

RECLAMATION PLAN AMENDMENT

Mining Operation and Closure

1. **California Mine ID #:** 91-01-008
2. **Name of mine:** Leona Quarry
3. **Location of mine:** 7100 Mountain Boulevard
Oakland, CA 94605
4. **Ownership/Operation Information:**

Owner and Operator: The DeSilva Group
11555 Dublin Boulevard
Dublin, CA 94568
(925) 828-7999

Operator's contact: David Chapman
5. **Mined mineral commodity:** Construction grade aggregate
6. **Description of reclamation activities:**

Leona Quarry has been an active surface mining operation since 1904. It is currently operating with a reclamation plan that was approved by the City of Oakland in 1988. The final quarry slopes specified in the existing reclamation plan anticipate extraction and offhaul of an additional 10 million cubic yards of material.

The Operator proposes to construct a 423-unit residential development project ("Project") for the site. Instead of quarrying an additional 10 million cubic yards of material, the Project provides for the reclamation of the existing slopes and transitioning directly to the secondary land use. To implement this plan and accommodate the City's vision of the Property's final end use of the site, it is necessary to prepare this reclamation plan amendment because the final slope configuration will differ from the existing reclamation plan

This reclamation plan amendment therefore presents a unique situation wherein reclamation activities also represent preliminary grading and development activities for the direct transition to the secondary land use of the site. The entire development Project, i.e. construction of the structures, etc., is not considered reclamation activities. Rather, reclamation includes the grading, revegetation, and hydrologic work necessary to put the site in a safe and stable condition ready for immediate construction activities.

Obtaining the City's approval of the Project requires the Operator to prepare detailed site-specific studies and reports on a variety of issues such as geology, seismology, slope stability, hydrology, and biological resources. These reports provide information that is directly relevant to this reclamation plan amendment and are consequently incorporated into this reclamation plan amendment by reference where so stated. *Pub. Resources Code § 2772(d)*.

7. Environmental review:

The Project - including the grading and site improvement activities that constitute final reclamation and are a necessary component of the overall Project - was subject to environmental review pursuant to the California Environmental Quality Act, Public Resources Code section 21000 et seq. A draft Environmental Impact Report ("EIR") was circulated for environmental review on June 10, 2002 (State Clearinghouse Number 1999042052). The public comment period closed on July 29, 2002. The final EIR was certified by the City Council on December 3, 2002.

Pursuant to court order, a draft Subsequent EIR addressing hydrology issues was circulated for public comment on October 23, 2003. See *Attachment C*. The final Subsequent EIR was released on January 14, 2004. See *Attachment C*. On February 17, 2003, the City Council certified the EIR as supplemented by the Subsequent EIR.

8. Estimated total production:

The term "production" only loosely applies to the Quarry because immediate reclamation is anticipated upon approval of this reclamation plan amendment and the issuance of a grading permit from the City. Approximately 2.637 million cubic yards of material will be moved to create the final slopes. Nearly all of this amount (2.582 million cubic yards) will be used onsite as fill to create the gentler slopes specified in this reclamation plan amendment. Approximately 55,000 cubic yards of material may be offhauled from the site.

9. Estimated annual production:

Subject to the discussion in Section 8 above, approximately 55,500 cubic yards of material will be offhauled during the anticipated 12 to 25 month reclamation period.

10. Total number of acres to be disturbed by surface mining operation: 89

11. Total number of acres to be reclaimed: 94

12. Maximum anticipated depth of mining:

No uniform depth is specified. Rather, quarry activities will result in specified slopes. See *Exhibit 1*.

13. Access to site:

The Quarry is currently accessed from Highway 580 at the Edwards Avenue exit. The entrance to the Quarry is at the intersection of Edwards Avenue and Mountain Boulevard.

14. Start-up date:

Quarrying operations commenced in approximately 1904. This amendment becomes effective when all development entitlements approved by the City are finally and conclusively upheld against any and all challenges, or at such time that the Operator obtains a grading permit to commence work, whichever is later. The Operator anticipates obtaining this grading permit on or before April 2004.

15. Time schedule for reclamation of each area disturbed by mining:

It is anticipated that all major reclamation activities will occur within approximately 12 to 25 months after issuance of a grading permit.

16. Use permit number:

The underlying entitlement to mine arises from the Quarry's status as a legal non-conforming use. The use of relocated buildings on the site is permitted by Extension of Non-conforming Use CM 87-32.

17. Approval and expiration dates for permit:

Per section 17.114.040 of the City's Planning Code, a non-conforming use may continue indefinitely. The permit for the relocated structures on the site (CM 87-32) expires in 2008.

18. Site maps:

(i) Exhibit 1: Contour map showing existing and final grades, drainage facilities, geotechnical treatments, and the locations of cross-sections. This exhibit consists of five different sheets:

Sheet 1: Final grading and locations of cross-sections

Sheet 2: Drainage features for main quarry face and eastern portion of north slope.

Sheet 3: Geotechnical treatment and drainage facilities for the western portion of the north slope.

