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San Francisco Bay Regional Water Quality Control Board

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STATE CLEARINGHOUSE

San Francisquito Creek Joint Powers Authority
Attn. Mr. Kevin Murray, Senior Project Manager
615-B Menlo Avenue
Menlo Park, CA 94025
email: comments@sfcjpa.org

Subject: Comments on *Draft Environmental Impact Report for the San Francisquito Creek Flood Protection, Ecosystem Restoration, and Recreation Project Upstream of Highway 101, Counties of San Mateo and Santa Clara (State Clearinghouse No. 2013062019)*

Dear Mr. Murray:

San Francisco Bay Regional Water Quality Control Board (Water Board) staff appreciates the opportunity to review the subject draft environmental impact report (DEIR), prepared by the San Francisquito Creek Joint Powers Authority (JPA) pursuant to the California Environmental Quality Act (CEQA). As a responsible agency under CEQA, we offer the following comments on the DEIR. They are intended to support development of the project's design, evaluation of its potential environmental impacts, and the Water Board's future review of applications to authorize project construction. The DEIR assesses anticipated environmental impacts from constructing a flood management project in San Francisquito Creek.

Setting

San Francisquito Creek (Creek) forms the boundary between San Mateo and Santa Clara counties from San Francisco Bay (Bay) upstream to just below the Searsville Dam, at Stanford University. For purposes of the DEIR, the Creek is divided into three reaches: Reach 1 is from the Bay to Highway 101 (101); Reach 2 is from 101 to the Pope-Chaucer Bridge; and Reach 3 is from the Pope-Chaucer Bridge to the top of the Creek. The proposed project is intended to reduce flooding in East Palo Alto and Menlo Park in San Mateo County, and Palo Alto in Santa Clara County, from up to the 7,500 cubic foot per second (cfs) flow event (Project). The DEIR evaluates Project-specific

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improvements in Creek Reach 2 (about 7,800 linear feet (LF)). In addition, the DEIR is intended as a program-level evaluation of potential future improvements in Reach 3, upstream of Reach 2, that could provide additional flood management benefits.

Reach 2 is incised with steep slopes and is surrounded by dense urban land use. However, the Creek remains relatively unmodified except for bridge crossings and spot bank treatments with concrete and sacked concrete. The Creek's riparian corridor, including the banks, is densely vegetated with mature native and nonnative species forming diverse canopy structures in the channel and on the banks. Reach 2 is an important migration corridor for the Central California Coast distinct population segment of steelhead (*Oncorhynchus mykiss*). Fish passage through Searsville Dam is being studied to open access to undeveloped watersheds and headwaters upstream of the dam. The steelhead run in the Creek has been classified as an essential population in the 2016 *Final Coastal Multispecies Recovery Plan* (NMFS 2016). The Creek's beneficial uses designated in the San Francisco Bay Basin Water Quality Control Plan (Basin Plan) are Cold Freshwater Habitat (COLD), Fish Migration (MIGR), Fish Spawning (SPWN), Preservation of Rare and Endangered Species (RARE), Warm Freshwater Habitat (WARM), Wildlife Habitat (WILD), Water Contact Recreation (REC1), and Noncontact Water Recreation (REC2). The DEIR should recognize and propose measures to appropriately protect the Creek's existing functions and values as indicated, in part, by the Creek's designated beneficial uses. Our comments recognize information already in the DEIR, and include suggestions for information and analyses to include to ensure the Project is appropriately protecting the Creek.

Protection and enhancement of these beneficial uses would preserve or improve the Creek's habitat for salmonids and other listed species in Reach 2, including the California red-legged frog, California tiger salamander, and western pond turtle, and a variety of other aquatic and terrestrial wildlife and plant species (DEIR, p. 3.3-33-41, *Table 3.3-2-Special-Status Plant Species with Potential to Occur in the Project Footprint*), as well as the personal enjoyment and sense of place the Creek provides to community members.

DEIR Overview

The DEIR evaluates two alternatives: the Channel Widening Alternative, and the Floodwalls Alternative; and screens out 15 other alternatives, including the No Construction Alternative. For both evaluated alternatives, Creek capacity would be increased by widening the Creek at the Pope-Chaucer Bridge and replacing the existing concrete-bottom bridge, and widening the channel at Site 5, next to Highway 101, by removing existing sacked concrete. For the Channel Widening alternative, Sites 1 through 4 would also be widened by removing existing concrete and sacked concrete and excavating the banks (about 1,624 linear feet (LF) would be modified). For the Floodwalls Alternative, 7,260 linear feet of concrete floodwalls up to two feet tall would be constructed on the tops of the banks. Both alternatives include potential aquatic habitat restoration and recreational enhancements. Specifically, habitat diversity would be added.

