CITY OF HAYWARD
MITIGATED NEGATIVE DECLARATION

Notice is hereby given that the City of Hayward finds that the following proposed project could not have a significant effect on the environment as prescribed by the California Environmental Quality Act of 1970, as amended.

I. PROJECT DESCRIPTION:

General Plan Amendment No. PL-2005-0157; Zone Change No. PL-2005-0158 & Vesting Tentative Tract Map 7620/PL-2005-0156 – The DeSilva Group (Applicant) / Dumbarton Quarry Associates, The DeSilva Group, Howard M. Settle, Maxine F. Theobald, Andrew E. Garin and Richard S. & Annette P. Warren (Property Owners) - Request to subdivide 162 acres to develop 179 single-family lots and a neighborhood park and community center.

The Project is located at 28806 and 28816 Mission Boulevard (La Vista Quarry) in unincorporated Alameda County, located east of Mission Boulevard (State Highway 238) and west of Garin Regional Park.

The 162-acre site is proposed for subdivision (Tract 7620) for development of 179 single-family residential lots and related streets on 29.4 acres, a 16-acre neighborhood park with stormwater detention basins, a community center or additional park area on 14.6 acres and open space and trails on the remaining 102 acres (see attached Exhibit A). The project developer will be required to install an additional water tank at the Garin Reservoir site, located south of the project site off Garin Avenue. The project would also entail construction of an eastward extension of Tennyson Road from Mission Boulevard to the development, as well as a new connector road leading from the development to Alquire Parkway.

The project also entails 1) amendments to the City of Hayward's General Plan Land Use designations to *Limited Medium Density Residential* (8.7 to 12.0 dwelling units per net acre) for the residential portion of the site, to *Parks and Recreation* for the park and community center sites, with the remainder of the site proposed to remain *Limited Open Space* (see attached Exhibit B) and 2) amendments to zoning/prezoning designations, to a *Planned Development (PD) District* for the residential area of the property and eastern hillside and to *Open Space/Parks and Recreation (OS)* for the park/community center areas, with the remainder of the site to remain as *Agriculture (AB10A)* (see attached Exhibit C). The property is proposed to be annexed into the City of Hayward, and an environmental impact report (SCH # 2002072047) was certified by the City of Hayward related to the proposed annexation in July of 2003.

II. FINDING PROJECT WILL NOT SIGNIFICANTLY AFFECT ENVIRONMENT:

The proposed project, with the mitigation measures identified in the attached initial study checklist, will not have a significant effect on the environment.

FINDINGS SUPPORTING DECLARATION:

1. The proposed project has been reviewed according to the standards and requirements of the California Environmental Quality Act (CEQA) and an Initial Study Environmental Evaluation Checklist has been prepared for the proposed project. The Initial Study has determined that the proposed project, with the recommended mitigation measures, could not result in significant effects on the environment.

2. The project will not adversely affect any scenic resources. A lighting plan will be required to ensure that light and glare does not affect area views. Landscape plans will be required to ensure that the number and sizes of trees is not substantially reduced during construction of the project and that the required new water tank at the Garin Reservoir site is adequately screened.

3. The project will not have an adverse effect on agricultural land since the subject site is not used for such purposes, does not contain prime, unique or Statewide important farmland and has been used and continues to be used for an active surface mining operation.

4. The project will not result in significant long term impacts related to changes in air quality, provided an Asbestos Dust Mitigation Plan approved by the Bay Area Air Quality Management District and standard dust control measures are implemented.

5. The project will not result in significant impacts to biological resources, including wildlife and wetlands, in that resource-agency approved assessments and surveys will ensure no such resources exist and if they do, resource agency-approved mitigation plans are implemented.

6. The project will not result in significant impacts to known cultural resources including historical resources, archaeological resources, paleonotological resources, unique topography or disturb human remains.

7. The project site is located within a "State of California Earthquake Fault Zone"; however, fault trenching was conducted to locate fault traces to ensure no habitable structures would be built closer than 50 feet to a fault trace. Furthermore, recommendations of the project geotechnical consultant will be required to be incorporated into project design and implemented throughout construction, to address such items as landslides, erosion gullies on the eastern hillside, nonengineered on-site fill to be used as engineered fill and post-grading ground settlement. Also, construction will be required to comply with the Uniform Building Code standards to minimize seismic risk due to ground shaking.