Sheet 4: Geotechnical treatment and drainage facilities for the far western portion of the north slope.

Sheet 5: Existing topography of the Project site showing the location of the storage area.

- (ii) Exhibit 2: Cross-Sections. This exhibit includes 2 sheets: 2a and 2b.
- (iii) Attachment A, Figure IV.B-2: Aerial photograph of the Project site with overlay showing existing vegetation communities.
- (iv) Attachment E, Plate 3: Preliminary Geologic Map for Project Site.
- (v) Attachment I, Plate 1: Geologic Map for North Slope.
- (vi) Attachment M: Landscaping plan for developed areas of the Project.

19. Impact of reclamation on future mining:

Implementation of the reclamation plan amendment will prohibit future mining because it will create a site ready for immediate residential development.

20. Public health and safety:

- a. **All portals, shafts, or openings are gated from the public but preserve access for wildlife:**

No portals, shafts or other openings exist on the site.

- b. **Disposition of old equipment:**

Old equipment will be removed from the site.

- c. **Equipment stored in designated area:**

Equipment will be stored in the staging area. *See Exhibit 1, sheet 5.*

- d. **Disposal of waste products:**

No waste will be generated by reclamation activities. The only by-product from reclamation activities may consist of approximately 55,500 cubic yards of construction grade aggregate. The Operator will export this material for use at its other sites. Thus, there will be no creation or disposal of mine waste.

- e. **Structures and equipment dismantled and removed:**

All aggregate processing equipment and structures will be removed when final slopes are achieved. However, equipment such as bulldozers and backhoes will remain on site to support later phases of the Project. This equipment will ultimately be removed when the Project is completed.

End Land Use

21. Description of proposed end use:

The proposed end use will consist of a 423 unit residential development located within the boundaries of the existing Quarry. The residential units will consist of a mix of single-family homes, condominiums, and town homes. More detailed descriptions of the proposed development and housing products are incorporated by reference from the attached documents. *Attachment D*, Oakland City Planning Commission Staff Report dated October 23, 2002, pp. 3-4; *Attachment A*, Leona Quarry Draft EIR, Chapter 3; *Attachment B*, Leona Quarry Final EIR, Chapter 3. All as revised or affected by the Settlement Agreement in the matter of *Maureen Dorsey et al v. City of Oakland et al.*

22. Description of reclamation measures adequate for proposed end use:

Under this reclamation plan amendment, much less material is removed from the Quarry than anticipated under the existing approved reclamation plan. This reduced excavation does not therefore create distinct “east” and “southern” faces. Instead, the slopes blend together and are simply referred to as the main quarry face. *See Exhibit 1*, Grading Plan and *Exhibit 2*, Cross-Sections. The reclamation plan amendment includes a significantly less steep slope on the main quarry face. There will be eight benches total. Five of the benches will be 10 feet wide and three will be 30 feet wide. These wider benches are intended to afford hillside trail opportunities. The slope face angle will be much more moderate at only 22.5 degrees (2H:1V). These slopes are contrasted with the existing plan, which includes slopes ranging from 34 to 48 degrees. Several tiers of residential development will occupy the main quarry floor and step gently down to the level of Highway 580. *See Exhibit 2a*. A row of residential lots will occupy a large bench at the top of the main quarry face, adjacent to Campus Drive.

The north face, unlike the main quarry face, will not receive significant regrading. Extensive geologic mapping and geotechnical analysis was undertaken by Berlogar Associates to ensure that the north slope is stable in its current state. *Attachment I*, Geotechnical Analysis of North Slope, Leona Quarry, pp. 2 - 5. This geotechnical analysis reveals that the north slope has an overall factor of safety ranging from 1.546 to 2.787. *Attachment I*, pp. 5 - 8. Therefore, the north slope is stable in its current state.

Additional protection measures are proposed for the north slope that are consistent with those specified by the SMGB in *Special Bulletin 117: Guidelines for Evaluation and Mitigating Seismic Hazards in California*, 1997 (last update May 28, 2002). Special Publication 117 specifies the use of “removing the unstable soil and rock materials, or applying one or more appropriate slope stabilization methods (such as buttress fills, subdrains, soil nailing, crib walls, etc.)” Consistent with SMGB recommendations, proposed added protections for the eastern portion of the north slope include removal of unconsolidated fill, manual removal of unstable outcroppings, rock bolting, and rehabilitation of existing degraded benches. *Attachment I*. Special Publication 117 also recommends protection devices such as “catchment and/or

protective structures such as basins, embankments, diversion or barrier walls, and fences.” Following SMGB recommendations, catchment basins, catchment walls and a barrier fence will be installed as added protection. These structures will be maintained by a Geologic Hazard Abatement District (“GHAD”) for the Project site. *Attachment I*.

The earth-moving required for the Project is necessary to reclaim the Quarry site and replace its adverse appearance with a visually appealing, geologically stable and improved site. The reclamation of the site, and development of the Project will replace the hillside scar created by quarrying activities with an attractive project that will not be visually obtrusive, will harmonize with surrounding areas and facilities, will improve views for surrounding residents, and will provide sufficient buffering between different areas of the site in the form of spatial separation, revegetation of the Quarry site, repair of topographic features in the site, and other means as explained in detail in the EIR, the staff reports and the administrative record for the Project.

