

**Alviso Dock Feasibility Study**  
**Prepared for:**  
**The County of Santa Clara Department of Parks and Recreation**



March 30, 2017

Prepared by:



TranSystems Corporation  
2000 Center Street, Suite 303  
Berkeley, CA 94704



PlaceWorks  
1625 Shattuck Avenue  
Berkeley, CA 94709

# CONTENT

INTRODUCTION..... 1

POTENTIAL PROJECT- ALTERNATIVE SCENARIOS..... 2

RELATED PROJECTS/REPORTS/PLANS..... 8

EXISTING CONDITIONS, OPPORTUNITIES, AND CONSTRAINTS ..... 10

APPROXIMATE IMPLEMENTATION TIMELINE..... 23

FINANCIAL CONSIDERATIONS ..... 24

CONCLUSIONS ..... 25

BIBLIOGRAPHY ..... 28

APPENDIX A – STAKEHOLDER INTERVIEWS ..... 30

# INTRODUCTION

At the August 2015 County of Santa Clara Housing, Land Use, Environment, and Transportation (HLUET) Committee meeting, it was suggested by community members that the County pursue replacing and operating the existing boat dock at the South Bay Yacht Club (SBYC) near Alviso Marina County Park (County Park) as a public dock. HLUET directed the Department of Parks and Recreation (County Parks) to undertake a feasibility study that would assess the possibility of replacing the dock and would assess the potential costs to operate the new public facility. The existing boat dock is located in the Alviso Slough 0.2 miles south of the County Park and is currently operated by the South Bay Yacht Club; a private entity. As part of the scope of the feasibility study, County Parks was to examine the possibility of opening the dock for public use following its reconstruction. From here forward, the dock will be referred to as the 'Alviso Dock.'

As a result of the direction provided by HLUET, County Parks worked with a consultant team of engineers and environmental planners to carry out the necessary background research and analysis to develop this study. The final study is based on review of background documents; site analysis; financial analysis of project alternatives; and interviews with the following key stakeholders: South Bay Yacht Club (SBYC), Santa Clara Valley Water District (SCVWD), State Lands Commission (SLC), United States Army Corps of Engineers (USACE), and the San Francisco Bay Conservation and Development Commission (BCDC). The study evaluates critical challenges to implementing the dock replacement project under three (3) potential courses of action (referred to as alternatives) and further refines the analysis into feasibility findings. The key differences in the alternatives are related to assumptions regarding dredging requirements and responsibility, as well as management. The design assumption of the replacement dock is similar for all alternatives.

This study analyzes the potential dock replacement project from an engineering, environmental, timing and financial point of view. All three alternatives are feasible from an engineering perspective, but have varying degrees of associated environmental, operational and cost constraints. In all scenarios, it is likely that environmental and financial burdens related to dredging would be substantial. Further, potential revenue generation would not likely cover annual operations and maintenance costs for any of the alternatives. Please refer to the Environmental section as well as Financial Considerations for further discussion of constraints related to dredging.

Overall, in order to construct the potential project the following challenges must be overcome in all three alternative scenarios:

- Obtaining necessary permits for dock development and dredging; permits have been denied for similar projects by USACE.
- Long-term management, including maintenance of a navigable channel and maintenance of an unobstructed, navigable course around the dock.
- A future master planning process would be needed to more fully assess costs, market demand, environmental impacts, design requirements, and other factors.

Regarding the potential role of County Parks funding construction of a new Alviso Dock, in accordance with the Parks and Recreation Element of the County of Santa Clara's General Plan (1994) and the County

Parks Acquisition Plan Update (2012), County Parks has a defined role and function to acquire, operate, and maintain facilities of regional significance. A public facility at Alviso Dock has some potential to fulfill the regional significance definition as the existing dock is the only facility of its kind for South Bay residents; the closest public dock is over 18 miles away in Redwood City; and further, the existing boat launch at the nearby County Park offers a public gateway to the slough, yet does not provide berths or support larger vessels. It should be noted, however, that preliminary consultation with County Council suggests that County Parks could not directly fund the potential dock replacement project under the SBYC's existing lease and operation structure. Under the existing lease, Alviso Slough Dock does not serve a public recreational need and therefore would not meet requirements to be funded by the County Park Charter.

## **POTENTIAL PROJECT- ALTERNATIVE SCENARIOS**

The potential project, including three alternative scenarios, is described below following a brief description of the existing Alviso Dock. The existing dock is described to provide context by which to compare the scale and design of the potential project.

### **Existing Alviso Dock**

As constructed, the dock has approximately fifty (50) boat slips, but currently only eight (8) remain usable due to sedimentation build-up in the slough and along the dock area. The dock's existing marina is currently operating minimally with accommodations for three commercial fishing boats approximately 30 feet in length, and 1-2 smaller boats on its southernmost end.

A non-ADA compliant gangway, walkway, and stairs provide access to the dock from an adjacent SCVWD flood control levee and the San Francisco Bay Trail (Bay Trail). While the existing dock and gangway were part of the original construction, the northern portion of the dock, which accommodates commercial fishing vessels, was replaced with new docks and guide piles in 2015.

### **Dock Replacement and Landside Facilities (For All Alternative Scenarios)**

The potential dock project for this study is based on the layout of improvements as envisioned by the SBYC, shown in Figure 1, "South Bay Yacht Club sketch", and Figure 2, "Aerial Photo showing Potential Dock Project." The potential dock project would replace the 128 feet of the existing northerly dock to provide three (3) berths, and construct approximately 600 feet of additional new dock to provide approximately 15 berths, for a total of 18 berths. The potential project would have the capacity to accommodate recreational vessels up to an approximate maximum length of 35 feet, and similarly-sized emergency response vessels. Other improvements associated with the potential project include:

- **ADA Complaint Ingress:** The potential dock project would also include construction of a gangway to access the docks from the landside in compliance with the Americans with Disabilities Act (ADA). The gangway would be connected to the existing levee through a fixed pier and/or abutment anchored to the levee. Design will need to meet the requirements of the SCVWD to mitigate any structural impacts to the flood control levee.

- **Utility Infrastructure:** Connection to existing utility services in the public right-of way will be required for potable water, sanitary sewer, electricity, and telephone.
- **Landside Amenities:** The alternatives address both landside and waterside project components including berth configuration, dockside boater amenities, dockside convenience and safety features, nearby launch ramp area improvements, and amenities include parking, restroom facilities, and land acquisition costs.
- **Removal of Northerly Dock and Navigational Hazards:** Although the northerly dock (approximately 128 lineal feet) is approximately one year old, this Study assumes this portion of the dock, and the associated guide piling will be removed and replaced. Removal and replacement of the existing northerly dock will allow dock facilities to be constructed with consistent width and freeboard height, utility provisions, and accessibility.

No geotechnical investigation was performed for this Study; however, the existing marina piles, and subsequent replacement piles, have been in place for a long time and have provided reliable horizontal mooring of the berths. It is expected that there is sufficient lateral capacity for new mooring piles in the existing soils, but a current geotechnical investigation would be required during final design of a potential dock project.

It is assumed that dredging near the potential project area (between the potential dock and the existing Alviso County Park boat launch) as well as maintenance dredging from the boat launch to the Bay would be required. The different scenarios under which dredging would be conducted are described below, and the anticipated need for dredging is further discussed Channel Accessibility.

## **Alternative Scenarios**

### **Alternative 1 (Replace Dock; Dredging Near Potential Dock Performed by Another Entity)**

This alternative assumes that the existing slough conditions are not adequate for the dock replacement project and that dredging would be needed. In this alternative, dredging in proximity to the potential dock as well as the removal of abandoned vessels and debris that interfere with slough navigability would be carried out by another project such as the SCVWD Alviso Slough Restoration Project, or another similar project. Dock operator would be responsible for the cost of constructing the dock and landside amenities, preparing and submitting permit applications, and ongoing operations and maintenance costs including maintenance dredging along the slough from the potential dock to the Bay.

### **Alternative 2A (Replace Dock; No Dredging in Potential Dock Area)**

This alternative explores the assumption that the existing slough conditions are adequate for the dock replacement project. While this alternative would require removal of abandoned vessels and debris, it is assumed that no dredging would be required in the potential dock area. This assumption was based on existing known channel depths of -8 MLLW and the anticipation of further scour as noted in the Pond A8 hydrology report (South Bay Salt Pond Restoration Project, 2007). As further discussed in the Existing Conditions, Opportunities, and Constraints section that follows, tide and sedimentation fluctuation as well as the documented regular occurrences of grounded boats in the project vicinity suggests that this alternative may not be a truly viable approach to the potential dock replacement project.

In this alternative, an entity would be responsible for the cost of constructing the dock and landside amenities in addition to preparing and submitting permit applications.

#### **Alternative 2B (Dock Replacement and Dredging)**

This alternative assumes that the existing slough conditions are not adequate for the dock replacement project. In this alternative, an entity would be responsible for the cost of dredging the slough from the potential dock site to the Bay, constructing the dock and landside amenities as well as preparing and submitting permit applications. This alternative would also require removal of abandoned vessels and debris. It is assumed that the dredging required would be similar to that which was planned for the Alviso Slough Restoration Project, which is further described under Related Projects. Figure 3, “Slough Cross Section” shows an approximate dredging prism based on the preliminary slough data provided in the Alviso Slough Restoration Project report (Alviso Slough Restoration Project, 2009). Unless further investigation demonstrates that the potential project is feasible to develop and maintain without dredging, this alternative is assumed to illustrate the most likely scenario.