We support alternatives that would remove hydraulic constrictions that cause sedimentation and reduce the need for maintenance that results in recurring impacts to the Creek. In addition, we appreciate that the DEIR indicates that both alternatives analyzed would include aquatic habitat enhancements such as J-weirs and large woody debris, which would add complexity, and refuge from high flow velocities. Both alternatives would also include recreational enhancements with construction of two pocket parks next to the Creek, which would support the REC2 beneficial use

However, though the preferred project would remove sacked concrete and concrete at the five widening sites and the Pope-Chaucer Bridge, new hardscape including concrete, rock riprap, and sheet piles would replace the removed materials along about 1,800 linear feet of Creek banks. These aspects of the Project design are likely to permanently degrade the benefits provided by the existing vegetation, some of which is growing on the sacked concrete banks. Such benefits include nutrient cycling, shade, cover from predators, and a variety of foraging and rearing habitat niches for fish, invertebrates, reptiles, amphibians, and birds. The proposed concrete soil nail walls could increase erosion and degrade the Creek's habitat complexity. The rock riprap proposed at the Pope-Chaucer Bridge for both the Channel Widening and Floodwalls alternatives would replace the existing natural banks, which would reduce existing habitat complexity. During construction, vehicles driving in the channel may compact the Creek bed. Construction would also result in the removal of vegetation over at least 5.2 acres and 6,385 linear feet of the Creek. With reduced channel complexity, vegetation removal, and bed compaction, the Project is likely to degrade the COLD, WARM, RARE, SPWN, MIGR, WILD, and REC2 beneficial uses.

We appreciate that both alternatives analyzed have potential aquatic habitat restoration features such as large woody debris and J-weirs to increase habitat complexity and provide flow refugia. However, the DEIR does not yet include enough information on whether those features could adequately mitigate for the Project's significant environmental impacts. The types of information the DEIR should be revised to include are the locations, areal extents, and conceptual designs of the features, and evaluations of whether they would affect the Creek's hydrology and hydraulics, including stability of bank stabilization treatments. Specifically, a shear stress analysis should be conducted to justify the choice of bank stabilization treatments, and to demonstrate whether the bank stabilization treatments may have the unintended potential to introduce new destabilizing forces in Reach 2. The analysis should incorporate the influences of the aquatic habitat enhancements being considered for the Project.

We recommend the JPA consult with the Water Board and other agencies to verify agencies concur with the JPA's findings before finalizing the EIR. We elaborate on the Project's impacts and DEIR findings in the following points.

1. Geomorphic Analyses Required for Basis of Design

We support removal of the concrete and sacked concrete at the five channel widening sites because they restrict Creek functions that support the Creek's beneficial uses. The DEIR should be revised to include information to support the choice of concrete and

sheet pile bank stabilization treatments in the preferred alternative, as opposed to potentially less-impacting biotechnical bank protection measures.

Accordingly, the JPA should conduct geomorphic modeling to inform the DEIR alternatives, and include the results of the modeling in the DEIR. This is necessary to determine the near bank shear stress values, and to describe the geotechnical characteristics of any stream bank materials to be used in the Project. Such analyses should include evaluations of bank erosion patterns, intensities, and activity levels. The mechanical and hydrologic effects of existing mature vegetation on bank stability (Simon et al., 2001¹) should also be assessed to guide selection of bank stabilization techniques. Finally, constraints related to existing infrastructure, such as distance of utility lines from the top of bank, need to be presented and described to determine constraints related to the steepness of finished slopes and hence the types of bank stabilization treatments that may be feasible. We appreciate that Appendix D, *Hydrology Report*, includes hydrology computer modeling results with flow velocity information in Reach 2. We would expect a similar level of analysis for all Project design elements, including a shear stress analysis to inform the bank stabilization treatments.

Further, the choice of a soil nail wall to stabilize banks after removing bank widths up to 25 feet at the channel widening sites, must be informed by appropriate geomorphic modeling. The DEIR should include discussion of the results of a geomorphic analysis sufficient to demonstrate whether other less-impactful methods are practicable and would achieve the same flood protection goals.

2. Environmentally Superior Alternative.

A less impactful approach for bank stabilization could use a combination of less excavation of the bank cross-sections, live bioengineering methods, and low floodwalls on the tops of banks—this is similar to the approach proposed at channel widening Site 2. Such an alternative could be an environmentally superior alternative because it could perform as well or better than any other alternative considered in the DEIR per project objectives for flood protection, minimize impacts on adjacent communities, create new recreational opportunities, and have less operation and maintenance, while protecting or enhancing the Creek's ecological functions.

For instance, the Channel Widening Alternative or the Floodwalls Alternative could be combined with soil biotechnical bank stabilization, rather than soil nail or sheet pile walls, at the streambank locations proposed for widening in these alternatives. Live crib walls, fabric reinforced earth fills, or brush mattresses with toe riprap may be feasible soil biotechnical bank stabilization methods as alternatives to soil nail walls, considering streambank information presented in the DEIR. This could result in a significant long-term enhancement of stream-riparian habitat complexity and connectivity, and could, therefore, substantially improve the Creek's existing incised and simplified physical

¹ Simon A., N. Pollen-Bankhead, and R.E. Thomas, 2011. Development and application of a deterministic bank stability and toe erosion model for stream restoration. In *Stream Restoration in Dynamic Fluvial Systems*, Simon A, Bennett SJ, Castro JM (eds). American Geophysical Union: Washington, DC. DOI.

habitat structure. When the Water Board considers the Project's authorization, we will consider how the Project appropriately maximizes these approaches.

