ZENTNER and ZENTNER
Land Planning and Restoration

Quarry Reclamation Plan Responses

Submitted August 2016

1. Environmental Information Form

a. Drainage: will the project alter existing drainage patterns

As described in the Reclamation Plan, the existing topography (and hence the drainage) is not changing significantly. Grading is confined to the southern edge of the hilltop, the northeastern edge of the southern bluff, and the quarry pit floor. The proposed road on the east flank will not change the topography in this area; there is an existing older road in this area. Also note that there are no streams running through the site so that drainage consists almost entirely of rainfall and its subsequent drainage.

Rainfall on the graded portion of the hilltop presently runs off the quarry face on to the quarry pit floor, causing notable erosion as it does. With Reclamation, that rainfall will be channeled into ditches that parallel the face and run into a drain line running alongside the east flank access road. That drainage will still reach the quarry pit floor, though, as these lines discharge into the stormwater quality basin in the floor. In short, the intervening drainage pattern (between rainfall and collection points) from this area will change but the ultimate pattern remains the same, rain falls on the graded portion of the hilltop and flows to the pit floor.

Similarly, rainfall on the graded portion of the southern bluff will continue to flow from the bluff onto the quarry floor. The quarry floor is being levelled and graded to drain to the new basin; presently it drains to the creek or the old quarry floor basin. As the new basin will flow to the creek after the water is treated, the ultimate pattern here remains the same as well although the new basin is being substituted for the old basin. However, the old basin is steep-sided and a hazard; it must be levelled to eliminate that hazard and reduce overly-steepened grades in this area.

b. Is the project related to the voter initiative (see also the last question of the City's response).

The Quarry Reclamation Plan is a stand-alone Plan that must be prepared and implemented pursuant to the state's Surface Mining and Reclamation Act (SMARA). SMARA requires that quarries and other similar mining operations must be reclaimed to safe conditions after closure. Preparation and implementation of the Reclamation Plan is subject to a set of processes and requirements that are, therefore, separate and apart from any aspect of the initiative submitted for voter approval. The initiative seeks only to amend a City ordinance, thereby allowing the City to approve a future development project on the Quarry site that would include residential uses. Whatever the outcome of the initiative or a future development proposal on the Quarry site, the owner is required by law to submit and implement the Reclamation Plan. In short, the Plan has no necessary relationship to any future Quarry project and must be implemented regardless of whether any Quarry project is ever approved.

c. Provide written explanations for yes answers on Questions 21, 22, and 28.

Question 21 asks if there will be any changes in hills or other features. As described in the Reclamation Plan, the Hilltop is presently a mix of fills and old cuts with mounds and hillocks of material reaching 270 ft. in elevation (all elevations are NGVD) with low points at 230 ft; the Hilltop's lower edge is the geologic shear zone that rests atop of Quarry face. The Reclamation Plan calls for grading the unstable materials above the shear zone to a 2:1 slope and smoothing out the surface of the Hilltop while maintaining the upper elevation. The 1996 Plan called for a height reduction of about 10 to 20 ft. and a significant amount of soil excavation. This Plan will maintain the Hilltop's height while excavating the slope to a stable 2:1 slope. This will revise the shape of the hill slightly.

Question 22 asks if there will be any changes to views. As shown in the viewscapes provided by SWA as part of the Reclamation Plan application materials, the sculpting of the hilltop as described above will modify the view of the hilltop slightly. See the attached viewscape.

Question 28 asks whether the site is on filled land or whether there are slopes greater than 10%. As noted in the Reclamation Plan (Local Geology, p. 10), the Quarry pit has fills in excess of 20 ft thick. Also as noted in the Plan (Current Conditions, p. 8), there are numerous steep slopes greater than 10% throughout the old Quarry, including the Quarry face, which is near vertical. Also see the attached slope analysis prepared by Walsh Engineering.

2. C3 and C6 checklist

a. Status of State Construction General Permit

We will apply for the General Permit approximately 60 days before initiating the reclamation work.

b. Submittal of NOI to the City.

Similarly, we will submit the NOI approximately 60 days before initiating the reclamation work.

3. Site plan showing former mining areas

There are no existing roads suitable for vehicle use on the site now; several old roads have become dirt paths. Attached to the hard copy being sent you please find a large format figure depicting the boundaries of the former mining operation.

4. Cross-sections for existing cut banks

a. Cross-sections do not show existing slopes

The cross-sections are shown on Sheet 3 and do show the existing slope. However, the existing slope lines, while labelled "Existing Grade", are a bit faint. Attached is a revised Sheet 3 with the Existing Grade lines given more prominence.

b. Verify Sections A, B, D and F show that significant existing slopes will remain.

This assumption is correct with one exception as detailed below.

Note that the cross-sections show existing grade, the proposed grade and the grade proposed for the 1996 Reclamation Plan (RP).

