

## ***Section 5: Project Description***

### **1. Project Objectives:**

The goals of the South Bay Salt Pond (SBSP) Restoration Project are to restore a variety of wetland habitats, maintain and improve flood protection and provide wildlife-oriented public access on 15,100 acres of former salt-evaporation ponds in southern San Francisco Bay. The SBSP Restoration Project will achieve its goals by constructing a series of habitat, flood protection, and public access projects in phases combined with a robust program of adaptive management.

The project proposed in this application is one of the Phase 2 projects of the SBSP Restoration Project. The 825 acre Charleston Slough and Alviso Ponds A1 and A2W, collectively referred to as the “Alviso Mt. View Ponds”, will fulfill the SBSP Restoration Project goals by restoring 700 acres of vegetated tidal, 55 acres intertidal, and 50 acres subtidal wetlands to provide special status species habitat, increase ecological productivity and improve water quality (see Appendix A for project location map). In doing so, once vegetated, the project will also sequester 219 metric tons of carbon per year (see Appendix B for carbon sequestration discussion). The project will maintain or

improve existing flood protection and high tide refugia by improving 1.5 miles of existing levees and creating 20 acres of upland transition zones. Finally, the proposed project will provide wildlife-oriented public access and recreation by constructing nearly 2 miles of new trails, construct 2 interpretive overlook platforms and install interpretive signs.

## **2. Background and Conceptual Models:**

### Background

An estimated 85 percent of the historic tidal marshes in the San Francisco Bay-Delta Estuary have been filled or significantly altered over the past two centuries for urban development, agriculture, and salt production. However, in March 2003, 15,100 acres of South Bay salt ponds were acquired, making the SBSP Restoration Project the largest habitat restoration project on the west coast. This multi-agency effort has the unique opportunity to help reverse large scale ecological degradation of the San Francisco estuary and to sequester significant amounts of carbon in tidal wetlands. Immediately after acquisition, the landowners, CDFW and USFWS implemented the Initial Stewardship Plan which was designed to maintain open and unvegetated pond habitats with enough water circulation to prevent salt production and provide some habitat values. To complete a 50-year restoration plan, the project created a Project Management Team (PMT), which consists of representatives from the State Coastal Conservancy (SCC), U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), East Bay Regional Park District (EBRPD), Santa Clara Valley Water District (SCVWD), Alameda County Flood Control and Water Conservation District (ACFCWCD), and others (see Appendix C for a list of PMT members). The City of Mountain View, although not part of the PMT, is actively involved in design for ponds in their jurisdiction. The PMT continues to provide day-to-day decision-making for project implementation. Membership on the PMT does not supersede the responsibilities of the landowning agencies, CDFW and USFWS, to operate and maintain the properties pursuant to their laws and policies. Rather, being part of the SBSP Restoration Project has enhanced the ability of these agencies to meet their goals.

The 2007 EIS/R for the SBSP Restoration Project outlines the long term vision for restoring wetlands, enhancing habitat, improving flood protection, and providing public recreation. In that document, program-level alternatives range from a restoration goal of at least 50% restored tidal wetland/50% managed ponds for the entire restoration project area (Programmatic Alternative B) to a 90% restored tidal wetland/10% managed ponds for the entire restoration project area (Programmatic Alternative C). The final outcome will be guided by the Adaptive Management Plan (AMP) which calls for the project to be carefully implemented in phases so managers learn from the results and incorporate them into management and planning decisions. Adaptive management is essential to keeping the project on track towards its objectives and it was the primary tool identified in the EIS/R for avoiding significant impacts to the environment. The AMP does this by collecting data (monitoring, applied studies) to better understand project uncertainties and outcomes, and if necessary, identify corrective actions. For example, sea level rise and changing Bay sediment dynamics are some of the project uncertainties identified in the AMP. At this time, monitoring data suggests that, due to the sediment rich environment in the far South Bay, the project will be able to use natural processes to deposit sediment and create vegetated tidal marsh. However, if natural sedimentation is determined to be inadequate, the AMP describes possible management responses, including importing sediment into project locations. Another strategy is to undertake the tidal restoration projects as soon as possible to take advantage of the current sediment rich environment.

The SBSP Restoration Project has enjoyed a large measure of success in its first 10 years. The project met its goal of completing the long term plan within 5 years of the property acquisition. In addition, as of early 2015, Phase I construction will be complete. These projects, consisting of four tidal wetland restoration, three enhanced ponds, and five public access projects, created over 3,700 acres of new habitat in San Francisco Bay.

In 2010, the SBSP Restoration Project began planning for Phase 2 and will release a draft EIS/R in summer 2015 describing the Phase 2 projects in the Alviso and Ravenswood Pond Complex. This EIS/R will include the Alviso Mt. View Ponds project discussed in this proposal. (A second Phase 2 EIS/R will follow for the Eden Landing Ponds in early 2016). Although the Phase 2 projects are still in the design phase, the SCC is now seeking construction funds and was successful in securing \$1 million from the USEPA for a Phase 2 project in the adjacent Ravenswood area.

