilings to further reduce the amount of detritus, such as dead floating cattails, from entering the pumps. It is anticipated that if feasible[1] the secondary screening system will be similar to the existing screens that separate the pump from the pond. This screen is a metal mesh with holes measuring approximately one inch by one half inch. It is estimated that this component of the project will require the placement of approximately 1.2 cubic yards of fill (concrete) in wetlands and waters of the United States.

- Replacement of the failing wooden retaining wall next to the pumphouse (at the base of the levee slope between the uplands and the wetland) with a concrete retaining wall to prevent further soil deposition from the uplands from entering the waterway. The retaining wall, which will measure approximately 12 feet long and five feet high, will be placed in jurisdictional wetlands and is estimated to result in 0.4 cubic yards of fill (approximately 6 square feet surface area)
- Repair of two cart paths (total of approximately 570 square feet or 0.01 acres) located adjacent to, but not within, the LS wetland. Repairs to the cart paths will involve moving the paths away from the wetland and into the golf course, installing interlocking pavers to support the downslope embankment and backfilling the area with drain rock to raise elevations.

[1] The secondary screening will be deemed feasible if it will not compromise the operation and longevity of the pumps.

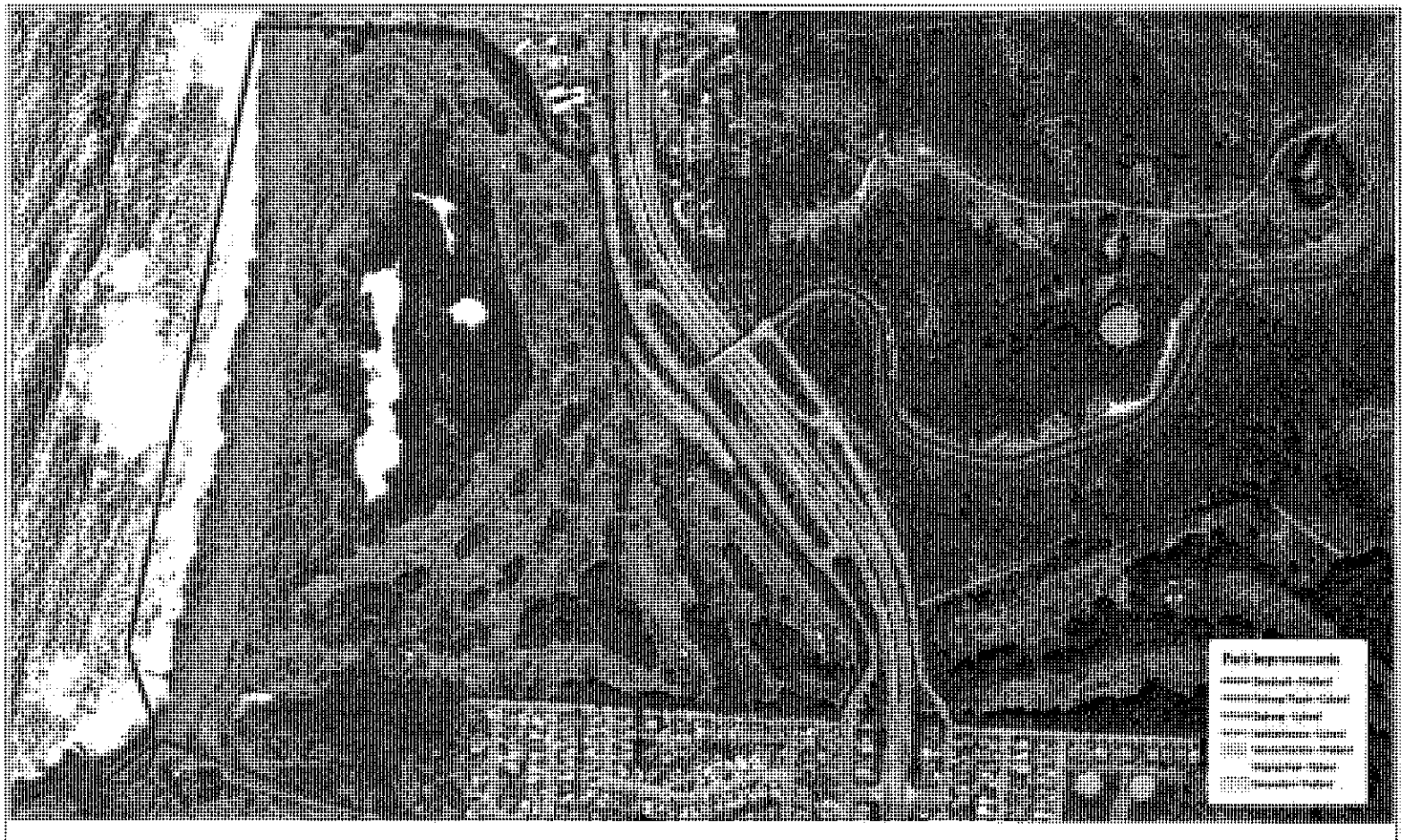


Figure 2-2: Sharp Park Project Elements

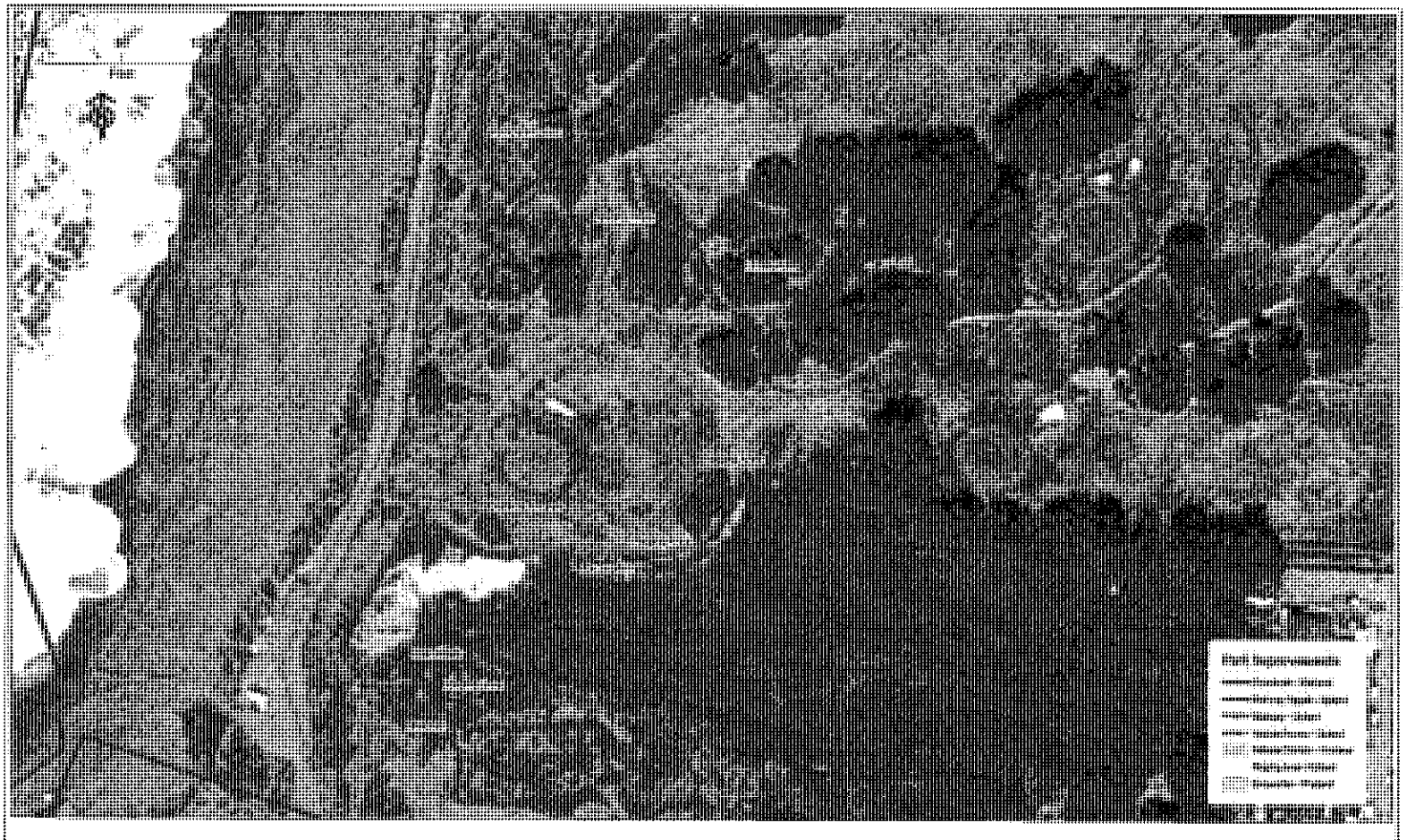


Figure 2-3: Sharp Park Project Elements - Horse Stable Pond and Connecting Channel

Figure 2-4: Sharp Park Project Elements - Pathway Repair

Excavation of sediments and vegetation will be conducted from the golf course uplands wherever possible, thus minimizing impacts to the wetlands. The sediment and vegetation removal along the connecting channel between HSP and LS can be accomplished with little or no impact to the adjacent wetland. It is anticipated that an excavator or Grade-all stationed on the golf course would be used for vegetation and sediment removal along the channel. The excavation around the pumphouse will likely require establishing an equipment access route through the jurisdictional wetland on the north side of HSP. Due to limited bank access into HSP, the optimal method for sediment and vegetation removal from HSP would be to use a compact multi-purpose aquatic vessel (i.e., an Aquamog) or similar equipment with long boom and clam shell or bucket type attachment that can reach sediment and vegetation near the pumphouse. This would avoid impacts to steep intact upland habitats adjacent to HSP and allow a shorter construction window in the habitat without compromising the ability to avoid take of species. The emergent vegetation would first be removed from the sediment removal foot print using a bucket with a thumb. After the vegetation is removed, the Aquamog would be fitted with a clamshell attachment for sediment excavation. Vegetation that is removed from both locations (the channel and HSP) will be placed in an elevated dewatering container located in an adjacent cleared upland or placed directly into a dump truck and hauled to either the organic dump or reclaimed rifle range east of the PCH. No at-grade dewatering vehicles or containers will be left on site overnight.

Construction at HSP, LS and the connecting channel is expected to occur between July 1 and October 31. Pre-project clearing and construction actions occurring in the uplands (staging areas, pathway repair and step construction) would begin in June. This project phasing will minimize and/or avoid impacts to aquatic stages of the CRLF. Implementation of the construction action is expected to be phased over a two year period.

The sediment and vegetation removal is intended to improve water flow to the pumps; however, the sediment and vegetation removal also benefits the CRLF by re-establishing open water habitat amongst the emergent vegetation at the wetland margins where CRLF have been known to breed.

The Project site is intended to encompass the action area, which includes the area affected directly and indirectly by the Federal action, here, issuance of a permit for the Project. 50 C.F.R. 402.02 (definition of "action area"). For the purposes of this BA, the construction site is that portion of the Project site within which the direct effects of the Project (e.g., vegetation removal, walkway construction, and path repair) will occur.

2.2.2 Golf Course Maintenance and Operations

The SFRPD currently employs seven staff members who perform the year-round operation and maintenance of the golf course. These activities include mowing; application of water for irrigation; application of fertilizers and compost tea; controlling for gophers; tree removal and trimming; landscaping; maintenance of golf course features, structures, and cart paths; and plumbing and electrical operations. The duration of the action for which the applicant is seeking take coverage is limited to a 10-year period commencing at the time USFWS issues a biological opinion and incidental take statement, if any.

2.2.2.1 Current Course Maintenance

Mowing of the golf course occurs on fairways, tees, greens and surrounds. In general, greens are mowed daily, tees twice a week, and the fairways are mowed twice weekly during spring, summer, and fall, and weekly during the winter. The greens are mowed to a height of 1/8 inch while the tees, surrounds and fairways are mowed to ½ inch. Although a triplex riding mower is used for greens, tees, and surroundings, hand mowing and trimming are necessary in some locations, such as around the clubhouse, tree basins, steep slopes and other small areas where the larger mowers cannot be used. The 2009

Compliance Plan describes employing a biologist to walk ahead of mowers to survey for CRLF and SFGS. This level of monitoring has not been implemented because it was determined to be unnecessary to provide adequate protection to the species and economically infeasible. An alternate protocol that will offer equivalent protection for the species has been initiated at Sharp Park. Rather than employing a daily biological monitor to walk the course each day, golf course mowing staff are trained and instructed to cease mowing if a frog or snake is observed on the course.

The SFRPD uses an automated and quick coupler system to irrigate the golf course. Weather and climate conditions dictate how often the golf course is irrigated; however on average the course is irrigated twice a week in the dry season (May to October).

Other maintenance actions include hand or mechanized application of organic fertilizer and seed, raking bunkers, rodent control, repairing divots and erosion, cleaning out drainage sumps and tree and vegetation pruning, removal and planting. Golf course staff manage bunkers daily, Monday through Friday, by raking the sand to remove foreign objects and pulling weeds as needed, and fill divots on the tees and fairways as needed by hand using a mixture of sand and seed mix as needed. A workman with a spreader placed on the dump bed is used to spread fertilizer.

The Park drainage sumps are below grade settling basins that separate large debris from the drainage system. Several drainage sumps are interspersed on one culvert system that enters the golf course from Francisco Boulevard and, running east to west, crosses tee number 3 in front of number 2 Green, and numbers 1, 10, 11, and 13 fairways until it daylights into a ditch leading into LS. Annually, the golf staff enter the sumps via an at-grade lid, to remove debris by hand.

2.2.2.2 Flood Control and Drainage

Sharp Park Golf Course is located within an 845-acre watershed. Historical maps show a salty/freshwater brackish lake in the area now predominantly occupied by the lower golf course. Sanchez Creek and its tributaries provide a riparian corridor for the watershed that at one time drained by gravity into the ocean through a sandy barrier dune that seasonally formed along the beach, similar to that on many California coastal streams. In the 1930s, Sanchez Creek was blocked from discharging to the ocean, which transformed the marine influenced lake into a fresh water wetland (including LS and HSP). In addition to watershed drainage, LS and HSP receive runoff from PCH, residential streets in Pacifica, undeveloped areas managed by the Golden Gate National Recreation Area (GGNRA), and surrounding subdivisions constructed after the golf course.

The SFRPD currently pumps storm water from HSP to the Pacific Ocean. The pumps that control the water levels in HSP and LS are located in a pumphouse at the southwest corner of HSP. There are two electric pumps located in the pumphouse, a large pump with a rated capacity of 10,000 gallons per minute (gpm) and a smaller pump with a rated capacity of 1,500 gpm. The pumps sit in a wet well and are controlled by electric probes, which are adjustable and set by SFRPD engineers. A gauge board is mounted to the outside of the pumphouse that allows monitoring of the water levels. Pumping takes place primarily during the rainy season between November and May. In accordance with the 2009 Compliance Plan, the Director of the Natural Areas Program determines whether and when the pumps are operated and communicates target water levels to an SFRPD Stationary Engineer that adjusts the pump setting accordingly. Water management on the Property occurs to facilitate recreational activity at Sharp Park and also to for the protection of the CRLF and SFGS.

2.2.2.3 Integrated Pest Management

The SFRPD recognizes unique linkages between the golf course and environmental attributes of the site that provide habitat for native species. In 2001, the SFRPD, in

consultation with city, state, and federal agencies, began to examine fertilizer and pesticide application practices at the golf course. After a successful pilot study that analyzed the effectiveness of alternatives that lessen adverse environmental effects, the SFRPD implemented a bio-organic program for the entire golf course that is subject to an annual review by a Certified Pest Control Advisor working in the SFRPD's Integrated Pest Management Division. Today, only organic fertilizers are used at Sharp Park and only on the greens, tees and surrounds. Organic dry fertilizers are applied on average four times a year to the greens and three times a year to the tees. Liquid organic fertilizers such as compost tea are applied on average once a week throughout the year. At this time, the City does not use any chemical pesticides in any landscaped or natural area at Sharp Park.

Gophers are common on golf courses. Gopher mounds may damage mowers, and gophers can damage turf roots as well as other plants. SFRPD staff manage gopher populations by raking down gopher mounds. Mounds are raked away from the opening of the hole. If an active burrow is present on the fairway, greens, tees or roughs, traps may be set by removing a clump of dirt from the ground such that the middle of a main tunnel is exposed. A U-shaped wire sprung gopher trap (MacAbee trap) is placed in the burrow on either side of the hole. The access hole is then immediately filled in with the clump of turf that had been removed. Typically the traps are checked and removed before the end of the work day. The 2009 Compliance Plan describes restrictions on gopher control in the Management Area. While gopher holes and tunnels are not a concern in the no-mow zone, they do affect course playability. If gopher tunnels are left untreated in areas of play (that is, tees, greens, and fairways), sections of the course would be rendered unplayable. Gopher control on the golf course was evaluated and it was determined that the current practices would be unlikely to harm frogs and snakes taking refuge in gopher holes.

2.2.2.4 Park User Habits

Park use includes foot and cart traffic on or around the course. Golfers frequently deviate from the fairway searching for lost balls. However, within the last few years, golf course rules have been modified such that the rough adjacent to the wetlands is out of play and golfers are not allowed to seek lost balls there. The 2009 Compliance Plan limited golf cart use to pathways only. The SFRPD implemented this new course rule by posting signs and informing users to stay on pathways. SFRPD is aware that it has been unable to achieve 100 percent compliance with the rule, but it has limited enforcement authorities and resources. Further, in limiting carts to paths only, SFRPD has found that the golf course is less accessible to seniors and persons with impaired mobility. Such limitations affect the economic viability of the course by making it a less desirable course to play. Golf cart limitations are proposed to follow a 90-degree rule in areas adjacent to sensitive areas (see below). The implementation of a cart path only rule would have questionable beneficial effects for the species, inhibit course use by a subset of the population, and likely have an economic cost.

The golf course and surrounding environs have also attracted dog walkers who use a strip of land between LS and the seawall as an off-leash dog area even though this area is off limits to dogs under SFRPD policy and a fence has been installed. There is currently no barrier between this strip of land and LS that prevents dogs from accessing the water body. Dog owners/walkers may be unaware that dogs are not permitted on the golf course or LS because of insufficient signage on the course and surrounding areas.

2.2.2.5 Circulation

The golf course contains an interconnected system of paved paths intended for golf cart use and service roads used by SFRPD staff to access the golf course and by users of the archery range. Approximately 30-40% of the golf course users rent carts. Golf carts are used by players to access balls in between strokes and have a maximum speed of 10 miles per hour. West of Highway 1, there are service roads between the number 1 tee and the

number 2 tee and on the sea wall from the 16th tee to the pumphouse. On the east side of Highway 1, a paved road runs east from Lundy Way along the north side of the number 7 fairway to a compost site, the defunct rifle range, and ends as a dirt and gravel road at the Archery Range. There are a series of unpaved roadways and trails within the Archery Range. The SFRPD also maintains an easement over a dirt road (Mori Point Road) along GGNRA property just south of the lower course that leads to the seawall. Recently portions of this road were converted to a boardwalk and at that time the SFRPD relinquished its rights to use this easement as the regular vehicular access to the pumphouse and sea wall. While the easement is still considered an emergency access route, this access is maintained by a locked gate and the SFRPD's only regular access on this route is on foot. The only current vehicle access to the pumphouse is via the sea wall road and the pumphouse access road off of Mori Pont Road. This route is used by City personnel that maintain and adjust the pumps at Horse Stable Pond and is also used regularly by the City of Pacifica, which maintains the garbage receptacles on the seawall.