For Section A, a good deal of the existing grade is preserved. This section cuts through the hilltop and quarry face to the quarry floor. The hilltop is being excavated in this area and the quarry floor being filled. This section perhaps shows the most modification of any portion of the site. However, the quarry face is being preserved, and, as shown in the lower half of this section, the existing grade is preserved.

Section B also has a good deal of preserved existing grade. This section cuts through the east flank. The only grading occurs for the construction of the access road; accordingly, about 75-80% (or more) of the slope is preserved at existing grade.

Section D also preserves most of this area at existing grade. This section goes through the eastern portion of the southern bluff. The excavation noted will remove an area of dumped, unstable fill. Otherwise, this area will remain at its current grade.

Section F will not preserve most of the existing slope in this area. This section goes through the eastern portion of the quarry floor. High grade next to the creek will be excavated to reduce the slopes in this area and create a relatively even plain with no slope more acute than 3:1. Calera Creek, which makes up a good part of this section will not be graded and a steep slope adjacent to the creek will be gentled.

5. Provide a site plan showing final grading, topsoil replacement, and revegetation.

Final grading is shown on the Grading Plan (Sheets 1 through 6 of Appendix H of the original submittal). As noted above, there is a relatively minor amount of grading proposed, compared to the City-approved 1996 Reclamation Plan.

As described in the Plan, there is no topsoil to salvage or replace in the areas proposed for excavation. The excavated areas consist almost entirely of the hilltop, which is fractured greenstone and old quarry wastes (see the Plan, p 16). However, we inadvertently left out the more detailed description of this area that was derived from the Geotechnical Report. That is reprinted below (although note that the Geotechnical Report was included in the Plan as Appendix B).

> "Franciscan Complex greenstone in the region is described in published geologic references as altered mafic (dark) volcanic rock composed mostly of coarse pyroclastic deposits, but also some small intrusions (dikes) and flows. Geologic mapping by Kaldeveer and Associates (1983, included within the 1996 reclamation plan) depicts greenstone at the site within the limestone on the northeast side of the Southern Bluff, above the limestone in the western and upper portions of the Quarry Face, and extending northward from the shear zone. Our field observations of greenstone were generally consistent with Kaldeveer's 1983 map for the Southern Bluff and Quarry Face. We observed, however, that the slope and Hilltop area above the shear zone consist of brown, thinly to moderately-bedded siltstone with some interbedded chert. The siltstone in the Hilltop area is highly to moderately weathered and pervasively fractured, with varied bedding orientations. We interpret, based on observations elsewhere in the area (e.g. coastal bluffs near the northwest corner of the site) that greenstone in the region also includes some interbedded/associated sedimentary materials such as siltstone and sandstone. Therefore, the greenstone designation is retained for underlying geology of the northern portion of the site."

As this is the primary area of excavation and it does not include a topsoil layer, there is no topsoil to salvage and we have no topsoil to replace. Our analyses of the site, including the success of hydroseeding on other portions of the site as a result of the City's 2000 work, indicate that hydroseeding will be the preferred method of revegetation for this site.

Revegetation is described in the Reclamation Plan under "B. Revegetation" (pp 20-22) and shown graphically in Exhibit 4 of the original submittal. As noted in the Plan, each area in the Quarry has a specific hydroseed mix proposed based on that areas soil condition, aspect and other ecological factors. All species proposed for revegetation are native to this region.

6. Provide a phasing plan including dates, required activities, completion criteria, and costs.

As noted in the Plan (p. 15):

Reclamation will include two phases:

1. Completion of the grading and drainage as described in the attached plans is now scheduled to begin in spring 2017 and be completed by early summer 2017.

2. Erosion control and revegetation as described in the attached plans is scheduled to being in late summer 2017 as soon as grading and drainage work is done and be completed by late fall 2017.

Required activities in each phase are described in the Plan at the appropriate sections. For ease of review, Phase 1, grading and drainage, is described in Chapter III Reclamation Grading (pp. 16-18), Chapter IV Drainage (pp. 18-19) while Phase 2 is described in Chapter V Environmental Protection.

Completion criteria are not required under SMARA for any specific phase with the exception of revegetation (discussed below). We assume Phase 1, Grading and Drainage will be subject to the standard City inspection requirements and plan compliance. Revegetation performance standards are described on pp 22-24 of the Plan.

Costs are provided in the project FACE, submitted to the City previously. The costs by phase would be broken down in the same fashion as that shown above. However, note that SMARA provides for annual modifications to the FACE, rather than a phased approach, although we would be open to such a strategy if the City deems it appropriate.

a. Provide a realistic timeline

We expect that approval of the Reclamation Plan can be completed next spring and the work completed next fall as described here.

b. Provide criteria for specific activities.

See above response.