#### “Business As Usual” Scenario

The baseline condition of the project site is unvegetated pond with muted or controlled tidal flows as per the Initial Stewardship Plan. (See Appendix D for map of existing conditions.) While the ponds currently provide some wildlife habitat, the additional flood protection, special status species habitat, carbon sequestration, water quality, and recreational benefits will not be provided without restoration actions. No ponds will be improved from this baseline until additional funds are secured from a variety of sources to fund restoration design, implementation and adaptive management.

#### Why CDFW Funding is Critical to Project Implementation

The SBSP Restoration Project planning has resulted in integrated, multi-objective projects. This ambitious undertaking will not happen without multiple contributors. The SCC will continue to seek matching funds from others, such as National Coastal Wetlands Conservancy Grant, US EPA San Francisco Bay Water Quality Funds, the Santa Clara Valley Water District and local cities. However, these sources alone are not adequate to ensure the implementation of this wetland restoration project. A grant from CDFW can be used as leverage for these other funds, making the project more likely to be constructed, or at a minimum expediting the GHG reduction benefits. It is also critical to maintain the multi-objective nature of the projects and not separately implement project elements. For example, if the project just funded opening the ponds to the tides without infrastructure protection and improved levees, adjacent residents and businesses would be exposed to an unacceptable flood risk. As a result, the project must include more than just the costs of restoration actions. In fact, without additional outside funding and extensive project coordination, wetland restoration is likely to never happen. Local entities, such as public works agencies, would likely use their limited funding to solely construct flood protection measures without incorporating wetland restoration. And lastly, the project must include recreational elements as well since they are critical to the success of the project. Earthmoving and other construction activities are disruptive for the local community but these short term impacts can be balanced with the long term benefit of improved recreation. In addition, allowing the public to enjoy these sites and learn about restoration, habitat, and carbon sequestration builds support for on-going wetland restoration funding and provides examples of positive actions to lessen impacts of climate change.

#### Permanence

Legal Status: the proposed project is on properties permanently protected by zoning, permit

conditions, State and federal laws and ownership.

Environmental Status: due to their location, all tidal wetland restoration projects can be vulnerable to sea-level rise impacts. However, once the marsh plain of a restored wetland is colonized by vegetation, marshes become efficient sediment traps. Hydrological modeling done as part of the South Bay Salt Ponds Restoration Project's geomorphological analysis indicates that the south Bay's wetlands are likely to keep up with an accelerated pace of sea-level rise. If sea-level rise rates are higher than modeled, it could take longer for marsh vegetation to develop or, in more extreme scenarios, may mean that the restoration sites do not evolve past the intertidal mudflat or shallow open water stage. However, the Alviso Mt. View Ponds are located in the sediment-rich South Bay and Phase I projects have shown much more rapid than predicted sedimentation and colonization by vegetation. Furthermore, the project has an AMP in place to detect problems and identified possible solutions if vegetation is failing to develop at site.

#### Conceptual Models

Please see attached Appendix B for a conceptual model of the carbon sequestration.

### **3. Detailed project description, including all tasks to be performed:**

The proposed project is still undergoing environmental review and may incorporate changes based on the NEPA/CEQA review process. However, the project is largely anticipated to consist of the following construction and post-construction actions as described below (see Appendix E for design of Alternative Mountain View C).

#### Administration and Staffing:

The project budget also includes funding for SCC staff to administer the project funding.

Subcontracting budget also includes funding for the SBSP Restoration Project's Executive Project Manager (who is a contractor to the SCC) to provide agency coordination and construction oversight.

#### Final Design and Bid Specifications:

Final design and the creation of bid documents would be part of the construction phase and the project budget includes an estimate to cover these tasks.

#### Flood and Infrastructure Protection Improvements:

To protect PG&E towers and maintain PG&E access, the Bay Front levee in Pond A2W would be raised and improved. Two railroad car bridges will be constructed over breaches in A2W to maintain PG&E access and to provide a public access trail. To protect against tidal flooding, 8,000 feet (or 1.5 miles) of the levee (west side of Charleston Slough continuing east to Shoreline Lake) will be raised above the tidal flood elevations. Finally, the Shoreline Lake pump infrastructure will be raised out of future marsh plain.

#### Upland Transition Zone:

Broad upland transition will be constructed by placing up to 170,000 cubic yards of material along the southern edge of A1 and A2W. This 30:1 slope will reduce the impacts from wave run-up, expedite restoration of tidal marsh, create elevation heterogeneity for high tide refuge, and allow areas for future inland marsh transgression in the face of sea level rise. As called for in the Tidal Marsh Recovery Plan and the forthcoming 2014/15 Baylands Ecosystem Goals Update, these transition zones are a critical feature for special status species and would replace historic habitat that is now largely absent in the south Bay.

#### Levee Lowering and Breaching

To allow natural processes to create tidal wetlands, the project seeks to improve the hydrological connection between pond waters and the Bay. Lowering 4,730 feet of the west levee of Pond A1 to 6.9 feet NAVD88 will allow tidal flows over the levee on higher daily tides. In addition up to 8 breaches would be constructed through existing levees at the location of historic slough channels. Breaches will evolve naturally with tidal flows and will not be armored except where the railroad car bridges have been placed over breaches. Placement of material dredged from breaches and pilot channel excavation will be used to block borrow ditches to facilitate the development of a tidal channel network.