2.2.2.6 Application of Recycled Water for Irrigation

State law prohibits the use of potable water for golf course irrigation wherever suitable recycled water is available at a reasonable cost. The North Coast County Water District (NCCWD) is implementing the Pacifica Recycled Water Project to provide treated water from the City of Pacifica's Calera Creek Water Recycling Plant (CCWRP) to irrigation sites within the City of Pacifica and San Mateo County, including Sharp Park Golf Course. The CCWRP currently discharges tertiary treated recycled water to Calera Creek. The Recycled Water Project is currently underway and is scheduled to be completed in 2012. The Park currently uses approximately 30 million gallons per year of imported surface water from the regional water system operated by the San Francisco Public Utilities Commission to irrigate the golf course. In December 2005, the Park discontinued use of the water in Arrowhead Reservoir (east of PCH) to irrigate the golf course. Flows to and from Sanchez Creek and Arrowhead Reservoir now function under natural conditions increasing with winter rains and decreasing with summer evaporation.

The Pacifica Recycled Water Project Revised Biological Opinion specifies that irrigation runoff into Sanchez Creek, HSP, and LS is not permitted, consistent with permit requirements for the application of recycled water for irrigation uses (USFWS 2009). The Recycled Water Biological Opinion contains reasonable and prudent measures and terms and conditions that will ensure that the use of recycled water is restricted to the approved golf course area, including time and flow limitations, automatic shut-off valves, training for staff and ongoing monitoring (USFWS 2009).

2.2.3 Natural Areas Restoration

The wetlands associated with HSP, LS and the connecting channel are considered Natural Areas as described in the Final Draft of the City's Significant Natural Resource Areas Management Plan (SNRAMP) (2006). As such these areas are to be managed and restored for their biodiversity. Maintenance activities, such as hand removal of vegetation within and adjacent to HSP, LS and the connecting channel, contribute to the preservation and enhancement of habitat for the species. These activities would be undertaken by the Natural Areas Program, a division of the SFRPD responsible for the conservation and management of biological resources including endangered species on SFRPD Natural Areas. The activities would include the removal of vegetation overhanging and shading the wetlands such as acacia, Monterey cypress, as well as vegetation within the wetlands such as cattails and bulrush that reduce the quality of CRLF breeding habitat and therefore redcue prey availability and foraging habitat quality for SFGS. In areas where appropriate, native plants and erosion control measures would be installed to replace and augment the wildlife habitat and reduce soil loss.

2.3 MINIMIZATION AND MITIGATION MEASURES

The following minimization and mitigation measures are proposed as part of the Project in order to minimize its potential effects on the listed species or their habitat.

Minimization and mitigation measures for construction activities

2.3.1 All sensitive habitats outside the Construction site shall be avoided during and following Project implementation. All biologists working on the project and their roles will be approved by the USFWS and CDFG based on their qualifications. All approved biologists shall be part of the Project Implementation Team. SFRPD will designate one of the USFWS/CDFG approved biologists to oversee and coordinate all avoidance and survey tasks of the Project Implementation Team. Prior to commencement of any Project-related construction activity, an approved biological monitor will flag the sensitive areas and/or the limits of the Construction site with suitable markers that are easily discernible by construction equipment operators. No construction equipment or personnel will enter the sensitive areas designated for avoidance by the project.

2.3.2 The lead USFWS-approved biological monitor will be present at all planning meetings prior to Project implementation. A USFWS-approved biological monitor shall present an educational program at one or more such meetings regarding the listed species and their habitats. Every person who works on Project implementation must receive this education program and sign a form indicating they have attended and agree to abide by the terms and conditions being implemented to avoid take of listed species and/or habitat.

2.3.3 A USFWS-approved biological monitor will be present at the site during all construction activities including but not limited to, vegetation and sediment removal, placement of concrete support structures for the walkway, replacement of the retaining wall and pathway repair. The biological monitor will have the authority to stop work temporarily in order to protect the listed species or the flagged sensitive areas.

2.3.4 Prior to commencement of any construction activities and daily prior to construction each day, a USFWS-approved biological monitor shall survey the site for the listed species. A USFWS approved biologist will also oversee the installation of exclusion fencing in segments or fully enclosing components of the

construction site as appropriate. The biological monitor will inspect the integrity of the exclusion fencing on a daily basis.

2.3.5 During dredging and vegetation removal activities, if required, up to three (3) biological monitors will be present to 1) monitor the area of vegetation or sediment removal, 2) observe the material as it transferred to the shoreline and 3) to inspect material as it is loaded into a container/dump bed that will allow the water in the excavated sediment to drain out before removal from the site.

2.3.6 Biological monitors will complete a daily monitoring log that records information on compliance and construction activities as well as avoidance measures implemented each day during the project. Each monitor will submit a daily monitoring form to the lead biologist before the start of the next construction day. Photographic documentation of project activities shall accompany each daily monitoring log. Within 60 days of completion of the Project, SFRPD will submit a report to USFWS documenting compliance with the terms and conditions and avoidance of unauthorized take of species or habitat.

2.3.7 No earthmoving or soil disturbing work shall occur between November 15 and April 15, the breeding season for the CRLF and the season when SFGS are less active on the site.

2.3.8 Terrestrial vegetation in undisturbed areas around HSP and the connecting channel will be cleared by manual means to a height of 4 inches (or a height that allows visibility of the ground) under the supervision of an approved biological monitor and checked for the presence of CRLF and SFGS.

2.3.9 Prior to ground disturbing activities associated with construction, including the use of staging or vehicle access areas or the removal or placement of fill or construction materials, rodent burrows in the construction site will be hand excavated by a USFWS-approved biologist until the burrow terminates or until a maximum depth of 30 centimeters.

2.3.10 Vehicle speeds in the project area will not exceed 10 miles an hour. The USFWS-approved biological monitor will inspect for snakes and frogs underneath any

vehicle that is parked for 30 minutes or more prior to moving the vehicle. All construction personnel will inspect under their tires and vehicle if it is idle for more than 5 minutes and has not been inspected by the on-site monitor. Vehicles accessing the construction site will be limited to the minimum necessary to complete the project. Project personnel shall park personal vehicles at a staging area located away from all aquatic habitats or areas of sensitive upland habitat.

2.3.11 Any workers on the site that observe any frog or snake will immediately report their findings to the on-site biological monitor and immediately suspend work that may be harmful to the individual. The monitor will identify the animal if it has not left the area. If a CRLF is observed in the work area, it will be relocated by a USFWS-approved biological monitor to the nearest suitable aquatic habitat out of harms way. Work may only recommence if the CRLF moves out of harms way or the animal is relocated by the biological monitor. Work may not recommence until the biological monitor has returned to the work area and gives approval.

2.3.12 Only USFWS approved personnel will be allowed capture or attempt to capture and move CRLF or other non-listed wildlife (e.g. treefrogs, small rodents) in the work area.

2.3.13 Erosion control best management practices (silt fences, coir rolls, straw bales) would be employed as part of the dewatering of sediments after removal and while soils are exposed. The erosion control measures will not include netting, plastic or natural monofilament netting or other materials that may entrap frogs or snakes.

2.3.14 After completion of the project, the access routes in the wetland will be revegetated with appropriate native plants and erosion control measures will be installed on exposed soils with slopes of 3:1 or greater.

2.3.15 To the maximum extent possible, all construction activities will occur in uplands and on the golf course. Stockpiling and staging areas will be located in the uplands and in areas cleared for species and the golf course. Construction materials (bricks, boards, shoring, concrete forms, etc.) shall be elevated approximately four to six inches above ground whenever feasible to minimize the

potential for species to take cover under these items. If feasible materials can be staged on a trailer/truck bed to avoid contact with the ground. To the extent feasible, construction materials will be brought to on-site staging areas as close to the time they are needed as possible.

Minimization and mitigation measures for golf course maintenance and operations

2.3.16 During and following completion of the Project, the water pumps will be operated pursuant to the following criteria:

- SFRPD staff will operate the pumps to ensure, to the maximum extent practicable, that CRLF egg masses at HSP, LS and the connecting channel are protected from desiccation as a result of pump operation by monitoring and adjusting pump levels to keep egg masses hydrated.
- A biological monitor from the SFRPD Natural Areas Program with appropriate experience, knowledge and permit authority from the USFWS, will monitor closely CRLF egg masses and water levels.
- Appropriate water levels will be determined by conducting visual surveys of CRLF egg masses in potential habitat areas around HSP, LS and the connecting channel.
- Visual surveys will commence following the first rains in November or thereafter and continue throughout the CRLF breeding season after each major rain event but not less than once every three weeks until all the tadpoles have hatched. If, for example during drought years, rains do not commence in November or December, surveys should begin in the first week of January.
- During the visual surveys, data on the CRLF egg masses including attachment type, water depth, size of egg mass, and Gosner stage will be taken, and a determination of potential stranding will also be made.
- If CRLF egg masses are observed at HSP, Laguna Salada or the connecting channel and there is sufficient water surrounding the mass, no adjustments to the water level will be made. But if one or more egg masses are observed to not possess sufficient water around it to prevent stranding, the water level that triggers operation of the pumps will be adjusted upwards, even at the risk of flooding the golf course.
- Pump levels will be set relative to the CRLF egg mass with the least amount of water around it; in other words, the pumps will be set to a level to protect the most vulnerable egg masses in HSP, LS and the connection channel.
- Following pump adjustments, the site will be resurveyed to ensure that the new pump levels have been achieved and the vulnerable egg masses are safe from desiccation.
- Once all the CRLF eggs have hatched and the tadpoles are no longer aggregating about the egg mass, the water level will be lowered incrementally and the

dewatering of HSP, LS and the connecting channel is monitored to ensure that CRLF tadpoles are not stranded by receding waters.

- When no egg masses are present, the water levels may be lowered to reduce flooding on the Property or in advance of the rainy season (typically in November) in order to increase flood storage capacity and to reduce the potential formation of ephemeral swales in unsustainable habitat areas (such as those on the eastern side of LS). The SFRPD will ensure that sufficient non-breeding habitat remains at HSP if water levels are to be lowered. Water level will be determined to be sufficient if the open water adjacent to the emergent vegetation is at least 6 inches deep on the inboard margin of the vegetation[2]. Prior to the rainy season, water levels in HSP may be lowered no more than five days prior to the first projected large rain event of the season.

2.3.17 During and following completion of the Project, if CRLF egg masses are determined to be at risk because they are deposited in ephemeral swales or in other conditions that are not sustainable, an SFRPD biological monitor with the Natural Areas Program will apprise USFWS of the situation and propose a relocation plan to the USFWS for review and approval. Such a relocation plan will describe the habitat, location and number of the at-risk egg masses as well as the reminder of the egg masses in the Project area that are not at risk. The relocation plan also will include protective measures above and beyond pump adjustments, such as bending vegetation to adjust the egg mass to the water level or relocating egg masses to more sustainable habitats. Relocation of egg masses will not be performed without approval of the USFWS.

2.3.18 During and following completion of the Project, mowing will occur pursuant to the following criteria:

- The area to be mowed will be the minimum required to maintain the golf course. A no-mow zone area, which includes the roughs adjacent to the wetlands, will be identified with stakes or other markers on the ground (see Figure 2-5). Golf staff will be instructed not to mow in these areas. The land between Mori Point and LS is an important movement corridor for the CRLF and SFGS. This area will be further evaluated by SFRPD biologists, in consultation with USFWS, to identify additional opportunities for movement and increases in the no-mow area. Based on this assessment, the extent of the no-mow zones may be increased from that shown in Figure 2-5 as long as the restrictions on mowing do not affect the playability of the golf course.

[2] In 2011, SFRPD in consultation with a biological expert, determined that if water levels remain above 1.0 on the gage board that sufficient water existed in HSP to support wildlife species. This level may change over time as the distribution of emergent vegetation of HSP changes.

- To the extent feasible, mowing of fairways and greens adjacent to LS would occur in the early morning hours before 9:00 a.m.
- If mowing occurs prior to dawn, for example in the winter, the SFRPD will ensure that the mowers are equipped with lights so that drivers can see the turf in front of them.
- All mower operators will be trained to identify the CRLF and SFGS and instructed to stop any activities if they observe any red or brown frog or any garter snake on the course.
- If any red or brown frog or any garter snake is encountered in the pathway of a mower, the operator will cease the mowing activity and wait for the animal to remove itself from harms way or discontinue the mowing activity in that area for the day. If the animal does not move out of harms way, the SFRPD biological monitor with the Natural Areas Program will be contacted. Work may not recommence in the area until the area has been determined to be clear of CRLF or SFGS.

2.3.19 During and following completion of the Project, only organic fertilizers, such as pro-biotics, blood meal, lime, and compost tea, will be used at Sharp Park, and they will only be applied to the greens, tees and surrounds. No fertilizers will be applied to fairways

2.3.20 During and following completion of the Project, the City does not anticipate the need to use any chemical pesticides on the golf course or associated landscaped areas at Sharp Park. Golf course pests and weeds will be controlled either by hand weeding or promoting healthy soil ecosystems. Organic materials such as compost tea, ferrous sulphate (iron) , chelated iron, liquid humate, liquid guano, yucca extract and EM1 (effective microbes) will be applied to golf course to promote healthy soils. In the event of a major fungal outbreak on the golf course, the City will consult with the San Francisco Department of the Environment's Integrated Pest Management Program to identify the least toxic material to use to control the outbreak and would comply with labeling and other restrictions imposed by the U. S. Environmental Protection Agency.

2.3.21 During and following completion of the Project, vehicle use on the golf course will be reduced. The City will reduce golf cart use on turf areas by establishing, posting, and enforcing cart path only and 90-degree only rules on the course. In areas adjacent to sensitive habitats (i.e., Holes 9 through 17 west of the Pacific Coast Highway (PCH) and adjacent to LS, HSP, Sanchez Creek and the

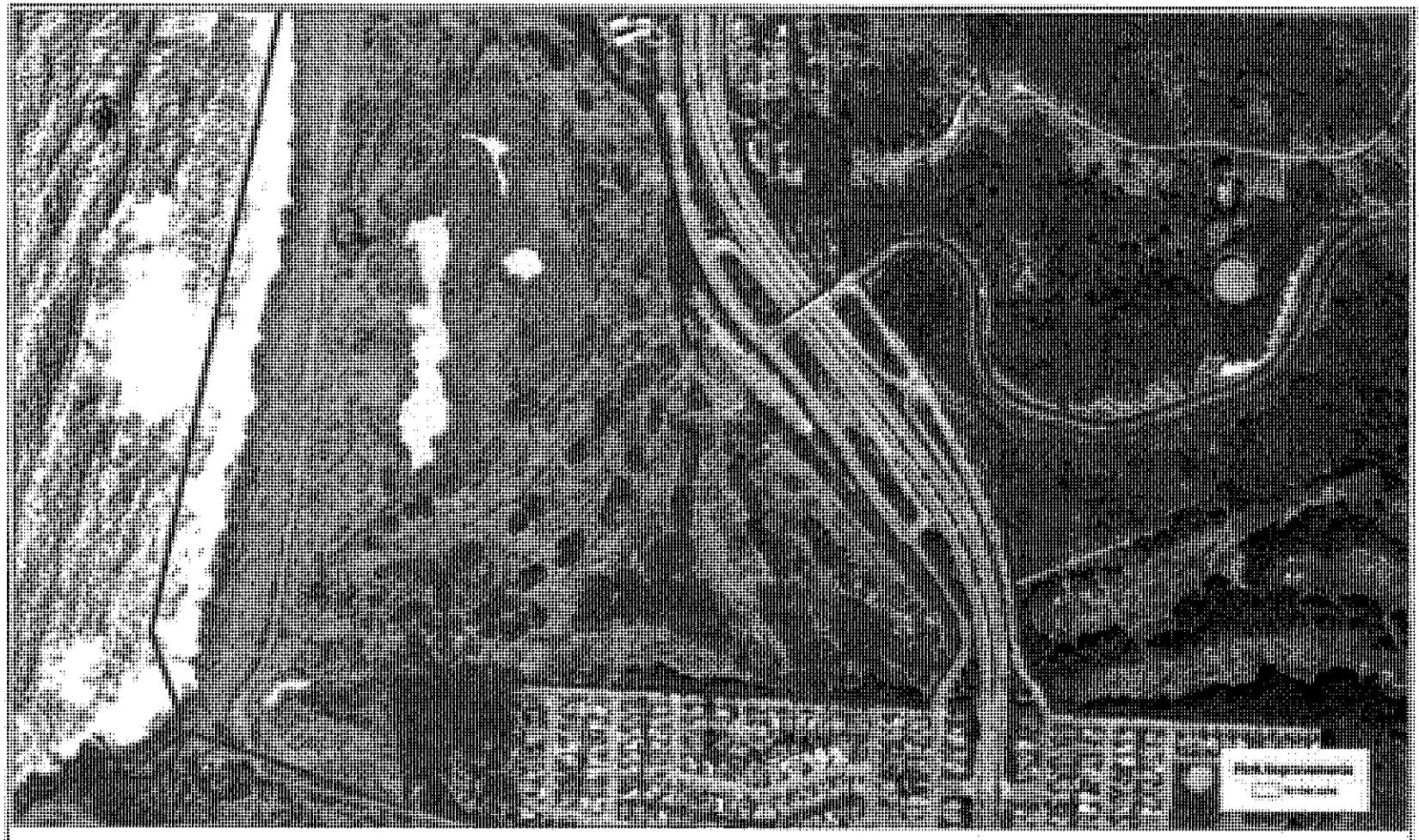


Figure 2-5: No mow zone

connecting channel) rules will stipulate that golf carts will be restricted to paved paths only. In the rest of the course, carts may be taken off the path but only following the 90 degree rule (golfers may drive to their ball by entering the golf course from the cart path at 90 degrees to their ball and returning to the golf cart along the same route after completing the swing). In order to implement these rules, the City will post signs throughout the course and in the golf carts stating where golf carts must stay on paths and where the 90-degree rule applies. The Golf Course lessee, marshals and golf course maintenance staff will be instructed to enforce these rules throughout the course.

If non-mowing vehicles associated with golf course maintenance must be taken off path on the golf course, the area must be visually surveyed in advance for CRLF and SFGS. If a CRLF or SFGS is sited in the maintenance work area and the animal does not relocate itself to adjacent habitat and out of harms way, the SFRPD biological monitor with the Natural Areas Program will be notified of the location and condition of the animal. If the animal is at risk due to other conditions (e.g., if it is located in the parking lot or maintenance area) the SFRPD biological monitor will relocate the animal to suitable nearby habitat and/or contact the USFWS and/or CDFG for guidance. If the animal is at risk, work must be suspended until the CRLF or SFGS removes itself from harms way.

2.3.22 The SFRPD will continue to conduct regular staff training. SFRPD staff will be taught how to identify species of concern, conduct activities incorporating the required minimization measures in areas where appropriate, and determine what conditions require cessation of work and what situations require notification of a biological monitor. Upon completion of additional training, staff will be able to perform routine maintenance tasks within the golf course footprint (excluding the no mow zone) such as changing pin placements; removing ball marks from surfaces; roping off, repairing, and reporting damage to sensitive areas to the SFRPD Natural Areas Manager; filling divots with seed mixes; removing foreign objects; replenishing and raking sand in bunkers; removing debris and litter;

conducting landscaping activities; mowing fairways and greens; hand or mechanized trimming of vegetation that cannot be mowed; applying organic fertilizers, compost tea and other soil health products with machinery, aerating, dethatching and irrigating play surfaces; controlling gophers; and maintaining plumbing, drainage and electrical systems. Landscaping activities within the golf course footprint include tree removal, pruning and stump grinding throughout; hand weeding and edging around areas of play, and groundcover, tree and shrub installation, pruning and weeding at the clubhouse and other ornamentally landscaped areas. SFRPD staff will also be able to perform minor maintenance activities such as hand litter and trash removal, inspections and clearing of irrigation valves, and hand removal of debris from culverts in the no-mow areas.