Figure 1 South Bay Yacht Club Sketch

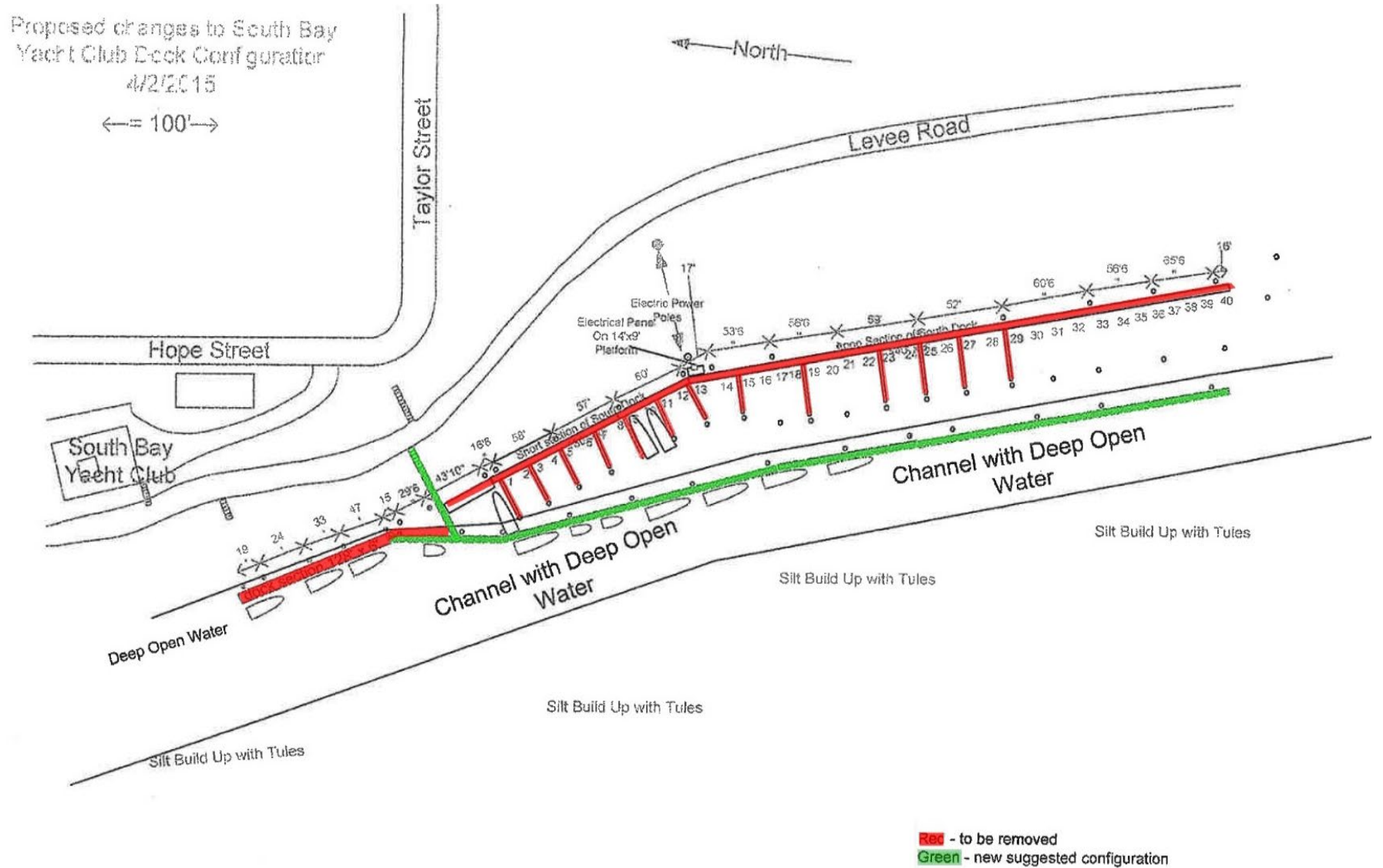




Figure 2 Aerial Photo showing Potential dock project

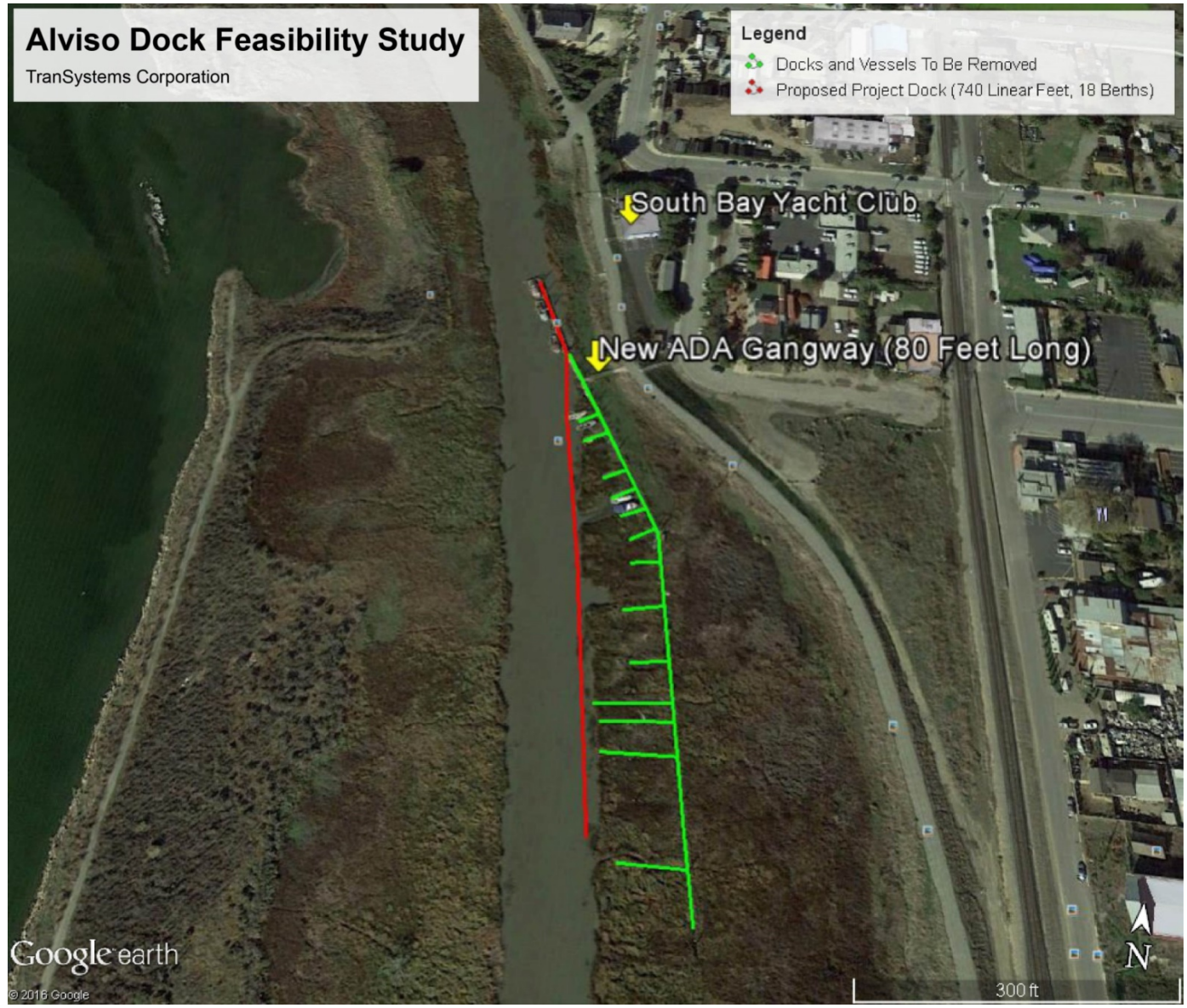
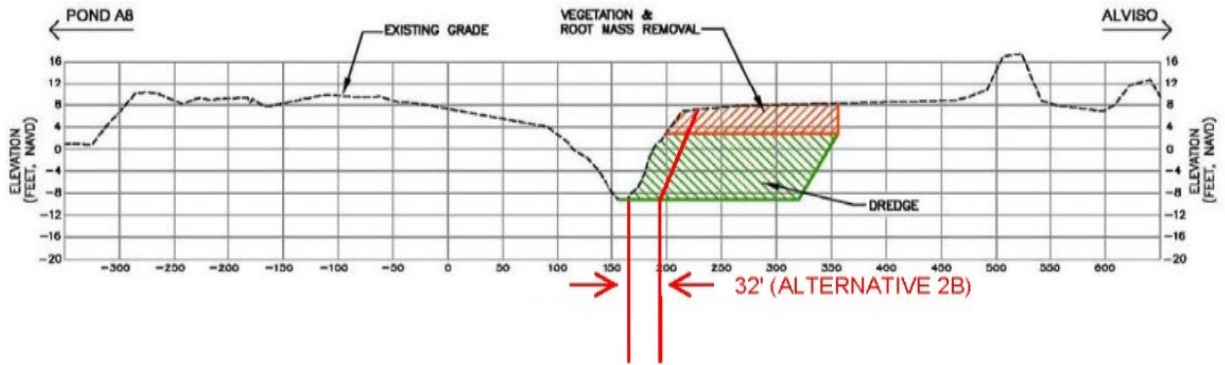




Figure 3 Slough Cross Section (Alviso Slough Restoration Project, Engineers Report)



TYPICAL SECTION AT SOUTH BAY YACHT CLUB

SCALE:  
 HORIZ: 1" = 120'  
 VERT: 1" = 24'

PROPOSED LOCAL DOCK AREA DREDGING:

**ALTERNATIVE 1:**

DREDGING ASSUMED COMPLETED BY PREVIOUS PROJECT IF NEEDED

**ALTERNATIVE 2A:**

ASSUMED DREDGING NOT NEEDED

**ALTERNATIVE 2B:**

32' REMOVAL TO PROVIDE BERTH AND DOCK AREA

NOTE: SLOUGH DREDGING (3.5 MILES LONG) ASSUMED REQUIRED FOR ALL ALTERNATIVES

## **RELATED PROJECTS/REPORTS/PLANS**

There are numerous existing projects either proposed or underway in the vicinity of the Alviso Dock. All of these projects relate to navigability and environmental restoration within Alviso Slough. The following plans and reports were reviewed relative to the construction and operation of the potential public dock.

### **Alviso Slough Restoration Project**

*Project Proponent(s): SCVWD*

In 2004, SCVWD appropriated \$2.5 million for vegetation removal, dredging, and the related redesign of Alviso Slough to restore channel width and wildlife habitat to pre-1983 conditions. The project was also intended to improve the Alviso community's ability to pursue water navigation and to more broadly encourage boating and tourism. By the time the Final Environmental Impact Report (FEIR) was completed in 2009, the project was estimated to cost over \$22 million.

The FEIR identified Alternative 3 as the staff-recommended alternative. Alternative 3 proposed vegetation and root mass removal and dredging of 3.7 acres to an 8-foot depth doubling the average slough width from 50ft to 100ft: "Vegetation and root mass removal, and dredging [were] proposed along the east side of the slough to improve navigation and access for boats. The slough channel would be widened to allow two-way boat traffic." Dredging would not extend north of the Alviso County Park boat launch, and therefore would not include dredging from the potential dock site to the Bay.

The FEIR also addressed long-term maintenance for the slough and determined that the construction of a notch in the levee bordering Pond A8, associated with SCVWD's South Bay Salt Ponds Restoration Project, would assist in maintaining the slough due to additional scouring. In addition to the scouring from the Pond A8 notch, the slough would require dredging a minimum of three (3) times for each 10-year maintenance cycle to sustain the navigational depth.

In 2012, USACE and National Marine Fisheries Service (NMFS) determined that SCVWD had not disclosed sufficient information to allow a credible finding of compliance. USACE recommended that no permits (Clean Water Act Section 401 and Water Quality Certification) be issued until a number of environmental impacts were addressed in addition to various outstanding issues identified by the California Regional Water Quality Control Board (RWQCB).

SCVWD has not addressed all outstanding issues in regard to the Alviso Slough Restoration Project. Currently, the project does not have any approved permits nor a tentative start date.

### **South San Francisco Emergency Port Access Study**

*Project Proponent(s): SCVWD, County of Santa Clara, Silicon Valley Chamber of Commerce and City of San José, Water Emergency Transportation Authority (WETA)*

This study evaluated the development of an emergency port and a range of concepts in Alviso that leveraged its connection to the Bay. The study specifically examined the physical, environmental and economic practicality of both water-based and landside alternatives. The project proposed an emergency

port served by a hovercraft for major earthquake and disaster response as well as a waterfront destination with restaurants, retail and improved access to the Bay.

Based upon findings within the study, the proposed project was abandoned after estimated dredging costs made the project financially infeasible. Even with initial dredging relying upon the South Bay Salt Ponds Restoration Project timing, “the costs are still considerably, ranging from approximately \$30 million to \$163 million (in 2010 dollars) for initial and maintenance dredging over 20 years. The extensive dredging, high costs and permitting challenges associated with dredging and both Recreation Marina options infeasible. To the extent that the South Bay Salt Ponds Restoration Project results in self-scouring of Alviso Slough, the development of a marina may become feasible in the long-term” (South San Francisco Bay Emergency Port Access Study, 2010).

WETA’s long-range plan calls for a new terminal at the Port of Redwood City with an estimated construction start year of 2020. The terminal would open between 2022 and 2026, offering ferry service to congested Bay Area corridors. The Supplemental Environmental Impact Report (SEIR) was submitted for public review and comment for Wharves 1 and 2 Redevelopment Project in 2016.

A similar emergency port will be built in Redwood City, CA.

## **South Bay Salt Ponds Restoration Project**

*Project Proponents(s): SCVWD*

As the largest tidal wetland restoration project, the South Bay Salt Ponds Restoration (SBSPR) will restore over 15,000 acres of industrial salt ponds into tidal wetlands and other habitats. Phase 1 of the project is complete, including the construction of the Pond A8 notch: “Restoration of tidal action at [Pond] A8 aims to discourage sedimentation and promote scour along Alviso Slough” (South San Francisco Emergency Port Study). Further study is needed to determine the efficacy of the Pond 8A notch related to sedimentation and promoting scour. County Parks Alviso Marina Launch Ramp is not seeing the effects of the Pond 8A scour. Dredging and sediment clearing from the launch ramp is required periodically. Phase 2 of SBSPR is currently under planning, design and environmental review.

## **South San Francisco Bay Shoreline Study**

*Project Proponent(s): USACE, SCVWD, State Coastal Conservancy, County of Santa Clara*

Congress authorized USACE to identify and recommend flood risk management projects that would reduce flood damage, encourage recreation, and restore the ecosystem. The entire study is comprised of several interim feasibility studies that examine various flood protection strategies such as widening the mouths of waterways.

For Alviso, a 3.5-mile levee is proposed to connect the existing Alviso Slough levee to the existing Coyote Creek levee east of the San José Wastewater Facility. In 2016 the SCVWD board certified the Shoreline Study FEIR and approved the project.

There is no projected start date.

# EXISTING CONDITIONS, OPPORTUNITIES, AND CONSTRAINTS

This analysis translates technical information gathered during background information research and stakeholder interviews into a concise outline of key considerations for replacement of the existing dock. County Parks provided the consultant team with a background document, the Alviso Dock Feasibility Background Report, summarizing its knowledge of the area and project research. Many of the opportunities and constraints that the County's document mentioned are included, referenced, or further analyzed within this summary. The results of the analysis helped shape and inform the alternative scenarios and the associated cost estimates that will be presented later in the document.

Existing conditions, opportunities, and constraints discussed in this summary are organized according to the following key considerations:

- Location, Ownership and Adjacent Land Use
- Access and Connectivity
- Parking and Facilities for Dock Users
- Utility Infrastructure
- Channel Accessibility
- Environmental (including Dredging and Permitting)
- Area Demographics

Each section begins with an overview of existing conditions and key background information, and concludes with a list of specific opportunities and constraints that stem from the information presented. Opportunities and constraints presented apply to all alternative scenarios unless otherwise stated.

**Opportunities** are findings that would facilitate the development of the potential dock project and/or suggest a demonstrated demand/need for the potential project. **Constraints** indicate conditions that may prevent or complicate the fulfillment of constructing and/or operating a public dock at the site, including implementing its related landside elements.

## LOCATION, OWNERSHIP, AND ADJACENT LAND USE

The existing dock, and therefore the potential project site, is situated on Alviso Slough adjacent to the SBYC approximately 0.2 miles south of Alviso Marina County Park and the County Park Boat Launch Ramp as shown in Figure 4.

The project site is zoned for Open Space (Santa Clara County), and is bounded by the South Bay Salt Ponds Restoration Project Pond A8 across the slough to the west. While the slough provides access to a secluded part of the bay, the areas inland of the proposed dock contain businesses, single-family homes, and other mixed residential and industrial use.

