



# California Regional Water Quality Control Board

## San Francisco Bay Region



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Attn: Henrik Wesseling, Plant Manager ([henrik.wesseling@hanson.biz](mailto:henrik.wesseling@hanson.biz))

Subject: Comments on the Permanente Creek Long-Term Restoration Plan

Dear Mr. Wesseling:

San Francisco Bay Regional Water Quality Control Board (Water Board) staff have reviewed the *Permanente Creek Long-Term Restoration Plan* (URS Corporation, July 31, 2009), which was submitted to the Water Board to comply with Phases 2 and 3 of Remedial and Long-Term Measure C.9 of Cleanup and Abatement Order (CAO) 99-018. In its present form, the *Permanente Creek Long-Term Restoration Plan* (Restoration Plan) does not fully satisfy Remedial and Long-Term Measure C.9. The following comments on the Restoration Plan are provided to guide the necessary revision of the Restoration Plan.

### General Comments

**General Comment 1:** The Restoration Plan does a fairly good job of presenting an inventory of current creek conditions. However, the discussion of Restoration Recommendations lacks sufficient detail. Reach-specific recommendations are only presented in an abbreviated form in Table 4-2. Chapter 4 should be expanded to include a discussion of restoration options for each of the reaches discussed in Section 2.3 of the Restoration Plan.

Each reach-specific discussion should present all of the restoration options that were considered for the reach, and explain the reason why some options were not considered further for the reach. The discussion should also include an alternatives analysis that explains why some options were discarded and the restoration option presented in Table 4-2 was selected. Sufficient detail should be provided to allow Water Board staff to determine whether or not they concur with the recommended restoration option for each reach. In addition, each reach-specific discussion should expand upon the information summarized in each column of Table 4-2.

**General Comment 2:** Discussions of several of the creek reaches (Reaches 5, 8, 9, 10, 11, 12, 13, 14, 15, and 16) note that creek banks have stabilized since the last creek assessment in 2000 and 2001; this was noted especially at the debris deposits in several of the upper reaches. This suggests that the historic debris/overburden deposits are contributing less sediment to the

channel than they were nine years ago. Because of this, the need for sediment storage capacity at the facility may be reduced in the future, and a sediment supply study should be performed. Results of this study can be used to guide future sediment management at the facility.

Water Board staff acknowledge that the Restoration Plan may not be the most appropriate venue for studying the current supply of sediment from the facility to Permanente Creek. But such a study is relevant to ongoing permitting for sediment basin management. Before sediment removal permits are issued for Ponds 13, 14, and/or 22, an evaluation is needed to assess the change in sediment input between 2000 and 2009, resulting from improved slope stabilization. The sediment evaluation should address:

- Opportunities for improving sediment capture on the uphill side of the access road, east of Pond 13. The study should evaluate if the existing series of roadside berms can be modified to create actual settling basins along the north side of the access road.
- The possibility of modifying portions of the material stockpile area east of the Dinky Shed to accommodate additional off-channel sedimentation basins.
- Opportunities to remove unnecessary culverts over the creek as a means of reducing the generation of sediment along the creek.
- Opportunities for further bank stabilization as a means of reducing the input of sediment to the creek.
- Identifying opportunities for floodplain storage of sediments.

#### **Specific Comments:**

##### **Specific Comment 1: Section 1.5 Plant and Animal Communities**

This section refers to the biological resources description in the 2001 stream reach inventory. Since eight years have elapsed, it may be worthwhile to update the inventory. For example, California red-legged frogs (CRLF) were not identified at the facility in 2000. In addition, the inventory from the Phase I report should be reproduced as an appendix to the Restoration Plan so that reviewers of the Restoration Plan can assess how the need to preserve biological resources (e.g., breeding and foraging habitat for CRLF) has influenced the selection of potential restoration actions.

##### **Specific Comment 2: Section 1.6 Updates from the Phase 1 Report**

The figure comparing the Phase 1 reach inventory stream reaches with the 2009 stream reaches in the Restoration Plan is useful, but it would also be useful to add another row to the figure in Section 1.6 that links the reaches to the figures in Appendix A. In Appendix A, the onsite channel of Permanente Creek is presented in 14 figures. It's awkward to cross-reference the 17 creek reaches discussed in the 2009 Restoration Plan with the 14 topographic aerial photographs in Appendix A. Table 4.2 further complicates the description of locations along the creek, since future restoration sites are labeled [A] through [R].