As an additional layer of protection, a GHAD has been created for the Project. A GHAD is a special government district in a specific geographic area created to address potential geologic hazards. *Pub. Resources Code § 26500*. The purpose of a GHAD is to prevent, mitigate, control or abate defined geologic hazards through maintenance, improvements, or other means. The Operator is required to fund the GHAD for the first two years of the Project. Subsequently, assessments on property owners within the Project’s boundaries will continue funding. The Oakland City Council will act as the governing board of the GHAD.

23. Prime agricultural land:

No prime agricultural lands are affected. Further, the proposed end use is not agricultural.

Geotechnical Issues

24. Geology of area surrounding site:

The geology of the general area has been extensively studied. For a more detailed description, see the discussion contained in the EIR that is incorporated by reference. *Attachment A*, pages IV.D-2, 3.

The Project site is situated on the western flank of the Oakland Hills, between I-580 and the first ridge crest to the east. Natural slopes within this area range from 30 to 50 percent gradient.

The City of Oakland lies within the geologic region of California referred to as the Coast Ranges geomorphic province. Discontinuous northwest-trending mountain ranges, ridges, and intervening valleys composed of ancient seafloor rocks characterize this province. The Franciscan Assemblage in this region of California is Jurassic - to Cretaceous - age (approximately 65 to 150 million years old) and consists primarily of

greenstone (altered volcanic rocks), basalt, chert (ancient silica-rich ocean deposits), and sandstone that originated as ancient seafloor sediments.

Contained within the Coast Ranges province is the Diablo Range, which extends from the Carquinez Straits south 170 miles to Coalinga. The Diablo Range includes Mount Diablo, the Oakland-Berkeley Hills, Mount Hamilton, and the mountains that form the eastern boundary of the Santa Clara Valley. Bedrock in this range includes the Franciscan Assemblage and other ancient marine sedimentary rocks.

25. Geology of area to be mined:

Detailed site-specific geologic mapping for this site has been conducted and is included by reference. *Attachment E*, Preliminary Geotechnical Investigation, Leona Quarry; *Attachment I*.

Bedrock at the Leona Quarry consists primarily of Leona Rhyolite and Knoxville Formation Shale. Rhyolite is a fine-grained volcanic rock formed as a molten mass that flows away from a volcanic source area. Deposition of the Leona Rhyolite occurred during the Jurassic Period (136 million to 190 million years ago). The Knoxville Formation shale was formed through alteration of mudstone originally deposited in a low-energy, shallow marine environment and then subjected to extreme pressure and heat. The Knoxville Formation dates from the Jurassic and Cretaceous Periods (65 million to 190 million years ago). Younger deposits in Leona Quarry include landslide debris, colluvium (sand and gravel material eroded from the side of the Quarry), and artificial fill materials.

Preliminary geologic study at Leona Quarry (Berlogar, 2002) subdivided the Leona Rhyolite into four units consisting of a white and red-brown rhyolite (Unit Rh-1); blue, gray, and brown rhyolite (Unit Rh-2); a tuff; and mixed rhyolite/tuff breccia. The Unit Rh-1 rhyolite is moderately fractured and underlies most of the lower portion of the Quarry (Lower Development Area) and the Restored Slope Area. Unit Rh-2 rhyolite is similar to Unit Rh-1 but darker in color and located in the central Quarry pit (upper portion of the Lower Development Area). The tuff occurs as a band on the high Quarry slope in the Restored Slope Area and is also exposed on the ridge on the lower part of the site in the Lower Development Area. The rhyolite/tuff breccia is scattered throughout the site. The Knoxville Formation is exposed on the ridge in the lower part of the Quarry and on the slope in the north-central part of the Quarry in the Undeveloped Area and consists of dark brown and black, highly fractured shale.

26. Final cut slopes:

Final grading is shown in *Exhibit 1*. Cross-sections are shown in *Exhibit 2*. These final quarry slopes were designed pursuant to site-specific geological mapping and geotechnical analyses by licensed geotechnical engineers. The specified final slopes constitute stable slopes with factors of safety that are appropriate for the Project.

Attachment F, Evaluation of Selected Geologic and Geotechnical Concerns; *Attachment I*.

Slope stability analyses by Berlogar & Associates show that the slopes are stable. The static factor of safety for the main quarry face ranges from 1.63 to 6.33. *Attachment F*, Table 2. The static factor of safety for the western portion of the north slope ranges from approximately 2.2 to 2.7. *Attachment I*, p. 5. The eastern portion of the north slope has an overall static factor of safety of approximately 1.5 - 1.6. *Attachment I*, p. 6. As discussed in paragraph 22 above, mitigation measures will be used to address small pockets of localized instability on the north slope. *Attachment I*, pp. 6 - 8.