The potential dock project site is also located within the Alviso Historic District, which is listed on the National Registry of Historic Places. Alviso received a city charter in 1852, becoming one of the first

California cities, and in 1968 was annexed to the City of San Jose. Today, Alviso is San Jose's northernmost neighborhood and the Alviso Master Plan describes it as "a small, concentrated community with a mix of residential and non-residential uses." Mitigation and coordination with the State Historic Preservation Officer (SHPO) would be necessary to determine how the potential project would affect surrounding properties within the historic district.

SLC owns the waterway, while the land on both sides of the slough in the area of the dock is owned by SCVWD. The SBYC owns a portion of the dock and holds leases from SLC and SCVWD for the remainder of the dock. Additionally, SBYC has management responsibility for the facility. SLC's public trust doctrine "protects sovereign lands, such as tide and submerged lands and the beds of navigable waterways, for the benefit, use and enjoyment of the public," and therefore does preclude recreational uses. SBYC is in support of building a fully public dock to serve as a regional amenity for Santa Clara County residents and other recreational boat users.

With consideration to recreational opportunities, the current dock is located along the southern rim of the Bay, in a region where there currently are no other docks or boating organizations aside from SBYC. The nearest recreational marina is located approximately 18 miles from the project site.

## **Opportunities**

- Potential project would be consistent with existing Open Space Zoning
- Potential project is supported by current leaseholder (SBYC); SLC's doctrine does not preclude recreational uses.
- Potential project would be the only public marina south of the Dumbarton Bridge (CA-84), and therefore may expand recreational and educational opportunities for South Bay residents. This must be considered in conjunction with opportunities already afforded by Alviso Marina County Park.
- Potential project could commemorate Alviso's history as a booming shipping port and as a main transportation connection between San Francisco and San Jose.
- South Bay Salt Pond Restoration Project improvements to the Bay environment are making this area more desirable for slough watercraft and adjacent trail uses.

## **Constraints**


- Potential project would require coordination with and support of multiple land and water-rights owners.
- It is likely that coordination with SHPO would be required; particularly if federally listed properties are impacted. If impacts were to be found, the potential dock project would have to comply with Section 106 rules.
- The potential project assumes that the County would assume the future lease for the potential dock project and site, and therefore that the County would assume the responsibility to remove the old SBYC docks and pilings to satisfy SLC requirements.
- As discussed in the Introduction, County Parks could not directly fund the potential dock replacement project under the SBYC's existing lease and operation structure. Under the existing

lease, Alviso Slough Dock does not serve a public recreational need and therefore would not meet requirements to be funded by the County Park Charter.



Figure 4: Existing Dock Aerial



 <b>SANTA CLARA COUNTY PARKS</b>	This map generated by the County of Santa Clara Department of Parks and Recreation. The GIS files were compiled from various sources. While deemed reliable, the Department assumes no liability.	<b>Title:</b> SBYC Dock Location	Scale: 0 0.02 0.04 0.08 Miles
		<b>Date:</b> 16 March 2017	

## AREA DEMOGRAPHICS

This section provides an overview of local and regional demographics, focusing on implications to demand for a public dock in Alviso.

California's rapidly increasing Hispanic or Latino population is likely to influence recreation patterns throughout the State. According to the 2015 American Community Survey (ACS), of the County's 2 million residents, 2 percent are African American, 34 percent are Asian/Pacific Islander, 27 percent are Latino, and 34 percent are White (U.S. Census Bureau, 2015). From 2010 to 2015, there was a constant increase in Hispanic or Latino population in Santa Clara County, as well as a decrease in the White population. The Alviso area has a significantly greater Hispanic or Latino population with approximately 64 percent of the population with Hispanic or Latino heritage. According to the Recreational Boating and Fishing Foundation, the Hispanic or Latino demographic is the new target market of the boating industry, because of the growing population (Take Me Fishing, 2016). Santa Clara County and the immediate Alviso region have a high Hispanic or Latino population, which means that demand could grow, based on the boating industry's goals.

Identifying a population's age profile is important for recreational facilities because different age groups have different recreational needs. According to the 2015 American Community Survey, the median age in Santa Clara County is 36.8. Approximately 26 percent of the population is under 20 years old and approximately 12 percent of the population is over 65 years old. The 2011 National Recreation Boating Survey found that in the West, the age range for highest boat usage is 35-44 at 17 percent and with age range 25-34 in a close second place with 16.2 percent of boaters. The age demographic of Santa Clara County seems to support the demographic patterns exhibited in the boating survey.

Identifying a population's income profile is also important for recreation because different socioeconomic classes have different recreational needs. According to the 2015 ACS, the median household income in Santa Clara County is \$96,310 and the mean household income is \$128,243, which is much higher than the state median and mean income. Approximately 27 percent of the households make less than \$50,000 and approximately 20 percent of households make more than \$150,000.

The nearby activity of the Marina Alviso County Park and South Bay Yacht Club is a possible indicator of a demand for recreational boating. According to Alviso Marina County Park data, boating activity has increased steadily from 2011 to 2015, with the exception of a dip in boating activity in 2012 and 2013. In 2011, there were a total of 3,181 boats that utilized the Alviso Marina County Park boat launch and in 2015 there were a total of 20,612 boats. SBYC representatives report receiving inquiries about dock space at least once a month, and maintain a waitlist.

Although the potential dock project has potential for demand, EMC Research conducted a telephone survey of likely voters in August of 2015 as part of the Renewal of the Parks Charter Fund. In that survey, 75 percent of respondents said that "maintaining and improving current parks, trails and facilities" should be a higher priority over the next 5 years than "expanding the number and size of parks, trails and facilities."

Implications are identified below as opportunities and constraints.

## Opportunities

- Local and regional boating demographics are consistent with that of existing and anticipated future boaters.
- Demand for boating facilities may increase as the County's population grows. Demographic trends could also lead to increased demand.
- Increased boating activity at the adjacent Alviso Marina County Park over the past few years is a possible indication of growing demand for recreational boating facilities.
- Expressed interest in SBYC docks is a possible indication of an increased demand for boating facilities; especially those that serve larger motorized vessels.

## Constraints

- There is relatively low current demand for boating based on a telephone survey of Santa Clara County park use.
- There is also a relatively low demand for new facilities according to the Santa Clara County parks telephone survey.
- The percent of the population that would utilize the potential project would be highly limited by dock capacity.

## ACCESS AND CONNECTIVITY

The potential project site is located in proximity to the intersection of Hope Street and North Taylor Street. While there is convenient access to and from Interstate Highway 880, U.S. Route 101, and State Route 237, reaching this intersection from nearby streets requires crossing active railroad crossings either at Catherine Street or at Elizabeth Street. To access the potential project site from nearby streets, one must traverse the existing levee and Bay Trail that are located to the east of the dock either from the SBYC parking lot (stairs) or from the access point along Hope Street, located approximately 500 feet to the north.

A non-ADA compliant gangway, walkway, and stairs provide access to the dock from an adjacent SCVWD flood control levee and the San Francisco Bay Trail (Bay Trail). There is not an ADA-compliant accessible path of travel from existing parking areas to the current dock location. An ADA-compliant path of travel to the potential project site would need to be designed in coordination with SCVWD, and impacts to the flood control levee would need to be avoided.<sup>1</sup>

Pedestrians and bicyclists can reach the potential project site directly from the regional trail network. The potential project site is adjacent to the Bay Trail and the proposed Juan Bautista De Anza National Historic Trail (De Anza Trail), which runs along the water and connects to the Alviso Marina County Park. In addition to connecting to other park resources, the De Anza Trail connects to the San Francisco Bay Trail and the Guadalupe Sub-Regional Trail. These trails run along the Alviso Slough and the Guadalupe River, respectively, and have connections to surrounding cities and the greater Bay Area.

---

<sup>1</sup> Stakeholder Interview with Santa Clara Valley Water District (Appendix A)

Boats can reach the site from the San Francisco Bay via a four mile journey along the Alviso Slough, assuming that the channel is navigable between the proposed project site and the Bay. Alviso Slough connects from the Guadalupe River, to Coyote Creek, which terminates at the southern end of San Francisco Bay. The current dock is not included in the Bay Water Trail, a network of launching and landing sites that encourage excursions onto and around the San Francisco Bay; however, the nearby Alviso Marina County Park is the only designated Bay Water Trail launch site in the south bay.

### **Opportunities**

- Potential project site offers convenient local (Alviso) and regional access (via freeway connections).
- Proposed Juan Bautista De Anza National Historic Trail and other existing regional trails provide convenient bicycle and pedestrian access, and connect the site to other destinations.
- The potential dock project provides opportunity to add another south bay dock to the Bay Water Trail.
- The potential project could improve emergency response access to South Bay waters. There is currently no location to berth this type of vessel in the area.

### **Constraints**

- Emergency response time for vehicles may be impacted by railroad crossings, depending on train frequency. Emergency response time for watercraft would be limited by the distance from open Bay waters, depending on the location of the incident.
- The potential project would require establishment of an ADA-compliant path of travel over the flood control levee and to the dock; building into the levee is not an option. Design and construction of the ADA-compliant path of travel is likely to be challenging and costly.
- Limited visibility from one side of the levee to the other could result in management challenges related to security and safety.
- Boat access from the San Francisco Bay requires a relatively long journey as well as maintenance of a navigable channel for the four-mile connection. Navigability and the potential implications are further discussed under Channel Accessibility.

## **CHANNEL ACCESSIBILITY**

The navigability of the slough channel is dependent upon the slough cross-section as well as the size of watercraft that will navigate the slough. As described under the description of the potential project, the potential project (dock) would be designed to accommodate recreational watercraft up to an approximate maximum length of 35-feet, and similarly-sized emergency response vessels. These types of watercraft would require a minimum 75-foot width and six-foot depth at the potential dock site to allow for berthing and maneuvering.

Based on analysis of the slough width using Google Earth aerial imagery, the slough width at the water surface is approximately 78 feet at its narrowest point. However, slough width may be substantially narrower during low tides; the Alviso Slough Restoration Project FEIR describes the slough as 50 feet wide. Previous studies indicate that the bottom of the slough has a narrow “channel” with an approximate

bottom depth of up to -8 feet NAVD and shallower toward the open Bay water end of the slough.<sup>2</sup> Although small to moderate size of vessels currently use the slough, the slough appears to be only marginally accessible at lower tide conditions (tidal range is approximately -3.5 feet NAVD to approximately 7.3 feet NAVD).

The nearby Alviso Marina County Park boat launch ramp is regularly used by the public to launch boats for use in the slough and the South Bay waters. However, regular occurrences of grounded boats have been documented in the open Bay tidelines in proximity to the slough mouth (not the slough itself) due to shallow Bay waters, and tide and sedimentation fluctuation.<sup>3</sup> Additionally, slough conditions are not static, but change over time due to sedimentation or scouring. Currently, the slough is experiencing increased tidal flow over historical levels due to the recent Pond A8 breach. The increased tidal prism entering and exiting Pond A8 through Alviso Slough from the Bay appears to be scouring the slough near the SBYC. However, County Parks Alviso Marina Launch Ramp is not seeing the effects of the Pond 8A scour and requires periodic dredging and sediment clearing. The tidal prism due to Pond A8 may improve, or at least stabilize sedimentation, and reduce future dredging needs. However, continued scour is dependent on activity in Pond A8 and therefore should not be assumed when planning for future navigability. Although there is potential for the Pond A8 tidal prism to increase scour of the slough, the proposed WETA project assumed that maintenance dredging would be required.

Visibility is another potential limitation to channel navigability. Boater ability to navigate turns in the slough, and speed of travel, is limited by features such as levees, land masses and vegetation growth.

As emphasized in the following list of opportunities and constraints, the potential dock project will require that the Alviso Slough provide adequate width and depth to allow safe navigation and to be considered “accessible” for the watercraft that will frequent the slough. Providing assured slough depth and width for navigation is assumed to require dredging of the slough from the proposed dock site to the mouth of the slough.

## **Opportunities**

- The location of the potential dock is not likely to cause navigational issues in the immediate area of the Project.
- If the slough continues to scour in depth and width, maintenance dredging to support the potential project may be reduced. Alternative 2A assumes that dredging would not be required.

## **Constraints**

- Dredging of the extent of the slough from the proposed project site to near the mouth of the slough would likely be required to provide adequate navigation within the slough and for access to the open Bay from the potential dock project. All alternatives assume that dredging of the slough would be required. Alternative 1, however, assumes that initial dredging in the potential dock area would be completed by a previous project.

---

<sup>2</sup> Alviso Marina County Park Boat Launch Facility Record Drawings dated December 17, 2010, prepared by TranSystems; Bathymetry and Digital Elevation Models of Coyote Creek and Alviso Slough, South San Francisco Bay, California, Version 3 dated September 2015.

<sup>3</sup> Brian Christensen, Santa Clara County Park Ranger. Email correspondence with Greg Mailho, March 22, 2017.

- Environmental and financial burdens of dredging would be substantial. Please refer to the Environmental section as well as Financial Considerations for further discussion of constraints related to dredging.