**Specific Comment 3: Section 2.3 Results of Geomorphic Assessment****[1] Pond 14 Outfall Channel.**

Text in this section refers to an eight-foot high headcut in this channel. However, the Restoration Plan does not state whether or not this headcut was present in 2000. If the headcut was present in 2000, the Restoration Plan should describe if it has migrated appreciably in the intervening years and if it is still actively migrating. Also, the text should describe whether or not the headcut threatens the berm that creates Pond 14. The assessment in the revision of Section 4 should discuss potential triggers of the headcut and propose means to stop the progression of the headcut.

**Specific Comment 4: [-] Pond 22**

The text states that the Pond was not assessed as a reach because of its artificial nature. This appears to be a misunderstanding of the intended goal of the Restoration Plan. Since the pond is artificial and should be considered for removal when quarrying ceases at the facility, the Restoration Plan should evaluate potential removal of the downstream berm and the restoration of the pond as a creek channel. Any discussion of pond removal should also address potential impacts to California red-legged frog (CRLF) habitat if the pond is removed. Text in Section 4.3.1 notes that the potential removal of in-stream ponds may be impacted by the need to maintain habitat for CRLF.

**Specific Comment 5: [4] Pond 22 to Railroad Crossing**

Text in this section states that the channel in this reach is entrenched and widening. The text should be expanded to discuss the relative contribution of channel widening to the sediment collecting in Ponds 14 and 22 in comparison to sediment generated by quarrying activities (e.g., sediment contributions from historic overburden stockpiles, sediment generated at the active quarry faces, sediment generated during rock processing, etc.). Text in either Section 2 or the revision of Section 4 should attempt to determine the cause of channel widening in this reach. The revision of Section 4 should also evaluate whether or not this reach can be stabilized to reduce bank erosion, which would reduce the contribution of sediment from bank erosion to the reduction in storage capacity in Ponds 14 and 22.

**Specific Comment 6: [-] Concrete Trapezoidal Channel**

Section 4.3.2 states that the 1899 Palo Alto USGS 15-minute topographic map indicates that the creek was located in the middle of the valley, where the railroad tracks are now located. The Restoration Plan assumes that no changes can be made to this reach because of the presence of Union Pacific (UP) property in the former floodplain of the channel. Since this plan is a Long-Term Restoration Plan, it should not be restricted to current land uses and land ownership. When the quarry closes, there will be no economic need for the railroad tracks to the facility. The proximity of the creek, listed species, and constrained topography in the creek valley is likely to severely limit future commercial development of the UP Property. In addition, the shortage of viable mitigation sites in the South Bay area may create financial incentives for selling the property for use as a riparian mitigation site, or UP may be able to use the land to provide mitigation for UP projects in the South Bay. The Restoration Plan should evaluate the amount of land that would be needed to create a stable, unlined channel in this reach. If Lehigh

can provide us with points of contact at UP, Water Board staff are interested in establishing a dialogue with UP about long-term planning for their property at the quarry. This reach should also be assigned a number and evaluated in detail in the revision of Section 4.

**Specific Comment 7: [5] Materials Storage Area to Road Upstream of Dinky Shed**

The embankment below Screen Tower No. 4 is reported to have significantly stabilized since 2001. Therefore, this reach should be contributing less sediment to the channel than it did in 2001 (See General Comment 2).

When Lehigh prepares a sediment source/control study, the Materials Storage Area should be studied as a potential location for additional off-channel sedimentation ponds.

**Specific Comment 8: [8] Parallel Buried Culvert to Full Culvert.**

Since the 2000 assessment of this reach, an eroded bank on the south side of the Creek near Station 75+00 has become stable and vegetated, and no longer appears to be a significant sediment source (See General Comment 2). The discussion of this reach in the revision of Section 4 should be expanded to evaluate options for using the footprint of the old culvert as an opportunity for stabilizing the creek by adding length to the creek channel. The Restoration Plan should also discuss whether or not the channel could return to the path through the old culvert in future meanderings of the channel. Further efforts should be made to locate the inlet of the old culvert. The Restoration Plan should consider removing or crushing the old culvert to prevent future channel avulsions from being captured in the culvert.

**Specific Comment 9: [-] Full Culvert, Half-Culvert, and Pond 13**

This discussion should be revised to describe whether or not the 1899 topographic map can be used to assess how much the full and half culverted stream reaches downstream of Pond 13 have been altered from their historical elevations. The 1899 topographic map may provide sufficient detail to determine if the stream gradient was fairly steep throughout these reaches before quarrying activities impacted the site. It would also be useful in the evaluation of restoration options for this reach to know if these culverts are essentially constructed directly over bed rock. This information may be useful in designing a creek channel after the culverts are removed.