Other soil biotechnical methods also may be feasible, especially if considered together, as needed, with flow-redirection techniques like engineered log jams. These elements could also be effective in scouring deep pools that would improve habitat and increase cross-sectional area, and could provide structural protection at the bank toe. An excellent summary of stability thresholds for stream bank materials and soil bioengineering techniques is available in Fischenich (2001²), which could serve as a guide for considering the practicability of biotechnical measures in this project.

An Environmentally Superior Alternative could also include creation of pool-riffle habitat units throughout the channel reaches accessed for construction. If live crib walls, fabric reinforced earth fills, or brush mattresses are practicable alternatives to soil nail walls, they would be environmentally superior because they can support organisms and herbaceous vegetation, thus contribute to habitat functions and values and supporting a more-resilient and diverse ecosystem.

The DEIR indicates the JPA is considering incorporating aquatic habitat restoration elements into the Project by adding J-weirs, root wads, boulders, and other features. However, the DEIR lacks details necessary for us to evaluate or, ultimately, approve these features. We recommend the DEIR be revised with concept design renderings of all proposed enhancement and restoration features, and locations. In addition, the relevant geomorphic analyses mentioned above should account for the presence of these features and evaluate the proposed design's appropriateness.

Finally, of the two alternatives analyzed in the DEIR, the Floodwalls Alternative to be less impactful to jurisdictional waters of the State because it results in less hardening of the creek bed and banks. Floodwalls have been posed to community members in the past, and were not favorably received. However, the versions previously discussed were taller and thus aesthetically unacceptable. The Floodwalls Alternative's low floodwall heights are more likely to be acceptable to the community, especially when combined with more-natural bank stabilization treatments in our suggested hybrid approach for bank stabilization and channel restoration.

3. Existing Conditions Along the Project Reach

CEQA Guidelines section 15125 states that the EIR must include a description of the physical environmental conditions in the vicinity of the project, from both a local and regional perspective. Thus, in the DEIR, the JPA should define the baseline hydrologic, geomorphic, and biotic conditions in Reach 2 (where the draft EIR is intended to provide a project-level analysis) and how they relate to the Creek's designated beneficial uses (Basin Plan Table 2.1). The DEIR appropriately noted the Creek's beneficial uses (p.

² Fischenich, C. (2001). Stability thresholds for stream restoration materials. Technical report EMRRP SR-29, Vicksburg, MS: USACE ERDC, Environmental Laboratory.

3.8-18), yet did not characterize their significance in the Project or how the Project actions would protect or enhance the beneficial uses.

The DEIR should characterize the baseline condition of Creek's stream and riparian habitat in Reach 2 at a greater level of detail, which will facilitate the DEIR's consideration of potential impacts, and approaches to avoid, minimize, and mitigate them. The DEIR notes that steelhead presence is assumed because of "juvenile presence studies and spawning data" (p. 3.3-42). The DEIR should at least summarize the results of a baseline stream habitat survey or a juvenile steelhead census conducted in winter and spring baseflow conditions. This would inform the Project's effects and potential significant impacts to the RARE, COLD, MIGR, and SPWN beneficial uses.

In addition, based on review of unpublished drone video photography (JPA presentation to Water Board, May 29, 2019; and May 23, 2019, community meeting) and previous site visits, mature riparian trees and understory vegetation have become well-established over extensive areas of sacked concrete walls. Numerous mature native species, including willows, oak, and California buckeye, also have become established near the toes of the streambanks within the bankfull channel and at the tops of banks. The trees that are established within the bankfull channel locally focus and separate high flows contributing to the formation of pool-riffle-bar habitat units, preferential sorting of the streambed, and retention of gravel. Small boulders and bridge crossings within Reach 2, also create locally complex hydraulics that cause pool-riffle-bar units to form. The only other locations in the video footage where pool-riffle-bar units were observed appear to be where the Creek bends.

With these observations, and considering the wide interannual variation in the size and frequency peak flows in San Francisquito Creek, we would infer:

- a. Under the environmental baseline Reach 2 provides suitable conditions for adult and juvenile steelhead/rainbow trout migration. Depending upon the typical depth of pools (which could not be discerned in the video), it is possible that habitat quality under the baseline, as related to migration is good. In addition, steelhead have been observed spawning in Reach 2³, though we recognize Reach 2 is primarily a migration reach, especially when considering future fish passage clearance planned at Searsville Dam.
- b. In addition to functioning as a migration corridor, Reach 2 may also provide over-wintering habitat for juvenile steelhead in velocity shelters/refuge habitats provided by: exposed roots in undercut banks located on outside bends; within the matrix of small debris jams; and within exposed roots of mature native riparian trees growing within the streambed (all of these features also are visible

³ "Spawning 26" Steelhead trout in San Francisquito Creek, February 21, 2013 observed on the section below the Chaucer Street bridge and along Woodland Avenue." (Doug Drundle, February 21, 2013). Online: <https://www.youtube.com/watch?v=B-JWIZP8rY0>; accessed June 7, 2019).

in the video footage). If pool depths are greater than 3 feet in this reach, then it appears that over-winter habitat quality may be locally suitable (as most of the pools observed had very good instream and overhead cover).