## ENVIRONMENTAL

This section discusses constraints related to potential dredging, and an overview of other key environmental considerations. Following this overview, anticipated environmental review and permitting requirements for the potential project are identified for the alternative scenarios.

### Dredging

The Alviso Slough Restoration project completed an EIR in 2009. This project addressed and proposed mitigation for the environmental impacts that would result from dredging/cleaning of the Alviso Slough. However, the project was denied a Clean Water Act Permit by USACE in 2012. Furthermore, environmental groups and members of the public opposed the Alviso Slough Dock project due to concerns regarding environmental impacts as well as public benefits. Stakeholder interviews for the current study revealed concerns that the proposed dock was a private (SBYC) project being masked as a public project.

Mercury levels in Alviso Slough pose another challenge should dredging be necessary. Historical transport of mercury-laden sediments from upland areas has contaminated the slough, and has resulted in difficulties in the disposal of contaminated dredged sediment. As part of construction of the nearby Alviso Marina Boat Launch Facility, dredged sediment needed to be disposed of at an approved upland landfill due to contamination. In addition to the potential for contaminated dredged material, construction of the potential dock project would likely require significant mitigation for environmental impacts. If studies determine that sediment is not contaminated, there is potential for sediment reuse as part of other development or environmental projects.

### Constraints

- If the USACE denies a permit for the potential dock project, the project would be null and void. It is likely that permits for dredging would be denied. This affects both Alternative 1 and 2B.
- If maintenance dredging the slough is determined necessary, it is assumed that most of the slough length (approximately four miles) would be dredged every 5 years.
- Dredged sediment would likely be mercury-laden and would need to be disposed of at an approved upland landfill. The potential project construction would need to include mitigation efforts/implementation related to contaminated sediment.
- If dredging activities were to occur, operator would need to determine the impact to the adjacent Wildlife Refuge in accordance the National Wildlife Refuge System Administrative Act.
- In an area where there are habitat restoration plans in progress, dredging of the marina area would require mitigation for loss of wetland habitat.



## Other Environmental Considerations

Several additional environmental considerations directly affect the potential project design, construction, and potential for permitting. Key considerations include flood control, sea level rise, and special status species, and are further discussed below.

- **Flood Control.** As a result of the South San Francisco Bay Shoreline Study, a levee is planned to connect the Alviso Slough levee with the Coyote Creek levee. The levee would potentially decrease flooding risk within the town of Alviso. After construction of the levee, Alviso streets and landside access to the potential dock project site would improve, and provide a more viable project. According to SCVWD Board resolution certifying environmental document and approving the Shoreline Study project on March 22, 2016 the levees would be constructed between 2018 and 2021, but the levee is planned in a separate location, and not along the Alviso Slough.
- **Sea Level Rise.** The potential dock project would require a design that addresses anticipated sea level rise. All waterside improvements would need to be designed to consider rising tides. These would include elements such as increased dock guide piling length and height to assure that the facilities can be maintained and remain in service should the tidal regime be affected by sea level rise. The potential dock project would have floating dock facilities that would need to be constructed to function at all tide elevations anticipated, and would be similar for any tidally oriented location in the general vicinity of the South Bay. Site-specific variations of improvements would need to be factored into actual design of the facilities.
- **Special Status and/or Endangered Species:** U.S. Fish and Wildlife Service (USFWS) consultation would be needed if the project were to affect endangered species. According to the Alviso Slough Restoration Project, special status and/or endangered species in the area include Chinook salmon, steelhead, longfin smelt, North American green sturgeon, salt marsh harvest mouse, and clapper rail. Future biological resource studies would be needed to determine if these species were present in the area of the proposed project.

## ENVIRONMENTAL REVIEW AND PERMITTING

In order to restore or construct a new dock, extensive environmental documentation would likely be required to comply with the California Environmental Quality Act (CEQA) and the National Environmental Protection Act (NEPA). Because all alternatives would include some degree of dredging, it is assumed that an Environmental Impact Report (EIR) would likely be required. These assumptions are based on preliminary analysis; the final determination as to the appropriate level of environmental review would be determined by County of Santa Clara as the Lead Agency.

Any potential dock project must comply with all County, State, and federal rules. Required leases, agreements, and permits that may be required for completion of the potential dock project alternatives are identified in Table 1. Regulatory permits from agencies and stakeholders such as USACE, BCDC, and SCVWD would be required. The potential project is anticipated to require the permits, leases and related requirements identified below. The Section 404 permit would likely be much more challenging for Alternative 2B due to dredging.

**TABLE 1 REGULATORY PERMITS, LEASES, AND OTHER REQUIREMENTS**

Organization	Jurisdiction	Permits/Requirements
U.S. Army Corps of Engineers (USACE)	Federal	Section 404
San Francisco Bay Conservation and Development Commission (BCDC)	State	1. Bay Waters 2. 100-foot shoreline band
California Department of Fish & Wildlife (CDFW)	State	1. Streambed Alteration Agreement 2. Endangered Species Permit
Regional Water Quality Control Board (RWQCB)	State	1. Water Discharge Requirements 2. 401 Water Quality Permit Certification
State Lands Commission (SLC)	State	Lease
Santa Clara Valley Water District	Local	1. Lease/ MOA 2. Construction & Encroachment
US Fish and Wildlife Service (USFWS)	Federal	Endangered species permit

Initial contacts have been established with stakeholders and Federal and State regulatory agencies that would be involved in granting approvals for the project prior to construction. Considerations for permitting include:

- USACE has a 10-year old outstanding enforcement action against SBYC to have old derelict docks removed. The docks had not been removed at the time of this study. It is assumed that removal of the docks would be included under permit requirements for any potential project.
- There is a pending lease application from the City of San Jose for an outfall pipeline north of the SBYC, near Catherine Street. This pending application could interfere with or create complications for any potential dock project’s SLC permit.

## PARKING AND FACILITIES FOR DOCK USERS

Street parking is restricted along Hope Street (SBYC Members and Guests), and the three parking stalls at SBYC are restricted from public use. On-street parking available to the public is located on Taylor Street, and Alviso Marina County Park provides the closest public parking. There are two parking lots at Alviso Marina County Park, including one lot with 25-stalls for vehicles and boats parking/boat parking spaces and one ADA-accessible stall, and a second lot with 56 stalls and 2 ADA-accessible stalls. These lots are approximately 0.3-miles from any potential project site via the Bay Trail or 0.2 miles via Hope Street.

Landside boat storage (dry boat storage) at the SBYC is limited to a covered boat shed (in need of renovation) and a small, fenced parking lot across Hope Street that contains 13 uncovered boat parking locations. In order to bring a boat from dry storage to the slough and/or existing dock, boats must be taken on trailers to the Alviso Marina Boat Launch Ramp. There are no public restrooms, water fountains or other facilities available at the potential project site; the closest public restroom is located at Alviso Marina County Park.

The potential project would likely require dedicated public parking and facilities, as well as dry boat storage, in proximity to the potential project site. All three alternatives include a cost for 20 parking spaces. This number exceeds the estimated 11 parking spots required by the South San Francisco Bay Emergency Port Access Study, which assumed 0.5 to 0.6 parking stalls per berth for a recreational marina.<sup>4</sup> Most properties around the SBYC are developed and used for industrial or residential uses; however, there are underutilized sites that may be acquired for visitor parking or boat storage. The first site is a fenced parking lot used for Comcast Xfinity service vehicles located at 981 Catherine Street (APN 01502034) at the corner of Catherine Street and El Dorado Street and has a net assessed value of \$120,082. The second site is also a fenced lot located at N Taylor Street (APN 01502028), and has a net assessed value of \$102,938. Another possible parking site is at the cul-de-sac of N Taylor Street adjacent to the railroad tracks; this privately-owned parcel (APN 01503029) has a net assessed value of \$13,873. These sites are currently vacant, and are shown in Figure 5. While these properties have the potential to be used for parking or boat storage, easements or acquisitions could be costly.

### Opportunities

- Although existing public parking is limited, vacant lots adjacent to the potential project site have the potential to support a public staging area.

### Constraints

- If the potential dock project were implemented, the operator would need to construct restrooms, water fountains, and provide lighting and electricity.
- The distribution of County resources and facilities would be a key consideration prior to development of a new staging area within 0.2 miles of an existing facility.

---

<sup>4</sup> South San Francisco Bay Emergency Port Access Study, March 16, 2011, page 29.

- The County would need to obtain easements or acquire one or more vacant parcels for the development of a designated parking area, dry boat storage, and visitor facilities. Easements and/or acquisitions would require willing property owners and could be costly.

Figure 5 Potential Land Acquisition Sites



### UTILITY INFRASTRUCTURE

The potential project site is served by standard utilities, including small electrical service and a domestic water line for hose bib use. However, fire suppression system components other than fire extinguisher cabinets are not present. In addition, an electrical survey conducted by the City of San Jose in 2006 reported extensive necessary upgrades. The survey recommended that all existing dock wiring be disconnected and stated that “the facility is not salvageable as a marina without extensive repair.” Fortunately, for maintenance and lighting purposes, the existing sub-panel and 10-12 GFCI (ground fault circuit interrupter) protected receptacles can simply be replaced.

Boat fueling facilities were available at the SBYC dock in its original configuration with underground fuel storage tanks. The original fuel storage tanks were buried by the SCVWD levee reconstruction in the early 1980's. The SCVWD levee reconstruction project replaced the SBYC fuel storage tanks with new, double-walled underground storage tanks. This fueling system operated until around 2000 when SBYC removed the aboveground facilities, as well as filled and abandoned the underground storage tanks. This occurred due to a reduction in fuel demand resulting from decreased berthing space from sedimentation buildup in the slough. It appears that any potential dock project will not support a fueling system. Further studies are needed to incorporate fueling facilities.

The potential project is expected to have additional infrastructure and improvements to existing utilities, including potable water, sanitary sewer, electricity, telephone, and fueling facilities. Connection to the existing utility services in the public right-of way is essential and expected in updating the utility infrastructure for the potential project. Utility service points for the potential project can be accessed on the east side of the SCVWD flood control levee.

### **Opportunities**

- Utility services are located at and/or in proximity to the site and therefore should not be challenging to acquire.
- Upgrades to utility services are not expected to exceed the capacities available at Hope Street.

### **Constraints**

- As described above, all alternatives will require utility services for potable water, sanitary sewer, electricity, and telephone. Utility services are outdated, and therefore utilities should be replaced, upsized, and brought up to code for the proposed usage. Upgrades to utilities could be costly.
- Extensive electrical updates are expected based on an electrical survey in 2006.
- Any proposed potential project will not support a fueling system; future studies and planning phases are needed.

## **APPROXIMATE IMPLEMENTATION TIMELINE**

Suggested implementation timelines provided in Appendix B describe the potential schedule for completing major tasks for each Alternative Scenario, if the potential dock replacement is deemed feasible. Major tasks include master planning, preliminary design, regulatory permitting, and environmental review processes. The estimated timeline for any potential dock project is expected to be approximately 78 months. This timeline represents a preliminary estimate only; actual time to complete the project would depend on numerous factors including funding availability; current regulatory climate at the time of permit acquisition; and the time of year that the project is initiated. Furthermore, Alternative 1 would be dependent on the completion of the Alviso Slough Restoration Project or similar project.

All alternatives are subject to an in-water work window to protect endangered or special status species in the area; in-water work can be done from June 1<sup>st</sup> through November 30<sup>th</sup>.

## FINANCIAL CONSIDERATIONS

Capital costs, operations and maintenance costs, and potential revenue generation were assessed for each alternative as part of the Study. Table 2, Alternatives Cost Summary, provides an overview of cost estimates for one-time capital costs, ongoing operations and maintenance costs, and annual net operations and maintenance costs. Detailed estimates are provided in Appendix C.

### Capital Costs

Capital costs include the actual cost of construction as well as “soft costs,” or the cost for engineering, planning, design, and environmental permitting. Estimated capital costs are highest for Alternative 2B due to the need for more substantial dredging. Cost estimates assume that dredging and disposal will cost \$100 per cubic yard; this assumes that sediment is contaminated and must be disposed of inland. The estimate also assumes a nearby disposal site is available; the cost/CY may increase depending by up to 50% (\$150 per cubic yard) on disposal site availability and location. However, if the sediment is determined to have a financial benefit (sold for reuse), SLC will charge for sediment disposal.

Table 2 Alternatives Cost Summary

TABLE 2	ALTERNATIVES COST SUMMARY	Alternative 1 <i>Replace Dock; Dredging Near Potential Dock Performed by Another Entity</i>	Alternative 2A <i>Replace Dock; No Dredging in Potential Dock Area</i>	Alternative 2B <i>Dock Replacement and Dredging</i>
Capital Costs	Construction Cost in 2017 Dollars	\$9,691,680	\$9,628,080	\$11,248,080
	Soft Costs	\$2,828,320	\$2,811,920	\$3,551,920
	<b>Total Capital</b>	<b>\$12,520,000</b>	<b>\$12,440,000</b>	<b>\$14,800,000</b>
Net Annual Cost	Annual Maintenance Costs	\$38,340	\$38,340	\$1,270,340
	Annual Operations Costs	\$500,000	\$500,000	\$500,000
	<b>Total Annual O&amp;M</b>	<b>\$538,340</b>	<b>\$538,340</b>	<b>\$1,770,340</b>
	Annual Potential Revenue	\$48,600	\$48,600	\$48,600
	<b>Net Annual Costs</b>	<b>\$489,740</b>	<b>\$489,740</b>	<b>\$1,721,740</b>

### Operations and Maintenance Costs

The ongoing cost for operation of the proposed project is estimated to range between \$320,000 and \$656,000, depending on hours of operation and staffing scenario. For the purposes of comparing alternatives, operations costs are assumed to be \$500,000 for all alternatives. This is based on estimated costs for County Parks staffing as identified in the Alviso Dock Feasibility Study Background Report.