8. Any potentially-containing asbestos material will be required to be buried at least 10 feet below finished grade in the development area, with the "asbestos" cap in the top 10 feet to be tested to ensure it is "clean." Also, as part of standard reclamation for the closure of the La Vista Quarry, site remediation will be required for any hazardous or toxic materials that exist on site.

9. The project will be required to meet all water quality standards as part of the normal development review and construction process. Drainage improvements will be made

to accommodate storm water runoff and the stormwater drainage system, including the proposed detention basins in the western part of the site, will be required to show via engineering calculations that they would not negatively impact the existing downstream drainage system of the Alameda County Flood Control and Water Conservation District.

10. The project proposes amendments to the Hayward General Plan Land Use and Zoning (prezoning) designations for the site. The project site will be required to be annexed into the City of Hayward prior to issuance of construction permits and be consistent with the City of Hayward's Hillside Design Guidelines and Mission-Garin Annexation Area Special Design District (SD-5) provisions, in the context of the proposed Planned Development District. Also, the project will be required to be consistent with the final reclamation plan approved for closure of the existing quarry operation.

11. The project could not result in a significant impact to mineral resources because other quarries in the vicinity would compensate for any lost materials due to development of the project site. Also, the development would be more consistent with the existing residential setting and would provide needed housing for Hayward, including affordable housing.

12. The project will be required to meet state minimum interior and exterior noise levels. As is typical for larger development projects in Hayward, construction noise will be mitigated through restriction on construction hours, mufflers, etc., to be approved as part of a Construction Noise Management Plan.

13. The project will not result in significant impacts related to population and housing in that the amount of development proposed is within the range of development analyzed in the Hayward General Plan Environmental Impact Report (SCH #: 2001072069), certified by Hayward in March of 2002, and in the Mission-Garin Annexation Project Program Environmental Impact Report (SCH #: 2002072047), certified by Hayward in July of 2003.

14. The project will not result in a significant impact to public services in that proposed development was analyzed in the Hayward General Plan EIR and Mission-Garin Annexation Project Program EIR.

15. The project will not result in significant impacts to traffic, including levels of service at surrounding intersections, as was shown in the Mission-Garin Annexation Project Program EIR, which analyzed a range of development that exceeds that proposed.

III. PERSON WHO PREPARED INITIAL STUDY:

David Rizk

David Rizk, AICP, Associate Planner
Dated: June 6, 2005

IV. COPY OF INITIAL STUDY IS ATTACHED

For additional information, please contact the City of Hayward, Planning Division, 777 B Street, Hayward, CA 94541-5007, telephone (510) 583-4004, or e-mail david.rizk@hayward-ca.gov.

DISTRIBUTION/POSTING

- Provide copies to all organizations and individuals requesting it in writing.
- Reference in all public hearing notices to be distributed at least 30 days in advance of initial public hearing and/or published once in Daily Review at least 30 days prior to hearing.
- Project file.
- Post immediately upon receipt at the City Clerk's Office, the Main City Hall bulletin board, and in all City library branches, and do not remove until the date after the City Council public hearing.

La Vista Development
Mitigation Monitoring and Reporting Program

General Plan Application No. PI-2005-0157;
Planned Development Application No. PI-2005-0158;
Vesting Tentative Tract Map 7620/PI-2005-0156;
The DeSilva Group (Applicant)
The DeSilva Group, Dumbarton Quarry Associates,
Howard M. Settle, Maxine F. Theobald, Andrew E. Garin and
Richard S. & Annette P. Warren (Owners)

June, 2005

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact I-c: visual character: *Additional trees may be required to be removed in the western area of the park and possible community center, which could degrade the existing visual character of the site. Also, the project would also entail construction of an additional water tank at the Garin Reservoir site, located to the south off Garin Avenue. The introduction of a new tank could also degrade the existing visual character of the surrounding site in the area.*	***Mitigation Measure I-c:*** ***In accordance with Mitigation Measure 4.1-1 of the Mission-Garin Annexation Program Project Environmental Impact Report (MG EIR), the additional tank will be required to be painted neutral, earth-tone colors to blend in with the natural environment and screened with trees and shrubs, in accordance with the City's Hillside Design Guidelines. Also, any tree removals shall be replaced with new trees equal in size and species or value, in accordance with the City's Tree Preservation Ordinance, to be approved by the City Landscape Architect. Implementation of such measure will ensure such impacts generated by the project are less than significant.***	Project developers, including project landscape architect and contractor.	City of Hayward Planning Division, Engineering and Transportation Division and Building Division	Trees: Prior to project finalization. Water Tank: At time of construction of water tank at the Garin Reservoir site and prior to final of building permit.