The DEIR should include analyses to show how the Project alternatives and construction activities would avoid and minimize impacts to these beneficial features. If significant impacts to these features would be unavoidable, the DEIR should include appropriate mitigation.

Therefore, the EIR should provide a more detailed summary of baseline channel and riparian habitat and functions in Reach 2 for different life stages and under winter and spring baseflow conditions, with attention to the Creek's beneficial uses pursuant to the Basin Plan, such as at DEIR, p. 3.3-43, which ignores or downplays the Creek's existing beneficial uses:

“The creek reach that extends from San Francisco Bay to Junipero Serra Boulevard is used as a migration corridor for spawning adult steelhead and an emigration corridor for juvenile fish (NMFS 2008). Steelhead have not been observed spawning in this portion of San Francisquito Creek and overwintering and summer rearing habitats are limited due to a low density of habitat features such as woody material, root wads, boulder and cobble aggregations, and off-channel habitats (Jones and Stokes 2004, NMFS 2008).”

The DEIR should also present a more-detailed assessment of sediment conditions and sediment transport processes. We would also expect the DEIR to be revised with more specific information from the hydraulic models referenced generically throughout the DEIR, and the personal communication from Mr. Xu (p.3.8-21). This type of information is necessary to justify the Project design, and therefore is needed to fully characterize the potential Project impacts.

4. Significance Criteria for Biological Resources

Please clarify significance criterion Impact-BIO-4, *Result in temporary and permanent changes to waters of the U.S. (intermittent drainage)*. We are not able to interpret which CEQA checklist criterion or criteria this is meant to address. Also, please explain what “intermittent drainage” means with respect to the Project's location in the Creek.

Please note that the significance criteria for Biological Resources in the 2019 CEQA Statute and Guidelines were updated to read as follows (underline and strikeout text shows the changes):

“Have a substantial adverse effect on state or federally protected wetlands as ~~defined by Section 404 of the Clean Water Act~~ (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?”

The DEIR does not yet fully address impacts to waters and riparian areas subject to State jurisdiction by the Water Board and the California Department of Fish and Wildlife (CDFW) (e.g., creek channels above the Ordinary High Water Mark and top of bank riparian vegetation), because it does not yet clearly identify those areas. Please revise the DEIR to fully address waters of the State, and revise Impact-BIO-4 to include waters of the State, or, if needed, include a new significance criterion comparable to BIO-4 for all waters of the State.

5. Aquatic Habitat Restoration

Designs for the proposed aquatic habitat restoration elements are at a conceptual stage. While these elements are not presented as “mitigation” in the DEIR, they might help to compensate for the Project’s potential impacts. In addition, the conceptual mitigation plan does yet not contain sufficient detail to demonstrate whether their benefits to habitat functions and values would be sufficient to offset the Project’s impacts. CEQA requires that mitigation measures for each significant environmental effect be adequate, timely, and resolved by the lead agency. To be adequate, the DEIR must clearly describe the mitigation measures, show that they are feasible, and explain how they will be enforceable through permit conditions, agreements, or other legally binding instruments. Mitigation measures to be identified at some future time are not acceptable. Otherwise, mitigation measures would be inadvertently and improperly exempted from the process of public and governmental scrutiny required under CEQA. The DEIR should be revised with the details necessary to evaluate the aquatic habitat restoration elements, including the locations, areal extent, and types of restoration that would be incorporated in the Project. In addition, the DEIR should include a requirement for a Project maintenance and monitoring program to protect and maintain the aquatic habitat restoration elements.

We recognize that Project designs and the associated level of detail increases over time. A benefit to providing more detail now is increasing the certainty that the DEIR fully addresses potential impacts and needed mitigation. In addition, when we subsequently consider issuance of an authorization for the Project, we will need to review design plans that are at a level of detail sufficient to allow us to ensure the Project complies with state water quality standards. Providing more detail now, to the extent that is possible, can reduce the work needed subsequently.

6. Project Impacts

The Project’s temporary and permanent impacts are not yet fully defined or quantified, and the DEIR should be revised to include additional information on them. Although the DEIR has maps and figures to show construction activities, additional clarification is needed to clearly show the impacts and mitigation areas and habitat types (e.g., stream, riparian habitats). For example, the following DEIR language is unclear or lacks details sufficient for us to concur that impacts have been appropriately identified:

- The DEIR states that there would be no impacts to designated beneficial uses from the Project, based on significance criterion Impact-HWR-4. We disagree with this finding because, as described below in more detail, the Project would result in

extensive impacts to riparian vegetation, excavation and fill discharges, and compaction from construction activities in the Creek bed. The Project therefore has potential to adversely affect the COLD, WARM, MIGR, SPWN, RARE, and REC-2 beneficial uses. The DEIR should be revised to address these potential impacts.