27. Final fill slopes:

Fill is generally used in the lower development area and at the base of the slopes to create gentler grades. All un-reinforced fill slopes are 2:1 or less. Further, all fill slopes are to be compacted to standards greater than required by the Uniform Building Code. See *Attachment G*, Laboratory Testing Results, Engineered Fill, Leona Quarry.

Hydrology and Water Quality

28. Describe the drainage and erosion control plans for the site:

Site-specific drainage plans have been prepared for the Quarry that will reduce erosion as well as improve slope stability and downstream water quality. See *Exhibit 1*, sheet 4 and 5.

On the main quarry face, all eight benches will include concrete lined v-ditches that will channel surface runoff from the inter-bench slopes into one of several subsurface storm drain inlets. Each bench will contain several storm drain inlets. The inlets are connected to subsurface lines that run down the face of the slopes. Proposed revegetation activities along with the gentler reconstructed slopes will further prevent erosion and reduce the velocity of surface runoff on the main quarry face.

The drainage plan for the north slope, found on sheets 2-4 of Exhibit 1, is based upon site-specific geotechnical analysis and recommendations by Berlogar Associates. The plan calls for improving drainage opportunities for the existing features rather than relying upon significant grading activities. More specifically, the plan includes installing several subsurface storm drain lines that discharge into a detention basin. Existing benches and access roads will be fine graded to improve drainage. Concrete lined v-ditches will be installed along the improved benches to channel surface flow into the subsurface lines. Loose soil in erosion gullies will be removed and replaced with rip-rap to the plane of the slope. *Exhibit 1*, sheets 2, 3, 4.

Surface runoff from the Quarry's slopes will discharge from the subsurface storm drain lines into the Quarry's detention basin. The detention basin will contain surface

flow from a 25 year / 24 hour event, thus exceeding SMARA's requirement to detain a 20 year / 1 hour event.

Use of the above-described reconstruction of slopes, surface drainage facilities, and revegetation activities described below, will successfully minimize sedimentation and erosion from the Quarry's slopes as well as protect downstream properties from surface flows.

More detailed discussions of hydrology and water quality, if necessary, are incorporated by reference. *Attachment C*, chapter IV and appendices C, D, E, F, G, H.

29. Describe how surface runoff and groundwater will be protected in accordance with Porter-Cologne and Clean Water Acts:

The Operator will incorporate into the grading and construction specifications provisions requiring that all phases of construction implement best management practices (BMPs) to reduce and eliminate soil erosion. The contractor will implement these BMPs, and the contractor shall be responsible for the inspection and maintenance of the BMPs through all phases of construction.

The Operator will comply with all National Pollutant Discharge Elimination System (NPDES) requirements, including the preparation of a SWPPP prior to construction activities, as required by the State Water Resource Control Board's (SWRCB) General Permit for Construction Activities. Implementation of the plan starts with the commencement of construction and continues through the completion of the project. Upon completion of the project, the Operator will submit a Notice of Termination to the SWRCB to indicate that construction is completed. The SWPPP will include at a minimum:

- Excavation and grading activities will be scheduled for the dry season only (April 15 to October 15), to the extent possible. This will reduce the chance of severe erosion from intense rainfall surface runoff, as well as the potential for soil saturation in swale areas.
- If excavation occurs during the rainy season, storm water runoff from the construction area will be regulated through a stormwater management/erosion control plan that may include temporary on-site silt traps and/or basins with multiple discharge points to natural drainages and energy dissipaters. Stockpiles of loose material will be covered and runoff diverted away from exposed soil material. If work is stopped due to rain, a positive grading away from slopes will be provided to carry the surface runoff to areas where flow can be controlled, such as the temporary silt basins. Sediment basin/traps will be located and operated to minimize the amount of offsite sediment transport. Any trapped sediment will be removed from the basin or trap and placed at a suitable location on-site, away from concentrated flows, or removed to an approved disposal site.

- Temporary erosion control measures will be provided until perennial revegetation or landscaping is established and can minimize discharge of sediment into nearby waterways. For construction within 500 feet of a water body, straw bales will be placed upstream adjacent to the water body.
- After completion of grading, erosion protection will be provided on all cut-and-fill slopes. Revegetation will be facilitated by mulching, hydroseeding, or other methods and should be initiated as soon as possible after completion of grading and prior to the onset of the rainy season (by November 1).
- Permanent revegetation/landscaping will emphasize drought-tolerant perennial ground coverings, shrubs, and trees to improve the probability of slope and soil stabilization without adverse impacts to slope stability due to irrigation infiltration.
- BMPs selected and implemented for the project will be in place and operational prior to the onset of major earthwork on the site. The construction phase facilities will be maintained regularly and cleared of accumulated sediment as necessary.

The Operator will prepare and implement a SWPPP for the Project as required by the San Francisco Bay RWQCB under its NPDES General Permit. The SWPPP will be updated as needed to reflect changes in the project design and site conditions.