2.3.23 All major golf course related activities occurring in the no-mow zones adjacent to LS, HSP, Sanchez Creek and adjacent wetlands must be overseen by the SFRPD biological monitor with the Natural Areas Program. Tree removal, tree pruning and stump grinding are the only major maintenance activities anticipated to occur in portions of the no-mow zone. These activities will only occur in the isolated no-mow zones located between the golf course fairways (i. e., not the no mow zones adjacent to HSP and LS. Prior to the commencement of any work in these areas, the biological monitor with the Natural Areas Program must be contacted. The biological monitor will evaluate whether the activity requires that measures such as exclusion barriers, burrow collapsing or incremental vegetation removal be implemented in order to protect the species. The Natural Areas Program biological monitor will oversee the implementation of these measures. If unanticipated activities (activities not listed in 2.3.22 and 2.3.23) are required in the no-mow zone and the Natural Areas Program manager determines that the activities may result in take, the USFWS will be consulted to determine whether additional measures are required.

2.3.24 The SFRPD will distribute educational materials developed in cooperation with USFWS to staff, Park users, and golf patrons. These materials will include means to identify CRLF and SFGS, a synopsis of their natural history, including habitat

requirements, information on their distribution and abundance at the facility, and procedures for avoidance and who to contact in case of a question.

2.3.25 The SFRPD will distribute or install educational materials (brochures, or interpretive or regulatory signs) where appropriate around LS and HSP, the golf course entrances, and in the clubhouse stating that golfers and park users and their pets are prohibited from entering LS and HSP, dogs are to remain on leash, and that leaving food for cats is prohibited. The signs will also state that releasing animals in the park is prohibited. If a feral cat feeding station is discovered at Sharp Park, it will be removed as soon as practicable. The SFRPD will cooperate with GGNRA on their regional effort to address free-roaming cats at Mori Point and Sharp Park. Also the SFRPD will work with USFWS staff and other local agencies (the City of Pacifica, San Mateo County, Golden Gate National Recreation Area) to develop and implement an enforcement plan to control unauthorized access to the western side of Laguna Salada. Among the items to be considered in this plan are closing holes in the fence at the seawall, placing additional signs, and on-site enforcement. A draft enforcement plan will be provided to the USFWS within 18 months of the date of the Biological Opinion. The implementation of the plan will begin within 6 months of the USFWS approval of the final plan.

2.3.26 The SFRPD will maintain a 3 foot wood fence around HSP and a 3 foot wire-mesh fence along the eastern edge of the seawall, to keep dog walkers and other park users from entering HSP and LS from the seawall. "No Access" signs will be installed on the fence.

2.3.27 The SFRPD will restrict the use of vehicles on Mori Point Road, from Moose Lodge to HSP, over which the City has an easement.

2.3.28 The SFRPD will prepare and implement, with USFWS approval, an Invasive Species Management Plan that includes monitoring and control of bullfrogs and other introduced species that potentially reduce CRLF populations and habitat quality. Routine annual surveys for potentially detrimental non-native invasive animal species, particularly bullfrogs, predatory fish and non-native turtles, will

be scheduled and supervised by the Natural Areas Program biological monitor. Monitoring surveys for bullfrogs would be conducted in the spring and could consist of searches for egg masses, calling surveys and visual surveys. If individuals of potentially destructive animal species are encountered, control methods will be developed and, with USFWS approval, implemented. Among the methods that could be employed include draining of the water body (Arrowhead Reservoir), hand removal of egg masses, dipnetting for tadpoles and culling of adults. These control activities would be conducted by a USFWS-approved biologist.

2.3.29 The SFRPD will undertake actions to restore and enhance CRLF habitat in Arrowhead Reservoir by eliminating known predators. Presently, Arrowhead Reservoir is the only area in the Project site where any invasive animals (bass) are known to occur. The SFRPD will drain the reservoir to eliminate the bass population and post signs prohibiting release of animals in order to reduce the potential for future introductions. Arrowhead Reservoir will be monitored to detect potentially detrimental animals (see Measure 2.3.28 above)

2.3.30 The SFRPD will restore 0.5acre of upland habitat around HSP and Laguna Salada. This restoration would occur in three locations 1) south of HSP in an area with significant radish, mustard and Cape ivy cover, 2) immediately north of HSP in an area dominated by iceplant and 3) in the area west of LS in an area dominated by iceplant. The restoration in this later area would be coordinated with initiatives described in 2.3.25 to reduce unauthorized access to sensitive areas. Within 9 months of the date of the Biological Opinion, the SFRPD will provide to the USFWS for review, a detailed draft restoration plan that includes a map of the restoration areas and a description of the proposed restoration, monitoring and maintenance actions. Surveys for infestations of invasive non-native and particularly aggressive native plant species that reduce habitat value for desired wildlife will also be conducted annually. Where feasible, additional hand removal of these aggressive species would be conducted in the no mow areas around HSP, LS and the connecting channel. Invasive plant removal will

occur incrementally and will be followed by revegetation by locally collected and habitat appropriate native plants. All habitat restoration work will be conducted or overseen by the Natural Areas Program staff and overseen by the USFWS-approved biological monitor. Large-scale mechanical control or eradication efforts will be initiated as part of the long-term restoration plan of the site.

2.3.31 Golf course staff engaged in activities and who detect any CRLF or SFGS on the course that does not move of its own accord and would otherwise be in harm's way, must immediately report their finding to the biological monitor with the Natural Areas Program and attempt to prevent harm to the individual(s).

2.3.32 During and following completion of the Project, the SFRPD shall maintain and keep in good repair the sea wall road, which provides the only vehicle access for maintenance activities as described in paragraph 2.2.2.5, above. Maintenance of the roadway on the sea wall is expected to include filling ruts in the surface with aggregate or comparable materials and repairing drainage issues by outsloping the roadbed. The SFRPD does not anticipate hardening or further armoring of the sides of the sea wall.

2.3.33 The SFRPD will construct a perennial California red-legged frog pond approximately 150 square meters in size and similar in scope and design to the breeding pond constructed by the Golden Gate National Recreation Area (GGNRA). The design and site selection will be provided to the Service for review and approval nine months from the date of issuance of the biological opinion. Construction of the California red-legged frog pond will occur within two years and nine months of issuance of the biological opinion. San Francisco Parks Department will monitor the pond for breeding success by surveying for egg masses on an annual basis and documenting habitat conditions for a period of five years following pond construction and this information will be provided to the Service and the GGNRA.

SECTION 3.0 – GENERAL ENVIRONMENTAL SETTING

3.1 SIGNIFICANT LANDFORMS, GEOLOGICAL FEATURES, AND SOILS

Elevations in Sharp Park range from sea level to approximately 750 feet above sea level in the southeastern corner of Sharp Park. The western portion of the park is relatively flat, with most of the elevation change occurring on the east side of Highway 1. Soils in the park have been mapped as the Barnabe-Candlestick complex and Candlestick Variant (loams), with sands along the ocean and disturbed soils (cut, filled, graded) in the golf course area (Brabb and Pampeyan 1983; USDA 1991).

3.2 WATERSHED BOUNDARIES AND DRAINAGE PATTERNS

The 411-acre Sharp Park property lies within an approximately 980-acre watershed that includes both developed and undeveloped areas (see Figure 1-1). Runoff from the watershed – including runoff from PCH – that is not captured at a small reservoir east of Sharp Park and does not percolate into the ground flows to the wetlands complex at Sharp Park.

In addition to sheet flow from neighboring lands, there are three sources of surface water inflows to the Project site. Sanchez Creek, augmented in its lower reaches by highway drainage and runoff from a residential neighborhood, is the largest source of storm runoff. The creek flows westerly through portions of the golf course before it is directed into a culvert that discharges into a channelized drainage and flows into the wetland near HSP. A second inflow collects runoff from a network of storm drains that enter the Project site near the golf course clubhouse via an underground culvert that discharges into eastern side of LS. A third inflow collects runoff from a network of storm drains that enter the site via an underground culvert that discharges into the northern side of LS.

From 1941 to 1952, a seawall was constructed, which eliminated a hydrologic connection between the Pacific Ocean and LS, the principal surface water body in Sharp Park. Prior

to the construction of the seawall, there was an intermittent connection between LS and the Pacific Ocean such that water fluctuated from salty to brackish to fresh. Construction of the sea wall greatly reduced tidal exchange with, as well as outflow to, the Pacific Ocean. In the past, the seawall has been breached during large storm events, most recently in the mid-1980s.

The current wetland complex is composed of LS, HSP and the connecting channel. LS on the north is the deeper and larger of the two water bodies, with a bottom elevation ranging between 0 to 2 feet NAVD 88 (Kamman 2009). HSP, located south of LS is smaller and shallower, with bottom elevations ranging between 3.5 and 5 feet (Kamman 2009). Water levels in the wetland complex vary by season and year and are influenced by precipitation, evaporation, evapotransporation, seepage and pumping. The connecting channel between LS and HSP allows for water exchange at surface elevations greater than 6.2 feet (NAVD 88). Water exchange between the two water bodies is reduced by the hydraulic friction created by dense cattail growth (Kamman 2009). In some areas surrounding the wetlands and on the golf course, ephemeral ponds or swales may form, which do not appear to have surface water connection to LS, HSP and the connecting channel. These ponds form immediately after rainfall events and may last for several days to several months.

3.3 BIOLOGICAL SURVEYS

Numerous field surveys have been conducted on the Project site by Swaim Biological and City staff as well as other consultants. Reports documenting the results of these surveys are as follows:

* Fong & Campo (2006);
* Fong et al. (2009);
* Geomatrix (1986);
* Philip Williams & Associates (1992);
* Swaim (2008); and
* Swaim (2005).

In addition, background materials regarding vegetation and wildlife was adopted from the Final Draft of the City's Significant Natural Resource Areas Management Plan (2006).

3.4 SITE VEGETATION COMMUNITIES AND ASSOCIATIONS

The vegetation of Sharp Park was classified into 29 series (Table 3-1). Of the total 237.1 acres of natural areas at Sharp Park, approximately 64 percent of the area is non-native forest; 18 percent is native and non-native scrub; 5 percent is grassland (annual and perennial) and herbaceous series; 9 percent is wetland; and 4 percent is classified as "other" (open beaches, open water, roads, and other developed areas).

3.4.1 Forest

Four forest series were mapped at Sharp Park and they account for over half of the natural areas' total acreage. The majority of the area was mapped as blue gum forest and mixed exotic forest covering approximately 66.07 and 70.72 acres, respectively, primarily east of the PCH. Slightly less than 12 acres of cypress forest were mapped, primarily along the edges of the golf course on the western side of the PCH.

3.4.2 Scrub

The Natural Areas at Sharp Park support a wide array of scrub habitats. Most of these are located in the upper canyon area east of the PCH. Of the 10 types of scrub habitats mapped at Sharp Park, nine are dominated by native species. The willow (7.23 acres), dogwood (1.86 acres), and thimbleberry (0.46 acres) scrub series are found in the lower canyon along the creek. Oceanspray (10.07 acres) and red elderberry (3.57 acres) series are scattered midway up the slopes throughout the canyon. The California sagebrush (4.19 acres) and most of the coyote brush (11.49 acres) series are found on the upper slopes of the canyon. A small patch of California blackberry scrub (0.20 acres) is in the marsh area of LS. The only non-native scrub formation mapped at Sharp Park is French broom scrub (4.25 acres) that is scattered through the eastern portion of the park.

3.4.3 Grassland, Herbaceous, and Open Water

The open water of LS, HSP, and Arrowhead Reservoir comprise approximately 4 acres of the Natural Areas. Of the eight grassland/herbaceous series, iceplant (*Carpobrusus edulis*) (1.45 acres), purple false brome grassland (3.00 acres), and orchard grass grassland (5.45 acres) account for the majority of area covered by the grassland and herbaceous series.

3.4.4 Wetland

Seven wetland series were mapped at Sharp Park. All of these can be found around and within LS. In 2001, the bulrush/cattail wetland occupied approximately 18.1 acres around LS. Over the last several decades, the extent of this vegetation has increased, replacing the open water. The 2008 wetland delineation prepared for Laguna Salada indicated that freshwater wetland occupies 19.6 acres (Tetratech 2008). A small wetland around LS contains salt-tolerant marsh species, which may be relicts from the time when the lagoon was connected to the ocean and subsequent saltwater intrusion.

3.5 WILDLIFE

3.5.1 Birds

The variety of habitats at Sharp Park provide suitable foraging, nesting, and roosting habitat for a number of bird species. The forest habitat of Sharp Park provides potential nesting habitat for raptors and owls. Both red-tailed hawk (*Buteo jamaicensis*) and red-shouldered hawk (*Buteo lineatus*) are known to breed within Sharp Park. The complex of scrub habitats in the upper canyon provides habitat for resident and migratory songbirds including dark-eyed junco (*Junco hyemalis*), California towhee (*Pipilo crissalis*), Western scrub-jay (*Aphelocoma californica*), and American robin (*Turdus migratorius*) among others. The wetland habitats surrounding LS provide habitat for marsh species, such as saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*), Virginia rail (*Rallus limicola*), sora (*Porzana carolina*), red-winged blackbirds (*Agelaius phoeniceus*), and others. The saltmarsh common yellowthroat is not listed under the ESA, but it is a

Table 3-1 – Vegetation at Sharp Park

	Vegetation Series	Total Acreage
Forest	blue gum forest	66.07
	cypress forest	11.81
	mixed exotic forest	70.72
	pine forest	2.20
	Subtotal	**150.80**
Scrub	California sagebrush scrub*	4.19
	California blackberry scrub*	0.20
	dogwood scrub*	1.86
	coyote brush scrub*	11.49
	French broom scrub	4.25
	oceanspray scrub*	10.07
	poison oak scrub*	0.33
	red elderberry scrub*	3.57
	thimbleberry scrub*	0.46
	willow scrub*	7.23
	Subtotal	**43.66**
Grassland	ripgut brome grassland	0.38
	purple false brome grassland	3.00
	orchard grass grassland	5.45
	Subtotal	**8.84**
Other Herbaceous	poison hemlock	0.09
	mixed exotic herbaceous	0.42
	iceplant herbaceous	1.45
	Subtotal	**1.96**
Wetland	lady fern wetland*	0.04
	bulrush/cattail wetland*	18.11
	horesetail meadow*	0.02
	pondweed marsh*	0.67
	rush meadow*	0.02
	saltgrass/pickleweed marsh*	0.75
	silver weed marsh*	1.58
	Subtotal	**21.20**
Other	open water	3.93
	developed	6.73
	Subtotal	**10.67**
Grand Total		**237.12**

California species of special concern. In the middle of the canyon, the area surrounding Arrowhead Reservoir and a nearby patch of willow scrub provide nesting, roosting, and foraging habitat for swallows, flycatchers, thrushes, and other birds that prefer to use dense riparian scrub or forests closely associated with water.

3.5.2 Mammals

The diversity of habitats, especially the upper canyon areas, likely supports a relatively wide array of small mammals. A California meadow vole (*Microtus californicus*) was observed near LS (SFRPD 2006). Species that likely are present include dusky-footed woodrat (*Neotoma fuscipes monochroura*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and Virginia opossum (*Didelphis virginiana*). Surveys, conducted in 2008 for the dusky-footed woodrat, determined that the woodland and riparian areas east of Highway 1 are used extensively by this species (Wayne 2008). Review of relevant reports indicates that native gray fox (*Urocyon cinereoargenteus*) and the introduced red fox (*Vulpes fulva*) were common through the area in the past (Philip Williams & Associates 1992). Free-roaming domestic cats have been observed on site and are relatively common.

3.5.3 Amphibians and reptiles

The LS area has been the subject of specific amphibian and reptile surveys. These efforts have documented the presence of western pond turtle (*Clemmys marmorata*), California slender salamanders (*Batrachoseps attenuatus*), Pacific chorus frog (*Pseudacris (Hyla) regilla*), CRLF, SFGS, western yellow-bellied racers (*Coluber constrictor mormon*), and coast garter snake (*Thamnophis elegans terrestris*). Pacific rubber boa (*Charina bottae bottae*) and rough-skinned newt (*Taricha granulosa granulosa*) have been reported from Sharp Park east of PCH (Swaim 2008; EIP field visit, April 12, 1999; Philip Williams & Associates 1992). The wetlands surrounding LS, HSP, Arrowhead Reservoir and Sanchez Creek provide habitat or potential habitat for these species. The western pond turtle is not listed under the ESA, but it is a California species of special concern.

3.5.4 Invertebrates

A population of San Francisco forktail damselfly (*Ischnura gemina*) was discovered in association with the wetlands of Sharp Park in 1988 (Philip Williams & Associates 1992). More recently, a single San Francisco forktail damselfly was observed on the northern side of HSP (Swaim 2008). The San Francisco forktail damselfly is not listed under the ESA, but it is endemic to the San Francisco Bay Area and is listed as an IUCN Red List Endangered species.

The 2006 Natural Areas Management Plan identifies Mission Blue butterfly (*Icaricia icarioides missionensis*) as being reported from Sharp Park in 1988 (SFRPD 2006). There is a small grassland area on the far eastern portion of the Sharp Park property that is contiguous to Sweeney Ridge, a site known to support Mission blue butterfly. In addition, the small grassland contains host plants for this species. The Mission blue butterfly is a federally listed endangered species.

4.0 LISTED SPECIES AND ASSESSMENT OF HABITAT

4.1 INTRODUCTION

Based on biological surveys conducted on the Project site, we identified SFGS and the CRLF as listed species that may be present on the Project site. Other listed species were removed from more detailed consideration because they were not observed during the extensive biological surveys that have been conducted onsite. The Mission blue butterfly is not expected to exist in the Project site as the suitable habitat is located over 0.5 mile away, this species is not known to venture from its habitat, and the habitat between the construction, operation and maintenance areas contain heavily wooded areas that are inhospitable to this species.

4.2 LISTED PLANT SPECIES

No known listed plant species occur on the Project site.

4.3 LISTED WILDLIFE SPECIES

4.3.1 San Francisco garter snake (*Thamnophis sirtalis tetrataenia*)

Description:

The San Francisco garter snake is a slender, colorful snake that is endemic to the San Francisco peninsula. The SFGS was listed as endangered in 1967 under a predecessor to the ESA, and it retains that status today (USFWS 2006). No critical habitat has been designated for this species. A recovery plan for this species was released in 1985 (USFWS 1985).

Biology of the Species:

The SFGS is one of a number of subspecies of the common garter snake (USFWS 1985). The SFGS is identified by a burnt orange head, yellow to a greenish-yellow dorsal strip edged in black, and a red lateral stripe which may be continuous or broken with black blotches and edged in black. The belly color varies from greenish-blue to blue. Large adults can reach four feet in length (USFWS 1985).

The SFGS prefer habitat in vegetated ponds or marshes near an open hillside where they can bask in the sun, feed, and find cover in rodent burrows. They also show affinity for shallow, open water habitat, possibly because their preferred prey rely on such habitat (USFWS 2006). CRLF constitutes one important prey item of the species though it also feeds on other small amphibians and fish (USFWS 1985). Mature SFGS may also feed on small mammals (USFWS 1985). The SFGS is very wary and shows a great aversion to crossing over large open areas (USFWS 1985; Geomatrix 1986). The species shows a tendency to remain in close proximity to aquatic habitat (USFWS 2006).