Estimates for long-term maintenance and operations cost are significantly higher when dredging is required. While dock maintenance costs are estimated to be approximately \$38,000 annually for all alternatives, annual dredging costs for the immediate vicinity and length of Alviso Slough in Alternative 2B are assumed to be equivalent to \$1,000,000 per year.

## **Potential Revenue and Net Annual Cost**

Potential revenue generation for the proposed project is not likely to cover annual operations and maintenance costs for any of the alternatives. As such, revenue cannot be expected to offset capital costs for dock development.

Revenue estimates assume that berths are rented for the same cost per foot as existing SBYC berths, and that all berths are rented. The rental rates used by SBYC appear to be appropriate for any potential dock project, but some increase may be determined appropriate depending on level of dock and landside amenities that are provided. If one or more of the berths were dedicated for emergency mooring or other uses, potential revenue would decrease proportionately. Detailed revenue estimates are provided in Appendix C.

## **CONCLUSIONS**

This study has analyzed the potential to replace and publically operate dock alternatives from an engineering, environmental, timeline and financial point of view. Results of this analysis are summarized in Table 3, Comparison of Alternatives. While all three alternatives appear feasible from an engineering perspective, environmental and cost constraints are significant and potentially prohibitive of project development:

- Given that USACE has previously denied permits for the Alviso Slough Restoration Project, it is anticipated that any project requiring dredging or other activities that could impact the slough will be challenging to permit. This applies to all alternatives.
- All alternatives have high capital and ongoing maintenance costs. None of the alternatives would result in initial infrastructure costs or ongoing maintenance being recovered by potential future revenue.

If further study finds that slough navigability is adequate currently and can be maintained without dredging, environmental and cost constraints would be reduced. However, if dredging is required, none of the alternatives are recommended due to the high cost and environmental concerns that dredging would involve.

With consideration to public benefits of the proposed project, all alternatives would increase opportunities for water-oriented recreation in Alviso and the South Bay. Its location adjacent to the Bay Trail and Bay Water Trail makes it an ideal destination for regional recreation. However, the existing launch ramp facility at the Alviso Marina County Park already provides access to water-oriented recreation. While this potential dock project could support additional watercraft types, use of the potential dock would be limited by the capacity of the dock (18 berths) and/or availability of watercraft for rent. An additional public benefit of the proposed dock is that the dock has the potential to establish a Water Emergency

Response point to access the Bay. However, boating from this location may not be the most efficient mode of transportation to respond to emergencies in the Bay given the distance to the mouth of the slough (approximately four miles).

TABLE 3 COMPARISON OF ALTERNATIVES

	Alternative 1 <i>Replace Dock, Dredging Performed by Another Entity</i>	Alternative 2A <i>Replace Dock; No Dredging in Potential Dock Area</i>	Alternative 2B <i>Dock Replacement and Dredging</i>
Dredging Requirements	Dredging required; some dredging performed by another entity.	Dredging required north of potential dock only.	Slough conditions are <b>not</b> adequate; dredging required
Operator Responsibilities	Operator would be responsible for the cost of constructing the dock and related amenities. County would not be responsible for the cost of dredging.	Operator would be responsible for the cost of constructing the dock and related amenities.	Operator would be responsible for the cost of dredging, constructing the dock and landside amenities.
Description of Public Dock and Facilities	Demolition of the northerly existing docks (about 128-feet long); new berthing for 18 boats; utilities to all berths; ADA access to docks; landside restroom; parking for 20 cars; no marina fueling facilities; planning, design, environmental, regulatory, construction management "soft costs"		
Unique Assumptions	A project such as the Alviso Slough Restoration Project is completed before the potential dock project	A project such as the Alviso Slough Restoration Project is NOT completed before the potential dock project; Demolition of all existing SBYC waterside docks, piles, and abandoned boats	
Expected Environmental Process	Environmental Impact Report (CEQA)	Environmental Impact Report (CEQA)	Environmental Impact Report (CEQA)
Expected Environmental Mitigation	Some environmental mitigation is satisfied by previous project and removal of existing improvements; but additional environmental mitigation is required for dredging and wetland take	Assumes environmental mitigation is required for dredging and wetland take	Assumes environmental mitigation is required for dredging and wetland take
Estimated Capital Cost	<i>\$12,520,000</i>	<i>\$12,440,000</i>	<i>\$14,800,000</i>
Net Annual Cost	<i>\$489,740</i>	<i>\$489,740</i>	<i>\$1,721,740</i>

# BIBLIOGRAPHY

Alviso Dock Feasibility Background Report. N.p.: County of Santa Clara Parks and Recreation Department, N.D. PDF.

Alviso Slough Pedestrian Bridge Feasibility Study (Bay Trail Reach 9B). N.p.: CH2M HILL, 2006. PDF.

Alviso Zip Code Business Patterns Graphs: County of Santa Clara Parks and Recreation Department, December 2016, Excel.

EMC Research, August 2016, Telephone Survey of Voters in Santa Clara County Re: Charter Renewal. Santa Clara County Department of Parks & Recreation.

Final Engineer's Report. N.p.: EDAW / AECOM, n.d. Alviso Slough Restoration Project, 2009. PDF.

Final Environmental Impact Report: Appendices. Vol. 2. N.p.: EDAW / AECOM, 2009. Alviso Slough Restoration Project. PDF.

Final Environmental Impact Report. Vol. 1. N.p.: EDAW / AECOM, 2009. Alviso Slough Restoration Project. PDF

Foxgrover, A.C., Finlayson, D.P., Jaffe, B.E., and Fregoso, T.A., 2011. Bathymetry and Digital Elevation Models of Coyote Creek and Alviso Slough, South San Francisco Bay, California (ver. 3, September 2015): U.S. Geological Survey Open-File Report 2011-1315, 23 p., <http://dx.doi.org/10.3133/ofr20111315>.

Grenier, L., Marvin-DiPasquale, M., Drury, D., Hunt, J., Robinson, A., Bezalel, S., Melwani, A., Agee, J., Kakouros, E., Kieu, L., Windham-Myers, L., and Collins, J., 2010. South Baylands Mercury Project. Final Report prepared for the California State Coastal Conservancy by San Francisco Estuary Institute, U.S. Geological Survey, and Santa Clara Valley Water District, 97 p.

Marvin-DiPasquale, M., and Cox, M.H., 2007, Legacy Mercury in Alviso Slough, South San Francisco Bay, California: Concentration, Speciation and Mobility. U.S. Geological Survey, Open-File Report number 2007-1240, 98 p, <http://pubs.usgs.gov/of/2007/1240/>.

"Post Dredge Survey, 07/15/2010, by PLS Surveys, Inc." for TranSystems and County of Santa Clara for the Alviso Marina County Park Boat Launch Facility Project.

Recreational Boating and Fishing Foundation, Destination in Sight: Stakeholder Annual Report 2016, [https://www.takemefishing.org/getmedia/c76dfe32-1efa-451b-a0c4-dc3adc585c83/RBFF\\_2016\\_AnnualReport\\_FINAL.pdf](https://www.takemefishing.org/getmedia/c76dfe32-1efa-451b-a0c4-dc3adc585c83/RBFF_2016_AnnualReport_FINAL.pdf), accessed January 23, 2016.

South Bay Salt Pond Restoration Project: Final Environmental Impact Statement / Report. N.p.: EDAW / AECOM, 2007. PDF.

South San Francisco Bay Emergency Port Access Study. March 30, 2011 DRAFT. N.p.: 2011. PDF.

United States Coast Guard Boating Safety Division, 2011, 2011 National Recreational Boating Survey, p. 34, <http://www.uscgboating.org/library/recreational-boating-survey/671.PDF>, accessed January 23, 2016.

U.S. Census Bureau. ACS Demographic and Housing Estimates: 2011-2015 American Community Survey 5-Year Estimates 2015. Accessed January 23, 2016.

**APPENDIX A – STAKEHOLDER INTERVIEWS**

## **SOUTH BAY YACHT CLUB (SBYC)**

*Stakeholder Interview: South Bay Yacht Club*

**10am, February 1, 2017**

**Conference Call**

Interviewees:

- Mr. Roy Hays – Director and Agency Liaison, SBYC
- Mr. Russ Robinson- Staff Commodore, SBYC

Interviewed by:

- Ms. Cherise Orange – Santa Clara County
- Mrs. Isby Fleischmann- PlaceWorks
- Mr. Gregory Mailho – TranSystems
- Ms. Jessica Setiawan – PlaceWorks
- Ms. Laina Petrinc - TranSystems

*Relationship to Alviso Dock:* The South Bay Yacht Club (SBYC) is a private boating club, positioned along the Alviso Slough that currently owns and operates the existing boat docks. SBYC currently owns part of the existing dock and also manages the Alviso dock under two leases, one from the State Lands Commission and one from the Santa Clara Valley Water District. SBYC also initiated the request for the County to replace the existing dock that led to the Alviso Dock Feasibility Study.

### **Interview Summary**

- Introduction: Ms. Cherise Orange, Santa Clara County Parks, provided a brief introduction regarding the County's process to develop a feasibility study for the proposed public dock project.
- Background: Mr. Robinson and Mr. Hays provided a brief history of the SBYC and the Alviso Slough area.
  - The Alviso Slough and surroundings operated as the primary South Bay port in the 1850's.
  - The SBYC was formed in 1888
  - The USACE approved the first SBYC dock (wharf) on the westerly bank of the slough in 1905.
  - The Santa Clara Valley Water District (SCVWD) performed a study, and constructed a new levee for flood protection of Alviso in the 1960's.
  - During the late 60's and throughout the 70's the New Dock Area was impacted by the silt build up due to the introduction of an invasive species of freshwater tulle. The increase in fresh water was due to urban growth in Silicon Valley. The root structure of these tuelles capture the silt in water which in turn allows the tuelles to grow and

basically take over the slower moving water areas of the slough. This situation severely impacted the Club's ability to maintain its active dock space and eventually rendered most of our dock space useless. When we moved to the East side of the slough we had 50 slips on the south side of the gangway and additional side tie space of 180 ft. of dock.

- In recent years, the SCVWD proposed to dredge the slough and the SBYC would reconstruct dock facility at its current location. The proposed project was met with significant regulatory agency concerns and was thus denied.

### Existing Conditions and Perceived Demand

#### *SBYC Membership*

- There are 65 families with current, active memberships to the SBYC.
- SBYC is in the process of acquiring and recruiting new members, with an active board to increase activity and do renovations to attract and accommodate more members.
- Most members live in the Santa Clara Valley and the South Bay; some have moved away but still maintain memberships.
- There is an application fee of \$150 to join (refundable if rejected) and a \$250 annual membership fee once accepted. The application process is typically takes three- to six-months during which potential members are asked to come to events to meet other members and to explore all the facilities. However, SBYC tries to streamline the process with a lower application fee and a two-month application period occasionally.
- Members of the general public come on a "regular" basis to ask about dock space availability, dry boat storage, and/or SBYC membership.
- SBYC has about a dozen dry boat storage spaces in the fenced lot across Hope Street. The lot is owned by SBYC. There are currently 2 or 3 spaces available. The cost of dry boat storage is about \$40 a month.
- There is not a set membership capacity, but SBYC had 75 member families when there were 50 slips available. Per the San Jose Fire Marshal, the SBYC clubhouse has a first-floor seating capacity for 99 people. There is also a fenced in outside patio area at the back of the building.
  - The dock is not exclusive to members; it is also available to renters. When there were 50 slips, some were rented by non-club members and some were used by members.

#### *Public Demand for a Dock*

- An inquiry about dock space occurs at least once a month without the use of advertising. There is currently a waiting list of 10 people that want dock space.
- There are many requests for guest use, but the biggest the problem is that SBYC doesn't have the space to tie up boats. One of the shrimp boats is no longer on the commercial dock, so now there is a space available, but it hasn't been available until recently.



- SBYC occasionally has guests from visiting yacht clubs that will sail in and spend the night in the south bay. Visiting guests currently tie up a moor up in the slough and take a dingy to the club.

#### *Watercraft Type and Size*

- SBYC members typically own/moor vessels that are larger than would be commonly trailered, typically 25 to 35 feet long. Shrimp boats and sailboats are also common watercrafts in the slough. The commercial shrimp boats that use the SBYC docks are 32 to 34 feet long and have a 2.5 to 3 feet draft. The vessels that would use the SBYC docks are typically under 35 feet long to navigate the narrow slough.
- A Member of the SBYC has 25 kayaks available for members to borrow at no cost and for the public to rent when the Sea Scouts are not using the watercrafts.
- There SBYC also operates a Sea Scouts program where a skipper trains a troop of kayakers. Another Sea Scout troop from Redwood City has expressed desire to bring vessels down to the SBYC (motor whale boats), but are unable to because of the shallow water and would need to anchor at the mouth of the Alviso Slough and launch a smaller boat to get to the docks. SBYC expressed interest in filing for non-profit status to receive funding to renovate facilities for the sea Scouts.
- Although there is generally not available space at this time, the SBYC welcomes visiting boats and public to their facility.