- The DEIR states that impacts from construction activity by heavy equipment operating in the channel, and removing in-channel vegetation, would be less than significant (p. 3.3-70):

“Heavy equipment working and being stored in the channel would impact the channel bottom by compacting the substrate. Additionally, in-channel vegetation may be removed to allow access for heavy equipment. Approximately 5.2 acres or 6,385 linear feet of intermittent drainage that are nonwetland waters of the US could be temporarily disturbed. It is expected that compacted areas would recover during flood events, disturbed areas would naturally revegetate, and the effect would be less than significant.”

The DEIR finding of “less than significant” is not supported by the conclusory analysis provided, and we disagree that compaction and vegetation removal impacts would be less than significant. The Creek bed, sediment matrices, and vegetation cover are important factors in steelhead streams as spawning gravel sources, habitat complexity for rearing and foraging, and cover from predators and shade. In addition, the impacts of removing mature riparian vegetation may be significant. Stream pool frequency and quality are likely to be reduced by removing the benefits provided by mature riparian trees in the streambed that control or contribute to formation of forced pool-riffle-bar habitat units. Recovery to pre-Project conditions is likely to require up to 10 years due to the need to reestablish a similar riparian vegetative canopy, and possibly longer to reestablish the instream physical habitat benefits. The DEIR should be revised to address these potentially significant impacts, including quantifying them and including appropriate construction-stage monitoring and mitigation measures.

- The DEIR appropriately notes that “[t]hreats to steelhead habitat in San Francisquito Creek include channel modification from flood water conveyance, which includes bank protection measures” (p. 3.3.-43). Accordingly, the Project would degrade the Creek’s COLD, MIGR, and SPWN, and RARE beneficial uses. The DEIR should be revised to fully evaluate this impact. The DEIR should be revised to fully evaluate this impact. In addition, the project design should maximize the use of less-impacting design approaches, such as biotechnical stabilization measures, and incorporate the results of analytical tools like a shear stress analysis to justify proposed design approaches.
- The DEIR should be revised to provide more specificity in its discussion of impacts to riparian vegetation. For example, the DEIR states: “Vegetation at the bottom of the channel would be cleared as needed to allow for vehicle movement and construction” (p. 2-3). In addition, there is a large, unquantified, area of riparian

habitat proposed to be permanently impacted with rock riprap, and a large, unquantified, amount of riparian vegetation including tree canopy proposed to be removed. It seems likely that the riparian vegetation that would be removed for Project construction is greater than the 15 trees listed in DEIR Appendix B, *San Francisquito Creek Tree Impacts* (Tree Report). Those are the trees that would be removed to construct the concrete soil nail walls. The DEIR identifies a permanent impact to 3,000 square feet on waters of the U.S. under Pope-Chaucer Bridge. However, there is little information on the nature and extent of impacts to vegetation associated with that 3,000-square-foot impact, although the DEIR does reference the presence of mature oak trees that will be removed. All of the impacts to riparian vegetation in the creek channel and the tops of banks should be clearly characterized and quantified in the DEIR. The DEIR should include maps that clearly mark the impacted vegetation, as well as vegetation to remain (table format would also be helpful). Accounting of vegetation impacts must include the areal extent of impacts and species affected including non-native species as they pertain to the Creek's beneficial uses such as shade, cover from predators, and nesting, which contribute to the Creek's overall functions and values for the COLD, WARM, WILD, and REC-2 uses.

- The DEIR's findings of significant impacts are in some cases conclusory or do not yet fully address the stated criterion. The DEIR significance criteria should be refined after the information to address our comments above is available. For example, for Impact-BIO-2, *Result in disturbance or loss of sensitive natural communities, including riparian habitat*, the DEIR states this impact would be less than significant with mitigation (LTSM) for construction and less than significant (LTS) for operations. However, this criterion is too narrowly focused on certain plant species covers or plant community types, rather than evaluating the riparian habitat holistically, and is focused on temporary construction impacts. The DEIR should be revised to further evaluate impacts on functions and values including, but not limited to, shade, cover from predators, nesting, and nutrient cycling. In addition, we recommend the DEIR be revised to address the impacts of the Channel Widening Alternative on the riparian corridor, including the impacts of channel widening, bank excavation, and bank stabilization treatments such as concrete armoring with soil nail walls. Such revisions are necessary to address (for example) the impacts on the COLD, WARM, MIGR, SPWN, RARE, WILD, and REC2, beneficial uses.
- Similarly, the DEIR focuses narrowly on the construction-related impacts of sedimentation during construction and has a finding of LTSM, and LTS for operations, for Impact-BIO-6, *Result in effects on steelhead trout and suitable habitat*; Impact BIO-7, *Result in effects on California red-legged frog and habitat*; Impact BIO-8, *Result in effects on western pond turtle and habitat*; Impact BIO-10, *Result in effects on nesting migratory birds and raptors*. The DEIR should be revised to address the impacts of the Channel Widening Alternative on the habitat features that support these species. This is necessary to address the Project design's impacts on the COLD, WARM, REC2, and WILD beneficial uses.