The mating season for SFGS occurs in both the spring and the fall though it appears to be concentrated in the spring (USFWS 2006). The females of the species give birth to up to two dozen or more live young. After breeding, SFGS tend to be less active in the summer and fall. Peak basking time during the day is typically mid morning, with activity levels declining over mid-day; however these patterns are highly weather dependent.

Distribution:

The SFGS is endemic to the San Francisco peninsula, with all known historic and contemporary records of the snake limited to San Mateo County, California.

Status Onsite:

Over the last several decades, SFGS have been sighted sporadically at Sharp Park and adjoining properties (see Table 4-1). In 1986, following the breach of the seawall at Sharp Park due to winter storms in both 1983 and 1986, SFGS were not located on-site despite extensive surveys from March to July 1986 (Geomatrix Consultants 1986). Since then, SFGS sightings have been infrequent. The authors of a 1992 report on the LS wetlands stated that "[n]o SFGS were found on site" and went on to conclude that if they do occur on site, "there numbers are extremely limited" (Philip Williams & Associates 1992). At the same time, they did report two SFGS occurrences in Mori Point in 1990-91 and a further, single occurrence in 1992. In recent years, there were few sightings. In 2004, eight SFGS were captured a total of 11 times (Swaim 2005). In addition, in May 2005, an individual reported to the Golden Gate National Parks Conservancy that he had located the remains of an SFGS on the Sharp Park golf course (Salisbury 2011). It is unclear how long the remains had been there and whether they were moved. In 2006, 13 SFGS were captured at Mori Point (Swaim 2008). Then in 2008, five SFGS were captured at Mori Point and one SFGS was observed in Sharp Park near HSP (Swaim 2008). Since 2008, no trapping or extensive visual surveys for he SFGS have been conducted at HSP or other wetlands and one has reported sighting an SFGS at Sharp Park. In November 2009, a single dead juvenile SFGS was found on Fairway Drive in the residential community south of Sharp Park (Swaim, pers. comm. 2009). This animal had

Table 4-1. Summary of San Francisco Garter Snake Data

Date	Location	Source	Summary
1946	Laguna Salada	Wade Fox Field Notes and Museum Collection Data	First Documentation of SFGS at LS. Fox collects 46 individuals for museum collections.
1946	Nursery Pond	Wade Fox/MVZ	One SFGS collected at pond east of Highway 1.
1960s	Sharp Park	Barry (1978)	Significant Collection Pressure at Sharp Park after loss of Skyline Ponds.
Late 1970's	Mori Point (Bowl)/Sharp Park	Barry (1979), Barry (1979)	SFGS recovering from Collecting pressures of the late 1960s.
Spring1986	Laguna Salada	McGinnis (1986)	No SFGS captured or observed at LS.
Summer Fall 1986	Horse Stable Pond Area	McGinnis (1988)	Two adult, one neonate SFSG
1997	HSP/Mori Point	McGinnis (1997)	One juvenile SFGS captured along road through Mori Point adjacent to Houses.
1990-1992	Mori Point	Philip Williams Associates 1992	3 occurences
2004	Mori Point – 6 HSP- 1 CC- 1	SBI	11 captures of 8 individual SFGS
2006	Mori Point- 11 CC -2	SBI	30 captures of 13 individual SFGS
2008	Mori Point-5	SBI	5 individuals
2008	Sharp Park Tire Removal Project	SBI	1 SFGS

puncture marks throughout its body suggesting that the animal died from predation by a domestic cat or other predator. This snake was collected by K. Swaim under authorization by the USFWS Recovery Permit and DFG MOU. Feral cats and outdoor house cats frequent the ponds and wetlands at Mori Point during all times of the year and

have been seen searching the perimeter of the ponds as they dry (Swaim, pers. comm. 2012).

4.3.2 California red-legged frog (*Rana draytonii*)

Description:

The California red-legged frog is one of two subspecies of the red-legged frog (*Rana aurora*). It is the largest native frog in the western United States, and it is endemic to California and Baja California, Mexico. In 1996, the CRLF was listed as threatened under the ESA (USFWS 1996). USFWS designated critical habitat for the species most recently in 2010 (USFWS 2010b). The recovery plan for this species was released in 2002 (USFWS 2002).

Biology of the Species:

The CRLF is California's largest native frog at a length of up to 138 mm for females and 116 mm for males (USFWS 2002). It is brown to reddish-brown with diffuse moderate-sized dark brown to black spots that occasionally have light centers. The CRLF is readily identified by its distinct dorso-lateral folds. Dark bands stripe the dorsal side of the hind legs and red coloration is typical of the ventral side of the hind legs.

CRLF males become sexually mature at 2 years of age and females become sexually mature at 3 years of age (Jennings and Hayes 1985). The CRLF breeds between November and April (USFWS 2002), with earlier breeding occurring in southern California. A reproductively active, female CRLF will only produce one clutch during a breeding season. Egg masses are commonly attached to vertical emergent vegetation such as cattails and tules, but they can also be attached to mud or other substrates (USFWS 2002). The CRLF deposits its eggs in masses (typically 2,000 to 5,000 eggs per mass) just below the water line of lakes, ponds, and streams during or shortly after significant rainfall events. Eggs hatch in 6 to 14 days (USFWS 2002). Nighttime is typically the most active time for CRLF to disperse and reproduce.

The CRLF is generally found near water but often disperses to upland habitat after rains where it forages (Swaim 2008). Scientists have observed a wide range of dispersal distances. For example, Fellers and Guscio observed dispersal ranging from 30 to 1400 meters (Fellers and Guscio 2004). One hundred percent of CRLF egg masses die at salinity levels of 4.5 parts per thousand (ppt), and larvae cannot survive in concentrations higher than 7.0 ppt.

Distribution:

The CRLF ranges from the north coast and northern Sierra Nevada range of California into Baja California, Mexico (USFWS, 2002). The rangewide distribution of the species is described in detail in the Recovery Plan and Final Rule designating critical habitat (USFWS 2002; USFWS 2010b).

Status Onsite:

In 1986, following the breach of the seawall at Sharp Park due to winter storms in both 1983 and 1986, CRLF were not located on-site despite extensive surveys from March to July 1986 (Geomatrix Consultants 1986). During surveys conducted from May 1990 to May 1991, 100 juvenile CRLF were located around HSP while less than 20 frogs were counted around Laguna Salada proper, an area vastly larger than HSP. In March 1992, an unspecified number of egg masses were located at HSP (Philip Williams & Associates 1992).

Annual egg mass counts at Sharp Park (which includes LS, HSP and the connecting channel) between 2004 and 2011 varied between 16 and 189 (Fong & Campo 2006, Table 3, Fong et al. 2009 and Campo pers comm. 2012) (See Table 4-2). Whereas in 2004 and 2005, stranded egg masses accounted for 25 and 37 percent of observed egg masses in the LS watershed, in 2007 and 2008, they accounted for 10 and 3 percent of the observed egg masses (Fong et al. 2009). In 2011 and early 2012, there were 189 CRLF egg masses detected on Sharp Park property (Campo 2011 and Campo 2012). Of these

189 CRLF egg masses, 132 (or 70%) were deposited in ephemeral swales on the eastern side of Laguna Salada or along the connecting channel, which were determined to be unsustainable. That is, they were deposited in areas that did not appear to be hydrologically connected to Laguna Salada and would likely dry up before CRLF tadpoles metamorphosed into adult frogs. With authorization from the USFWS, the 132 egg masses deposited in these ephemeral swales were relocated to sustainable habitat in HSP and LS.

Table 4-2: Summary of California Red-Legged Frog Egg Mass Data

Date	Sharp Park	Mori Point*	Total
2004	55	0	55
2005	16	3	19
2006	45	12	57
2007	27	3	30
2008	97	23	120
2009	69	35	104
2010	34	28	62
2011	189	128	317

- Source: Darren Fong, National Park Service

Swaim Biological captured numerous adult and juvenile CRLF in trapping studies at Sharp Park and Mori Point in 2004, 2006 and 2008 and documented rapid colonization of an enhanced wetland and three newly created ponds at Mori Point by breeding populations of CRLF (SBI 2009).

4.3.3 Mission blue butterfly

Description

The Mission blue butterfly (*Icaricia icarioides missionensis*) is a small, nickel-sized member of the Lycaenidae family, or "gossamer-winged" butterflies. The males are silvery blue and the females are slate grey to brown, with some blue towards the middle of the upper fore and hindwings. In 1976, the Mission blue was listed as endangered

under the ESA (USFWS 1976). USFWS proposed critical habitat for the species in 1977 but never designated critical habitat (USFWS 1977). The recovery plan for this species was released in 1984 (USFWS 1984).

Biology of the Species

Contingent on the rainfall in spring, adults fly from mid-March to early June, with peak emergence in late May. The imago (adult phase) live eight to ten days (USFWS 1984). Females lay eggs on leaves, buds and seed pods on three types of lupine including silver lupine (*Lupinus albifrons* var. *collinus*), summer lupine (L. *formosus*) and varied lupine (L. *variicolor*) (Thelander and Crabtree 1994).

The eggs are round, bright, and white, typically laid singly on the upper surface of the lupine leaflet. Eggs hatch within 6 to 10 days and the first and second instar larvae feed on the leaf tissues. Approximately 3 weeks after the eggs hatch, the larvae enter an obligate diapause usually in the litter at the base of the plant. Larvae emerge and continue feeding the following spring. Ants (*Formica lasioides* and *Prenolepis imparis*) tend the third and fourth instar larvae, protecting them from predators and parasites in exchange for sugary secretions the ants feed on.

Adult Mission blue butterflies use many different nectar sources, including coast buckwheat (*Eriogonum latifolium*), California phacelia (*Phacelia californica*), checkerbloom (*Sidalcea malviflora*), yarrow (*Achillea millefolium*), blue-eyed grass (*Sisyrinchium bellum*), blue dicks (*Dichelostemma capitatum*), Ithuriels's spear (*Triteleia laxa*), coyote mint (*Monardella villosa*), golden aster (*Heterotheca sessiliflora bolanderi*), California horkelia (*Horkelia californica*), narrow-leaved mule ears (*Wyethia angustifolia*), and brownie thistle (*Cirsium quercetorum*). They are also known to use nonnative forbs such as Italian thistle (*Carduus pycnocephalus*), milk thistle (*Silybum marianum*), and rough cat's ear (*Hypochaeris radicata*)

Mission blue butterflies tend to fly low to the ground in search of potential mates, oviposition sites, and nectar sources. Trees, scrub, annual grasses, and tall forbs can create navigational challenges to Mission blues. Presence of adult Mission blue butterflies is correlated not only with host plant presence, but also with bare ground. A site dominated by host plant and nectar source vegetation and high cover of bare ground allows Mission blues to quickly and efficiently find mates and host plants during their short flight season (Bennett 2008, Lucas 1998).

Distribution

The Mission blue now occurs only in northern San Mateo County (San Bruno Mountain, Sweeney Ridge, and a small colony on Milagra Ridge), San Francisco County (Twin Peaks), and Marin County (small pockets along the Southern Headlands, Fort Baker, and along the eastern edges of the Golden Gate National Recreation Area [GGNRA]).

Onsite status

The 2006 Natural Areas Management Plan identifies Mission Blue butterfly as being reported from Sharp Park in 1988 (SFRPD 2006). There is a small grassland area (less than an acre) on the far eastern portion of the Sharp Park property that is contiguous to Sweeney Ridge, a site known to support Mission blue butterfly. In addition, the small grassland contains host plants for this species.

There are no project activities that are proposed near the Mission blue butterfly habitat. The Project construction action is located over 1.25 miles away and the golf course maintenance and operations are at least 0.5 miles away from the Mission blue butterfly habitat. In addition, the Mission blue butterfly is a localized species which is known to only occur in areas containing host and larval food plants. This species is not expected to venture into the vast exotic forests that exist between its ridgeline habitat and the golf course. As such, the Mission blue butterfly is excluded from further consideration in the Biological Assessment as there are no direct, indirect, cumulative or interrelated or interdependent activities associated with this project that would affect this species.

5.0 EFFECTS ANALYSIS

This section assesses the potential effects of the proposed Project on the listed species present on the site. The Project Description is provided in Section 2, and it includes the construction action described in Section 2.2. In addition, the applicant has proposed minimization and mitigation measures to ensure that construction and operational impacts – including those described in Section 2.3 – are minimized and mitigated. These measures are described in detail in Section 2.4 and are part of the Project Description.

The effects of the action include "the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, which will be added to the environmental baseline." 50 C.F.R. 402.02. The environmental baseline encompasses the past and present impacts of all other actions and environmental stressors within the action area, which affect the listed species and its habitat. The focus of an effects analysis is evaluation of the effects of an action by a federal agency that has the potential to harm listed species and/or designated critical habitat. The ultimate purpose of the effects analysis is to inform the determination of the Fish and Wildlife Service as to whether a proposed action is either likely or unlikely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of its critical habitat. Here, because the action area is not designated critical habitat for the CRLF and because USFWS has not designated critical habitat for SFGS, the focus is on whether the action is likely to jeopardize the continued existence of CRLF and/or SFGS.

For the purpose of this BA, direct effects are direct or immediate effects of the Project on the listed species or their habitat. Indirect effects of the Project on the listed species or their habitat are those that are caused by or result from the Project, are later in time, and are reasonably certain to occur. An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation. The *Consultation Handbook* explains that "the analysis of whether

other activities are interrelated to, or interdependent with, the proposed action under consultation should be conducted by applying a 'but for' test" (USFWS and NMFS 1998). Cumulative effects include the effects of future State, tribal, local or private actions, not involving a federal action, that are reasonably certain to occur in the action area. 50 C.F.R. 402.02.

5.1 DIRECT EFFECTS

The potential direct impacts to SFGS and CRLF associated with Project implementation include effects of vegetation and sediment removal from Horse Stable Pond and the connecting channel, the construction of a walkway including placement of concrete support structures around the pump intake, and associated staging. These are illustrated in Figures 2-2 to 2-4. Acreages associated with the direct impacts are provided in Table 5-1.

5.1.1 California Red-Legged Frog

Direct impacts to CRLF are possible as a result of project construction. Construction activities including pathway, walkway, retaining wall repair and construction and sediment and vegetation removal have the potential to result in injury or mortality due to construction vehicles and equipment. The project is being implemented in late summer and fall to avoid any impact on CRLF breeding activities. Because the vast majority of work is taking place on the golf course or from the access roads and during daylight hours, no significant impacts to CRLF dispersal between aquatic habitats or foraging activity is expected. CRLF in the immediate excavation and/or vegetation removal footprint may be disturbed by vibration of equipment near or in HSP and the connecting channel and temporarily flee into nearby cover. Pre-construction surveys, active removal of CRLF from construction zones and on-going monitoring during construction, are expected to protect individual frogs from being crushed by equipment or injured. Relocation may inadvertently harm or harass these individuals but not adversely affect them given the extensive amount of local and familiar habitat to which the individuals can be relocated. Construction activities that result in injury or mortality would adversely affect CRLF.

Table 5-1: Acres of Vegetation within the Project Site and Estimated Acres of Impact from the Proposed Project

Vegetation	Total On-site (Acres)	Temporary Excavation	Permanent Excavation (footings and wall)	Permanent Steps, walkway	Permanent Cart path	Total Acres	% Total on-site	% Occupied Habitat (Temporary)	% Occupied Habitat (Permanent)
Upland – ruderal*	10.8	0.09		.001		0.091	0.84%	0.83%	<0.01%
Upland – golf	173.8	0.23			.01	0.24	0.13%	0.13%	<0.01%
Open Water	3.93	0.08				0.08	2.0%	2.0%	0%
Freshwater Wetland	18.11	0.21	.0003			0.223	1.2%	1.2%	<0.01%
Totals		0.61	.0003	.001	.01	0.624			

- Includes grasslands and other herbaceous

The direct effects of the Project on CRLF include both temporary and permanent impacts to upland habitat. Temporary impacts to upland habitat will result from the use of construction equipment at the Project site to 1) install steps and replace the retaining wall adjacent to the pumphouse at HSP, 2) construct the walkway and cart paths, and 3) excavate sediments and emergent vegetation from HSP and the connecting channel. Vehicle access routes and staging areas required for the construction of these project elements will largely be situated in the ruderal upland habitat and on the golf course see Figures 2-2 through 2-4). The use of such equipment could harm CRLF and temporarily reduce cover for the CRLF in localized areas used for access routes and equipment staging at HSP and along the connecting channel. Impacts to upland habitat would be short term, very localized, and in small disjunct patches that will continue to be surrounded by extensive cover. Implementation of post-construction restoration efforts will further mitigate reductions in cover for CRLF. Permanent impacts to upland habitat will result from the placement of structures and materials at the Project site, namely, installation of the steps and realignment of the cart path. This impact will potentially reduce the quality of these small affected areas as habitat for the species. The total footprint subject to temporary disturbance is 0.09 acres of ruderal upland that provides potential habitat for CRLF and SFGS.[3] This area includes access and staging areas near HSP and the connecting channel. Additionally approximately 0.001 acres of potential ruderal upland habitat, associated with the construction of the steps to the pumphouse intake would be permanently affected. Combined, the temporary and permanent disturbance area is 0.091 acres, which represents 0.84 percent of the upland habitat on the Project site. It is assumed that all the upland habitat area is potentially occupied by the CRLF. The area affected is not designated as critical habitat for CRLF, but even if it was, it would only constitute 0.00004 percent of the critical habitat for the species. (The species' critical habitat is 1,636,609 acres (USFWS 2010b).)

[3] An additional and 0.23 acres of golf course will be temporarily impacted by the Project and 0.01 acres of golf course would be permanently impacted by the project. Affects to the golf course are not described in detail because the golf course is not considered suitable habitat for the species.

The direct effects of the Project on CRLF also include both temporary disturbance and permanent impacts to wetland habitat. Temporary disturbance to wetland habitat will result from the removal of cattails, bulrush, and sediment from HSP and the connecting channel and associated short-term increase in suspended sediments in the water column. Use of construction and other equipment at the Project site to install concrete support structures for the walkway and the retaining wall on the west side of HSP adjacent to the pumphouse may also temporarily disturb areas used by CRLF. Permanent impacts to wetland habitat will result from the placement of structures and materials, namely, footings for the walkway and replacement of the existing retaining wall on the west side of HSP adjacent to the pumphouse. These impacts potentially lower the quality of the affected area as CRLF habitat. The total amount of wetland habitat subject to temporary impacts is approximately 0.21 acres (associated with excavation and access) and permanent impacts is 0.003 acres. Combined, this represents 1.2% percent of the wetlands on the Project site. It is assumed that all the wetland habitat affected by the project is potentially occupied by the CRLF; however the areas along the connecting channel and HSP that contain dense cattail growth are considered to be very low quality breeding habitat for the CRLF. The area affected is not designated as critical habitat for CRLF, but even if it was, it would only constitute 0.00001 percent of the critical habitat for the species. (The species' critical habitat is 1,636,609 acres (USFWS 2010b).

To minimize the potential for harm to CRLF stemming from the direct effects described above, the City will implement the measures set forth in Sections 2.3.1 to 2.3.15, above. Furthermore, the Project will have direct beneficial effects on CRLF and their habitat. Cattail, bulrush, and sediment removal from HSP and the connecting channel will restore and enhance shoreline and open water areas that provide CRLF habitat, particularly breeding habitat (Swaim 2008). This in turn benefits SFGS by increasing the prey base (CRLF and Sierran treefrog) in the aquatic habitats and making the most optimal foraging habitat structure (shallow open water at the shallow sloped edges of HSP) available to neonates and juvenile SFGS (Swaim 2008). Currently, this type of foraging habitat is almost completely unavailable at HSP.