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact I-d (lighting): *Proposed street lights and exterior lighting associated with new homes could adversely affect nighttime views of the area from surrounding homes in the area and from views toward the hills from the west.*	***Mitigation Measure I-d:*** ***In accordance with MG EIR Mitigation Measure 4.1-3, a detailed lighting plan shall be provided, to be submitted as part of a precise development plan, to incorporate fixtures that shall ensure that lighting off of the project site will be minimized, to prohibit landscape uplighting, with fixtures and plan to be approved by the Planning Director. Implementation of such measure will ensure lighting and glare impacts are less than significant.***	Project Developers, including project architect and general contractor	City of Hayward Planning Division, Building Division and Engineering and Transportation Division	Approvals to be granted prior to installation and verification of such lights to be granted prior to project finalization

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact III-b (naturally occurring asbestos): *Serpentinite fragments that may exist in the unengineered fill on site and in imported material brought to the site have the potential to contain asbestos material, which could be released into the air if disturbed, which could negatively impact nearby residents.*	***Mitigation Measure III-b:*** ***Prior to the start of any construction or grading activity, including hauling of material to the project site, an asbestos dust mitigation plan approved by the Bay Area Air Quality Management District (BAAQMD) shall be implemented throughout the duration of construction or grading activity. In accordance with the State's "Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations" (CCR Title 17, Division 3, Chapter 1, Subchapter 7.5, Sections 93105 et seq.), the dust mitigation plan must specify dust mitigation practices which are sufficient to ensure that no equipment or operation emits dust that is visible crossing the property line, and must include one or more provisions addressing each of the following topics:*** ***a) Track-out prevention and control measures.*** ***b) Keeping active storage piles adequately wetted or covered with tarps.*** ***c) Control for disturbed surface areas and storage piles that will remain inactive for more than seven (7) days.***	Project Developers, including project grading and construction contractors	Bay Area Air Quality Management District, Hayward Public Works Department personnel and Hayward's grading inspector consultant	Obtain approval from Bay Area Air Quality Management District prior to start of grading, implement provisions of Asbestos Dust Mitigation Plan throughout project grading and construction

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact III-b (naturally occurring asbestos), cont…	***d) Control for traffic traveling on project site unpaved roads, parking lots and staging areas.*** ***e) Control for earth moving activities.*** ***f) Control for off-site transport.*** ***g) Post construction stabilization of disturbed areas.*** ***h) Air-monitoring for asbestos (if required by the BAAQMD's Air Pollution Control Officer).*** ***i) Frequency of reporting.*** ***Implementation of such measures will ensure air quality impacts related to naturally occurring asbestos are less than significant.***			

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact III-c (particulate matter): *The project, which is proposed to entail roughly 3.16 million cubic yards of balanced on-site cut and fill grading, and also approximately 416,000 cubic yards of imported material, has the potential through the release of dust, to exceed particulate matter standards and negatively affect local residents.*	***Mitigation Measure III-c:*** ***In accordance with MG EIR Mitigation Measure 4.2-1, grading activities shall incorporate standard dust control measures, to include, but not be limited to frequent watering of the site, use of soil stabilizers, hydroseeding of graded areas and other measures that comply with Bay Area Air Quality Management District recommendations for dust control. Project construction grading plans shall state such measures on the plans, to be approved by the Hayward Public Works Department staff. Implementation of such measure will ensure such impacts are less than significant.***	Project Developers, including project grading and construction contractors	Hayward Public Works Department personnel and Hayward's grading inspector consultant	Obtain approval from Hayward Public Works Department prior to issuance of grading permits; implement dust control measures throughout project grading and construction
Impact III-d (fine particulate matter): *The proximity of proposed grading, including truck traffic associated with hauling of grading material, to adjacent residences has the potential to expose occupants of those homes to elevated levels of fine particulate matter.*	***Mitigation Measure III-d:*** ***Implement Measures III-b and III-c above, which will ensure such air quality impacts are less than significant.***	Project Developers, including project grading and construction contractors	Hayward Public Works Department personnel and Hayward's grading inspector consultant	Obtain approval from Hayward Public Works Department prior to issuance of grading permits; implement dust control measures throughout project grading and construction