- Please clarify whether proposed soil nail walls would impact the tree roots of existing trees. The DEIR Tree Report states that the highest nail would be installed at about five feet below grade, and that most tree roots are in the top three feet of soil. Please provide the typical root depths for the trees that are within the construction zone of the nails for the proposed soil nail walls. The Tree Report author recommends to note these tree roots during excavation and to adjust soil nails to avoid them. Please clarify the degree to which this is feasible during construction. As noted above, Further, we recommend the JPA maximize the use of biotechnical stabilization methods where practicable.
- The DEIR (p. 3.8-12) states: “Currently, the [Creek] banks are subject to erosion, particularly in response to high discharges, where bank instability is present, or where vegetation becomes disturbed.” The DEIR later identifies erosive soils as Impact GEO-5, *Result in substantially accelerated soil erosion or loss of topsoil* (p. 3.5-43), and proposes to monitor 11 potential erosion sites (DEIR Table 3.8-2; Figure 3.8-2). The DEIR should clarify the Project’s impacts on bank stability and the potential to trigger or exacerbate bank erosion. Further, the Project should include measures to avoid or minimize this potential adverse impact. We recognize this may entail additional modifications in the Creek, and support the JPA working with other property owners if encroachment on private properties or other agency rights-of-way may be necessary. The DEIR uses mitigation measure MM-HWR-1, *Preparation of an Adaptive Management Plan*, to be prepared in the future, to address this potential impact. We disagree with the DEIR finding that the proposed mitigation would adequately address the potential impact, because the DEIR does not yet include sufficient detail about the Plan’s contents and structure. In the absence of sufficient framing information, mitigation as a concept plan does not comply with CEQA. Regarding the number of erosive watch-sites, the DEIR refers to 11, 12, and 13 erosion-watch sites (e.g., see p. 3.5-44). Please clarify if references to 12 or 13 sites are typographic errors that should be corrected to 11, and clarify the number of erosive watch sites if the proposed Project progresses to the point that would result in Impact-GEO-5 occurring.

7. Adaptive Management Plan and Other Mitigation Issues

Mitigation measure MM-HWR-1, *Preparation of an Adaptive Management Plan*, refers to the JPA’s plan to prepare an adaptive management plan to mitigate impacts to temporary and permanent changes to waters of the U.S. (Impact BIO-4); impacts from accelerated soil erosion or loss of topsoil (Impact GEO-5); and impacts from degrading water quality (Impact HWR-3). In addition, the DEIR relies on an adaptive management plan to identify potential impacts associated with Stanford’s project at Searsville Dam (3.8-41). However, the proposed Adaptive Management Plan would be prepared in the future, and the DEIR does not provide a list of required or proposed content, such as issues to address, management goals, and potential actions. Further, when the Water Board considers the Project’s permit application, the Project site’s existing conditions and the Project’s potential impacts will need to be defined more clearly, as addressed in or comments, before we would be able to consider an Adaptive Management Plan for mitigation.

In a CEQA document, a project's potential impacts and proposed mitigation measures should be presented in sufficient detail for readers of the CEQA document to evaluate the likelihood that the proposed remedy will reduce impacts to a less than significant level. CEQA requires that mitigation measures for each significant environmental effect be adequate, timely, and resolved by the lead agency. In an adequate CEQA document, mitigation measures must be feasible and fully enforceable through permit conditions, agreements, or other legally binding instruments. Mitigation measures to be identified at some future time are not acceptable, in part because such mitigation measures would be improperly exempted from the process of public and governmental scrutiny which is required under CEQA.

We recognize that the Water Board will need to consider issuance of a Water Quality Certification for the proposed project. As such, there is an opportunity to provide information in the DEIR, and to frame proposed CEQA mitigation measures, in a way that supports a future Certification application. In its present form the DEIR lacks a discussion of impacts and proposed mitigation measures at a level of detail sufficient to support the Water Board's consideration of a Certification. Several impacts are not addressed in the DEIR and mitigation measures are either conceptual or inadequate. The Water Board will require mitigation for impacts to wetlands and creek channels. This mitigation must be in the form of creation, restoration, or enhancement of waters of the State. The preferred form of mitigation for impacts to waters of the State is to provide in-kind mitigation on-site, or as close to the impact site as possible. For impacts to wetlands, mitigation should consist of creating, restoring, or enhancing wetlands. For impacts to creek channels, mitigation should consist of creating, restoring, or enhancing creek channels. In order to meet the State's goal of achieving no net loss of waters, creation is the preferred form of mitigation, since it is the form of mitigation that prevents the net loss of acres and linear feet of waters of the State.

Both mitigation measures MM-BIO-8, *Restore riparian habitat*, and MM-BIO-10, *Compensate for loss of wetland habitat*, stipulate the mitigation-to-impact ratio would be 1:1 for temporary impacts and 2:1 for permanent impacts. The basis for these proposed ratios has not been provided, and it is not yet clear that they would be sufficient. The DEIR should be revised to incorporate additional information, as described below.