SFRPD and Swaim Biological egg mass surveys at HSP have shown a trend toward decreasing numbers at HSP since 2005, despite an overall significant increase in CRLF population size at Mori Point and Sharp Park.[4] The availability of more high quality breeding habitat at HSP and in the connecting channel will greatly increase the carrying capacity of the area for CRLF and may help to minimize the use of the highly ephemeral areas that retain water in vegetated swales in the golf course rough areas and within the matrix of out of play area amongst the fairways and greens, as well as the poorly drained areas on and adjacent to the Fairway of Holes 14 and 15.

5.1.2 San Francisco garter snake

The direct effects of the Project on SFGS include both temporary disturbance and permanent impacts to upland habitat. Temporary disturbance to upland habitat will result from the use of construction equipment at the Project site to install steps to replace the retaining wall, construct the walkway and pathways, and excavate sediments and vegetation at HSP and the connecting channel. The use of such equipment could temporarily reduce cover for the SFGS in localized areas used for access routes and equipment staging at HSP and along the connecting channel. Impacts to upland habitat would be localized and in small disjunct patches that will continue to be surrounded by extensive cover. Implementation of post-construction restoration efforts will further mitigate reductions in cover for SFGS. Permanent impacts to upland habitat will result from the placement of structures at the Project site, namely, installation of the steps to the pumphouse and realignment of the cart path. These impacts are expected to degrade the quality of these small affected areas as habitat for the species. The total amount of ruderal upland habitat subject to temporary impacts is 0.09 acres and permanent impacts is 0.001 acres. Combined, this represents 0.84 percent of the uplands on the Project site. Although records show very few occurrences of SFGS north of HSP, it is assumed that all the upland habitat area affected by the project is potentially occupied by the SFGS.

[4] While the number of egg masses at HSP is trending downward, the numbers of egg masses observed in Laguna Salada and the adjoining ephemeral swales has increased.

The direct effects of the Project on SFGS also include both temporary disturbance and permanent impacts to wetland habitat. Temporary disturbance to wetland habitat will result from the removal of cattails, bulrush, and sediment from HSP and the connecting channel and associated short-term increase in suspended sediments in the water column. Use of construction and other equipment at the Project site to install concrete support structures for the walkway and the retaining wall on the west side of HSP adjacent to the pumphouse may also temporarily disturb area used by SFGS. Permanent impacts to wetland habitat will result from the placement of structures at the Project site, namely, construction of the walkway and replacement of the existing retaining wall on the west side of HSP adjacent to the pumphouse. These impacts potentially lower the quality of the affected areas as SFGS habitat. The total amount of wetland habitat subject to temporary disturbance is approximately 0.21 acres and permanent impacts is .0003 acres. Combined, this represents 1.2 percent of the wetlands on the Project site. . It is assumed that all the wetland habitat area is potentially occupied by the SFGS.

To minimize the potential for harm to SFGS stemming from the direct effects described above, the City will implement the measures set forth in Sections 2.3.1 to 2.3.15, above.

5.2 INDIRECT EFFECTS

Indirect effects of the Project on the listed species or their habitat are those that are caused by or result from the Project, are later in time, and are reasonably certain to occur.

5.2.1 California Red-Legged Frog

The indirect effects of the Project on CRLF include the effects that result from operation of the pumps at HSP. Operation of the pumps has the potential to harm CRLF by lowering the water level in HSP during the breeding season and exposing egg masses to the air causing desiccation and entraining mobile life stages of CRLF. While the management of the pumps is intended to first and foremost to protect the CRLF egg

masses by maintaining water levels to keep the masses hydrated, it is possible that due to human error and other unforeseen events, that pumping operations could directly or indirectly result in desiccation of egg masses. For example, during the monitoring surveys an egg mass (or masses) that is in a vulnerable situation could be missed in a visual survey or miscommunication regarding target water levels could occur between monitoring staff and the engineers. At the same time, however, operation of the pumps has the potential to benefit CRLF by maintaining the water level in HSP during the breeding season when egg masses are deposited there. If water levels are allowed to increase too much, the result could harm individual eggs and slow development by altering abiotic factors that contribute to development, including sunlight, temperature, and dissolved oxygen content. Also by managing water levels, the frequency of flooding and the subsequent creation of ephemeral ponds in which CRLF deposit eggs would be reduced, thus resulting in more sustainable habitat for the species at the site. The operation of the pumps is essential to the ongoing overall management of the ecosystem encompassing LS, HSP and the connecting channel as a freshwater marsh. This managed freshwater ecosystem provides the optimal ecosystem and maximum perimeter of the optimal habitat, freshwater wetland habitat, for the CRLF and the SFGS.

To reduce the potential for harm to CRLF due to operation of the pumps and to enhance the benefits of operation of the pumps, the City has adopted a hierarchical approach to managing the pumps. Priority is given to managing water levels for the protection of CRLF and SFGS. Secondarily, the City manages water levels for flood control purposes in order to protect public health, safety, and adjacent property. Finally, the City manages water levels to facilitate recreational activity at Sharp Park. Furthermore, a set of criteria for operation of the water pumps is set forth at Section 2.3.16, above. These criteria are intended to yield net benefits for the local CRLF population.

The potential for harm stemming from entrainment of mobile life stages of CRLF exists. No structured monitoring has been undertaken to falsify the hypothesis that entrainment is occurring, but there is no available evidence that entrainment of CRLF is occurring at

HSP. CRLF have multiple behaviors to reduce the likelihood that they will be swept by flowing water from preferred habitats in managed and unmanaged circumstances, such as adhesive eggs that are placed on vegetation and strong swimming capacities of juvenile-stage individuals. It is improbable that the juvenile life stages of the species that emerge from eggs – even located along the shoreline of HSP in relative near proximity to the intake structure of the pumphouse – would swim into the open water where they could enter the zone of influence of the pump. Later life stages are less likely to be entrained in light of their swimming capacity.

5.2.2 San Francisco garter snake

The indirect effects of the Project on SFGS are limited to the effects that result from operation of the pumps at HSP, which have the potential to adversely affect an important component of the SFGS prey base, the CRLF. The likelihood and extent of this effect is documented in Section 5.2.1, above.

5.3 INTERRELATED AND INTERDEPENDENT EFFECTS

An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation. Golf course operations at Sharp Park constitute interdependent activities. This is the case because such activities would not occur but for the proposed action, which will allow for continued operation of the water pumps at HSP. As USFWS has explained, the relevant inquiry is "whether another activity in question [(here, golf course operations)] would occur 'but for' the proposed action under consultation" (USFWS and NMFS 1998). A description of golf course operations at Sharp Park is set forth at Section 2.2.2, above.

5.3.1 California Red-Legged Frog

Golf course operations – other than pumping operations that are analyzed above – have the potential to both harm and benefit CRLF. Potentially harmful impacts include mowing, application of fertilizers, gopher control, and vehicle (including golf cart) use.

Mowing has the potential to cause direct mortality of individual CRLFs. City personnel have on a number of occasions sighted individual CRLFs on areas of the golf course that are mowed. But there is no documented instance of CRLF mortality due to mowing at Sharp Park. Nonetheless, to reduce the potential for such mortality to occur, the City will implement the measures set forth in Sections 2.3.18, above.

Application of fertilizers has the potential to indirectly harm CRLF by encouraging the growth of aggressive emergent vegetation that reduces the value of the wetland habitat for the CRLF. To reduce potential harm to the species due to fertilizer application, over a period of several years the City has reduced both the quantity of fertilizer applied and the areas within which it is applied at Sharp Park. The proposed action limits the use of fertilizers to only organic fertilizers and limits fertilizer application to greens, tees and surrounds, as explained in Section 2.3.19, above. The maximum total acreage treated is approximately seven acres, which is less than five percent of the golf course.

Gopher control has the potential to harm CRLF that occupy gopher burrows by trapping individual CRLFs during the process of raking down gopher mounds or by catching CRLFs in gopher traps. There is no documented instance of harm to CRLF at Sharp Park due to gopher control efforts. Nonetheless, to reduce the potential for such harm to occur, the City will implement the measures set forth in section 2.3.21, above.

Vehicle use (including golf cart use) at Sharp Park golf course has the potential to cause direct mortality of individual CRLFs. Although there are no documented cases of vehicles running over CRLF at Sharp Park, City personnel have sighted individual

CRLFs in areas of the golf course that vehicles traverse. For example, City personnel have sighted individual CRLFs in the parking lot for the Sharp Park golf course. To reduce the potential for vehicle-related mortality to occur, the City will implement the measures set forth in Sections 2.3.22 to 2.3.25, above.

Potentially beneficial impacts of golf course operations on CRLF include suppression of invasive species that prey on or affect the prey base of the species such as raccoons and domesticated cats, as well as monitoring and control of impacts from human and dog use. Although some human and dog use is present on the western side of LS, the golf course monitors the use of the property and frequently removes unauthorized persons and dogs from the wetlands and other portions of the property. Furthermore, the affirmative determination to halt the use of chemical pesticides in landscaped areas likely is beneficial to the CRLF and/or its prey. In these ways, golf course operations actually enhance components of CRLF habitat.

Further, the CRLF population that includes those individuals within the boundaries of Sharp Park is conservation reliant (Scott et al. 2010). As such, it requires active management in order to avoid extirpation. Benign neglect is almost certain to do more harm than good. The intensive management regime put into place at Mori Point affirms the need for active management of the local population. There, the Park Service has implemented a host of measures – construction of raised boardwalks to service pedestrian traffic, monitoring for and removal of feral cats, the mechanical construction of ponds, pesticide application and manual weeding of targeted non-native grasses and forbs, and out-planting of desired native plants – to improve CRLF habitat. These adjoining habitats, Mori Point and Sharp Park, when managed similarly with actions to benefit the species provide for a strong population that can better withstand stochastic events that could render either site, if isolated, extinct. The cooperation between the National Park Service and the City strengthens this benefit for both the CRLF and SFGS.

5.3.2 San Francisco garter snake

Golf course operations – other than pumping operations that are analyzed above – have the potential to both harm and benefit SFGS. Although the SFGS population is not being sampled in systematic fashion via observations at Sharp Park, species numbers are so low as to indicate that the local population is at a size that may not be viable over time. Even acknowledging that the species is secretive and therefore difficult to detect (Geomatrix 1986), the low number of observations at Sharp Park and Mori Point combined over the past decade suggests that the potential to affect the species is low. Nonetheless, potentially harmful impacts of golf course operations include mowing, application of fertilizers, gopher control, and vehicle (including golf cart) use.

Mowing has the potential to cause direct mortality of individual SFGSs. There is no documented instance of SFGS mortality due to mowing at Sharp Park. There is a single disputed instance of SFGS mortality that occurred almost seven years ago in 2005. At that time, a near-by resident, Steven Salisbury, claims to have found a dead SFGS at the golf course. There is no evidence regarding the time at which the snake died and the location at which it died. Furthermore, the cause of death is inconclusive. Nonetheless, to reduce the potential for SFGS mortality to occur, the City will implement the measures set forth in Sections 2.3.18, above.

Application of fertilizers has the potential to indirectly degrade the SFGS habitat quality by encouraging the growth of aggressive emergent vegetation that reduces the value of the wetland habitat for the CRLF, one of its primary food sources. To reduce potential harm to the species due to fertilizer application, over a period of several years the City has reduced both the quantity of fertilizer applied and the areas within which it is applied at Sharp Park. The proposed action limits the use of fertilizers to only organic fertilizers and limits fertilizer application to greens, tees and surrounds, as explained in Section 2.3.19, above. The maximum total acreage treated is approximately seven acres, which is less than five percent of the golf course.

Gopher control has the potential to harm SFGS that occupy gopher burrows by trapping individual SFGS during the process of raking down gopher mounds or by catching SFGSs in gopher traps. There is no documented instance of harm to SFGS at Sharp Park due to gopher control efforts. Nonetheless, to reduce the potential for such harm to occur, the City will implement the measures set forth in section 2.3.21, above.

Vehicle use (including golf cart use) at Sharp Park golf course has the potential to cause direct mortality of individual SFGSs. But over a decades long period of golf course operations and golf cart use, there is no evidence of even a single instance of harm to SFGS due to cart use. This is unsurprising since SFGS is very wary and shows a great aversion to open areas (USFWS 1985; Geomatrix 1986). It is also unsurprising given the paucity of SFGS sightings at the golf course, which indicate that the local population is small. Nonetheless, to reduce the potential for such mortality to occur, the City will implement the measures set forth in Sections 2.3.22 to 2.3.25, above.

Potentially beneficial impacts of golf course operations on SFGS include suppression of invasive species that prey on or affect the prey base of the species, the population of predators such as raccoons, and domesticated cats as well as monitoring and control of impacts from human and dog use. Although some human and dog use is present on the western side of LS, the golf course monitors the use of the property and frequently removes unauthorized persons and dogs from the wetlands and other portions of the property. Furthermore, the affirmative determination to halt the use of chemical pesticides in landscaped areas likely is beneficial to the SFGS and CRLF, which is an important prey item for the species. In these ways, golf course operations actually enhance components of SFGS habitat.

Further, the SFGS population that includes those individuals within the boundaries of Sharp Park is conservation reliant (Scott et al. 2010). As such, it requires active

management in order to avoid extirpation. Benign neglect is almost certain to do more harm than good. The intensive management regime put into place at Mori Point affirms the need for active management of the local population. There, the Park Service has implemented a host of measures – construction of raised boardwalks to service pedestrian traffic, monitoring for and removal of feral cats, the mechanical construction of ponds, pesticide application and manual weeding of targeted non-native grasses and forbs, and out-planting of desired native plants – to improve SFGS habitat.

5.4 CUMULATIVE EFFECTS

Cumulative effects are limited to: (i) the effects of future non-Federal actions, (ii) that are reasonably certain to occur, and (iii) that will occur within in the action area (USFWS and NMFS 1998). Here, the action area is Sharp Park.

5.4.1 Human population growth and increased use of Sharp Park

The human population in San Francisco and San Mateo Counties is projected to increase from 1,555,000 in 2010 to 1,606,000 in 2020 and 1,641,000 in 2030 (California Department of Finance 2007). Sharp Park is a popular recreation site, and traffic at Sharp Park is likely to increase as the population in the area increases. Increased human presence at the site could harm CRLF and SFGS, for example, due to the introduction of invasive species by visitors to Sharp Park. This risk of harm stems from greater use of the site by pets including dogs and cats. It also stems from the potential for humans to transport invasive species such as bullfrogs or mosquito fish to Sharp Park. To minimize the potential for harm to CRLF and SFGS stemming from the cumulative effects associated with human population growth in the region, the City will implement the measures set forth in Sections 2.3.23 through 2.3.28, above.

5.4.2 Climate change

Anthropogenic climate change is expected to result in warmer average temperatures over time. It is anticipated that this will increase the frequency and intensity of storm systems, alter precipitation patterns and reduce snowpack, and increase spring flooding and summer droughts (Cayan et al. 2009). All of these effects could trigger other changes, such as an increase in the frequency and intensity of wildfires and insect infestations. At Sharp Park, these effects of climate change could harm CRLF and SFGS in a number of ways. For example, sea level rise and/or more intense storm systems could lead to sea wall breach, which greatly diminished the local populations of these species in the past (Geomatrix 1986). But there is a high degree of uncertainty regarding the local effects of climate change; therefore, it is infeasible to predict the likelihood and magnitude of such effects.

5.4.3 Implementation of the Laguna Salada Restoration Plan

One foreseeable action within the action area that may affect the listed species is implementation of the Laguna Salada Restoration Plan or an alternative thereto, as described in the Laguna Salada Conceptual Alternatives Report (SFRPD 2011). This plan is included in the Draft Environmental Impact Report (DEIR) that analyzes the environmental impacts associated with implementing the City's Significant Natural Resource Areas Management Plan (SNRAMP) (SFRPD 2006.) The SNRAMP contains detailed information on the biology, geology, and trails within 32 Natural Areas owned by San Francisco, including Sharp Park. The City prepared the DEIR in order to comply with the California Environmental Quality Act. Cal. Pub. Res. Code § 21000 *et seq.*

The *Consultation Handbook* provides guidance to inform the decision whether a potential future action is reasonably certain to occur by identifying a number of indicators.

Inquiry	**Answer**
Have State, tribal or local agencies approved the action?	No.
Is State, local, or tribal agency approval of the action imminent?	No.
Has the project sponsor provided its assurance the project will proceed?	No.
Is capital set aside for the project?	No.
Has the project sponsor entered into contracts to implement the project?	No.

Here, implementation of the Laguna Salada Restoration Plan is not a cumulative effect because it is not reasonably certain to occur at this juncture.

5.4.4 Implementation of National Park Service actions at Mori Point

The argument may be made that National Park Service (NPS) activities at Mori Point are cumulative effects. But this is not the case for three reasons. First, those activities are ongoing rather than future in nature. The NPS issued a finding of no significant impact for the Mori Point Restoration and Trail Plan in 2006 (NPS 2006). Since then, the NPS has implemented the Plan in numerous respects. Second, those activities are Federal rather than non-Federal. Third, Mori Point is not within the action area. Although the list species' at Sharp Park are both subgroups of local populations that include Mori Point, the geographic area encompassed by the population is not the appropriate metric to ascertain the action area.

6.0 CONCLUSION AND DETERMINATION

The proposed Project would result in direct and indirect impacts to CRLF and their habitat. Overall, the proposed Project "may affect" the CRLF according to ESA. The minimization and mitigation measures would limit or eliminate impacts to this species. Although adverse effects may occur during construction, the long-term benefits of the Project to the species would result in a net benefit to CRLF.

Impacts to the SFGS may result from changes to habitat that occur due to implementation of the Project. Overall, the proposed Project "may affect" the SFGS according to ESA Mortality of SFGS is considered unlikely due the facts that SFGS are not present (or if they are present, the population is very small) on the site and the City has proposed a Project that includes numerous minimization and mitigation measures to limit or eliminate impacts to the species. Construction activities have the potential to harm the species.