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact IV-a (special-status species): *Given the proximity of the project to Garin Regional Park, the project has the potential to significantly impact special-status plant and animal species and their habitat.*	***Mitigation Measure IV-a:*** ***In accordance with Mitigation Measures 4.3-5 through 4.3-6 of the Mission-Garin Annexation EIR, prior to the start of grading or construction, the U.S. Fish and Wildlife Service (USFWS) shall confirm all habitat assessments conducted by Wetland Research Associates for California red-legged frog and Alameda whipsnake. If California red-legged frogs or Alameda whipsnakes and/or their occupied habitats are determined to be present based on results of habitat assessments or protocol-level surveys, then a project specific California red-legged frog and/or Alameda whipsnake mitigation plan should be developed, approved by the USFWS and CDFG prior to development, and implemented.*** ***In accordance with Mitigation Measures 4.3-7 through 4.3-8 of the Mission-Garin Annexation EIR, prior to the start of grading or construction, surveys utilizing protocols acceptable to the resource agencies, including burrowing owl survey protocol and protocol for Golden Eagle surveys established by the California Department of Fish and Game (CDFG), shall be conducted.***	Project Developers, including biological consultants and contractors	Hayward Planning Division and, if mitigation plans are required, California Department of Fish and Game and US Fish and Wildlife Service	Surveys to be completed prior to start of grading; mitigation plans, if required, to be implemented prior to and throughout construction period

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact IV-a (special-status species), cont...	***If such surveys reveal the presence of nesting Golden Eagles within 0.25 mile and in direct line-of-sight distance from project activity, presence of Western burrowing owls within 250 feet, presence of loggerhead shrikes within 200 feet or presence of any other special-status raptors within 300 feet of project activity, construction activity within the above-specified buffer zones shall be completed before the nesting season or be postponed until after the nesting season (March through the end of August). The limit related to presence of Golden Eagles shall be applicable during the entire tenure eagles are actively nesting within the buffer zone, not just during the typical breeding season.*** ***Also, given suitable on-site habitat exists for loggerhead shrike and a nesting pair of red-tailed hawks was observed on site, further raptor and shrike and Golden Eagle surveys following survey protocols established by resource agencies shall be conducted during the nesting season immediately preceding start of grading or construction, to confirm no active raptor nests exist that could be impacted by construction activities.***			

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact IV-c (wetlands): *Grading for the proposed eastward extension of Tennyson Road could impact the existing wetland located approximately 650 feet to the east of Mission Boulevard.*	***Mitigation Measure IV-c:*** ***Prior to the issuance of permits for grading or construction for the proposed Tennyson Road extension, formal jurisdictional wetland delineation/verification shall be secured from the US Army Corps of Engineers, including for the area associated with the eastward extension of Tennyson Road. If such delineation indicates a wetland exists which would be unavoidable and impacted by the proposed Tennyson Road extension or any other portion of the project, a permit/approval from the Corps shall be obtained and a wetland mitigation plan utilizing the standard minimum replacement ratio of 1:1 shall be developed and implemented prior to the start of grading and construction. Such mitigation plan shall be approved by the US Army Corps of Engineers, the California Department of Fish and Game and the California Regional Water Quality Control Board. Such measure will ensure impacts to jurisdictional wetlands as a result of the project would be less than significant.***	Project Developers, including project grading and construction contractors	US Army Corps of Engineers, in consultation with the US Fish and Wildlife Service and Hayward Public Works Department and Planning Division	Delineations from US Army Corps of Engineers shall be secured prior to start of grading; any wetland mitigation shall be implemented prior to and throughout project construction, with post-construction monitoring to be done, if required by the US Army Corps of Engineers