#### *Parking*

- Current SBYC members park on the street and the SBYC does not note any capacity issues for activities or events due to copious street parking. There has never been an issue with parking and they do not foresee an issue with an expected rise in visitors if the dock is made public.

#### *Relationship with Local, State, and Federal Agencies*

- The SBYC has a good working relationship with the SLC, SCVWD, BCDC, and other local, state, and federal agencies. SBYC have had contact with Sue Tippetts from the SCVWD and Adrienne Klein from BCDC, and the SBYC folks stated that these agency representatives were in favor of the potential project.
  - Mr. Hays has work experience in environmental management and has engaged with regulatory agencies to maintain compliance for requirements in operations. He has also been active in deploying boats to search for derelict vessels in the bay.

#### Proposed Dock Replacement/ Public Dock

##### *Concerns Regarding a Public Dock*

- SBYC is most concerned about how the potential project would be operated and managed. Would SBYC do the maintenance and the County handles the lease? Would it be a public-private partnership?

- SBYC proposes that they could collect fees and hand over the proceeds to the County and that the docks are currently operated 365 days a year so it won't be an issue for public accessibility that the County requires.
- Santa Clara County Parks clarifies that they are currently only looking at the feasibility of the potential project and that management and operation will be addressed separately when the feasibility is established.
- TranSystems mentioned that the operations and management programs for the proposed project might need a more involved program than is currently required due to a proposed increase in numbers of available berths, and increased public use.

#### *Effect on Historical Significance of SBYC*

- SBYC has a club historian which would know how better to address historical significance and the creation of a public dock.
- The County is currently in the process of applying to be a National Heritage Area that would allow funding for facilities deemed as significant historic resources. The funding is administered through the National Park Service

#### *Use by Public Agencies*

- SBYC argues that in the event of a plane crash in the bay near the San Jose airport, it is essential to have an emergency port to access the water for search and rescue.
- In partnership with County Parks and the County Sheriff's Department, County Sharif's boats are being used to for the Alviso Safari Tours. They have taken school kids and parents out on the bay to explore the waters. With the new dock in place a tour-type of flat bottomed pontoon boat could be moored at the dock and it could regularly take groups out on an educational tour. This might be best run by a concessionaire like the operation at Elk Horn Slough at Moss Landing.

#### *Dry Boat Storage Facility to Solve Berthing Storage*

- As mentioned earlier, since the opening of the Alviso Marina Launch Ramp, there have been more inquiries in dry boat storage facilities. The land around SBYC is owned by private owners or local agencies so it would be difficult to acquire more property for dry boat storage.

#### *Additional Facilities Needed for Public Dock*

- Extra parking will not be necessary as there is plenty of street parking.
- ADA accessibility is a concern to accessing public docks. Visitors would need to cross the levee, maintained by the SCVWD, to get to the docks and the levees are steep. A ramp would need to be built for ADA access.
- The clubhouse will only be for members of the SBYC, so there will be a need to construct a new restroom on or near the public docks. Additionally, sewage pump-out station on the dock should be included to empty out waste holding tanks of boats.
  - SBYC has gone through an approved feasibility test and obtained grant funding under the Clean Water Act a grant in which BCDC controls funding for; however,

TranSystems believes that building the restroom on the dock would prove difficult to justify because of water space and environmental concerns. Transystems also mentions that landside restrooms might be a better choice to consider, but the lands surrounding the potential project are owned by other agencies and private owners, making placement of new restrooms subject to consideration of local conditions. With an active vessel pump out facility, perhaps the sewage from a public restroom can be accommodated using this facility.

- There is also a question of who would clean/maintain the new restrooms—would it be the County or SBYC? Would the restroom only be for dock users? If it is available to the public, it would make more sense for the County to clean/maintain them. SBYC would prefer to have a berth-only restroom facility available for slip renters' use.

### *Other Challenges*

- Water depth at the bottom of the slough is an important issue. The slough is about 20 feet deep (i.e. bottom elevation about -20-feet Mean Lower Low Water) at the mouth of the slough near open Bay waters and about elevation -9 to -14- feet Mean Low Low Water (MLLW) as you go further into the slough near the SBYC. SBYC representatives believe the slough currently provided adequate water depth for navigation at most tidal conditions.
- The distance from the SBYC docks through the Alviso Slough and out into the bay is about 4 miles.
- Dredging will be a hurdle for the potential project if it moves forward—the slough would need to be dredged in a similar manner as was done for the construction of the launch ramp.
- Slough has a very deep channel, 9 to -14 feet deep at a zero tide, but it is very narrow. As you get further out of the slough towards the Bay, it is wider, but near the SBYC, it is a deep channel that is only 10-20 yards wide.
- Routine maintenance of silt sediment is a concern to keep the docks functioning. SBYC mentions that the Pond A8 notch has been opened occasionally which helps with scouring of silt within the slough. SBYC indicated that the slough scouring from Pond A8 appears to be decreasing the amount of sediment near and under the SBYC docks.
  - The notch currently has 5 gates open with plans to open the other three in the near future. Mr. Robinson checked with Mr. Pat Sholwalter at the SCVWD who runs the project and witnessed it firsthand two weeks ago with pictures as evidence.
- SBYC has issues in defaulting on their lease with the SLC. The SLC is requiring dock maintenance/replacement, and removal of the old unused docks.
- The April 2, 2016 proposed plan intended to locate the new docks within slough waters that would provide dock floatation at all tidal conditions while still providing adequate slough width for navigation past the proposed docks.

## **STATE LANDS COMMISSION (SLC)**

*Stakeholder Interview: State Lands Commission*  
**11:30am, February 1, 2017**  
**Conference Call**

Interviewees:

- Mr. Nicholas Lavoie – Public Land Manager, SLC
- Mr. Dobri Tutov – Public Land Management Specialist, SLC

Interviewed by:

- Ms. Cherise Orange – Santa Clara County
- Mrs. Isby Fleischmann- PlaceWorks
- Mr. Gregory Mailho – TranSystems
- Ms. Jessica Setiawan – PlaceWorks
- Ms. Laina Petrinec - TranSystems

*Relationship to Alviso Dock:* The State Lands Commission (SLC) owns the land where the current dock is located. The South Bay Yacht Club (SBYC) leases the land from the SLC. The SLC has spoken about this potential project previously with Don Rocha, Deputy Director-Administration of County of Santa Clara Parks Department.

### **Interview Summary**

Comments and information shared by SCVWD are summarized below.

#### *Benefits or Issues of Potential Project*

- Interviewees did not foresee any issues related to SLC. SLC is in charge of managing lands under the Public Trust Doctrine. Use of the water for public access and recreation/boating is in line with the doctrine. Additional public access to this area would be a positive benefit of the project.
- Originally, SBYC wanted to move the dock back into the channel, but there was not enough depth and width and therefore this would have created an issue for navigability. Despite those issues, concern that would prevent authorization from SLC is not foreseen.
- According to SLC navigability, hydrology, and the recurrence of silt need to be analyzed in order to prove the feasibility of the proposed dock.
- Removal of old facilities (docks and piling) on SLC land is desired; however in this situation the dock is currently silted in and removing it would be difficult in order to not damage adjacent wetlands and habitat. Ideally, SLC would like to see a proposal that removes remnants of old structures, as the dilapidated dock poses a liability to the SLC.

#### *Current Leases*

- SLC does not have many leases in the area; however, the boat launch ramp to the north is leased by SLC to County Parks. The launch is a feature that could complement the proposed public dock.
- There is a pending application from the City of San Jose for an outfall pipeline north of the SBYC, near Catherine Street. Of existing leases, this would be the only lease that might interfere with the potential project.
- The current lease requires natural restoration of the leased area upon the termination of the lease.

### *Lease Changes*

- SLC can assign, amend, terminate, or create a new lease depending on the term on the existing lease. If there are a lot of changes required to a lease, SLC would prefer to create a new, clean lease contract; however, if minimal or no changes are required, an amendment would suffice.
- All lease assignments, amendments, and new leases must go before the commission to be approved. The commission meets every two months.
- A simple lease application or lease change is estimated to take six months to get it before a commission. If the lease is a project, it will likely take longer than six months.
- SLC could endorse a sublease to the SBYC through a lease to the County.
- Current location of the slough is not the historic location of the slough. This could add to the potential project's complexity.
- If the County assumes the future lease for the proposed project site, the County would assume the responsibility to remove the old SBYC docks and piling to satisfy the SLC requirements. SLC always assures an entity other than the State is responsible for non-natural improvements within SLC leased parcels.
  - SLC would like to review the removal from an environmental standpoint before they determine if it should be removed because it may be harmful to the environment. With consideration to CEQA requirements, SLC will decide if it doesn't make sense to remove it or remove part of it. SLC is not interested in becoming liable for SBYC derelict remnants. SBYC should be liable for what's left, so the lease has to be continued until it denigrates or completely goes away. Analysis is necessary to determine what would be most useful for all parties in the long run, despite potential environmental barriers.

### *Dredged Sediment*

- SLC has no direct interest in dredged sediment. From a CEQA standpoint the sediment is to be handled appropriately. SLC expects the applicant to find a reuse site or another appropriate use for the sediment.
- SLC does not charge for the removal of sediment if the sediment is not sold, but will charge if getting rid of the sediment has a financial benefit.
- SLC would need to know where the sediment goes and what it will be used for.

### *Permitting and Lease Timeline for Potential Project*

- For SLC, the lease itself is the only thing needed in dredging and maintenance. Permits will be needed from other agencies such as SCVWD and USACE.
- Leases require a provision that the permitted lands should be restored to its original state with the termination of a lease.

- SBYC has limited financial capability, but local agencies might have more capital to restore the land to its original state.
- SLC Lease process is approximately six months to process in front of the State Lands Commission public meeting. The SLC meets every two months, so advance planning is suggested.

#### *Lease Cost Estimate*

- SLC did not express interest in being the lead agency if the potential project were viable at this time.
- The expected minimum lease application fee for a potential project of this magnitude is \$3,000. With CEQA review and a detailed look, the maximum application fee expected for the potential project is \$6,000. The base lease assignment fee is \$1,000 which does not include a review or a project based lease.
- The fee cost is directly related to the staff labor involved in reviewing the application.
- If the potential project moves along, SLC can provide a more accurate cost estimate.

#### *Requirements for Public vs. Private Use*

- No special requirements. If a facility is owned by a public agency and used for public access, there is no rent; however, if the facility charges a fee or has an income, SLC charges approximately 5% of the gross income.
- For facilities owned by private entities, SLC estimates how much income they would receive and charge them a flat/fixed rent.
- Rental fees could be similar between public and private entities, except that public agencies are not required to have insurance or bonds because they have other ways of insuring themselves. Public projects within SLC lease parcels are not required to have surety bonds, but the bonds are required for privately-funded/-owned projects.
- Operations costs would be expected to be higher for private entities, but other provisions would be identical.

#### *Conclusions and Next Steps*

- SLC emphasized long-term and ongoing sediment removal necessary to maintain navigability as a key challenge. Dredging activity would be needed to keep the dock operating over the long term.
- SLC would like to keep up to date with this feasibility study—it is important to keep them in the loop about any changes to the area. Cherise will send SLC the feasibility report around the time it will be presented to HLUET.
- A plan for the lease is due this year, but SBYC has not yet submitted a plan. If they do not submit one, they could default on their lease. This would create additional challenges for the potential project.
  - Progress with the proposed Project process as a result of this Feasibility Study could be viewed by SLC as positive, and possibly delay SBYC default status on their current lease.

## **SANTA CLARA VALLEY WATER DISTRICT (SCVWD)**

*Stakeholder Interview: Santa Clara Valley Water District*  
**1pm, February 1, 2017**  
**Conference Call**

Interviewees:

- Mr. Ngoc Nguyen – Assistant Operating Officer, SCVWD
- Mrs. Sue Tippets – Engineering Manager, SCVWD

Interviewed by:

- Ms. Cherise Orange – Santa Clara County
- Mr. Gregory Mailho – TranSystems
- Ms. Jessica Setiawan – PlaceWorks
- Ms. Laina Petrinec - TranSystems

Relationship to Alviso Dock: The Santa Clara Valley Water District (SCVWD) owns part of the property in which the dock is located. It is a regulatory agency from which permits would be required for the potential project.

### **Interview Summary**

Comments and information shared by SCVWD are summarized below.