- Berms will be constructed in the project area with sediment catchment basins in depressions and stormwater collection areas in the construction zone, using hay bales or other structures suitable to minimize sediment from being transported and deposited outside of the construction zone. Catchment basins and berms will be incorporated into the final project design.
- The SWPPP will outline interim and permanent stabilization practices, including a schedule for implementation, to ensure that disturbed portions of the project site are stabilized as quickly as practicable.
- The use of sediment control basins, sediment traps, silt fences, vegetative buffer strips, or equivalent control measures will be taken to rescue sediment and pollutant loads into sensitive riparian and wetland habitats.

30. Ground water accessed by others will not be impacted:

Implementation of the reclamation plan amendment will have no negative impact on groundwater in and surrounding the Quarry. See *Attachment A*, p. IV.D-29.

Groundwater recharge is not affected. Hills naturally have limited recharge capability. Creating the proposed gentler slopes will actually improve the possibility for groundwater recharge at the site.

Groundwater storage capacity is not negatively impacted. The material removed from the Quarry is bedrock, which is not a natural aquifer. Further, applying significant amounts of engineered fill to reduce the slopes will potentially increase the groundwater storage capacity.

The quality of the ground water will not be impacted. Sedimentation will be controlled through the use of the above-described stormwater drainage facilities. There will be no other contaminants onsite that have the possibility for impacting groundwater.

A more thorough discussion of groundwater impacts is contained in the EIR for the Project. See *Attachment A*, p. IV.D-29 – 30.

31. Discuss how contaminants will be controlled and mine waste will be disposed:

Hazardous materials such as fuels and solvents used on the construction sites will be stored in covered containers and protected from rainfall, runoff, and vandalism. A stockpile of spill cleanup materials will be readily available at all construction sites. Employees will be trained in spill prevention and cleanup, and individuals will be designated as responsible for prevention and cleanup activities.

No mine waste will be created.

Environmental Setting and Protection of Fish and Wildlife Habitat

32. Environmental setting, including vegetation:

The site is located in the San Francisco Bay Area, which has a Mediterranean climate and supports a broad range of habitats including mosaics of oak and mixed evergreen forests, native and non-native grasslands, chaparral, upland scrubs, marsh and wetland communities, and riparian scrubs and forests.

33. Conservation and mitigation of sensitive species and habitats:

Detailed biological inventories were prepared for the Quarry that identified specific vegetative communities present at the Quarry as well as special-status species that are potentially impacted by reclamation activities. These studies are incorporated by

reference. See *Attachment A*, Chapter IV-B; *Attachment B*, pp. V-1 – 4; *Attachment D*, pp. 24-26.

Three separate site-specific analyses, including on-site visits, were conducted to determine the presence of the Alameda Whipsnake (“AWS”). The AWS is a species that is listed on the federal and state Endangered Species Acts. The AWS inhabits primarily chaparral, Diablan sage scrub, northern coyote brush scrub, and riparian scrub communities.

No AWS were found during any of the on-site visits and the site-specific analyses indicated that the site contains potential AWS habitat although it is highly unlikely that any AWS actually use or occupy the site. Reclamation activities will remove 18.3 acres of potential low-quality AWS habitat and replace it with 37 acres of higher quality AWS habitat. The 37 acres of created habitat will also provide a wildlife movement corridor between currently separated habitat north and south of the Quarry. Thus, reclamation activities will improve wildlife habitat at the Quarry.

Reclamation activities could also adversely affect nonlisted special-status nesting raptors and other nesting birds during the breeding season. The Operator will conduct conservation activities to minimize potential impact on these species from reclamation activities:

The Operator will ensure that construction activities avoid disturbing nests of raptors or other special-status birds through implementation of the Special-Status Species Mitigation and Monitoring Plan.

The Operator will confine construction activities to the Lower Development Area, Campus Drive Area, Restored Slope Area, and revegetation areas of the Undeveloped Area through fencing, markers, signs, or other means as approved prior to construction activity.

The Operator will avoid disturbance to the roosts of special-status bats during the breeding season through the implementation of the Special-Status Species Mitigation and Monitoring Plan.

34. Discuss wildlife protection and habitat protection measures:

Reclamation activities will create a wildlife movement corridor for species that inhabit chaparral and coastal scrub habitat areas north and south of the Quarry.

In addition to mitigating for the disruption of potential low-quality AWS habitat, the Operator will conduct detailed conservation efforts to ensure no harm to any AWS individuals. The efforts include:

(i) The Operator will ensure that construction-related impacts to individual Alameda whipsnakes are avoided through the development and implementation of a

Special-Status Species Mitigation and Monitoring Plan. This Mitigation and Monitoring Plan includes the following elements:

- A description of the species habitat requirements and movement patterns applicable to the project area;
- A procedure for conducting preconstruction surveys before the onset of either initial ground-disturbing activity or restoration of the disturbed slopes each day that these activities will occur. The plan shall require a qualified wildlife biologist to conduct pre-construction surveys by carefully probing and hand-excavating all burrows and rock outcrops in the construction footprint/Restored Slope Area that are shown as potential “low quality habitat.” In addition, the biologist will supervise the hand removal of all vegetation in the construction footprint. After the area has been searched for snakes, a barrier fence or “herp fence” will be installed between the areas of potential habitat and the construction zone, to ensure that any AWS do not stray into the area during the course of development. Specifically, the area along the northern portion of the Lower Development Area that will abut the Undeveloped Area will be fenced. The fence will be installed to prevent snake movement (if any are present) under or over the fencing;
- A protocol for the selection of qualified wildlife biologist staff the project for the duration of construction;
- Up to 3 full-time construction “monitors” will be on-site to perform regular inspections of potential AWS habitat and ensure that the “herp” exclusion fence is maintained appropriately. These monitors will also expedite species identification should construction personnel observe snake species within the development area. Construction monitors will be on-site during all times that grading is occurring in low potential habitat areas. After the grading is completed, monitors will make regular inspections on a weekly basis and as needed for specific work near potential habitat;
- Worker education materials and procedures for informing construction crews about the potential presence of Alameda whipsnake, responsibilities of project personnel, and authority of the monitoring staff; and
- Clear direction and other procedures as required to (1) identify a potential threat to an individual Alameda whipsnake; and (2) eliminate threatening activities in the vicinity of the snake, including notification of the USFWS within 24 hours. Monitors shall have the authority to halt construction activities, but will not be allowed to relocate whipsnakes.

(ii) The Operator will develop and distribute educational materials for all new homeowners describing the sensitive natural resources of the site and urging control of domestic pets. The Covenants, Conditions & Restrictions (CC&R) will stipulate that there will be no feeding of feral cats. Signage will be installed along the perimeter of open space area at intervals of not more than 300 feet describing the open space as natural habitat to be protected and prohibiting destruction of vegetation, wheeled vehicles, and uncontrolled animals.

(iii) As part of the Project, 37 acres of suitable habitat will be created. In addition, Restored Slope areas and any undeveloped areas mapped as “Alameda Whipsnake Potential Habitat” in Figure IV.B-4 of the EIR will not be used for recreational trails and will be fenced with split-rail, post-and-cable or other symbolic fencing. Permanent signs will be placed at 100-foot intervals along the fence specifically excluding wheeled vehicles and off-leash dogs.

(iv) The Operator will ensure that construction activities avoid disturbing nests of raptors or other special-status birds through implementation of the Special-Status Species Mitigation and Monitoring Plan.

(v) The Operator will confine construction activities to the Lower Development Area, Campus Drive Area, Restored Slope Area, and revegetation areas of the Undeveloped Area through fencing, markers, signs, or other means as approved prior to construction activity.

(vi) The Operator will avoid disturbance to the roosts of special-status bats during the breeding season through the implementation of the Special-Status Species Mitigation and Monitoring Plan.

The Operator will also mitigate for the removal of trees protected by a City Ordinance through the following measures:

(i) The project applicant shall implement a revegetation plan approved by the City and consistent with the City Tree Protection Ordinance. Implementation of this plan will mitigate for the removal of protected trees. The elements of the Plan include:

- A diverse planting of coast live oak, valley oak, blue elderberry, California buckeye, and California bay;
- Installation of trees from pot containers that are 4 inches wide by 14 inches long that are grown from propagules of local origin, collected from the project site and immediately adjacent areas;
- Replacement of protected trees either on-site in a planting regime that allows for post-planting mortality and assures an eventual replacement at a ratio of at least 1:1, or the substitution of an in lieu fee if

replacement trees cannot be planted on-site due to site constraints, as indicated by the City Tree Protection Ordinance;

- Installation of foliage protectors (cages and tree shelters) to protect the planted trees from wildlife browse;
 - Regular maintenance of the planted trees during a minimum three-year establishment period, after which time the native tree plantings are typically capable of survival and growth without supplemental irrigation, and weed control (maintenance during the plant establishment period will include irrigation, as needed, weed control, plant protection measures, and plant replacement);
 - Annual monitoring one, two, three, and five years after installation by a qualified restoration ecologist/botanist. Plant survival shall be evaluated with field surveys. Individual trees shall be tagged during the first year of implementation, catalogued in a data base, and surveyed for survival, growth, and vigor. Monitoring reports will be prepared annually and submitted to the City of Oakland. If at any point during the five-year monitoring period, the mitigation plan is judged to have not been successful, the mitigation action shall be re-initiated, after modification as necessary, and monitored for a succeeding five-year period; and
- (ii) Additional revegetation measures consistent with the City Tree Protection Ordinance.

More exhaustive discussions of wildlife and habitat protection measures are incorporated by reference. *Attachment A*, pp. IV(B)-23 through IV(B)-35; *Attachment B*, pp. V-1 - 4.

35. Discuss impact on wetlands:

No wetlands will be impacted by reclamation activities. *See Attachment A*, DEIR pp. IV.B-10 - 12.