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
<u>Impact IV-e (trees):</u> The project would entail removal of 17 of the 153 on-site trees. Since the 17 Blue Gum Eucalyptus trees exceed eight inches in diameter, they are considered "protected" trees, per the City's Tree Preservation Ordinance, and are required to be replaced with "like-size, like-kind trees or an equal value tree or trees as determined by the City's Landscape Architect." Also, additional trees may be removed as part of construction of the proposed community center and park and detention basins.	***<u>Mitigation Measure IV-e:</u> In accordance with Hayward's Tree Preservation Ordinance, any "protected" trees as defined by the City's Tree Preservation Ordinance that are to be removed as a result of the project shall be replaced with like-size, like-kind trees or trees equal in value to them, as determined by the City's Landscape Architect. Such measures will ensure impacts due to removal of protected trees are less than significant.***	Project Developers, including project grading and landscape contractors, and landscape engineer	City of Hayward Planning Division (City's Landscape Architect)	Plans to be submitted and approved prior to issuance of grading permits; trees to be planted prior to project finalization

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact VI-ai) (earthquake fault trace): *Construction of homes close to the active Hayward fault trace could result in injuries, death and/or property damage as a result of fault trace rupture.*	***Mitigation Measure VI-ai):*** ***No habitable structures, including a possible community center, shall be built closer than 50 feet of the active Hayward fault trace and concentrated fault zone, as indicated on the submitted plans. Additionally, special foundation designs shall be incorporated into homes proposed to be built within the identified special foundation zone at the southeast corner of the proposed development. The design of such foundations and location of homes and possible community center shall be in accordance with the recommendations of the project geotechnical consultant, to be confirmed via plan review and "as-built" letters from the project geotechnical consultant, to be submitted prior to issuance of building permits and prior to project finalization, respectively. Such measures will ensure impacts related to fault rupture are less than significant.***	Project Developers, including project geotechnical consultant and grading and building contractors	City of Hayward Planning and Building Divisions	Plan review letter due prior to issuance of building permits; "as-built" letter due prior to project finalization and before framing inspections, confirming on-site observations by project geotechnical consultants was done throughout construction

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact VI-aii) (seismic ground-shaking): *The fact that the active Hayward fault runs through the project site increases the chances that severe ground shaking will likely occur during a major seismic event, which could result in loss of life and/or property.*	***Mitigation Measure VI-aii:*** ***As recommended by the City's geotechnical peer-reviewer, prior to issuance of construction permits, the project geotechnical consultant shall review the final construction plans to ensure that site grading, fault and slope setbacks, foundation designs, subdrainage, etc. are in accordance with the project consultant's recommendations, and provide a plan review letter to the City. Also, the project certified engineering geologist and geotechnical engineer shall be on site during grading, excavations, keyways, cuts, etc. to verify that actual geologic conditions, fault locations and special foundation zones are as anticipated and that appropriate supplemental recommendation be provided, as necessary. The results of such inspections, testing, and/or modifications shall be documented in an "as-built" letter/report prepared by the project engineering geologist/geotechnical engineer and submitted to the City before final approval of permits is granted.***	Project Developers, including project geotechnical consultant and grading and building contractors	City of Hayward Planning and Building Divisions	Plan review letter due prior to issuance of building permits; "as-built" letter due prior to project finalization and before framing inspections, confirming on-site observations by project geotechnical consultants was done throughout construction

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact VI-aii) (seismic ground-shaking), cont…:	***Implementation of such measures, including careful monitoring of grading during construction by the project engineering geologist and geotechnical engineer, will ensure such impacts are less than significant.***			
Impact VI-aiv) (landslides): *See discussion under item VI-aii above.*	***Mitigation Measure VI-aiv: Implement Mitigation Measure VI-aii, which will reduce the significance of landslide-related impacts to a level of insignificance.***	Project Developers, including project geotechnical consultant and grading and building contractors	City of Hayward Planning and Building Divisions	Plan review letter due prior to issuance of building permits; "as-built" letter due prior to project finalization and before framing inspections, confirming on-site observations by project geotechnical consultants was done throughout construction
Impact VII-b (erosion): *Unprotected areas after finished grading could result in soil erosion and loss of topsoil, impacting on-site and off-site improvements.*	***Mitigation Measure VII-b: All exposed areas within the proposed project limits of grading are to be planted with vegetation, to the satisfaction of the City's Landscape Architect or, if temporary stockpiles of material are created on-site, covered with material to prevent material from being washed away.***	Project Developers and grading and construction contractors	City of Hayward Planning Division and Public Works Department staff and grading inspector consultant	Throughout project construction