#### *Potential Issues and Benefits of the Potential Project*

- There are no direct benefits for SCVWD; however, a dock with public access would be beneficial for recreation and would complement the boat launch at Alviso County Park upstream.
- Improving accessibility is important for the project and acquiring an adjacent property would be helpful, but SCVWD has no title land rights for the property north of dock, between SBYC and the launch ramp. The property is owned by a private owner.
- A challenge to ensuring a viable dock would be to maintain water depth. Structures in the channel must not interfere with the flood protection function that the slough provides and must not affect the effectiveness of existing levees.
  - Elevation at the mud flats is stable. If lower elevations are dredged and removed, there must be enough depth for a new dock. Ongoing maintenance would be critical as the slough will get filled with sediment very quickly
  - SCVWD biologists/monitors see an increase in scouring along the slough, but the extent of the scouring is unknown.
  - SCVWD previously proposed to dredge the slough to maintain navigation potential. Dredging is good for flood protection because it provides more water space to accommodate flood waters.

#### *Necessary Permits and Timeline Estimation*

- On SCVWD property a joint-use agreement would be necessary with the potential project operator/owner/ lead agency.
  - If the County is the owner of the facility and SBYC was the operator, there would be no cost charged to the County or SBYC for providing public access to the water.
- SCVWD is interested in anything put in the slough, because it is on their property. There is a land interest, especially because they lease their land to the SBYC currently. The lead agency is responsible for the lease and must follow lease regulations.
- The permitting process is a pay-as-you-go system. The Water District would need to see plans to issue permits.
- The issuance of permits is fairly quick, but the timeline largely depends on the applicant's submittal of required paperwork.

*Required Easements, Leases, Encroachment Permits, and Approvals*

- Dock users will need to cross SCVWD property to reach the public dock. Therefore, a joint-use agreement will need to be established between the County and SCVWD. SCVWD would not grant easements.
- An encroachment/construction permit would be issued for construction around the levee. Any access point to the levee cannot cut into the levee, so it would have to be built on fill. This would apply to ADA ramps.
  - To avoid this challenge, SCVWD suggested a less impactful access point near the corner of Hope Street and Catherine Street that has a better location for ADA access.

*Special Conditions for Potential Project*

- SCVWD has no particular special conditions for the potential project. Review would depend on the plans submitted to them.
- SCVWD advises consulting other agencies such as BCDC and USACE.
  - They recommend working with BCDC for fill or piling. Using existing pilings may improve feasibility of the potential project. However, most of piling that's there doesn't have the location or longevity to be used in the future.
  - It is important to address ownership of a proposed facility as a part of evaluation and application to USACE. An Alternatives Analysis is likely required.

*Other Challenges*

- No other challenges were identified from the SCVWD's perspective. Interviewees suggested that the potential project would be possible as long as it meets other agency regulations.



## **UNITED STATES ARMY CORPS OF ENGINEERS (USACE)**

*Stakeholder Interview: United States Army Corps of Engineers*  
2pm, February 2, 2017  
Conference Call

Interviewees:

- Mr. Mark D'Avignon, Fisheries Biologist, USACE

Interviewed by:

- Mr. Gregory Mailho, TranSystems
- Ms. Jessica Setiawan, PlaceWorks
- Ms. Laina Petrinec, TranSystems

*Relationship to Alviso Dock:* The United States Army Corps of Engineers (USACE) would be responsible for regulating any dredging activity and environmental impacts that the potential Alviso Dock project would bring forth.

### **Interview Summary**

Comments and information shared by USACE are summarized below.

#### *Benefits/Issues of Potential Project*

- USACE can only identify any potential navigational, environmental, or regulatory benefits/issues for a project once a plan is submitted to the agency.
- The previous Alviso Dock Improvement project proposed by SBYC and SCVWD involved four to five acres of dredging and would have required 20 acres of mitigation. This particular project was rejected by most agencies. Ownership was a notable issue. It seemed like it was a private project made to look like it was for the public.
- Dredging is a difficult task and cost to move sediment is high.
- Sediment will likely be tainted by mercury from extensive historic regional mining activities and cannot be returned to the bay. It is likely that the sediment will have to be dried and shipped to a landfill making dredging and disposal more expensive and complex.
- Regulatory and cost hurdles would be circumvented for a project without dredging.
- BCDC has a 10 year old outstanding enforcement action for SBYC to have the old derelict docks removed, but nothing has been removed. There will be no pushback from USACE for removal. It is an environmental advantage to take out the docks to re-vegetate.

#### *USACE/DMMO Permit Requirements*

- If the project only involves pile driving, only Section 10 (Rivers and Harbors Act) Permit is needed, but if dredging is involved 404(b)(1), Guidelines for Specification of Disposal Sites for Dredged or Fill Material, must be followed. However, a permit may be required even if fill discharges is avoided.
- An individual construction/dredging permit is required for dredging.

- A Letter of Permission may be used instead of full public notifications, but there is still the challenge of endangered species.

#### *Sensitive Species and Habitat*

- Fish habitat is protected by the Magnuson Stevens Act.
- There are four known endangered species in this area: California Central Coast Steelhead, Green Sturgeon, Harvest Mouse, and Ridgeways Rail/ Clapper Rail.
- USFW might also be concerned about Snowy Plover, Least Tern and Virginia Clapper Rail.
- It is possible that dredging can only be done during low tides due to sensitive species, for example dredging on an ebb flow to avoid turbidity for eel grass; however, USACE does not anticipate any in this area.
- June 1<sup>st</sup> to November 30<sup>th</sup> is the annual dredging window.
  - Certain species may alter the dredging window. For instance, least terns, delta smelt, and longfin may further restrict the dredging window. It is important to check with USFW before dredging for approval.

#### *USACE Project Location Recommendation*

- The previous proposal to replace the Alviso Dock involved dredging of a six-acre area to make room for a turning point. It can be assumed that the same agencies are going to reject the idea if it is similar.
- Project proposals that do not involve, or minimize, dredging would be more likely to be approved in a multi-agency review.

#### *Dredging*

- The logistics of dredging are very difficult. There are two difficulties involved in dredging: (1) finding a place to dispose of the sediment, and (2) transporting the sediment to a proper location whether it is a landfill that accepts dredged sediment or a project that would use it for beneficial reuse.
  - USACE did a cost study on how much it would cost to construct a sediment off-loader and it resulted in a \$13 million estimate. The equipment and transportation of sediment is especially expensive.
- Recommended Method(s) of Sediment Disposal/Beneficial Reuse Sites
  - The recommended method of sediment disposal depends on what it looks like and how much there is.
  - A mercury problem is well known issue in the area's sediment, but USACE cannot confirm if sediment was testing done in the prior project.
  - For areas known to be contaminated with mercury, the upper layer must be tested. The z-layer is 6 inches under dredged layer (and upper layer) that is now exposed to the environment—this needs to be tested for bioaccumulation (i.e. DDT, PCB, elevated mercury). If the sediment tested is higher than the set thresholds, it cannot go back into the water. If the sediment doesn't pass the threshold, the z-layer can be archived.

- Dredging material is tested for Mercury, PCBs, PAHs, DDTs, Chlordane, Dieldrin, and Dioxins/Furans. (<http://www.sfei.org/content/dmno-ambient-sediment-conditions#sthash.ri8jD2KY.dpbs>)
- The sediment dredged from this area will likely contain mercury and USACE cannot confirm any specific beneficial reuse sites or that accepts this kind of sediment at nearby locations.
  - Eden Landing has capacity available for sediment to be used for levee refurbishment.
  - SCVWD has a relationship with the South Bay Salt Pond Restoration Project, but moving the sediment here would be controversial because of endangered species.
  - Colin Ranch in Vallejo would be the closest location that accepts contaminated sediment, but this is far and inconvenient for the potential project.

#### *Other Challenges*

- This potential project has a lot of history. When the similar project was proposed five years ago, there was a lot of public outcry and environmental groups were very concerned with the project.
- The public was concerned that a private project was being masked as a public project because SCVWD proposed a project that would benefit SBYC. SCVWD does not own the dock that they were pushing to replace.
- The result of the Section 404 (Clean Water Act) analysis failed because the study had found there were other marina locations that were more suitable for a dock. It was found the proposed dock was a sediment trap and would need to be continuously maintained, and that there was potential for other environmental impacts.
- USACE recommended contacting some other agencies that worked on the previous project who might have more insight with this new potential project:
  - Mr. Brian Ross, EPA
  - Ms. Beth Christian
  - Ms. Brenda Goeden – BCDC, SediMatch
  - Mr. Doug Titus – SCVWD, Biology

## **SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION (BCDC)**

### *Stakeholder Interview: SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION (BCDC)*

2:00pm, February 8, 2017

Conference Call

Interviewee:

- Ms. Adrienne Klein – Public Land Manager, SLC

Interviewed by:

- Mr. Gregory Mailho – TranSystems
- Ms. Jessica Setiawan – PlaceWorks
- Ms. Laina Petrinec - TranSystems

*Relationship to Alviso Dock:* BCDC is a regulatory agency that manages the waterways where SBYC docks are located. BCDC has worked previously with SBYC with compliance issues and mentions that SBYC is cooperative.

### **Interview Summary**

Comments and information shared by SCVWD are summarized below.

#### *Previous Work in Slough with SBYC*

- BCDC's involvement in Aviso began when people started living in boats on the slough upstream and BCDC had to serve cease-and-desist orders. Property of Jon Ascension, the Blue Whale Sailing School, was occupying district property without a permit which needed comprehensive enforcement. Members of SBYC might have notified BCDC of these violations.
- SBYC had compliance issues and BCDC worked with Mr. Roy Hays to address them. There were 2 amendments processed:
  - A 2008 amendment where SBYC requested permission to repair and maintain existing utilities.
  - A retroactive permission of docks they had installed. They had replaced the existing dock from wood to aluminum and extended the dock illegally.
- The permit for SBYC required that abandoned items be removed. Many boats were consumed by the marsh and SBYC worked hard and continues to work to remove the derelict boats and dock. BCDC has been generous with the time frame of removing the abandoned items.
  - Mr. Hays would like to give boat owners a chance to claim their boats before removing them.

#### *Challenges to the Potential Project*

- BCDC asserts that it would be wise to avoid dredging because it the most doable approach and that it is important to know the rate and location of siltation and water flow to evaluate the long term viability and maintenance of the project.
- Derelict items need to be removed, SLC permit also requires this.
- Marina should be allowed if the location is suitable and not containing any valuable wetland.
- Sea Level Rise Requirements
  - The floating boat dock should be resilient to sea level rise; the potential project must have a design component that addresses its issues.
  - For larger projects a vulnerability study is necessary, but BCDC does not foresee one needed for this project.
  - Permits may have special conditions to address abandoned docks to be removed if they are abandoned because of sea level rise, maintenance of public access for life of project, maintenance of levees, and accessible paths at different tide levels.
- Public Dock Challenges
  - Currently the project does not have public access because the public can only access a portion of it. Public access is a requirement for the SLC permit. Public access is something that should be determined by the property owner and tenant.
  - BCDC discusses the issue of public access. If some of the dock is blocked off for members and renters only, the public might have an issue renovating a dock that is not truly public.
  - BCDC thinks it should be called a “marina project” to BCDC they thought it was another public boat launch ramp instead of a dock with berths. Generally project should have a public access component.

#### *Permits and Timeline*

- An administrative permit is necessary if there is no reduction in public benefit. A commission hearing may also be necessary if the amount of fill used is to exceed 5,000 square feet
- If a project is opposed by 2 commissioners then the project is deferred. Commissioners are generally swayed by public opposition
- The timeframe is in the applicant’s court until it is filed as complete, all required material must be submitted for the application to be complete. A 30-day response period is in place for any application deficiencies. After the application is finalized, it takes up to 90 days to process the application, but it generally takes less than 90 days.
- Approval from the water quality board and USACE is required. Consulting with resource agencies such as NOAA fisheries and US Fish and Wildlife is essential.
- For any major process it takes 2 technical review boards and the project must meet design and engineering criteria.

#### *Policies that Support/Shape the Potential Project*

- San Francisco Bay Plan
  - Recreation: “Diverse and accessible water-oriented recreational facilities, such as marinas, launch ramps, beaches, and fishing piers, should be provided to meet the needs of a growing and diversifying population, and should be well distributed around the Bay and improved to accommodate a broad range of water-oriented recreational activities for people of all races, cultures, ages and income levels.”<sup>5</sup>

---

<sup>5</sup> [http://www.bcdc.ca.gov/plans/sfbay\\_plan#25](http://www.bcdc.ca.gov/plans/sfbay_plan#25)

- There are not as many facilities in the South Bay when compared to other areas.
- Some requirements include:
  - Recreational facilities should be distributed evenly around Bay shores.
  - Proposed project should not pre-empt land or water area needed for other priority uses; should be compatible.
  - Proposed project should be feasible from an engineering viewpoint.
  - Proposed project should have public access policies that address wildlife compatibility and disturbance.
  - Nature of extent of fill should be analyzed such as impairment of water quality, fish, and other conditions impacting the environment.
  - Safety standards to protect people geologic conditions should be met.