This reach appears to be in a narrower Canyon than the rest of Permanente Creek at the facility. It may be appropriate to establish a separate reference creek for this reach, since Upper Stevens Creek does not appear to be an appropriate reference for this portion of the creek.

Text in this section of the Restoration Plan states that excavated side slopes along the non-inundated portion of Pond 13 remain steep and mostly unvegetated, but that the Creek appears to be mostly unaffected by these side slopes. The text should be revised to clarify if these side slopes are no longer major sources of sediment to the creek (See General Comment 2).

Restoration options for this reach (Station 76+00 to 90+00) are summarized in Table 4-2, in which the reach is subdivided into Locations [M] (Full Culvert), [N] (Half Culvert), and [O] (Pond 13). This is an example of the confusing nomenclature system used in the Restoration Plan.

**Specific Comment 10: [9] Above Pond 13 (Station 90+00 to 94+00)**

Text in this section states that the creek has stabilized its bed around a bedrock control in this reach. This suggests that this reach supplies less sediment to the creek than it did in 2000, when an active headcut was observed in this reach (See General Comment 2). The Restoration Plan should clarify whether or not the headcut observed in 2000 has been controlled by a bedrock outcrop in the stream channel.

**Specific Comment 11: [10] Upstream of Primary Crusher (Station 94+00 to 105+00)**

Text in this section states that the old debris slide at Station 101+50 is no longer a significant source of sediment, because it is stabilizing. The text also notes that an erosional drainage at Station 97+50, which was identified as a problem area in 2000, was much more stable, although the gully above it was still somewhat active. The Restoration Plan should assess whether or not this gully can be stabilized in the short term to reduce the input of sediment to the creek.

**Specific Comment 12: [11] Upstream of Primary Crusher to Old Crusher Foundation (Station 105+00 to 116+00)**

Text in this section notes that debris slides at Stations 106+00 and 111+00 are no longer significant sources of sediment, because they are stabilizing. Text also notes that the old overburden slopes are stabilizing. This reach appears to no longer be a significant source of sediment to the creek channel (See General Comment 2).

**Specific Comment 13: [12] Old Crusher Foundation to Downstream End of Pinch Point (Station 116+00 to 134+00)**

Text in this section notes that the creek appears to have predominantly stabilized since 2000. This reach appears to no longer be a significant source of sediment to the creek channel (See General Comment 2).

**Specific Comment 14: [13] Downstream End to Upstream End of Pinch Point**

Although this reach does not appear to be as stable as Reach 12, the Restoration Plan notes that old debris slides at Stations 135+00 and 138+00 are no longer significant sources of sediment, because they are stabilizing. This reach appears to no longer be a significant source of sediment to the creek channel (See General Comment 2).

**Specific Comment 15: [14] Upstream End of Pinch Point to Kaiser House**

The Restoration Plan notes that the old debris slide at Station 139+00 is stabilizing (See General Comment 2), but that the old debris slide at Station 141+20 still appears to be a significant source of sediment to the creek. The summary of restoration opportunities in Table 4.2 does not address this debris slide (Note: Table 4.2 does not recommend any active restoration upstream of Station 116+23). The Restoration Plan should describe why restoration recommendations are not made for any stations upstream of Station 116+23).

**Specific Comment 16: [15] Kaiser House to Debris Slide Area**

The Restoration Plan notes that this reach is stabilizing (See General Comment 2). A gully that starts at the Upper Quarry Road was not noted in the 2000 assessment, but was observed in 2009. However this gully drains to a sedimentation basin and does not appear to be a significant

source of sediment to the creek. The Restoration Plan should clarify whether or not this gully is a potential source of sediment to the creek, if the sediment basin becomes completely filled with sediment. Section 4 should be revised to include an estimated remaining useful life for the sediment basin and recommendations for stabilizing this gully.

**Specific Comment 17: [16] Debris Slide Area**

The Restoration Plan states that most of the debris material within the valley bottom has been redistributed and is stabilized in place, with the exception of a debris slide between stations 185+15 and 188+70. Section 4 should discuss whether or not any stabilization measures are warranted at these debris slides.

**Specific Comment 18: Section 4.3.2, Site Specific Recommendations.**

The Restoration Plan states that reaches within the tight confines of the canyon (Stations 92+00 to 120+00) are not recommended for active restoration, because these reaches are currently stabilizing, and that access by heavy equipment would create channel instability that would be more significant than the stability provided by active restoration. This discussion should be clarified by describing the restoration measures that might be effective in these reaches, and then explaining the ways in which implementing these measures would destabilize the creek banks.