Resoiling and Revegetation

36. General discussion of revegetation activities:

Revegetation activities for the Project are divided into three general areas: (1) the graded main quarry face; (2) the ungraded north slope; and (3) the lower development area. The first two areas are collectively referred to as “open space” areas and are addressed by revegetation plans prepared by H.T. Harvey & Associates. *Attachment J*, Leona Quarry Conceptual Revegetation Plan for Reconstructed Slopes; *Attachment K*, Leona Quarry North Slope Conceptual Revegetation Plan. These attached plans are incorporated by reference. A plan by Bradanini & Associates outlines landscaping

activities in connection with the residential construction in the lower development area. *See Attachment M, Landscape Plan Leona Quarry.* This landscaping plan is provided for reference only. Landscaping in the development area is not considered a portion of the reclamation activities set forth in this reclamation plan amendment as such landscaping will occur with the final phases of the development of the Project, well after the other aspects of reclamation are complete.

a. **Restored Slope:**

The revegetation plan calls for the restoration of three locally native habitat types including a California sagebrush plant association, a chamise plant association, and an oak woodland plant association. A conceptual plan showing the locations of the habitat types has been prepared. *See Attachment J, Figure 8* (plan view layout of trees and shrubs to be planted). Monitoring and maintenance activities are specified including irrigation, maintenance of foliage protectors, removal of invasive species, and replanting dead plants if survival rates drop below 80%. On-site test plots have been installed to determine vegetation response and cost-effectiveness of several different revegetation techniques.

b. **North Slope:**

Only a portion of the north slope (approximately 10.2 acres) will receive revegetation treatment because a majority of the area is currently covered by suitable vegetation including potential AWS habitat. *See Attachment K, figure 2.* Superbenches, fill areas, and gully repair areas will receive soil and mechanically applied soil amendments. *Attachment K, section 3.0.* Container-grown trees and shrubs will be planted of the scrub and oak woodland associations. Specific species are specified in the revegetation plan. *Attachment K, Table 3.* Hydroseeding with a mix of native herbaceous and shrub species will also occur in less accessible portions of the north slope. *Attachment K, section 4.1 and Table 2.* Maintenance activities may include irrigation, weed control, maintenance of foliage protectors, and dead plant replacement.

c. **Development Area:**

The landscaping plan will address revegetation in the developed portion of the Project site. The landscaping plan will not address “open space” areas but rather developed areas such as arterial roadsides, residential roadsides, open space areas between building clusters, parks and play areas. Landscaping will also be used to screen the detention basin and highway 580.

Plant species are selected based upon where and how they will be used in the development area. A mix of larger trees such as oaks, cedars, poplars and eucalyptus species will be used for major arterial roads. The open areas between building clusters will be planted with moderately scaled native/naturalized species including oaks, toyon, manzanita, coyote brush and redbuds, planted within a native grass and wildflower groundplane. Trees planted along residential street will form a strong shaded streetscape

and include flowering pear, cherry, crabapple, loquat, and laurel. Finally, trees used to screen highway 580 include a mix of fast growing evergreen trees such as olive, carob, oleander, and eucalyptus species.

The landscaping plan for the developed area will include the following elements:

- (i) Complete soils information, including soil preparation and amendment specifications, soil particle size for existing site soils and imported soils, representative soils and water table tests confirming the suitability of the site for the plant materials selected.
- (ii) Detailed plans for the corner of Mountain Boulevard and “A” Street to assure adequate buffering and screening of the parking area.
- (iii) Details for transitions between natural and more cultivated areas.
- (iv) Details and specifications for other landscaping features such as street furniture, rocks, and, in accordance with subsection (h), any water feature along “A” Street.
- (v) Design and specifications for the public pathways throughout the site.
- (vi) Design of the park, tot lots and other recreational features, as follows:
 - Leona Park: approximately 2 acres including a 15,000 square foot open lawn area providing play space for volleyball, Frisbee and a small soccer field; a 1,600 square foot active play area for 6 to 10 year olds. The play equipment will include climbing structures, slides and tire swings. A tree shaded gathering place, including picnic tables will also be included near the tot lot.
 - All play surfaces and play structures throughout the development will comply with ADA standards.
 - Village Green: This feature in the center of the Phase One Condominiums will include low, 30 inch stone walls that will form two, 10 foot wide terraces stepping up to “C” Street, planted with shaded trees. The stone terraces, along with the 28,000 square foot open lawn area will provide an informal gathering place. Adjacent to the law area is a 2,500 square foot tot lot play area for children 1-5 years old, including interactive play equipment promoting gross motor skills. A pathway will encircle the play area with a 5 foot stone wall along one edge; this feature will also include a built in fort-like structure with sculptural elements for climbing and play.

- “J” Street Play Area: This 2,800 square foot area is crescent shaped and will be cut into the uphill slope of the site. A rock climbing wall approximately 6 feet high will be included in the design, along with a bicycle and mini-skateboard ramp for active recreation for ages 10 – 18.
- “K” Street Greenway Park: This feature is an approximately 1,050 square foot linear greenway along upper “K” Street. It will include a lawn and tree shaded area for passive activities, along with a series of par-course exercise stations along a 5 foot wide meandering pathway, with periodic bench seating areas.
- “K” Street Open Space: This feature is an area of approximately 2,500 square feet within two level terrace spaces for passive recreation. An overhead shade trellis with bench stations will be included in the design.