Please note that the required amount of wetland and creek mitigation will depend on the similarity of the impacted wetlands and creeks to the proposed mitigation project, the uncertainty associated with successful implementation of the mitigation project, and the distance between the site of the impact and the site of the mitigation wetlands and creek projects. In-kind mitigation for the fill of wetlands and creeks consists of the creation of new wetlands and creeks. If the mitigation consists of restoration or enhancement of wetlands and creeks, the amount of mitigation will be greater than if the mitigation consists of wetland or creek creation. If there are uncertainties with respect to the availability of sufficient water to support seasonal wetlands or sufficiently impermeable soils to sustain saturation, then the amount of mitigation would also have to be greater. Finally, the amount of required mitigation increases as the distance between the impact

site and the mitigation site increases.

Each proposed mitigation project should also include a monitoring and maintenance plan (MMP) to be implemented to ensure the success of each mitigation project. An adequate MMP should, at least, contain the following minimum components: a summary of maintenance activities, including irrigation, weeding, and replanting of dead or missing vegetation; a schedule for implementing maintenance activities; the plant palette selected for replanting, including pounds per acre of seeds, numbers and sizes of container plants, and sources of all plant material; metrics to be used in assessing successful establishment of vegetation; annual performance criteria, including percent cover, percent survival of plants, species richness, and target plant heights or percent coverage; final success criteria (including formal delineation of mitigation wetlands); and contingency measures to be implemented in the event that annual performance criteria or final success criteria are not attained, or creek channels are not geomorphically stable at the end of the initial monitoring period. MMPs should describe the features (e.g., bank slumping, bank undercutting, rilling, channel avulsion, knickpoints, headcuts, excessive sediment deposition, etc.) that will be used to assess the geomorphic stability of mitigation creek channels. Monitoring should be conducted for a minimum of three to five years for wetland mitigation projects and a minimum of 10 years for creek and riparian mitigation projects.

Finally, we have the following comments for specific mitigation measures (in addition to the comments above for MM-HWR-03, MM-BIO-8 and MM-BIO-10):

- We disagree with the DEIR findings that the loss of trees (Impact BIO-5, *Result in disturbance or loss of locally protected trees*) would be mitigated by MM-BIO-12, *Compensate for loss of trees, consistent with applicable tree protection regulations*, because this mitigation measure only addresses requirements of local tree ordinances. This may not compensate for the temporal losses from removing trees that contribute the Creek's functions and values. We recommend the JPA coordinate with the agencies to determine appropriate mitigation for Impact BIO-5 to incorporate into a revised DEIR.
- We disagree with the mitigation measures for Impact BIO-6, *Result in effects on steelhead trout and suitable habitat*, because the mitigation measures (MM-BIO-14 through MM-BIO-17) address the potential impacts from construction activities, but do not address the potential effects of the Project design. As presented in comments above, the DEIR should better characterize the Project site, and better describe how the Project design avoids and minimizes impacts, especially by using soil bioengineering methods where practicable. After those elements are characterized better, appropriate compensatory mitigation should be developed. We recommend the JPA coordinate with the agencies to determine appropriate mitigation for Impact BIO-6 to incorporate into a revised DEIR.
- As presented above, we disagree with MM-HWR-1, *Prepare an Adaptive Management Plan*. The DEIR should be revised with appropriate mitigation for temporary and permanent changes to waters of the US (intermittent drainage) (i.e., Impact-BIO-4), and comparable impacts to all waters of the State; impacts from

accelerated soil erosion or loss of topsoil (Impact-GEO-5); and impacts on water quality (Impact-HWR-3).

- Mitigation Measure MM-BIO-11-*Conduct wetland delineation*, is only planned for the Reach 3 detention basins. However, the DEIR states that the existing wetland delineation for the Project was conducted in July 2013. Typically, delineations performed by the Corps are valid for five years, although they may be extended. Permits issued for impacts to waters of the U.S. must be based on valid delineations. Permit applications to the Water Board, and to other agencies, must include a valid delineation of the extent of jurisdictional waters at the project site.

8. Alternatives Analysis

The DEIR alternatives analysis has little information on the screening process to reject, or accept, an alternative for further analysis. The DEIR should be revised to include information used to compare alternatives.

In our comment letter on the Notice of Preparation (NOP) (March 10, 2017), we suggested a project alternative to “Maximize Non-Structural Flood Damage Reduction Measures.” This alternative is not presented or considered in the DEIR, except for the “floodplain management plan and an early-warning system” in the U.S. Army Corp of Engineers Alternative (Alternative 17). We suggested non-structural alternatives based on Water Board policies for the protection of waters of the state (including the Basin Plan requirements to meet the 404(b)(1) Guidelines), so that the DEIR would consider an Environmentally Superior Alternative. Non-structural flood damage reduction measures could be implemented one property or one neighborhood at a time at the will of property owners (with design support and funding from the JPA). The DEIR should be revised to evaluate these options and how much flood protection could be gained with them. For example, we recommend the DEIR to include flood flow breakout points, areas of flooding, flood depths, and flooding duration. The DEIR should then identify non-structural means to temporarily occupy a single lane in city streets, in parks, and in parking lots, to keep flooding away from structures. These measures could be designed so that they would not block emergency vehicles or keep residents captive in their homes, a concern raised in a recent public meeting.