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8.0 LIST OF PREPARERS AND CONTRIBUTORS

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APPENDIX A

SF RECREATION AND PARKS
CAPITAL IMPROVEMENTS DIVISION
SHARP PARK PUMPHOUSE
SAFETY & INFRASTRUCTURE IMPROVEMENTS
SITE PHOTOS
DATE 6.17.11
SCALE NTS
DRAWING #
1

TULE:

830 SF + 800 SF + 960 SF = 2390 SF

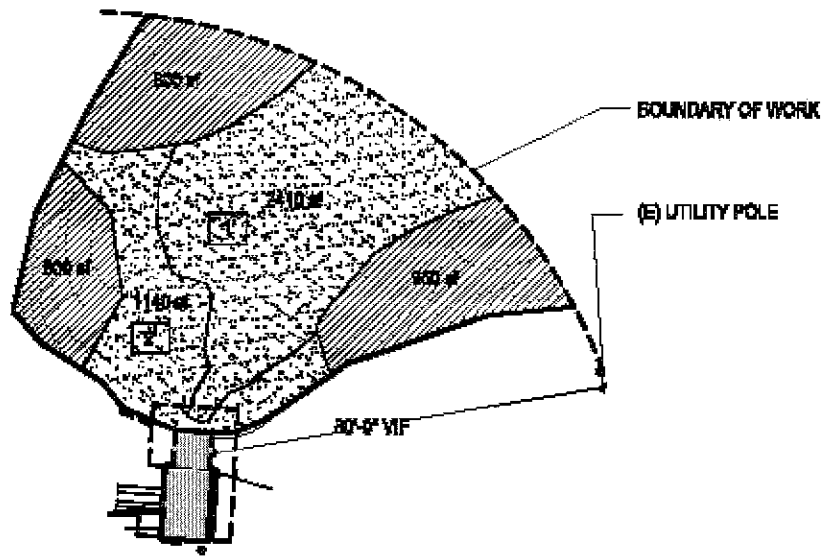
SEDIMENT:

- 1' DREDGE AREA X 2410 SF = 2410 SF
- 2' DREDGE AREA X 1140 SF = 2280 SF
- 3' DREDGE AREA X 2350 SF = 7050 SF

TOTAL = 11740 CF = 435 CY

REMOVE TULE AND DREDGE TO 3'

DREDGE AS INDICATED ON PLAN



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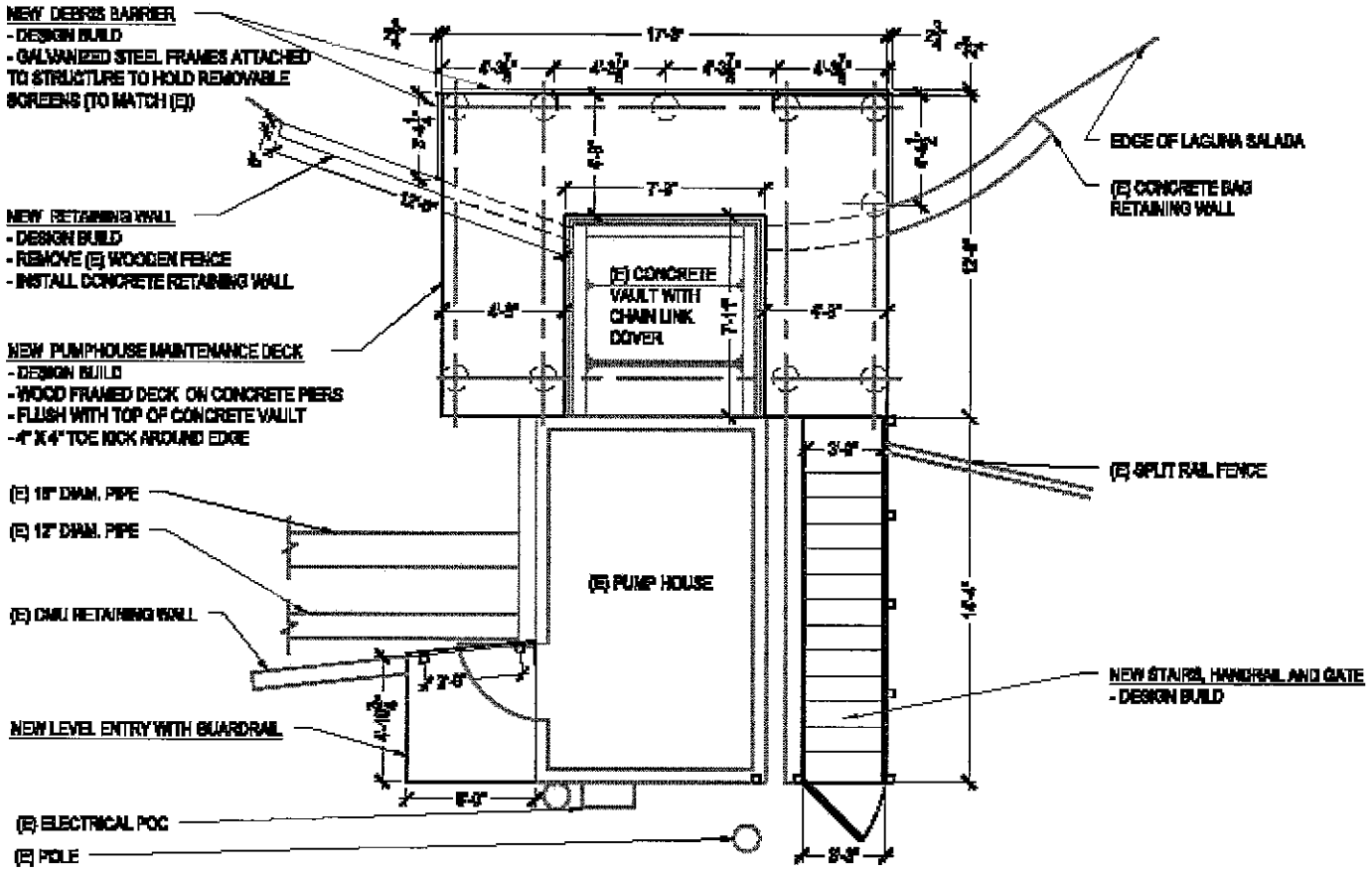
SHARP PARK PUMPHOUSE

SAFETY & INFRASTRUCTURE IMPROVEMENTS

SEDIMENT AND TULE TAKE OFFS

DATE 6.16.11
SCALE NTS

DRAWING #
2



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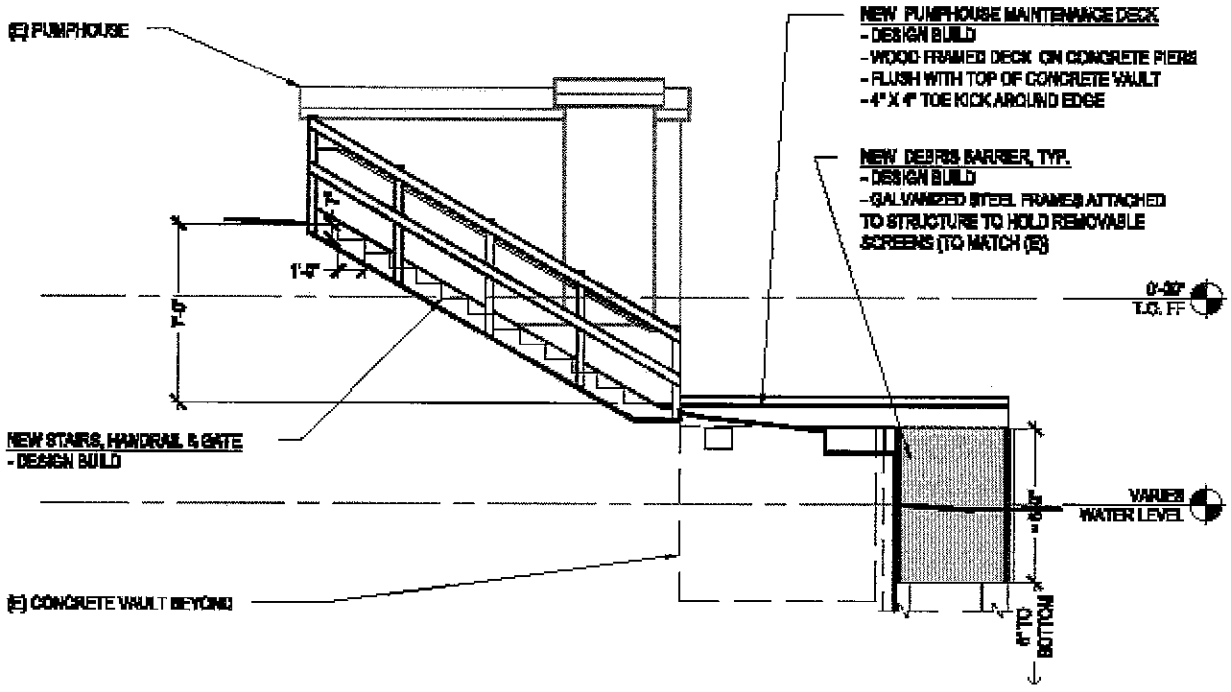
SHARP PARK PUMPHOUSE

SAFETY & INFRASTRUCTURE IMPROVEMENTS

PLAN VIEW

DATE 6.17.11
SCALE 3/16" = 1'-0"

DRAWING #
3



NORTH / SOUTH SITE CROSS SECTION LOOKING WEST

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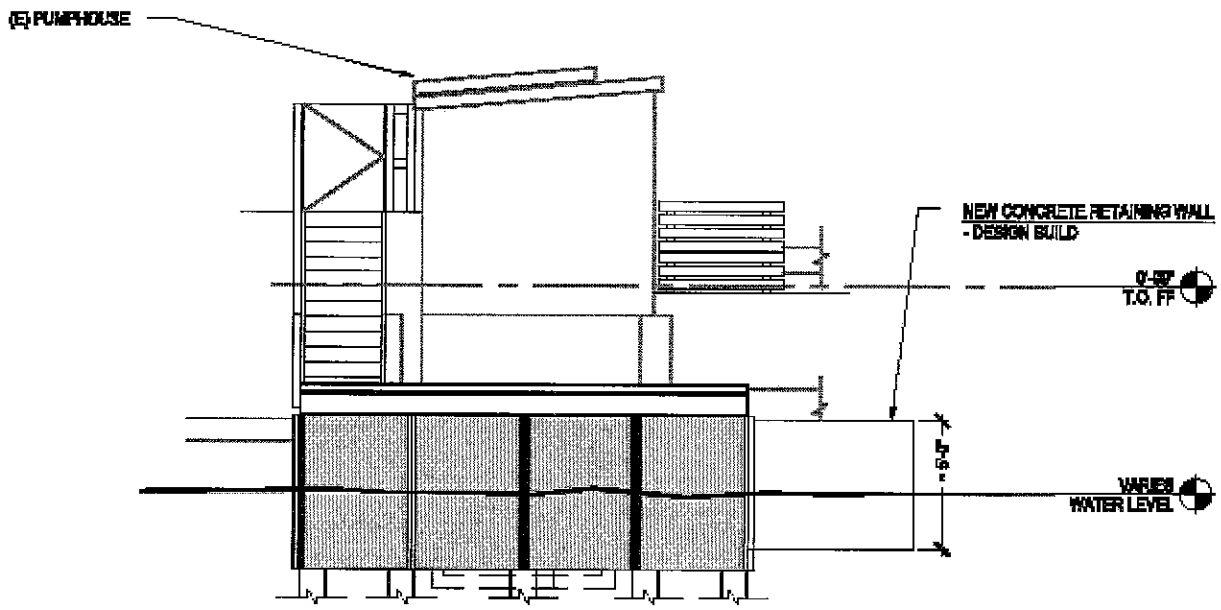
SHARP PARK PUMPHOUSE

SAFETY & INFRASTRUCTURE IMPROVEMENTS

CROSS SECTION

DATE 6.17.11
SCALE 3/16" = 1'-0"

DRAWING #
4



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SHARP PARK PUMPHOUSE

SAFETY & INFRASTRUCTURE IMPROVEMENTS

ELEVATION - NORTH

DATE 6.17.11
SCALE 3/16" = 1'-0"

DRAWING #
5

APPENDIX B

Appendix B. Comparison of actions under 2009 Compliance Plan and Biological Assessment

	Compliance Plan	Biological Assessment	Relative effect of the proposed action
1	The Department defined an area of the Park where golf course operations and maintenance activities will be modified in order to minimize potential impacts to SFGS and CRLF (see attached Sharp Park Compliance Map). All activities within this management zone, including mowing (6.2), flood control (6.3), and pest control (6.4), will be regularly reviewed by the Natural Areas Program Manager and golf maintenance staff and refined as necessary to avoid take. (6.1.1)	The BA defines both the Project site and the construction site (2.2.1) and identifies more specifically what actions can occur in different areas of the site, including flood control (2.13.16 and 2.13.17), mowing (2.13.18), and pest control (2.3.20), vehicular access (2.3.21) and other maintenance activities (2.3.23).	No effect on species.
2	The Department will maintain a staff member with the title of Natural Areas Program Manager. This staff person will have advanced training in environmental protection and resource conservation. Although day-to-day conservation activities and long-term planning are the responsibility of this staff person, much of the required specialized fieldwork will be conducted by contract biologists and planners. The Natural Areas Program Manager will also be the main liaison between the Department and the wildlife resource agencies. (6.1.2)	The BA refers to the Natural Areas Program Manager, but it does not prescribe the duties associated with that position. (2.3.22). The BA includes oversight by a USFWS-approved biological monitor whenever actions may affect species.	No effect on species.
3	The Department will conduct regular staff training. Staff will be taught how to identify species of concern; how to conduct activities incorporating the required minimization measures in areas where appropriate, determine what conditions require cessation of work and what situations require notification of a biological overseer or of the wildlife protection agencies. Upon completion of training, staff will be able to perform routine maintenance tasks without the presence of a biological monitor. These tasks include changing pin placements; removing ball marks from surfaces; roping off, repairing, and reporting damage to sensitive areas to the Department Natural Areas Manager; filling divots with seed mixes; removing foreign objects; replenishing sand in bunkers; removing debris from fairways; mowing fairways and greens, and hand or mechanized trimming of vegetation that cannot be mowed. (6.1.3)	The Department has conducted staff training. In addition, the BA discusses regular staff training and the specific types of activities that trained staff may and may not perform (2.3.22)	No effect on species.

	Compliance Plan	Biological Assessment	Relative effect of the proposed action
4	The Department will develop and distribute educational materials (brochures) to staff, Park users, and golf patrons. These materials will include means to indentify CRLF and SFGS, a synopsis of their natural history, including habitat requirements, information on their distribution and abundance at the facility, and procedures for avoidance and who to contact in case of a question. (6.1.4)	The Department has begun to develop educational materials. In addition, the BA discusses distribution of such materials. (2.3.24)	No effect on species.
5	The Department will develop rules for the Golf Course in conformance with this Plan and will require the Golf Course operator enforce those rules. (6.1.5)	The Department developed rules for the Golf Course in conformance with the Compliance Plan and requires the Golf Course operator enforce those rules. This issue is not expressly addressed in the BA.	No effect on species.
6	The Department will post signs around Laguna Salada and Horse Stable Pond, the golf course entrances, and in the clubhouse stating that golfers and park users and their pets are prohibited from entering Laguna Salada and Horse Stable Pond, dogs are to remain on leash, and that leaving food for cats is prohibited. The signs will also state that releasing animals in the park is prohibited. If a feral cat colony is discovered at Sharp Park, it will be removed as soon as practicable. (6.1.6)	The Department has developed and posted "Habitat Preservation Area: Do Not Enter": signs around Laguna Salada and Horse Stable Pond. Additional educational materials are being developed and will be posted, including regarding dogs and cats. In addition, the BA discusses distribution of such materials. (2.3.25)	No effect on species.
7	The Department constructed a 4 foot fence around Horse Stable Pond and will construct a thirty-six inch wire-mesh fence connected to four-foot high poles, between the seawall and Laguna Salada, to keep dog walkers and other park users from entering Horse Stable Pond and Laguna Salada from the seawall. This fence is depicted on the attached Sharp Park Compliance Map. (6.1.7)	The Department has constructed a thirty-six inch wire-mesh fence connected to four-foot high poles, between the seawall and Laguna Salada, to keep dog walkers and other park users from entering Horse Stable Pond and Laguna Salada from the seawall. The BA indicates that the Department will maintain this fence and the fence around HSP, and it will post "No access" signs. (2.3.26)	Either no effect or small beneficial effects on species. The beneficial effects will result from improved fence maintenance and the additional signage, which will reduce the potential for habitat degradation and harm to individual CRLF.
8	The Department will restrict the use of vehicles on the GGNRA road (Mori Point Road), from Moose Lodge to Horse Stable Pond, over which the City has an easement, in conformance with the GGNRA's ongoing work to improve the CRLF and SFGS habitat. (6.1.8)	The BA indicates that the Department will continue to restrict vehicle use on Mori Point Road. (2.3.27)	No effect on species.

	Compliance Plan	Biological Assessment	Relative effect of the proposed action
9	Surveys for potentially detrimental non-native invasive animal species, particularly bullfrogs and fish, will be scheduled and supervised by the Natural Areas Program Manager. If individuals of potentially destructive animal species are encountered, control methods will be developed and, with agency approval, implemented. (6.1.9)	The BA indicates that the Department will continue to survey for potentially detrimental non-native invasive animal species and will develop, with USFWS approval, an Invasive Species Management Plan. (2.3.28)	Either no effect or beneficial effects on species. The beneficial effects will result from development and implementation of a USFWS approved Invasive Species Management Plan.
10	Surveys for infestations of invasive non-native and particularly aggressive native plant species that reduce habitat value for desired wildlife will also be conducted. Control or eradication efforts will be initiated as part of the long-term restoration plan of the site. (6.1.10)	The BA indicates that the Department will continue to survey for invasive, non-native plant species (2.3.30) and indicates that at least 0.5 acre of habitat that currently contain iceplant and other invasives will be restored to native vegetation.	Beneficial effects will result from the implementation of restoration actions, as opposed to only conducting surveys.
11	Golf course staff who detect any snake or frog on the course that, if not relocated, would otherwise be in harm's way, shall immediately report their finding to the Department's Natural Areas Program Manager and attempt to prevent harm to the snake or frog, and shall stop play if necessary. If at all possible, staff members will not attempt to capture or move any SFGS or CRLF, and will wait for either the animal to leave the area under its own accord or wait for the arrival of a biologist permitted to handle these protected species. (6.1.11)	The BA indicates that golf course staff must immediately report detection of any CRLF or SFGS and attempt to prevent harm to the individual(s) (2.3.31). The BA also directs mower operators to cease mowing activities if they observe any frog or snake on the course (2.3.18).	No effect on species or possible beneficial effects will result because mowing activities will cease if any frog or snake is observed, therefore reducing harm due to misidentification.

	Compliance Plan	Biological Assessment	Relative effect of the proposed action
12	In consultation with Karen Swaim, the Department's biological expert, the Department will develop a mowing schedule for the 100 foot Management Area identified on the attached Compliance Plan Map, Attachment A. The mowing of this area will be conducted with a biological monitor. (6.2.1)	The BA prescribes a clear and specific set of mowing criteria, including a no mow zone and time of day guidelines. The mowing times were based on when frogs and snakes would be least likely on the course. The criteria were developed in consultation with Karen Swaim (2.3.18).	No effect on species. This determination is made in light of the absence of empirical information that suggests that mowing consistent with the criteria is likely to harm individual CRLF or SFGS at Sharp Park.5
13	Methods to reduce the frequency of mowing the fairways adjacent to wetlands will be investigated. Specifically, watering and fertilizer application schedules may be altered in order to reduce the frequency of mowing. (6.2.2)	The Department investigated methods to reduce the frequency of mowing the fairways adjacent to wetlands. The BA indicates that limits will be imposed on the type and location of fertilizer use. (2.3.19)	No effect on species.

[5] The use of a biological monitor for mowing activities was determined to be unnecessary and economically infeasible. Furthermore there is no evidence that a biological monitor will provide any greater level of protection for the species. Rather than employing a daily biological monitor to walk the course each day, golf course mowing staff will be trained and instructed to cease mowing if any frog or snake is observed on the course. Mowing in the area may only recommence if the animal removes itself from harms way. These protocols will be effective in reducing potential harm to the species and economically viable.

