**CLARIFICATION AND QUESTIONS FOR MAY 21, 2014 MEETING ON SFCJPA'S SUBMITTAL (DATED MAY 7, 2014) FOR THE SAN FRANCISQUITO CREEK FLOOD CONTROL PROJECT**

## QUESTIONS:

### Change in Project Objective from All Current Planning Documents, Grants, and Agreements

The proposed project changes the scope from flood protection against the 100-yr flow to flood protection against the 30-yr flow (refer to http://sfcjpa.org/web/projects/active/s.f.-bay-to-highway-101/ for a description of the project and an elaborate description of the importance of the downstream reach). All the planning documents, agreements, public outreach/media statements, as well as Proposition B and the Prop 1E Grant application state that the goal of the project is to provide protection against a 1% (i.e., 100-yr) fluvial event. Therefore, we submit the following questions:

1. **What is the process and schedule for the Santa Clara Valley Water District, county and cities to approve a new project scope for this project? What public meetings and review will be provided to amend the revised plan?**

2**. What is the certainty that the Middlefield Road bridge will remain in place in perpetuity and that the project scope will not change in the future?** The following project elements described in the San Francisquito Creek flood control project on JPA's website, as well as city and Santa Clara Valley Water District documents, are all designed to accept flows from the rebuilt Middlefield Road bridge:

- Removal of Newell bridge to accomplish one in one hundred year flood risk
- Pope-Chaucer bridge and Middlefield bridge to achieve one in one hundred year flood protection
- Hwy 101 improvements ready for construction are designed for the 100-year flood capacity.
- 4-6 creek widening projects upstream of Hwy101 including replacement of private pedestrian bridges
- These projects are to be supplemented with additional floodwall and or bypass projects in order to complete the flood protection objective.

**3. The JPA alternatives analysis is not complete since it does not contain an evaluation of costs and benefits.** What are the revised project benefits for the 7,400 cfs scenario compared to existing conditions? This analysis should include the changes in water surface elevation between existing conditions and the new 7,400 cfs hydrology scenario for:

1. the Palo Alto Airport
2. the Palo Alto Golf Course

3. Faber Marsh
4. The City of East Palo Alto
5. Right bank areas immediately downstream of Hwy 101

The JPA alternatives analysis should display the costs for each of the alternatives against the incremental flood benefits compared against existing conditions. What cost-benefit ratio is acceptable to the SCVWD and other project funders?

**4.** The Phase 2 project is tied to Phase 1 project objective, which has been reduced to provide for a design discharge of 7,400 cfs (30-yr flood) in order to prevent fluvial impacts to Faber Marsh. **The JPA alternatives analysis does not provide a clear analysis of project benefits for this change of scope, which reduces flood damages in some areas of the community while not addressing flood risk reduction in other area.** Please provide a FEMA 100-year flood FIRM flood map to designate which areas will be flooded without the removal of the Middlefield Road bridge. This information should show a flood insurance rate map for the 100-yr flood and the flood boundaries that will change with the proposed project for 6,700 cfs. Ultimately there is a difference of about 2000 cfs between the 20-30-year (7,400 cfs) and the 100-year flood (9,400 cfs). What will happen to the 2,000 cfs flow without the 100-yr flood project?

**5. How will the JPA's new proposed project reach the goal of implementing a FEMA certified project**, which is the community adopted objective, without providing adequate flood capacity downstream of Hwy 101? FEMA certification of a project needs to meet certain minimum standards including freeboard on the levees, a project design that does not raise the water surface elevations along the proposed project reach, as well as upstream areas, and one which provides protection from the 100-year return interval flood.

**Review Comments for the Revised May 2014 Submittal to Address the Least Environmentally Damaging Practical Alternative**

**6.** To complete an alternatives analysis the proposed project needs to address the project alternatives in the context of the co-joined Phases 1 and 2 project components. We ask that the alternatives analysis compare the costs of flood insurance to 5,800 parcels in the 100-year floodplain in Phases 1 and 2 against the cost of giving up excess golf course acreage to support adequate flood control and protect endangered species in the evaluation of alternatives.

**7**. We appreciate that the May 2014 submittal addresses the project alternative to flare the channel flows at the mouth of the creek towards the triangle parcel east of Faber Tract marsh and that opening this hydraulic constriction provides project benefits. The element of this alternative which was not addressed was the widening of the levees through the western boundary of the golf course. We request that the possibility of setting aside 230 feet from the center of the currently proposed channel along the western boundary of the golf course, a project feature likely to meet FEMA standards, reduce impacts to Faber

Tract marsh, and provide water quality benefits, be evaluated to complete this alternative analysis.

The proposed project right of way aligned to the north does not explain why floodplain widening is not possible. The American Golf Course Architects publishes the figure on the acreage needed for an 18-hole par 71 golf course at a minimum of 120 acres. The golf course acreage is 156 acres. Therefore, 30 acres should be available (at no cash cost to the project) to expand a floodplain right of way which could potentially meet FEMA 100-year flood protection standards. 30 acres spread along a 4,000-foot long channel can provide a floodplain corridor width with an additional 325 feet along this entire length. This corridor would only be used as a flood corridor during high flow conditions under extremely rare circumstances and therefore could still be incorporated into the gulf course's regular use.