We are still interested in the DEIR evaluating incremental improvements that a mix of different flood protection measures could provide for protection from up to the 100-year flow event, as mentioned in our NOP comment letter. For example, we had recommended the JPA conduct analyses to determine whether an underground bypass system, combined with non-structural measures, could provide additional flood protection beyond that for the 70-year flow event, or help reduce the need for using soil nail walls in the Creek. We understand the JPA has completed those analyses, and the DEIR should be revised to include them: more-robust description of the JPA’s analysis of potentially feasible alternatives to address how improvements for flood protection could be achieved in this Project and as funding, planning, and designs are available over time.

9. Future Water Board Project Authorization -- Least Environmentally Damaging Practicable Alternative

The Project will discharge dredge and fill materials to waters of the United States. As such, it is likely to require authorization from the U.S. Army Corps of Engineers (Corps) pursuant to Clean Water Act (CWA) section 404, and an associated water quality certification and waste discharge requirements (Certification) from the Water Board pursuant to CWA section 401 and applicable sections of the California Water Code. In the absence of a CWA Section 404 permit from the Corps, the Water Board may consider issuance of Waste Discharge Requirements (WDRs) for the Project.

As part of the Water Board's consideration of Certification or WDRs, a future application must include an alternatives analysis consistent with U.S. EPA's CWA Section 404(b)(1) Guidelines. The San Francisco Bay Basin Water Quality Control Plan (Basin Plan) incorporates the 404(b)(1) Guidelines by reference. In accordance with the Basin Plan, filling, dredging, excavating, and discharging into a wetland or water of the state is prohibited unless the project meets the least environmentally damaging practicable alternative (LEDPA) standard as determined through the 404(b)(1) alternatives analysis. The analysis will need to identify the LEDPA by evaluating alternatives that, first, avoid impacts; second, minimize impacts; and lastly, compensate for unavoidable impacts.

CEQA includes a review of alternatives that is different from the analysis required under the 404(b)(1) Guidelines. Although the LEDPA analysis is not required by CEQA, a project proponent may tailor the DEIR alternatives analysis to fulfill both the CEQA and 404(b)(1) requirements, which could help expedite the Water Board's consideration of Certification, and minimize the potential need for a supplemental or amended EIR.

9. Miscellaneous Issues

The DEIR should be revised to incorporate the following comments:

- DEIR, p. 3.3-58, states: "Santa Clara Valley Water District Guidelines and Standards for Land Use near Streams, Design Guide 5, Temporary Erosion Control Options." This reference is not included in the DEIR references, and we are not familiar with these guidelines. We recommend the JPA incorporate the District's Stream Maintenance Program standard BMPs for impact avoidance and minimization for working in and around creeks and wetlands. In addition, the DEIR should include mitigation measures to prevent the spread of the plant pathogen, *Phytophthora spp*. We recommend the JPA follow the SCVWD's Phytophthora BMPs for construction and revegetation activities. Given the SCVWD is a member agency of the JPA, we would expect the District to provide guidance on the use of the standard BMPs including those for *Phytophthora spp* for all construction and revegetation activities.
- The DEIR at pages 3.2-19 and 3.4-19 states that a soil nail wall would be "vegetated." However, the DEIR at p. 2-31 states that significantly more analyses are needed before determining whether vegetation could be planted at the bank toes or on the soil nail walls. The DEIR should be revised to first demonstrate

whether soil biotechnical bank stabilization methods are feasible, followed by analyses for the soil nail walls to incorporate vegetation on the toe rock slope protection and tops of walls.

- Mitigation measure MM-BIO-2, *Revegetate disturbed areas with local ecotypes of native plants*, proposes to leave in place gravel or wood mulch used to prevent soil compaction, rather than seeding it with native vegetation. Substituting mulch or gravel for seeding would not mitigate for the impacts to special-status plants (Impact BIO-1), for which MM-BIO-2 is proposed, and thus would not support the preservation of the REC2 beneficial use and, depending on the impacted species, the COLD and WARM beneficial uses.

Conclusion

Thank you for the opportunity to comment on the DEIR. As requested above, the DEIR should be revised to better characterize current conditions and potential Project impacts and proposed mitigation. We look forward to working with the JPA on the Project design and would welcome the opportunity to meet with JPA staff to discuss any of our comments.

Please contact Susan Glendening at (510) 622-2462 or Susan.Glendening@Waterboards.ca.gov or Setenay Bozkurt-Frucht at (510) 622-2388 or Setenay.Frucht@Waterboards.ca.gov to discuss our comments or other issues for the Project.

Sincerely,



Digitally signed by
Keith H. Lichten,
Division Chief
Date: 2019.06.26
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Keith H. Lichten, Chief
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