	Compliance Plan	Biological Assessment	Relative effect of the proposed action
14	Mowing and other maintenance of the greens occur on a near daily basis. Given the specialized nature of the turf on the greens and the machinery required to maintain these structures, there is very little chance that the presence of an individual CRLF or SFGS will escape notice from properly trained ground crews. If an individual of either of these species is observed on a green scheduled for maintenance, the maintenance activities would be postponed until the animal has departed the area. Note that play would also be suspended under such circumstances. While not as critical for the fairways, the mowing of the greens in the management zone should be timed to avoid periods with CRLF or SFGS might be present. As discussed in Footnote 1 of the Compliance Plan, CRLF are not expected on the greens during periods when ground crews are working, and it is unlikely, but possible, that SFGS will be present on the greens during the daylight hours when work is scheduled. Given the very limited extent of the greens and the complete lack of cover, a pre-work survey by the trained ground crew will eliminate the possibility that greens maintenance will harm SFGS. (6.2.3)	The BA prescribes a set of mowing criteria, including a no mow zone and time of day guidelines. (2.3.18) The BA also prescribes criteria for use of non-mowing vehicles (2.3.21).	No effect on species.
15	Maintenance activities that involve digging pits or trenches in the management zone will be reviewed by the Natural Areas Program Manager prior to start of construction and exclusion fencing or other protective measures will be installed where appropriate. (6.2.4)	The BA indicates that the Department will conduct staff training in order that staff can perform routine maintenance tasks on the golf course, outside the no mow zone. Within the no mow zone, activities will be overseen by the biological monitor. (2.3.22)	No effect on species.
16	In the management zone, utility boxes, including numerous irrigation boxes, will be maintained in proper working order and without openings that allow access by small-bodied reptiles or amphibians. The existing boxes will be checked several times a year. (6.2.5)	The BA indicates that the Department will conduct staff training in order that staff can perform routine maintenance tasks on the golf course, outside the no mow zone. Within the no mow zone, activities will be overseen by the biological monitor. (2.3.22)	No effect on species.

	Compliance Plan	Biological Assessment	Relative effect of the proposed action
17	Rodent control protocols for the greens and tee boxes of the Management Area will be developed by the Department in consultation with Karen Swaim. There will be no trapping in the Management Area. (6.2.6)	Karen Swaim reviewed gopher control on the golf course and determined that the current practices would be unlikely to harm frogs and snakes taking refuge in gopher holes. Gopher mounds are raked away from holes entrances. When active burrows are present, a hole is dug in the middle of the tunnel and traps are placed on either side of the hole. The turf that was removed is then replaced. Traps are checked and removed before the end of the work day. No gopher trapping or hole raking would occur in the no-mow zone.	No effect on species. This determination is made in light of the absence of empirical information that suggests that gopher control as it is performed on the course is likely to harm individual CRLF or SFGS at Sharp Park.6
18	If while conducting any routine maintenance activity, including, but not limited to mowing, drain cleaning, and pipe repair, a snake or frog of undetermined identification is encountered, work will stop in the area and the Natural Areas Program Manager will be notified. (6.2.7)	The BA indicates that golf course staff must immediately report detection of any CRLF or SFGS and attempt to prevent harm to the individual(s). In addition, staff training will address conditions that require cessation of work and notification of a biological monitor. (2.3.31, 2.3.22)	No effect on species.
19	Management of vegetation in roughs located adjacent to wetlands will require special attention. In the absence of specific information, these areas are considered occupied by CRLF and SFGS. As such, unsupervised, broad-scale mechanical cutting activities are not allowed. If management of ground vegetation in a rough adjacent to a wetland is required, the Natural Areas Program Manager will have a qualified biologist on site to survey areas immediately prior to work and observe the site until work is completed. Hand trimming of bushes and trees can be completed in these areas with prior approval of the Natural Areas Program Manager. As with virtually all other activities in the management zone, the timing of actions in roughs adjacent to wetlands will take SFGS and CRLF activity patterns into account. (6.2.8)	The BA indicates that all activities in the no mow zone must be overseen by the biological monitor. (2.3.23)	No effect on species.

[6] The action that restricted gopher control in the Management Area as described in the Compliance Plan, was determined to be unnecessary and could significantly affect the playability and feasibility of the course. If gopher tunnels are left untreated in areas of play (tees, greens and fairways), sections of the course would be rendered unplayable.

	Compliance Plan	Biological Assessment	Relative effect of the proposed action
20	All vehicles, including golf carts, will be restricted to the paved paths subject to compliance with the American with Disabilities Act. (6.2.9)	The BA indicates that vehicle use on the golf course will be reduced, and the Department will implement the 90-degree rule in areas adjacent to the Laguna Salada wetlands . (2.3.21).	No effect on species. This determination is made in light of the absence of empirical information that suggests that use of non-mowing vehicles consistent with the limitations set forth in the BA is likely to harm individual CRLF or SFGS at Sharp Park.7
21	Beginning in December of each year, qualified personnel (biologists or resource managers with experience in egg mass surveys) from the Department's Natural Areas Division will survey Horse Stable Pond, Laguna Salada, and the connecting channel for CRLF egg masses. The surveys will be performed on the three days immediately following each of the first three winter rain events of two inches or more. (6.3.1)	The BA establishes criteria for operation of water pumps. These include survey criteria. (2.3.16)	Either no effect or small beneficial effects on species. The criteria reflect knowledge gained managing the water pumps during past seasons that likely contributes to improved pump management.

[7]In limiting carts to paths only, the golf course is made less accessible to seniors and persons with impaired mobility. Such limitations may affect the economic viability of the course by making it a less desirable course to play. Restricting cart use to paths only is unnecessary in areas where CRLF and SFGS are not expected to occur. Golf cart limitations are proposed to follow a 90-degree rule in areas adjacent to sensitive areas. The implementation of a cart path only rule would have questionable beneficial effects for the species, inhibit course use by a subset of the population, and likely have an economic cost.

	Compliance Plan	Biological Assessment	Relative effect of the proposed action
22	Once egg masses are detected, water levels will not be manipulated by Department personnel such that egg masses would be exposed to air by active water management actions. Notes will he made regarding the location and depth of egg masses, as well other measurements that are routinely collected during egg mass surveys. The height of the water on the pump house gauge board will also be noted. (6.3.2)	The BA establishes criteria for operation of water pumps. These include criteria following egg mass detection and guidance regarding data collection. (2.3.16)	Either no effect or small heneficial effects on species. The criteria of operation in the BA reflect knowledge gained managing the water pumps during past seasons that likely contributes to improved pump management.
23	Once a CRLF egg mass is found, the Natural Areas Program Manager will immediately contact the Superintendent of Structural Maintenance and the Golf Division Manager. In the event that any one of these personnel are not at work or the positions are vacant, staff shall be assigned to these duties and these duties will be of the highest priority. The Natural Areas Program Manager will provide to the Superintendent of Structural Maintenance the target water level and corresponding gauge board reading for Horse Stable Pond that will keep the eggs masses submerged in water (i.e., water levels should remain at least one to two inches above the highest detectible eggs). (6.3.3)	The BA establishes criteria for operation of water pumps. These include criteria following egg mass detection. (2.3.16).	Either no effects or small beneficial effects on species. The criteria reflect knowledge gained managing the water pumps during past seasons that likely contributes to improved pump management.
24	The Superintendent of Structural Maintenance will dispatch a Stationary Engineer to adjust the pump station wet well probes on the pumps to the level identified by the Natural Areas Program Manager. The Superintendent of Structural Maintenance will contact the Natural Areas Program Manager and the Golf Division Manager when the probes have been set. (6.3.4)	The BA establishes criteria for operation of water pumps. These include criteria for pump adjustments. (2.3.16)	No effect on species or small beneficial effects on species. The criteria reflect knowledge gained managing the water pumps during past seasons that likely contributes to improved pump management.

	Compliance Plan	Biological Assessment	Relative effect of the proposed action
25	The large and/or small pumps will be set as needed to maintain the desired water level. In the event of a power outage, a backup generator will be used to power the pumps. The Natural Areas Program staff will continue to monitor the egg masses on a regular interval (approximately every two weeks) throughout the breeding season or as needed after heavy rainfall events that may trigger additional egg laying. Throughout this period, pumping may continue to prevent further flooding as long as water levels remain above the documented highest elevation of egg masses. (6.3.5)	The BA establishes criteria for operation of water pumps. (2.3.16)	No effect on species or small beneficial effects on species. The criteria reflect knowledge gained managing the water pumps during past seasons that likely contributes to improved pump management.
26	The Natural Areas Program Manager will revisit the site after the pumps have been adjusted (on a daily basis if required). If additional water level adjustments need to be made due to discovery of CRLF egg masses, the new gauge board reading will be communicated to Superintendent of Structural Maintenance and the steps outlined in Section 6.2.4 above will be implemented. These steps will occur until the stable water level is reached that will ensure that the egg masses remain properly submerged. Areas of the Golf Course may be flooded at this time and will remain flooded and unavailable for use by golf patrons until all known egg masses hatch out as determined by the Natural Areas Program staff. (6.3.6)	The BA establishes criteria for operation of water pumps. These include criteria for surveys following pump adjustments. (2.3.16)	No effect on species or small beneficial effects on species. The criteria reflect knowledge gained managing the water pumps during past seasons that likely contributes to improved pump management.
27	Once the Natural Areas Program Director has determined that all of the CRLF eggs have hatched, the Golf Course Manager and the Superintendent of Structural Maintenance will be notified and flood stage waters may be pumped off the course. Natural Areas Program staff will monitor the dewatering in order to ensure that CRLF tadpoles are neither being stranded by the receding waters nor drawn into the pump. Pumping will be halted if tadpoles are deemed at risk. (6.3.7)	The BA establishes criteria for operation of water pumps. These include criteria once all CRLF eggs have hatched. (2.3.16)	No effect on species or small beneficial effects on species. The criteria reflect knowledge gained managing the water pumps during past seasons that likely contributes to improved pump management.
28	The use of K-O-G herbicide containing dicamba has been discontinued on the entire golf course, and weed control will be accomplished by hand picking. (6.4.1)	The BA indicates that the City does not anticipate the need to use any chemical pesticides on the golf course. (2.3.20)	No effect on species.

	Compliance Plan	Biological Assessment	Relative effect of the proposed action
29	Only two inorganic fertilizers are used, one on the greens in winter and one on the tees, their use will be discontinued. All fertilizers used on the entire golf course will be organic of June 2009. (6.4.2)	The BA indicates that limits will be imposed on the type and location of fertilizer use. (2.3.19)	No effect on species.
30	No comparable action.	Removal of sediments and emergent vegetation within the HSP wetland near the intake structure in order to reduce obstructions to water flow to the pump intake and to enhance breeding habitat for the CRLF. Approximately 435 cubic yards of sediment in an area of approximately 5,900 square feet (0.14 acres) would be removed. Approximately 2,350 square feet (0.05 acres) of this 5,900 square foot area is occupied by cattails and bulrush; the remaining area is open water. (2.2.1)	Beneficial effects on species in light of minimization and mitigation measures for construction activities. The beneficial effects will result from CRLF breeding habitat enhancement.
31	No comparable action.	Removal of sediment and emergent vegetation that impedes water flow and reduces habitat suitability for CRLF in select locations within the connecting channel and culverts that link HSP and LS. This removal work would not exceed 480 cubic yards of removed sediment and vegetation, within an area of approximately 6,500 square feet or 0.15 acres. (2.2.1)	Beneficial effects on species in light of minimization and mitigation measures for construction activities. The beneficial effects will result from CRLF breeding habitat enhancement.
32	No comparable action.	Installation of steps leading down the slope from the access road to the pumphouse and the intake structure (approximately 47 square feet or 0.001 acres). A fence with a locking gate will restrict access to the steps and boardwalk. (2.2.1)	No effect on species in light of minimization and mitigation measures for construction activities.

	Compliance Plan	Biological Assessment	Relative effect of the proposed action
33	No comparable action.	Construction of a walkway on concrete support structures around the front of the pump intake box. This walkway, which will be approximately 42 feet long at the perimeter and 4.6 feet wide, will wrap around the intake structure. The walkway will be made of wood and supported by approximately 6 concrete support structures to be placed in the water (approximately 6 square feet). It is anticipated that the footings will be placed by installing cylindrical metal casings into the water, dewatering and excavating sediment from the inside of the casings and then filling the casings with concrete. If feasible, a secondary screening system may be installed below the walkway surface and between the pilings to further reduce the amount of detritus, such as dead floating cattails, from entering the pumps. It is anticipated that if feasible the secondary screening system will be similar to the existing screens that separate the pump from the pond. This screen is a metal mesh with holes measuring approximately one inch by one half inch. It is estimated that this component of the project will require the placement of approximately 1.2 cubic yards of fill (concrete) in wetlands and waters of the United States. (2.2.1)	Either no effect or small beneficial effects on species in light of minimization and mitigation measures for construction activities. The beneficial effects will result from additional screening, if feasible.
34	No comparable action.	Replacement of the failing wooden retaining wall next to the pumphouse (at the base of the levee slope between the uplands and the wetland) with a concrete retaining wall to prevent further soil deposition from the uplands from entering the waterway. The retaining wall, which will measure approximately 12 feet long and five feet high, will be placed in jurisdictional wetlands and is estimated to result in 0.4 cubic yards of fill (approximately 6 square feet surface area). (2.2.1)	Small effect on species in light of minimization and mitigation measures for construction activities. The small effect stems from the low but non-zero statistical probability that construction could cause direct or indirect harm to individual CRLF or SFGS.

	Compliance Plan	Biological Assessment	Relative effect of the proposed action
35	No comparable action.	Repair of two cart paths (total of approximately 570 square feet or 0.01 acres) located adjacent to, but not within, the LS wetland. Repairs to the cart paths will involve moving the paths away from the wetland and into the golf course, installing interlocking pavers to support the downslope embankment and backfilling the area with drain rock to raise elevations. (2.2.1)	Small effect on species in light of minimization and mitigation measures for construction activities. The small effect stems from the low but non-zero statistical probability that construction could cause direct or indirect harm to individual CRLF or SFGS. This may be offset by a reduction in off path cart use in the vicinity of the two areas where repairs are proposed.
36	No comparable action.	During and following completion of the Project, if CRLF egg masses are determined to be at risk because they are deposited in ephemeral swales or in other conditions that are not sustainable, an SFRPD biological monitor with the Natural Areas Program will apprise USFWS of the situation, and provide USFWS with an opportunity to request that the City implement protective measures such as bending vegetation to adjust the egg mass to the water level or relocating egg masses to more sustainable habitats. (2.3.17)	Beneficial effects on species. The extent of active management for the benefit of CRLF was limited under the Compliance Plan by the absence of take coverage under section 7 for such active management.

	Compliance Plan	Biological Assessment	Relative effect of the proposed action
37	No comparable action for the portion of Sharp Park that is east of the Pacific Coast Highway.	Routine annual surveys for potentially detrimental non-native invasive animal species, particularly bullfrogs, predatory fish and non-native turtles, will be scheduled and supervised by the Natural Areas Program biological monitor. Monitoring surveys for bullfrogs would be conducted in the spring and could consist of searches for egg masses, calling surveys and visual surveys. If individuals of potentially destructive animal species are encountered, control methods will be developed and, with USFWS approval, implemented. Among the methods that could be employed include draining of the water body (Arrowhead Reservoir), hand removal of egg masses, dipnetting for tadpoles and culling of adults. These control activities would be conducted by a USFWS-approved biologist. (2.3.30)	Beneficial effects on species. Active management of Sharp Park east of the Pacific Coast Highway, including in areas other than the golf course, was limited in the past. Such active management can improve habitat conditions for CRLF and SFGS.

	Compliance Plan	Biological Assessment	Relative effect of the proposed action
38	No comparable action.	The SFRPD will construct a perennial California red-legged frog pond approximately 150 square meters in size and similar in scope and design to the breeding pond constructed by the Golden Gate National Recreation Area (GGNRA). The design and site selection will be provided to the Service for review and approval nine months from the date of issuance of the biological opinion. Construction of the California red-legged frog pond will occur within two years and nine months of issuance of the biological opinion. San Francisco Parks Department will monitor the pond for breeding success by surveying for egg masses on an annual basis and documenting habitat conditions for a period of five years following pond construction and this information will be provided to the Service and the GGNRA (2.3.33)	Beneficial effect on species by creating new breeding habitat for CRLF.

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August 5, 2014

Ms. Stephanie Rexing
Central Coast District Office
California Coastal Commission
725 Front Street, Suite 300
Santa Cruz, CA 95060

Re: Benefits of the Sharp Park Pumphouse Safety Project for the California Red-legged frog and San Francisco Garter Snake

Dear Ms. Rexing:

I am writing with respect to the Sharp Park Pump House and Safety Infrastructure Improvement Project. By way of background, as you presumably know, the Project site contains an 18-hole golf course, an approximately 27 acre wetland complex, an archery range, a remediated former rifle range, a clubhouse, parking lot, and extensive natural areas. The wetlands complex is composed of Laguna Salada, Horse Stable Pond, a channel that connects the two water bodies, and adjacent wetlands. A seawall on the western boundary of Sharp Park eliminated the historical hydrologic connection between the Pacific Ocean and the wetlands complex. The wetlands likely are maintained by ground water but are also fed by surface water inflow due to precipitation in the winter. Pumps at the southwest end of Horse Stable Pond can be operated to adjust water levels in that body, and they may affect water levels in Laguna Salada when the channel connecting the two water bodies creates a surface water connection between them. The pump system consists of a large pump (rated 10,000 gpm) and a small pump (rated 1,500 gpm) located in a pumphouse and pipes built through the seawall to an outfall. The Park and golf course have been in continuous operation since the late 1930s.

The Project includes four components that affect Coastal wetlands: (1) installation of steps downslope from an existing access road to the existing pumphouse at HSP as well as the replacement of a retaining wall and installation of a walkway on concrete support structures around the front of the pump intake box to provide safer working conditions for San Francisco Recreation and Park Department personnel that maintain the pumphouse; (2) removal of vegetation and sediment to enhance habitat for the California red-legged frog and allow for continued operation of the pumps; (3) additional habitat creation and restoration activities consistent with direction from the U.S. Fish and Wildlife Service in its 2012 Biological Opinion for the Project and (4) the relocation of a section of golf cart path that is currently in a wetland to the adjacent uplands.

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For the past seven years, I have advised the San Francisco Recreation and Park Department with respect to management of sensitive species at Sharp Park. Over the preceding sixteen years, I participated in numerous surveys and coordinated among the San Francisco Recreation and Park Department and other entities including the U.S. Fish and Wildlife Service, National Park Service, Golden Gate Parks Conservancy, and Peninsula Open Space Trust, and California State Parks, for California red-legged frog, San Francisco garter snake, and other sensitive species at Sharp Park and in the surrounding area including Mori Point, the Calera Creek Watershed and along coastal San Mateo County. Thus, I have well over 25 years of experience working with sensitive species in the area. I have published and/or prepared many technical reports on the California red-legged frog and San Francisco garter snake. I consulted closely with the San Francisco Recreation and Park Department as it developed the Sharp Park Pump House and Safety Infrastructure Improvement Project.

The Project components described above, taken as a whole, will significantly benefit the California red-legged frog and San Francisco garter snake. The actions being taken at the Sharp Park wetlands (sediment removal, maintenance of open water habitat) are concepts designed and implemented at many other locations as critical recovery and enhancement actions. In addition, water management through pump operations supervised by the Natural Areas Manager for the San Francisco Recreation and Park Department will benefit the California red-legged frog by maintaining appropriate water levels and decreasing large fluctuations during winter months (rainy season) when the species is breeding. This is beneficial because survivorship decreases if egg masses become stranded above water or are at too great a depth below water. It will also reduce the likelihood of seasonal ponding on the golf course. This is beneficial because frogs will then tend to deposit egg masses in the more perennial water bodies where the species can survive to maturity rather than seasonal pools where they are subject to desiccation.

It is also the case that the Project benefits the species because cattail, bulrush, and sediment removal will increase open water and shoreline habitat in Horse Stable Pond, particularly breeding habitat for the frog. The vegetation removal is necessary to create near-term open water and shoreline habitat, and the sediment removal is necessary in order to retard the rate at which vegetation proliferates in Horse Stable Pond. In addition, the vegetation and sediment removal will create a more reliable hydrological connection between Horse Stable Pond and Laguna Salada. The availability of more high quality breeding habitat at Horse Stable Pond and in the connecting channel will increase the carrying capacity of the area for frog and may help to minimize the use of the areas of short-term ponding on the golf course. All of this, in turn, benefits the snake by increasing the prey base in the aquatic habitats and making the most optimal foraging habitat structure (shallow open water at the shallow sloped edges of HSP) available to neonates and juvenile snakes.