37. Discuss how topsoil will be salvaged, maintained and redistributed:

Little topsoil remains onsite due to the nearly 100-year history of operations at the Quarry. This fact notwithstanding, H.T. Harvey and Associates has prepared a site-specific assessment of topsoil salvage and reuse opportunities. This discussion specifies salvage techniques, topsoil stockpiling, soil analysis, soil amendments, soil preparation, and topsoil application. The discussion is incorporated by reference. *See Attachment J*, pp. 13 - 23; *Attachment K*, section 3.1. All salvageable topsoil will be used.

38. Monitoring and maintenance activities:

H.T. Harvey’s revegetation plans specify ongoing maintenance activities including irrigation, weed management, plant protection measures and replanting if necessary to compensate for plant mortality. *Attachment J*, sections 5.5 - 5.7; *Attachment K*, sections 4.3 - 4.5.

Irrigation should not be necessary after two years due to the use of drought-tolerant target plant species; however, additional irrigation will be provided if subsequent conditions require. *Attachment J*, section 5.5; *Attachment K*, section 4.3.

39. Plant during correct season:

All planting shall occur during the correct planting season (October – March). This requirement is included in the Project’s conditions of approval:

Prior to the issuance of a certificate of occupancy for any unit within the Project (except for model homes) all of the reclamation work will be completed; provided, however, that the revegetation work must be commenced at the earliest feasible time in accordance with season planting requirements and may be completed after the first

certificate of occupancy is issued, so long as the Operator continues to diligently complete such work in accordance with seasonal planting requirements.

40. Test plots:

A pilot revegetation plan, using on-site test plots, has been prepared to test and analyze the vegetation response and cost-effectiveness of several different revegetation techniques. The attached pilot revegetation plan is incorporated by reference. *Attachment L.* An update on the results of the pilot plan has also been prepared. *See Attachment K, section 1.0.*

Administrative Requirements

41. Lead Agency Information:

Lead Agency: City of Oakland
Staff Contact: Marcel Uzegbu
Public Works Agency, Engineering Design Division
Telephone Number: (510) 238-6257
Address: 250 Frank H. Ogawa Plaza, Suite 4314
Oakland, California 94612-2032

42. Attach Copy of Financial Assurance: *See Exhibit 3.*

Statement of Responsibilities:

I, the undersigned, hereby agree to accept full responsibility for reclamation of all mined lands as described and submitted herein and in conformance with the applicable requirements of Articles 1 and 9 (commencing with Sections 3500 et seq. and 3700 et seq., respectively) of Chapter 8 of Division 2 of Title 14 of the California Code of Regulations, the Surface Mining and Reclamation Act commencing with Section 2710 et seq., and with any modifications requested by the administering agency as conditions of approval.

Mine Operator's Agent: _____ Date: _____

List of exhibits to the reclamation plan amendment:

1. Final and existing slope configurations and drainage facilities (5 sheets)
2. Cross-sections (2 sheets)
3. Financial assurances cost estimate

List of attached documents that are incorporated by reference into the Reclamation Plan Amendment:

- A. Environmental Science Associates, *Leona Quarry DEIR*, dated June 10, 2002 [SCH No. 1999042052]
- B. Environmental Science Associates, *Leona Quarry FEIR*, Vol. I - III, dated September 23, 2002
- C. Environmental Sciences Associates, *Leona Quarry Supplemental DEIR*, dated October 22, 2003 and *Leona Quarry Supplemental FEIR*, dated January 14, 2004
- D. *Oakland City Planning Commission Staff Report*, dated October 23, 2002 [Case file Numbers: PUD 02-437, RZ 02-437, VDR 02-439, TTM 7351 and ER 01-33]
- E. Berlogar Geotechnical Consultants, *Preliminary Geotechnical Investigation, Leona Quarry*, dated September 26, 2000
- F. Berlogar Geotechnical Consultants, *Evaluation of Selected Geologic and Geotechnical Concerns, Leona Quarry*, dated February 11, 2002
- G. Berlogar Geotechnical Consultants, *Laboratory Testing Results, Engineered Fill, Leona Quarry*, dated May 22, 2002
- H. Berlogar Geotechnical Consultants, *Investigation of Shear Previously Inferred by Golder Associates, Leona Quarry*, dated August 28, 2002
- I. Berlogar Geotechnical Consultants, *Geotechnical Analysis of North Slope, Leona Quarry*, dated December 18, 2002
- J. H.T. Harvey & Assoc., *Leona Quarry Conceptual Revegetation Plan for Reconstructed Slopes*, dated August 23, 2001 (figures 2 and 8 updated May 9, 2002)
- K. H.T. Harvey & Assoc., *Leona Quarry North Slope Conceptual Revegetation Plan*, dated December 18, 2002
- L. H.T. Harvey & Assoc., *Leona Quarry Pilot Revegetation Plan*, dated September 24, 2001
- M. Bradanini & Assoc., *Landscape Plan Leona Quarry*, dated October 2, 2002