## COUNTY OF SANTA CLARA

Alviso Dock Feasibility Study

### South Bay Yacht Club Marina Concept Plan for Dock Construction

#### ALTERNATIVE 1 - County Parks to Replace Dock; Dredging Performed by another entity

#### PRELIMINARY ORDER OF MAGNITUDE BUDGET ESTIMATE

Prepared by TranSystems

March 22, 2017

No.	Description	Unit	Quantity	Unit Price	Total
1	Mobilization	LS	1	\$ 100,000	\$ 100,000
2	Demolition of Existing Docks	SF	1,200	\$ 10	\$ 12,000
3	Demolition of Existing Piling	EA	6	\$ 1,000	\$ 6,000
4	Docks	SF	5,900	\$ 100	\$ 590,000
5	Concrete Guide Piles	EA	27	\$ 8,000	\$ 216,000
6	Fixed Pier Gangway Support Piles	EA	4	\$ 7,000	\$ 28,000
7	Fixed Pier (6'x10')	SF	60	\$ 250	\$ 15,000
8	ADA Gangway (4'x80')	EA	1	\$ 45,000	\$ 45,000
9	Security Gate for Berthing	EA	1	\$ 12,000	\$ 12,000
10	Electrical and Communications (per slip)	EA	18	\$ 3,800	\$ 68,400
11	Water - Domestic and Fire (per slip)	EA	18	\$ 2,500	\$ 45,000
12	Walkway and gangway lighting	LS	1	\$ 30,000	\$ 30,000
13	Landside Utility Service Connections	LS	1	\$ 75,000	\$ 75,000
14	Sewage pump out for boats	LS	1	\$ 75,000	\$ 75,000
15	Access walkway and ramp to gangway	SF	500	\$ 200	\$ 100,000
16	Parking (20 cars)	SF	12,000	\$ 20	\$ 240,000
17	Access walkway and Ramp from Parking to Levee	SF	500	\$ 200	\$ 100,000
18	Landside Restroom and Utility Connections	LS	1	\$ 45,000	\$ 45,000
19	Landside Restroom	LS	1	\$ 350,000	\$ 350,000
20	Land Acquisition (Parking and Restroom)	SF	14,000	\$ 41	\$ 574,000

**Subtotal CONSTRUCTION** \$2,726,400  
**20% Construction Contingency:** \$545,280  
**\$3,271,680**

**12% Engineering:** \$327,168  
**15% Construction Management:** \$408,960  
**8% Permits & Environmental:** \$218,112  
**Total** \$4,225,920

**Total (rounded up to nearest \$10,000)** \$4,230,000

**Average Per Slip Cost (Const)** \$181,760  
**Average Per Slip Cost (Total)** \$235,000

**Assumptions:**

- 1 Existing north dock will be replaced
- 2 No dredging
- 3 Demolition of only north dock, remainder demolished by restoration project
- 4 Environmental mitigation by restoration project
- 5 18 new rentable berths 35-foot maximum boat length
- 6 Code compliant access from SCVWD levee road to docks
- 7 Code compliant utilities
- 8 Public project, competitive bidding, prevailing wages
- 9 Mitigated Negative Declaration for CEQA Clearance
- 10 No fueling facilities
- 11 Sewage pump-out may be eligible for grant from Division of Boating and Waterways
- 12 Land cost from Zillow.com \$1,750,000 per acre

## COUNTY OF SANTA CLARA

Alviso Dock Feasibility Study

### South Bay Yacht Club Marina Concept Plan for Dock Construction

#### ALTERNATIVE 2A - County Parks to Replace Dock; No Dredging

#### PRELIMINARY ORDER OF MAGNITUDE BUDGET ESTIMATE

Prepared by TranSystems

March 22, 2017

No.	Description	Unit	Quantity	Unit Price	Total
1	Mobilization	LS	1	\$ 100,000	\$ 100,000
2	Demolition of Existing Docks	SF	6,000	\$ 10	\$ 60,000
3	Demolition of Existing Piling	EA	40	\$ 1,000	\$ 40,000
4	Removal and Disposal of Abandoned Vessels	EA	6	\$ 10,000	\$ 60,000
5	Docks	SF	5,900	\$ 100	\$ 590,000
6	Concrete Guide Piles	EA	27	\$ 8,000	\$ 216,000
7	Fixed Pier Gangway Support Piles	EA	4	\$ 7,000	\$ 28,000
8	Fixed Pier (6'x10')	SF	60	\$ 250	\$ 15,000
9	ADA Gangway (3.5'x80')	EA	1	\$ 45,000	\$ 45,000
10	Security Gate for Berthing	EA	1	\$ 12,000	\$ 12,000
11	Electrical and Communications (per slip)	EA	18	\$ 3,800	\$ 68,400
12	Water - Domestic and Fire (per slip)	EA	18	\$ 2,500	\$ 45,000
13	Walkway and gangway lighting	LS	1	\$ 30,000	\$ 30,000
14	Landside Utility Service Connections	LS	1	\$ 75,000	\$ 75,000
15	Sewage pump out for boats	LS	1	\$ 75,000	\$ 75,000
16	Access walkway and ramp to gangway	SF	500	\$ 200	\$ 100,000
17	Parking (20 cars)	SF	12,000	\$ 20	\$ 240,000
18	Access walkway and Ramp from Parking to Levee	SF	500	\$ 200	\$ 100,000
19	Landside Restroom	LS	1	\$ 350,000	\$ 350,000
20	Land Acquisition (Parking and Restroom)	SF	14,000	\$ 41	\$ 574,000

**Subtotal CONSTRUCTION** \$2,823,400  
**20% Design/Construction Contingency:** \$564,680  
**\$3,388,080**

**12% Engineering:** \$338,808  
**15% Construction Management:** \$423,510  
**8% Permits & Environmental:** \$225,872  
**Total** \$4,376,270

**Total (rounded up to nearest \$10,000)** \$4,380,000

**Average Per Slip Cost (Const)** \$188,227  
**Average Per Slip Cost (Total)** \$243,333

**Assumptions:**

- 1 Existing north dock will be replaced
- 2 No dredging
- 3 Remove non-natural improvements from SLC water areas
- 4 No environmental mitigation other than removal of old docks, piling and abandoned vessels
- 5 18 new rentable berths 35-feet maximum boat length
- 6 Code compliant access from SCVWD levee road to docks
- 7 Code compliant utilities
- 8 Public project, bidding, prevailing wages
- 9 Mitigated Negative Declaration for CEQA Clearance
- 10 Existing north SBYC dock remains
- 11 Sewage pump-out may be eligible for grant from Division of Boating and Waterways
- 12 Land cost from Zillow.com \$1,750,000 per acre



## COUNTY OF SANTA CLARA

Alviso Dock Feasibility Study

### South Bay Yacht Club Marina Concept Plan for Dock Construction ALTERNATIVE 2B - Dock Replacement and Dredging performed by County Parks PRELIMINARY ORDER OF MAGNITUDE BUDGET ESTIMATE

Prepared by TranSystems

March 22, 2017

No.	Description	Unit	Quantity	Unit Price	Total
1	Mobilization	LS	1	\$ 150,000	\$ 150,000
2	Demolition of Existing Docks	SF	6,000	\$ 10	\$ 60,000
3	Demolition of Existing Piling	EA	40	\$ 1,000	\$ 40,000
4	Removal and Disposal of Abandoned Vessels	EA	6	\$ 10,000	\$ 60,000
5	Dredging and Upland Disposal	CY	13,000	\$ 100	\$ 1,300,000
6	Docks	SF	5,900	\$ 100	\$ 590,000
7	Concrete Guide Piles	EA	27	\$ 8,000	\$ 216,000
8	Fixed Pier Gangway Support Piles	EA	4	\$ 7,000	\$ 28,000
9	Fixed Pier (6'x10')	SF	60	\$ 250	\$ 15,000
10	ADA Gangway (3.5'x80')	EA	1	\$ 45,000	\$ 45,000
11	Security Gate for Berthing	EA	1	\$ 12,000	\$ 12,000
12	Electrical and Communications (per slip)	EA	18	\$ 3,800	\$ 68,400
13	Water - Domestic and Fire (per slip)	EA	18	\$ 2,500	\$ 45,000
14	Walkway and gangway lighting	LS	1	\$ 30,000	\$ 30,000
15	Landside Utility Service Connections	LS	1	\$ 75,000	\$ 75,000
16	Sewage pump out for boats	LS	1	\$ 75,000	\$ 75,000
17	Access walkway and ramp to gangway	SF	500	\$ 200	\$ 100,000
18	Parking (20 cars)	SF	12,000	\$ 20	\$ 240,000
19	Access walkway and Ramp from Parking to Levee	SF	500	\$ 200	\$ 100,000
20	Landside Restroom	LS	1	\$ 350,000	\$ 350,000
21	Land Acquisition (Parking and Restroom)	SF	14,000	\$ 41	\$ 574,000

**Subtotal CONSTRUCTION** \$4,173,400

**20% Design/Construction Contingency:** \$834,680

\$5,008,080

**12% Engineering:** \$500,808

**15% Construction Management:** \$626,010

**12% Permits & Environmental:** \$600,970

**Environmental Mitigation:** \$120,000

**Total** \$6,855,868

**Total (rounded up to nearest \$10,000)** \$6,860,000

**Average Per Slip Cost (Const)** \$278,227

**Average Per Slip Cost (Total)** \$381,111

**Assumptions:**

- 1 Existing north dock will be replaced
- 2 Upland disposal of contaminated dredged material
- 3 Estimated potential dredging 20' wide by length of docks
- 4 Remove non-natural improvements from SLC water areas
- 5 Environmental mitigation for dredging (0.4 acres times 3 assuming 3 to 1 requirement at \$80,000 per acre)
- 6 18 new rentable berths 35-foot maximum boat length
- 7 Code compliant access from SCVWD levee road to docks
- 8 Code compliant utilities
- 9 Public project, bidding, prevailing wages
- 11 Environmental Impact Report for CEQA Clearance
- 12 Mitigation estimated at \$80,000 per acre @ 3:1 ratio. Dredging area is approximate
- 13 Sewage pump-out may be eligible for grant from Division of Boating and Waterways
- 14 Environmental mitigation for dredging included
- 15 Land cost from Zillow.com \$1,750,000 per acre

Alviso Feasibility Study  
Estimated Projected Revenue and Maintenance Costs

SIDE TIE BERTH LAYOUT  
March 22, 2017

Existing Fee Structure

Average Berth Length	Number of Berths	Current Fee per Foot *	Total Potential Monthly Revenue (Assuming 100% Occupancy)	Total Potential Annual Revenue (Assuming 100% Occupancy)
35	3	\$6.60	\$693	\$8,316
Subtotal			\$693	\$8,316

Proposed Fee Structure

Average Berth Length	Number	Current Fee per Foot	Total Potential Monthly Revenue (Assuming 100% Occupancy)	Total Potential Annual Revenue (Assuming 100% Occupancy)
30	18	\$7.50	\$4,050	\$48,600
Subtotal			\$4,050	\$48,600

Estimated Annual Dock Maintenance Costs

Number of Berths	Estimated Annual Maintenance per Berth	Utility Cost per Berth @ \$1.50 per Foot per Month	Total Potential Annual Maintenance Cost (Assuming 100% Occupancy)	Total Potential Annual Utility Cost Assuming 100% Occupancy
18	\$ 750.00	\$630.00	\$13,500	\$11,340
Subtotal		\$ 750.00	\$ 630.00	\$13,500
<b>Total Estimated Annual Expense</b>				<b>\$24,840</b>
<b>Estimated Revenue</b>				<b>\$48,600</b>

**ESTIMATED NET ANNUAL REVENUE                    \$23,760**

**Assumptions:**

- 1 Existing rate from SBYC to determine current rental rate
- 2 Proposed fee structure assumes restroom and parking amenities
- 3 Staffing costs not included
- 4 Restroom and parking facilities maintenance costs not included

### Estimated Annual Maintenance Dredging Costs

Depending upon Alviso Slough bathymetry conditions and potential accretion of Bay mud sediment in the navigable channel, and the Pond A6 and A8 breaches do not provide adequate tidal prism in the slough to scour the slough, the slough could require maintenance dredging to maintain adequate depth. We have estimated a small amount of accretion per year to develop a rough order of magnitude for possible maintenance dredging.

<b>Annual Estimated Cubic Yards</b>	<b>5-Year Episode Estimated Cubic Yards</b>	<b>Dredging and Disposal Cost at \$100/Cubic Yard</b>	<b>Contractor Mobilization Cost Per Dredging Episode</b>	<b>Estimated Dredging Episode Cost</b>
8,000	40,000	\$4,000,000	\$150,000	\$4,150,000
<b>Subtotal</b>				<b>\$4,150,000</b>
<b>8% Engineering:</b>				\$332,000
<b>15% Construction Management:</b>				\$622,500
<b>8% Permits &amp; Environmental:</b>				\$332,000
<b>Environmental Mitigation:</b>				\$0
<b>Total Dredging Episode Estimate (Rounded up to nearest 10,000)</b>				<b>\$5,440,000</b>
<b>Total Estimated Annual Maintenance Dredging Expense</b>				<b>\$1,088,000</b>

#### **Assumptions:**

- 1 Annual accretion of sediment at 0.25 feet thick, 50-feet wide, three miles long
- 2 Dredge episode frequency - five years
- 3 Apply for 10-year USACE permit authorization
- 4 Upland disposal of contaminated dredged material
- 5 Mitigated Negative Declaration for CEQA Clearance
- 6 No environmental mitigation other than removal of old docks, piling and abandoned vessels