**Public Access and Interpretation:**

To maintain existing trails along Charleston Slough, the levee improvements will rebuild and improve existing trails. To provide the public with the opportunity to enjoy a restoring marsh, 9,850 feet (1.87 miles) of new trail will be constructed on existing levees on the eastern and northern side of Pond A2W. One viewing platform would be constructed in Pond A1 to provide an overlook into the evolving marsh and another would be constructed in Pond A2W to provide a view of the open waters of the Bay as well as the project site. Interpretive signs will be installed on the platforms as well as at other key locations. One of the interpretive themes will be the role tidal wetlands play in sequestering carbon.

**Adaptive Management Applied Studies:**

The specific studies to be included in Phase 2 projects are still under development. However, based on the experience with Phase 1, anticipated project uncertainties to be studied at the project site will include 1) carbon sequestration (see Appendix B for more information about proposed sequestration monitoring), 2) response of habitat and wildlife to upland transition zones, 3) sedimentation and particle tracking, and 4) changes in nutrient export to surrounding mudflats. As the Adaptive Management Plan for Phase 2 is refined, the cost estimate may decrease. Please note that the Adaptive Management Studies do not include monitoring required by regulatory and trustee agencies unless it is identified as answering a project uncertainty in the Adaptive Management Plan.

**4. Timeline:**

Final EIS/R is expected in the summer of 2015. With an additional 9 months needed for regulatory permits, construction could begin as early as late summer 2016, but more likely in 2017.

**5. Deliverables:**

- Construction-related documents include completed Final Design and Specifications, Construction Bid Documents, final Phase 2 Adaptive Management and Applied Studies Plan, completed As-built Plans.
- Adaptive Management Applied Studies results summarized in completed reports by lead researchers.
- Final Report completed by SCC per CDFW requirements.

**6. Expected quantitative results (project summary):**

The project will convert the 865 acre Alviso Mt. View Ponds to:

- 700 acres of vegetated wetlands (estuarine intertidal emergent),
- 55 acres of intertidal wetlands (estuarine intertidal non-vegetated wetlands part of channel edges),
- 50 acres of subtidal wetlands (estuarine subtidal associated with deep channels),
- 20 acres of upland transition zone (higher than MHHW)
- 8,000 linear feet or 1.5 miles of levees raised higher than tidal flood

- 9,850 feet or 1.87 miles of new public access trail
- 2 viewing platforms constructed
- **219 metric tons of carbon sequestered per year** (after ~5 years for vegetation colonization & construction offsets).

**7. Protocols:**

Please see attached Appendix B for a discussion of the carbon sequestration protocols.

**8. Literature Cited:**

Please see the end of the attached Appendix B for literature citations.

**Section 6: *Qualifications and experience of applicant and professionals:***

**1. Applicant's qualifications and experience:**

The SCC has managed numerous grants for wetlands restoration in San Francisco Bay and along the California coast and has a record of successfully implementing projects and meeting reporting requirements. The SCC works by providing grant funds (both SCC funds and outside grants) to nonprofit organizations and other agencies for project implementation. The SCC has been the planning and coordination lead for the SBSP Restoration Project since 2003. The SCC has successfully provided grant funds to complete restoration projects on the USFWS properties with a variety of administrative approaches. At Middle Bair Island, the SCC granted federal and state funds to a nonprofit organization, Ducks Unlimited, Inc., that then constructed improvements. For other another project, SBSP Phase I: Pond A17, the SCC deposited the funds to an escrow account (jointly-controlled by the USFWS and the SCC) that was then used to directly pay the contractor hired through the USFWS's hiring process. The appropriate construction and funding approach would be determined closer to the construction date in consultation with the CDFW and other funders. Below is a list of the projects most similar in size and scope and among our most recent federal and state grants.

**Proposition 84 Integrated Regional Water Management Grant, State of California, Department of Water Resources ("IRWMP"):**

Bay Area Wetland Restoration: Middle Bair Island Restoration, SBSP Restoration Project Phase I: Pond A17 and A16, and Sears Point Watershed and Wetland Restoration -- \$3,795,000. First two projects completed in 2012 and Sears Point is nearly complete.

**USEPA San Francisco Bay Water Quality Improvement Fund:**

- SBSP Restoration Project: Pond A17 Tidal Marsh Restoration Project - \$725,000. The US EPA provided a grant for creation of over 90 acres of tidal marsh habitat as part of Phase I implementation of the South Bay Salt Pond Restoration Project. The final report was submitted in 2013.
- SBSP Restoration Project: Comprehensive Mercury Studies - \$500,000. The US EPA provided a grant for critical scientific studies that will help answer key project uncertainties regarding impacts from legacy mercury in the San Francisco Bay. The project is complete and final report will be submitted March 2015.
- SBSP Restoration Project: Phase 2 Planning - \$866,021. The US EPA provided a grant for