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact VI-c (unstable soils): *See discussion under item VI-aii above.*	***Mitigation Measure VI-c: Implement Mitigation Measure VI-aii, which will reduce the significance of such impacts to a level of insignificance.***	Project Developers, including project geotechnical consultant and grading and building contractors	City of Hayward Planning and Building Divisions	Plan review letter due prior to issuance of building permits; "as-built" letter due prior to project finalization and before framing inspections, confirming on-site observations by project geotechnical consultants was done throughout construction

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact VII-b (1) (naturally-occurring asbestos in ground): *Release of asbestos fibers through disturbance of soil containing such material could result in a health hazard to nearby residents and workers.*	***Mitigation Measure VII-b (1): Implement Mitigation Measure III-b (Asbestos Dust Mitigation Plan). Also, reflective of recommendations of the project geotechnical consultant, no asbestos-containing material shall be placed within 10 feet of the finished grade surface within the proposed development, including all residential lots, streets and roads, outdoor open space areas and trails within and immediately adjacent to the development, and in the proposed community center and park areas and roads leading to the development (not intended to apply to reclaimed eastern hillside above development). Additionally, material to be used for the upper area "cap" shall be tested in accordance with a State-approved testing method, such as the Air Resources Board's Test Method 435, to confirm such material does not contain more than 0.25 percent asbestos material. Such measures will ensure impacts resulting from release of asbestos-containing materials will be less than significant.***	Project Developers, including project grading and construction contractors	Bay Area Air Quality Management District, Hayward Public Works Department personnel and Hayward's grading inspector consultant	Obtain approval from Bay Area Air Quality Management District prior to start of grading, implement provisions of Asbestos Dust Mitigation Plan throughout project grading and construction

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact VII-b (2) (soil contaminants): *Also, contaminants in the soil related to the existing surface mining operation could pose a threat to construction workers and future residents and users of the community park.*	***Mitigation Measure VII-b(2):*** ***In accordance with Mitigation Measure 4.6-1(a) of the MG EIR, prior to start of project grading, project developers shall contact the Alameda County Environmental Health Department, Bay Area Air Quality Management District, State Department of Toxic Substances Control and the Hazardous Materials Division of the Hayward Fire Department, for required site clearances, necessary permit and facility closure with regard to demolition and removal of hazardous material form the site. All work shall be performed by licensed contractors in accordance with state and federal OSHA standards. Worker safety plans shall be included for all demolition plans. Additionally, a Phase I Preliminary Site Assessment (PSA) shall be conducted to assess conditions and activities at the site in association with a surface mining operation that could represent the potential presence of hazardous materials.*** ***Also, if justified by the PSA, additional studies, including possibly a Phase II soil and groundwater quality investigation shall be***	Project Developers, including project grading and construction contractors	Hayward Fire Department – Hazardous Materials Division and, if applicable, Alameda County Environmental Health Department, Bay Area Air Quality Management District and the State Department of Toxic Substances Control	Required site clearances to be obtained prior to start of grading; implementation of required measures to be done throughout project grading and construction

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact VII-b (2) (soil contaminants), cont…:	***conducted, with remedial measures identified in such investigation to be implemented in accordance with standard practices. Implementation of such measures will reduce such impacts to levels of insignificance.***			
Impact VII-g (emergency response): *The planned extension of Tennyson Road and Alquire Parkway, and the connector road linking those extensions, roadways and utility lines that are proposed to cross the Hayward earthquake fault trace may be damaged during a seismic event, which could impair evacuation and emergency response activities during an emergency event.*	***Mitigation Measure VII-g: Recommendations of the project geotechnical engineer related to street and utility lines shall be incorporated into the project design. Such recommendations indicate that utility lines are to be placed east of the Hayward earthquake fault trace for the Alquire Parkway extension and that special design features, such as flexible pipes, shutoff valves on either side of the fault trace and use of an outer conduit, be incorporated where utility lines would cross the fault trace for the Tennyson Road extension. The design of water main pipes crossing the Hayward fault trace shall be consistent with the City's Standard Detail 227. Such measures will ensure such impacts will be less than significant.***	Project Developers, including project grading and construction contractors and project geotechnical engineer	Hayward Building Division and Public Works Department	Design shall be shown in plans, to be approved prior to issuance of construction permits; design shall be implemented during construction