**Specific Comment 19: Section 4.4, Prioritization Protocol Criteria**

The Restoration Plan states that Category (I) recommendations should be implemented in the near term because they represent active erosion or other sediment sources to the Creek, have the potential to threaten site infrastructure (e.g., roads), and may be implemented without interfering with facility operations. Some of the Category I recommendations may be incorporated as conditions of certification for sediment removal from the ponds. Removal of unnecessary creek crossings may also provide some mitigation for sediment removal projects at the ponds.

**Specific Comment 20: Table 4-2, Summary of Permanente Creek Recommendation Actions.**

The first column of this table further complicates the organizational structure of descriptions of Permanente Creek on quarry property. In Table 4-2, the first column identifies each proposed restoration location with a letter between [A] and [R]. In Section 2.3, stream reaches are numbered from [1] to [17], while some significant features are only identified as [-]. Section 2.3 contains no references to the Location Description letters in Table 4-2. The organizational scheme is further complicated by Appendix A (Figure 1-3), which subdivides the creek into 14 sections. The Restoration Plan needs a master index to facilitate cross-walking between Section 2.3, Table 4-2, and Appendix A. In addition, Section 2.3 and Table 4-2 need additional text to help correlate the reaches in Section 2.3, the locations in Table 4-2, and the figures in Appendix A.

**Specific Comment 21: Table 4-2, Location [A].**

At location [A], leaving Pond 14 in place, at least until the plant closes, is probably appropriate. But the headcut and severe bank erosion at the outfall should be addressed as soon as possible.

**Specific Comment 22: Table 4-2, Location [D].**

At location [D], Pond 22 is said to be located on UP Property. Pond 22 is the most recently constructed in-stream pond at the quarry. It is not clear how the quarry obtained permission to construct a pond on UP property in 1998. Please confirm whether or not Pond 22 is actually located on UP Property. In addition, please provide any correspondence documenting UP's approval to construct the pond on their property. This information may be useful in determining appropriate contacts at UP for discussion of post-closure management of UP's property at the quarry site.

**Specific Comment 23: Table 4-2, Location [E].**

For location [E], we concur that Lehigh should work with UP to develop and implement restoration measures. Since the need for the railroad spur is linked to the operation of the quarry, it may be effective to plan the future management of the land in conjunction with UP. UP may be able to use land at the site to provide mitigation for other UP projects in the South Bay.

At location [D], Pond 22, Table 4-2 states that channel and floodplain restoration is constrained by UP ownership of the land. However, at location [E], Culvert under rail spur, Table 4-2 recommends working with UP to modify the culvert. The Restoration Plan should not rule out cooperation with UP in performing channel restoration. UP may be able to obtain mitigation credit for allowing some land to be use for channel restoration projects.

**Specific Comment 24: Table 4-2, Location [F].**

At Location [F], it is not clear why the concrete channel should not be removed. In general, more text is needed to clarify the basis of the recommendations in Table 4.2

**Specific Comment 25: Table 4-2, Locations [G], [H], and [I].**

For Locations [G], [H], and [I], any non-essential culverts should be identified at these locations. Removal of non-essential culverts may provide mitigation for sediment removal projects at the quarry ponds.

We concur with the recommendation to remove the culvert at location [H] (96" culvert without road crossing; Station 48+50 to 48+75) in the near future. This may be an appropriate mitigation measure for some of the sediment removal work

**Specific Comment 26: Table 4-2, Location [L].**

At Location [L], please explain why the removal of concrete and riprap on the East Bank of the creek cannot be placed in Category I. This is another project that may provide mitigation for future quarry projects with impacts on the creek.

**Specific Comment 27: Appendix A (Figure 1-3).**

The 14 annotated aerial photographs in Figures 1-3.1 through 1-3.14 indicate several significant features (e.g., culverts, ponds). It is not clear if these figures include all in-channel features, or just the in-channel features proposed for removal or modification in the Restoration Plan. Please make sure that all in-channel features are included so that it is easier for Water Board staff to determine if further restoration activities should be assessed for inclusion in the Restoration Plan.

Please contact Brian Wines of my staff at (510) 622-5680 or [bwines@waterboards.ca.gov](mailto:bwines@waterboards.ca.gov) if you have any questions. All future correspondence regarding this Project, should reference the Site Number indicated at the top of this letter.

Sincerely,



Dale Bowyer  
Section Leader  
South/East Bay Section

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