7. Provide the Statement of Responsibility

See attached

8. Proposed uses after reclamation

As noted in the Reclamation Plan (p. 15):

"The end use for the reclamation work is open land. As used here, this refers to an open condition without unsafe or hazardous site conditions. This will require grading to create safe slopes, installation of local drainage facilities to ensure erosion control, and re-vegetating the site to achieve a character that is relatively natural in appearance."

Other uses may be proposed or permitted in the future but the immediate proposed end use after reclamation is open land.

9. Reclamation purposes and results

a. Describe control of contaminants and mine waste.

There are no contaminants on-site that will be exposed. As noted above, excavation is limited to a portion of the hilltop. Geotechnical investigations in this area have not revealed the presence of any contaminants. The site Phase 1 is available and has been sent to the City for other applications if required.

Mine waste on-site consists solely of old fills scattered in several areas but concentrated in the quarry pit. These materials are inert and not "waste" in the sense of contaminated materials. Where required to create safe conditions, old mine fills are excavated and replaced at safe angles to ensure no over-steepened slopes or other hazards occur.

b. Describe methods for streambank rehabilitation

No work on or adjacent to streambanks will occur. The closest grading to Calera Creek will be on uplands well away from the creek and near the upper section of the lower reach just below the access road. The graded area will be revegetated as described in the Plan.

10. Effects on future mining.

As noted in the Plan (p. 14):

"No future mining is contemplated. Although the quarry is listed as a local resource for mining by the State, the location of the Quarry, its proximity to homes and businesses, and the lack of a viable market or practicable transportation strategy for the quarry product militate against future mining."

11. Describe the environmental setting and the effects of reclamation on surrounding lands.

The environmental setting is described in detail in the Plan and accompanying documents. These include assessments of wetlands and other special status habitats, special status plant and wildlife species, and cultural resources among other analyses.

Reclamation will have temporary construction-related effects on adjacent lands, these will include temporary dust, noise, and traffic impacts. However, City ordinances require dust and noise controls and traffic mitigation where temporary impacts occur. As well, grading is confined to the old Quarry site which was mined in the not so distant past and which is well-buffered from existing neighborhoods and shops. Finally, implementation of the reclamation plan may have impacts to special status species and wetlands as discussed in the various assessments. No other long-term impacts are expected as the Quarry will be reclaimed to a state similar to current conditions but with the safety and access issues resolved. The City CEQA review for the Reclamation Plan will explore these issues in more detail and is the appropriate vehicle for this discussion.

12. Describe public health and safety considerations for future use

SMARA requires that reclamation leave the formerly mined site in a safe condition for the public. As noted in the Access Plan (attached to the Reclamation Plan) and subsequent discussions with the City, access at the Quarry currently is unsafe and hazardous. Additionally, as described in the Geotechnical report, the hilltop area and the southern bluff include over-steepened slopes that threaten slope stability.

Providing safe access (as described in the Access Plan), and safe slopes, as described in the Reclamation Plan, are two of the primary aspects of this Plan. In short, after implementation of the Plan, Quarry site access will be relatively safe and without unsafe slopes at the accessways.

13. Describe slopes relative to gradient and steepness

The Reclamation Plan Geotechnical Report (Attachment B) addresses slope stability, gradients, and proposed treatment of the soils. Also see attached slope analysis by Walsh Engineering.

14. Identify additional mining areas needed for backfill

There will be no additional mining on-site. Cut and fill are balanced on-site as indicated in the Plan. As noted in the Plan (p. 17), about 108,300 cubic yards (CY) of material will be cut, primarily from the hilltop and a bit from the southern bluff and that material will then be used to provide a buttress fill along the southern bluff and in the quarry pit to provide safe slopes in all three of these areas.

15. Describe fill compaction methods

There are no buildings or other facilities proposed as part of the Plan. Only one road is proposed, along the east flank, and its geotechnical requirements are described in the Geotechnical Report (Attachment B).

16. Identify any stream diversions

As described in the Plan (Drainage, see p. 18), water from the graded portions of the Quarry will drain into the new basin in the Quarry floor. The basin will then drain through a side-pipe outlet into the existing pipes under the Calera Creek accessway (see Appendix H, Sheet 2 for a detail).

Calera Creek at this point flows through 3, 72″ diameter pipes per the as-built plans provided by the City. Our outflow will tie into the most northerly 72″ culvert pipe and match the springline of that pipe. During construction, flows through the Creek structure will be diverted away from this culvert and into the two remaining pipes.

17. Identify areas of mine waste and disposition

The Geotechnical Report identifies the specific areas of fill and dumped fill, much of which is remnant from the mine. This discussion is summarized in the Plan on pp 10-11. Where the material and underlying rock are forming unsafe slopes, as at the hilltop and southern bluff, these materials are being excavated and redisposed as described in the Plan. As described above in several locations, fill and dumped fill (about 108,300 CY) are being removed or "cut", primarily from the hilltop and a bit from the southern bluff and that material will then be used to provide a buttress fill along the southern bluff and in the quarry pit to provide safe slopes in all three of these areas.