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
<u>Impact VII-h (wildland fires):</u> However, hazards will exist during construction phases for both construction workers and surrounding (downhill) residents, unless proper measures are implemented, including providing adequate emergency vehicle access and sufficient water supply for fire suppression.	***<u>Mitigation Measure VII-h:</u> Prior to start of construction involving combustible materials, or as required by the Hayward Fire Department, an additional water tank equal in size to the existing water tank, shall be constructed at the Garin Reservoir Site to the south of the project, and improved with a water system acceptable to the Hayward Fire and Public Works Departments that would bring adequate water supply and pressure to the project site. Also, prior to the start of construction involving combustible materials, roadways acceptable to the Hayward Fire Department shall be constructed, to provide emergency vehicle access to the project site. Also, a fuel management plan, acceptable to the Hayward Fire Department, shall be implemented throughout construction and incorporated into the design of homes and structures. Such measures will ensure hazards related to wildland fires are insignificant.***	Project developers, including project designers and engineers	Hayward Building Division, Public Works Department and Fire Department	<u>New water tank and system:</u> Prior to construction involving combustible materials, or as allowed by the Hayward Fire Department <u>Fuel Management Plan:</u> Incorporated into project design prior to issuance of construction permits and implemented throughout and after construction, prior to project finalization and via annual inspection by Hayward Fire Department

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact VIII-a (water quality): *During construction and after project completion, there is the potential for erosion of exposed surfaces to enter the stormwater system, which could negatively impact water quality and violate water quality standards.*	***Mitigation Measure VIII-a:*** ***Per State regulations, a Notice of Intent (NOI), and Storm Water Pollution Prevention Plan (SWPPP) and Stormwater Quality Protection Plan shall be prepared and submitted to the State for review and approval. These documents shall also be submitted along with the grading permit application for review and approval by the City of Hayward. Grading and construction plans shall incorporate erosion and sedimentation control measures to be implemented during all phases of construction activities. The improvement plans for the project shall incorporate Best Management Practices (BMP's) designed in accordance with applicable provisions of the Alameda County Clean Water Program NPDES permit Section C.3, including the hydraulic sizing criteria, which will ensure that storm water runoff is treated prior to discharge from the site and that runoff rates are such that downstream impacts are reduced to the maximum extent practical. Such measures will ensure that water quality impacts are less than significant.***	Project developers, including project designers and engineers, and grading and construction contractors	San Francisco Bay Regional Water Quality Control Board, Hayward Public Works Department and Hayward grading inspector consultant	Approvals of plans to be obtained prior to issuance of grading permits; requirements of plans to be implemented throughout project construction and confirmed prior to project finalization

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact VIII-c (drainage): *The proposed stormwater drainage system could result in substantial erosion that could negatively impact downstream properties.*	***Mitigation Measure VIII-c:*** ***The development plans for the site will not substantially alter the drainage pattern of the area. The development's improvement plans will incorporate BMP's, including erosion and sedimentation control measures, that will treat all water prior to discharge and will ensure that the discharge rate from the site is consistent with existing rates.***	Project developers, including project designers and engineers, and grading and construction contractors	Hayward Public Works Department and Hayward grading inspector consultant	Approvals of plans incorporating Best Management Practices (BMP's), including erosion and sedimentation control measures, to be obtained prior to issuance of grading permits; requirements of plans to be implemented throughout project construction and confirmed prior to project finalization

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact VIII-e (drainage capacity): *The project could generate stormwater runoff that could exceed the capacity of downstream facilities.*	***Mitigation Measure VIII-e:*** ***Proposed detention basins and project drainage system shall be designed in accordance with Alameda County Flood Control and Water Conservation District's standards, with such design to be supported via hydraulic calculations from the project engineer, to be reviewed and approved by the ACFCD and the City of Hayward Public Works Department. Any increased flow resulting from the proposed development would be required to be mitigated on-site. Implementation of such measures will ensure no impacts related to capacity of downstream facilities would be significant.***	Project developers, including project designers and engineers, and grading and construction contractors	Hayward Public Works Department and Alameda Flood Control and Water Conservation District staff	Approvals of plans reflecting hydraulic calculations to be obtained prior to issuance of grading permits; design to be implemented during construction and verified prior to project finalization