The relocation of the cart path from within a wetland and active breeding site for the California red-legged frog will also increase habitat and reduce potential disturbance of the species.

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Finally, the pond creation and upland habitat restoration conditions imposed by the U.S. Fish and Wildlife Service are expressly intended to benefit the frog and snake. I am working with San Francisco Recreation and Park Department and Fish and Wildlife Service staff, in coordination with National Park Service staff who manage the Golden Gate National Recreation Area, to ensure these efforts yield the greatest possible benefit for the species.

Active management to benefit the listed species may appear intrusive. But both the frog and the snake are conservation reliant species dependent on active management intervention to enhance the likelihood of their survival and recovery. Numerous imperiled species, particularly those embedded in urbanized landscapes, require active management to assure their persistence. Absent the seawall constructed many decades ago, the entirety of Sharp Park would periodically become inundated with saltwater, rendering it uninhabitable by either the frog or the snake, which cannot tolerate saline conditions. The need for active management is well-established by the efforts undertaken by the National Park Service adjacent to Sharp Park, which include the construction of new breeding ponds and wooden boardwalks, pesticide application, and reestablishing lost native plant species. Implementation of the Project will compliment ongoing management activities undertaken by the National Park Service at Mori Point, which are benefitting the local populations of both species.

If you have any questions or need further information, feel free to contact me.

Sincerely,

Karen E. Swaim

Karen E. Swaim
President/ Herpetologist

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September 12, 2012

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Jane Hicks, Chief
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Subject: Review of Dr. Marc P. Hayes's Memo Regarding Sharp Park Biological Assessment Report

Dear Mr. Olah and Ms. Hicks:

Recently, I received a copy of the 27 August 2012 memo written by Dr. Marc P. Hayes to the U.S. Fish and Wildlife Service and the Army Corps of Engineers regarding his review of the biological assessment report ("BA") for the "Sharp Park Safety, Infrastructure, Improvement, and Habitat Enhancement Project." In reviewing his memo, I find that I disagree with his overall conclusion and many of his statements.

I am well qualified to comment on this BA and Dr. Hayes's memo based on my extensive experience over the past 22 years in dealing with BAs at all levels, including gathering data, writing BAs, giving presentations of BAs to USFWS personnel, and implementing the guidelines in issued Biological Opinions of the USFWS as an approved, officially designated, biologist. Such work has covered a number of federally-listed California amphibians and reptiles, including the California red-legged frog (*Rana draytonii*; "CRLF") and San Francisco gartersnake (*Thamnophis sirtalis tetrataenia*; "SFGS"). In addition, I have attached copies of my recent expert declarations submitted in the *Wild Equity Institute et al. v. City and County of San Francisco, et al.* litigation ("Sharp Park lawsuit"), as well as my expert report, all of which document my expertise, as well as my intimate familiarity with Sharp Park Golf Course ("Sharp Park").

My comments to the BA are as follows (and track the letter subscripts from Dr. Hayes's memo):

a. The Project will not harm SFGS and CRLF habitat; rather, a lack of pumping and active management will actually result in decreased species populations. I disagree with Dr. Hayes's claim that vegetation removal will only remove dense, tall emergent vegetation from moderately deep to deeper water where no oviposition typically occurs. Rather, vegetation removal will remove dense, tall emergent vegetation at all water depths to approximately 3-4 feet in water depth, thus increasing the area for all life stages of CRLF to utilize and allowing less dense aquatic vegetation such as silverweed (*Potentilla* spp.) to grow. The latter type of vegetation will continue to provide a suitable brace for CRLF oviposition. The BA is not proposing to scrape the margins of Laguna Salada and Horse Stable Pond clean of all aquatic vegetation on a regular basis. Rather, it is changing the current situation of a dense mat of tall emergent vegetation around the margins to one of low growing, less dense, aquatic vegetation that will certainly provide habitat and cover for all life stages of CRLF including larvae and juveniles.

Further, CRLF do oviposit in deep water (which I document in my attached declarations) and the lack of such records at Sharp Park may be due to the difficulty of seeing egg masses in deeper water during survey efforts as a result of high levels of turbidity.

b. Pumping activities have benefitted CRLF & SFGS. Pumping at the golf course is an integral part of golf course management and prevents flooding of adjacent urban areas. Dr. Hayes's comment that pumping at Horse Stable Pond resulted "in partial or complete take of variable numbers of CRLF egg masses" is speculation. There are no data available to support his statement. In fact, the number of CRLF egg masses laid annually at Sharp Park has actually increased in recent years.

Additionally, Dr. Hayes's statement that "pumping also has the potential to entrain both the larval and post-metamorphic stages of the CRLF" at Horse Stable Pond is misleading. This claim has been asserted in the Sharp Park lawsuit, but no data show that this is actually occurring. Until such data are presented, this statement remains purely speculative.

c. Golf cart traffic on and off pathways will not adversely affect CRLF & SFGS, and such traffic has been properly mitigated. I have been conducting CRLF and SFGS observations at Sharp Park for over 21 years and have never seen any documentation to support Dr. Hayes's allegations that golf cart use is negatively impacting the species. Golf cart use is an important part of the golf course experience at Sharp Park. However, the BA estimates that only 30%-40% of the golf course rounds utilize motorized golf carts. That means 60%-70% of the golf course rounds are by foot traffic. The constant passing of people on the golf cart paths (whether they be on foot or by cart) keeps up a high degree of disturbance that would preclude amphibians and reptiles from utilizing golf cart paths for any length of time during the hours that the golf course is open.

d. Early morning mowing will not negatively affect CRLF and SFGS. Mowing is an integral part of golf course management and is practiced at all golf courses where CRLF and SFGS are present. Based on my first-hand experience with CRLF at golf courses, juveniles and adult CRLFs come out at night to forage on greens and fairways (especially when the sprinklers

are on). I have never seen a SFGS active during the nighttime hours. Juvenile and adult frogs tend to avoid greens and fairways during the daylight hours when they would be exposed to potential predation. Mowing during the morning hours is the best option for keeping the greens and fairways maintained and limiting the potential for a take of CRLF or SFGS.

e. The removal of low quality habitats will benefit CRLF. If CRLF are currently laying their egg masses in shallow water habitats at Sharp Park that dry up before the larvae have metamorphosed, then this is low quality, or "low value" habitat. This situation has already occurred at Sharp Park in aquatic habitats that are not affected by pumping activities. The removal of such habitats will benefit CRLF by ensuring that adult frogs only breed in aquatic habitats where water levels are sufficient to allow enough time for larvae to reach metamorphosis. In addition, the removal of these low quality habitats will benefit juvenile and adult CRLF by preventing them from utilizing such shallow water habitats as potential escape corridors from mammalian and avian predators, when in fact these areas would only make CRLF more vulnerable to predation.

f. Activities proposed in the BA will not negatively impact recovery work at Mori Point. No data are provided to support Dr. Hayes's contention that Sharp Park vegetation removal will impact Mori Point CRLF population and there is no logical reason as to why it would. Rather, the BA egg mass data indicate that CRLF populations have increased over the years at Mori Point and in the Horse Stable Pond/Laguna Salada complex.

g. It is inappropriate, and potentially risky, to compare previously issued Biological Opinions for adjacent properties to the terms of this BA. While I have not reviewed the prior BiOps relied upon by Dr. Hayes, one has to be cautious comparing previous Biological Opinions from adjacent projects with to the present BA. What is readily apparent, however, is that the present BA is based on the best available scientific information about SFGS and CRLF, and that the project and associated measures will benefit both species.

Overall, it is my professional opinion that the impacts referenced by Dr. Hayes have been properly addressed in the BA. Therefore, such actions will not reduce the survival and recovery of CRLF and SFGS in the wild at Sharp Park and surrounding areas.

Thank you for considering my comments. Please feel free to contact me if you have any questions about this letter.

Sincerely,

Mark R. Jennings
Herpetologist and Fisheries Biologist

Th 8g

Rexing, Stephanie@Coastal

From: Jenny Crofton <jcrofton@wildequity.org>
Sent: Monday, April 13, 2015 4:44 PM
To: Rexing, Stephanie@Coastal
Subject: Sharp Park hearing 4/16
Attachments: ccc hearing petition signatures 4.jpg; ccc hearing petition signatures 3.jpg; ccc hearing petition signatures 1.jpg; ccc hearing petition signatures 2.jpg

Hi Stephanie,

Here are the petition signatures I mentioned sending along to you. Thanks very much for helping us get these to the Commission!

Best,

--
Jenny Crofton
Community Organizer
Wild Equity Institute
(510) 520-0173

Wild Equity

I support the preservation and protection of the Sharp Park wetland. These wetlands should not be dredged as they provide valuable habitat for endangered species. The City of San Francisco should stop its ongoing degradation of this ecosystem. The California Coastal Commission should take all possible steps to curb this unacceptable degradation.

Name (Please Print Legibly)	Address	Phone Number	Email
Sandeep Jadeja	101 McLellan Dr, Unit 3238 South San Francisco, CA	415-745-0257	[illegible]@outlook.com
Susan Reneberg Donaldson	1311 Linda Mar Blvd Pacifica, CA 94044	510-432-8984	sunsetchaser18 @hotmail.com
Kenneth Moraes	2924 Magnolia Ave Oakland CA 94602	510 350 [illegible]	kenmoraes@ gmail.com
Kristina Ketelsen	↑	↑	kenandtina@sbcglobal.net
Melinda Stmad	2213A Bryant St San Francisco, CA 94110	425.293.7805	mindy.rankin @gmail.com
Jim Schillad	22 Woodstock Ct. San Rafael, CA 94903	925-230-8800	[illegible]@gmail.com
Yeshwanth Kalluri	32 [illegible] way, SF, CA 94127	415-653-9425	[illegible]@gmail.com
Wan Chi Li	4343 31st St., San Francisco, CA, 94124	415-810-2848	wanchili@yahoo.com
John Hayes	362 Mullen SF 94110		
Glenn Galang	1027 Jamestown Ave SF 94124		
Marisa Zuzga & Sophia	107 Oxford St SF CA 94134	415-584-[illegible]	marisa@zuzga.com
Clincy Latimer	4800 Third St. #206 San Francisco, 94124	415-378-8542	clincy@yahoo.com
Elise Mendelsohn	941[illegible]		[illegible]@hotmail

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Name (Please Print Legibly)	Address	Phone Number	Email
Carol Ann Graves	18047 Rose Ct Monte Sereno CA 95030	408-399-9292	cakg18@yahoo.com
David A. Graves	18047 Rosett Monte Sereno CA 95030	408-399-9292	david.graves@hp.com
[illegible] Lee	316 Greenfield Ave. San Anselmo CA 94960	[illegible]	[illegible]@hotmail.com
[illegible]	912 [illegible] Campbell, CA 95008	"	[illegible]@[illegible]
[illegible]	"	"	"
Ray Reinhard	26 Morehouse Dr La Selva Bch, CA 95076	831 313 7963	rayreinhard@yahoo.com
Olga Beguin	762, 20th Ave 94121 San Francisco CA	415 650 8596	olga.beguin@gmail.com
Beth Terry	5537 Del Oro Ct San Jose, CA 95124	408 358 2037	beth.w.terry@gmail.com
Karen Ulring	934 Page St. SF CA 94117	415-252-9885	kulring@earthlink.net
Theresa Wong	851 So Mayfair Ave DC CA 94015	415-515-2221	linus03290s@yahoo.com
Bob & Celia Bonino	246 Gloria St. Hayward 94544	510 581-7770	Bob.bonino@comcast.net celia.bonino@comcast.net
[illegible]	1775 Wright Ave #[illegible] Mountain View, CA [illegible]	[illegible]	[illegible]
Hannah [illegible]	2217 Clement St SF CA 94121	[illegible]	bluesheep[illegible]@hotmail.com

Equity

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Name (Please Print Legibly)	Address	Phone Number	Email
Curt Sanford	1011 A Shotwell SF/CA 94110		csanford@ccsf.edu
John Karachewski	2864 San Carlos Dr. WC, CA		CalGeole sbcglobal.net
Willina Hoskins	1623 Alvarado Ave	415 602-2970	willinahoskins123@gmail
TINA VALENTINE	434 23rd Ave #202 SF 94121	415 [illegible]	[illegible]
EVANGELINA GUEVARA	415 947-9818	ethomasg@mail.ccsfe edu	
Therese Thomas	415-948-5147	[illegible]	
Estasha Goodwin	168 Bruno Ave Daly City		Estasha@gmail.com
Rashida Jones	3009 Brook St. Oakland CA		
Stella	247 CampBell		
Dawn Simons	820 Shafter		Simons94117@[illegible].com
Anne Romero	2864 Folsom SF 94110		Anne@Romerosf.com

Equity

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Name (Please Print Legibly)	Address	Phone Number	Email
Hannah Emple	1255 11th Ave SF 94122		hannah.emple@gmail.com
Dustin Willis	4100 3rd St #306	SF CA 94124	Dusty.Willis@[illegible]
Gary Elzy	351 Turk St 710	SF CA 94102	gelzy1@yahoo.com
SIMON WALKER	935 Innes Ave	SF 94124	bok.choi@gmail.com
Barbara Odell	66 Hawthorne Ln	SF 94124	barbaraodell@comcast.net
Cristina Abadilla	2056 Revere Ave	SF CA 94124	bambina c17@yahoo.com
Patrick A Scott	2056 Revere Ave	SF CA 94124	
John C. Scott	1562 Van Dyke Ave	SF CA 94124	johnscottconsulting@comcast.net
Victor Damian	1305 Evans Ave	SF CA 94124	victor.damian@sfdph.org
BRUNO FLORES	660 Folsom St	SF, CA 94105	BRUNO@CODAMO.COM
Gaylene Newquist	66 Bridgeview DR	SF, CA 94124	gaylene.newquist@att.net
J Burden	1328 Quesada Ave	SF CA 94124	jonburden@hotmail.com
Mark Morey	PO Box 40123 SF 94140		markmor@gmail.com

Th8a

Rexing, Stephanie@Coastal

From: Elaine Clark <skudoo1@aol.com>
Sent: Monday, April 13, 2015 3:05 PM
To: Rexing, Stephanie@Coastal
Subject: Save the frogs.

I am urging the California coastal commission not to give in to San Francisco to drain the sharp park wetlands. Our wild life (frogs) are more precious than another golf course. I urge you to do what is right and not listen to money and greed.

Sent from my iPhone

Th9a

Rexing, Stephanie@Coastal

From: Toni Newman <toni.newman@sbcglobal.net>
Sent: Friday, April 10, 2015 10:17 AM
To: Rexing, Stephanie@Coastal
Cc: Dr. Kerry Kriger Save The Frogs
Subject: SAVE CA Red-Legged Frog

Dear Ms. Rexing and the Coastal Commission:

Please deny the City of San Francisco's request to drain or dredge the Sharp Park Wetlands. We have only one planet and one opportunity to save the California Red-Legged Frog and the San Francisco Gater snake. Dredging the wetlands removes the emergent vegetation and would further degrade the frog's habitat leaving the frog egg masses stranded on dry land.

Golfers have many other opportunities to golf in many other locations, our frogs have fewer chances to survive let's do the right thing and save the California Red-Legged Frog and its habitat.

Thank you.

Toni Newman
2000 Whitman Way
Sacramento, CA 95822
916-395-3808

Th8a

Rexing, Stephanie@Coastal

From: Gary Bailey <tigergary@earthlink.net>
Sent: Friday, April 10, 2015 10:09 PM
To: Rexing, Stephanie@Coastal
Subject: Sharp Park

Dear Ms. Rexing and Coastal Commission:

Please do not allow San Francisco to degrade or destroy the wetlands in Sharp Park with actions such as draining or dredging, because that would destroy the critical habitat of endangered red legged frogs and imperiled San Francisco garter snakes. Protecting threatened and endangered species must be the highest priority.

Thank you,

Gary Bailey

941 W. Cardinal

Sunnyvale, CA 94087

Th 8a

Rexing, Stephanie@Coastal

From: cgjanzen@comcast.net
Sent: Friday, April 10, 2015 9:28 PM
To: Rexing, Stephanie@Coastal
Subject: Shark Park Wetlands

(I accidentally hit send instead of save, so my first e-mail was in draft form.)

Dear Ms. Rexing and Coastal Commision:

It's hard to understand why the City of San Francisco thinks it's in the community's best interests to use public funds to pump the Sharp Park Wetlands out to sea to keep the land dry for a money-losing, water sucking golf course. Don't you think it makes more sense to keep this extremely valuable wetland intact since it is home to the state of CA's official state amphibian and many other animals who die off when their home is pumped out to sea? Destroying this wetland is foolish any time, but especially now that CA is in the middle of a lengthy drought. Not sure how wasting money on golf courses is the best use of the dwindling water supply.

Please quit kowtowing to the golf industry and whoever else thinks golf courses are more important than saving wetlands and start paying attention to the consequences of your actions. The frogs are dying off all over the world because of pollution, habitat degradation and climate change. You have the power to save the California Red Legged frogs in SF, so I hope you do so and deny this permit.

Sincerely,
Gayle Janzen

Th8a

Rexing, Stephanie@Coastal

From: russweisz@baymoon.com
Sent: Sunday, April 12, 2015 8:12 PM
To: Rexing, Stephanie@Coastal
Subject: Please deny the City of San Francisco's request to drain or dredge the Sharp Park Wetlands

Please deny the City of San Francisco's request to drain or dredge the Sharp Park Wetlands. The City of San Francisco should not get a permit to dredge and drain the Sharp Park Wetlands, which would leave frog egg masses stranded and dying as the fresh water gets pumped out to sea.

thanks,
Russell Weisz
319 Laguna St.
Santa Cruz CA 95060
russweisz@baymoon.com

Th 8a

Rexing, Stephanie@Coastal

From: mmeadows@sga.net
Sent: Friday, April 10, 2015 10:43 AM
To: Rexing, Stephanie@Coastal
Subject: Please Deny The City of San Francisco's request to drain and dredge Sharp Park Wetlands

Dear Ms. Rexing,

It would irresponsible to allow the City of San Francisco to drain and dredge the Sharp Park Wetlands. Your decision will be one of the most important for frog conservation in San Francisco's history. If you approve the permit, it may lead to the extinction of two of California's most iconic species: the endangered California Red-Legged Frog (the official state amphibian) and the imperiled San Francisco Garter Snake.

The City of San Francisco, so forward thinking in many other areas, is archaic in their belief that destroying a habitat, for golf course of all things, is something that is wanted by the majority of their citizens. You're destroying a piece of this earth that will be lost forever. For what? An declining sport (see http://time.com/money/2871511/golf-dying-tiger-woods-elitist/ <http://time.com/money/2871511/golf-dying-tiger-woods-elitist/>). It's simply an elitist sport that is too expensive for the average guy.

Dedging and draining the Sharp Park Wetlands <http://org2.salsalabs.com/dia/track.jsp?v=2&c=4zxvSntARcHOEkIDK4%2BjppNDBBdEm5Hy> would leave frog egg masses stranded and dying as the fresh water gets pumped out to sea. The frogs are counting on you to make the right decision because they cannot defend themselves! Please do what is best for the environment and for the majority of the citizens. <http://org2.salsalabs.com/dia/track.jsp?v=2&c=AKmmdTGslkXOqBO%2FDGTh2JNDBBdEm5Hy>

Please save us!

Red-Legged FrogSan Francisco Garter Snake Photo of California Red-Legged Frog (Rana draytonii) courtesy Neosha Kashef

Mindy Meadows