**8**. While the JPA provided a south "bypass" channel alternative, the design parameters used prevent this alternative from being seriously considered. The southern bypass alternative evaluated in the May 2014 submittal describes a project with the relatively high discharge of 3,200 cfs and concludes it is infeasible. It would be more practicable to evaluate a bypass channel for 1,000-2,000 cfs. A 2,000 cfs bypass in coordination with the proposed channel to the north could achieve the total 9,400 cfs goal. Please provide a southern channel alternative which uses a more practicable design discharge condition.

We also would like to know why the project design assumes an underground channel for the last 450 feet.

**Other Additional Information Needed**

**9.** The May 2014 HDR modeling report for assessing the redirection of creek flows at the mouth towards the eastern triangle acreage indicates that widening the levee into the golf course in this location "slightly increased" the flows to Faber tract. We do not understand this modeling result and would like to review the current modeling for this project assumption. Can you please send us the most recent hydraulic model for proposed conditions?

**10.** The May 2014 HDR report contains profiles of levee and water surface elevations. To understand the aerial extent of flow distribution towards the marsh, on the golf course area, and the city of East Palo Alto we would like to request plan views which represent the profiles for 7,400 cfs and 9,400 cfs scenarios.

**11.** The May 2014 HDR report focuses on modeling for the 7,400 cfs discharge and overflow to Faber Tract marsh. The Faber Tract berm elevation is set at the one in eight year discharge of 4,200 cfs. It is going to be helpful for the Water Board and other resource agencies to understand the expected discharges over the berm for these more

frequent events using a 7.1 feet MHHW modeling assumption, information which has not been presented yet in the HDR tables.

12. We continue to be concerned about the low roughness assumptions for the vegetation between the levees. The invert is proposed to be marsh plain but some upland environment should be included on the levee slopes including a range of species from salt tolerant willows to Baccharis sp, etc. (enforcement of proposed U S Army Corps levee vegetation management policies are now rescinded). A reasonable roughness coefficient for streamside vegetation would be between 0.045-0.065.

13. In past communications the JPA has stated that they designed the levees higher on the golf course side that the East Palo Alto side because they expected up to 2.5 feet of levee subsidence on the golf course side. We would like to receive substantiation of this subsidence assumption.

See page 5 for a clarification of Water Board comments on modeling assumptions

**CLARIFICATION ON SFCJPA'S SUBMITTAL (DATED MAY 7, 2014) FOR THE SAN FRANCISQUITO CREEK FLOOD CONTROL PROJECT**

## CLARIFICATION:

May 7, 2014 submittal, Page 2 states that:
*"The 1% flow event for San Francisquito Creek at the Faber Tract was estimated in the hydraulic model, which was certified by the U.S. Army Corps of Engineers in 2009, to be 9,400 cfs. The Project was designed to convey this flow, coincident with a 1% tide plus 26 inches of Sea Level Rise, which is equal to a 12.5' (NAVD 88) tidal elevation.*

*In previous modeling efforts to test the project's design and respond to requests by the Water Board and other regulatory agencies, we used a likely worst-case scenario of 9,400 cfs at a 12.5' tide in order to establish and communicate the maximum potential impacts of the Project. At our March meeting, you asked that our future analyses be based upon a more common creek flow event under a range of more common tidal conditions."*

The last statement is only true for tidal reaches and needs to be qualified. We would like to clarify and re-iterate (see Water Board's February 2014 letter) that we support the use of conservative assumptions to plan ahead for sea level rise and to model for the "worst-case-scenario" of high fluvial flows coinciding with high tide elevations **for the overall project** (**Phase 1 and Phase 2** combined). These conservative assumptions are critical to adequately plan for flood reduction along the entire San Francisquito Creek project. In addition, incorporating a high tide and sea level rise determines levee elevations to protect against high tides and sea level rise in tidal areas as made clear on Page 2 of your submittal (*"Also, the Project's proposed levee crown elevations are controlled by tides and Sea Level Rise, and would not change based on the maximum flow that could be delivered to the Project"*). However, these conservative assumptions do not enable us to determine the necessary floodway widths along the tidal reaches. Therefore, we are not able to evaluate the benefits of different design alternatives in the downstream reaches and select alternatives for the more commonly occurring tides (i.e., 4.0 feet or 7.1 feet). We can best evaluate the benefits in tidal reaches of different design alternatives by selecting a more common tidal boundary, rather than basing the project design on a single rare "washout high tide" event(i.e., 9.6 feet or 12.5 feet).

Therefore, we would like to set our future expectations for the upcoming phases of the project and state that two different model assumptions and boundary conditions are required to adequately design for a flood reduction project along San Francisquito Creek: 1) fluvial design flow and more commonly occurring tides to evaluate project benefits/impacts in tidal reaches; and 2) fluvial design flow, higher tide, and sea level rise to evaluate project benefits/impacts in non-tidal and upstream reaches (including upstream of Hwy 101 reach).