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact XI-a (temporary construction noise): *The project could negatively impact nearby residents due to temporary excessive construction noise.*	***Mitigation Measure XI-a:*** ***In accordance with MG EIR Mitigation Measure 4.9-1, a Construction Noise Management Plan shall be prepared and implemented. Such plan must be approved by the Hayward Community and Economic Development Director prior to issuance of grading permits and shall contain, at minimum, a listing of hours of construction operations (which shall be in accordance with the City's construction hours), use of mufflers on construction equipment, limitation of on-site speed limits, identification of haul routes to minimize travel through residential areas and identification of noise monitors. Specific noise management measures shall be included in appropriate contractor specifications. Such measures will reduce temporary construction noise impacts to levels of insignificance.***	Project developers, including project grading and construction contractors	Hayward Public Works Department. Planning and Building Divisions and Hayward Police Department	Construction Noise Management plan to be developed and approved prior to issuance of construction permits; measures to be implemented throughout project construction

Significant Environmental Impact	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Timing
Impact XI-d (temporary ambient noise level increases): *As indicated under item XI-a above, there will be expected temporary significant construction noise impacts.*	***Mitigation Measure XI-d: Implement Mitigation Measure XI-a, which would reduce such impacts to a level of insignificance.***	Project developers, including project grading and construction contractors	Hayward Public Works Department. Planning and Building Divisions and Hayward Police Department	Construction Noise Management plan to be developed and approved prior to issuance of construction permits; measures to be implemented throughout project construction

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
111 GRAND AVENUE
P. O. BOX 23660
OAKLAND, CA 94623-0660
PHONE (510) 286-5505
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July 6, 2005

ALA238280
ALA-238-9.94
SCH2005062031

Mr. David Rizk
City of Hayward
Planning Division
777 B Street
Hayward, CA 94541

Dear Mr. Rizk:

LA VISTA DEVELOPMENT – MITIGATED NEGATIVE DECLARATION

Thank you for including the California Department of Transportation (Department) in the environmental review process for the La Vista Development project. The comments presented below are based on the Mitigated Negative Declaration (MND). As lead agency, the City of Hayward is responsible for all project mitigation, including any needed improvements to state highways. Any required roadway improvements should be completed prior to issuance of the project's building permit. While an encroachment permit is only required when the project involves work in the State Right of Way (ROW), the Department will not issue an encroachment permit until our concerns are adequately addressed. Therefore we strongly recommend that the lead agency ensure resolution of the Department's CEQA concerns prior to submittal of the encroachment permit application. Further comments will be provided during the encroachment permit process; see the end of this letter for more information regarding the encroachment permit process.

Mission-Garin Annexation Project Traffic Impact Study
Study of the signalized intersections for the Mission-Garin project (which the La Vista Development is a portion of) was based on the 1994 Highway Capacity Manual (HCM) method (Table 1). The traffic study should be revised using the latest measure of effectiveness (MOE) shown in the HCM 2000.

The traffic study does not include a freeway and highway segment analysis to disclose any potential impacts the project may have on existing traffic volumes and congestion on State highways in the vicinity, specifically I-880 and State Route (SR) 238. We believe the increased traffic due to the proposed project is likely to utilize I-880 between the Alvarado Niles Interchange and Jackson Street Interchange, and SR 238 between the I-580 Interchange and the Hesperian Blvd. Interchange. When revising the traffic study, use the latest MOE shown in HCM 2000 to determine the level-of-service (LOS) of basic freeway and highway segments.

Tennyson Road/ Mission Blvd. Intersection Improvements Needed

The proposed development will require improvements to the existing 3-legged Mission Blvd./Tennyson Road intersection to a 4-legged intersection, both in terms of lane configuration and traffic signals. These improvements/modifications need to be coordinated with the Department's Office of Traffic once a design for the intersection has been completed. Additional State right of way at this intersection may be needed to modify the intersection.

Tennyson Road Extension

On page 31 of the initial study, the comment to question a) states that the extension of Tennyson Road (as well as other street improvements) will be done within the existing right of way. This is incorrect. The Tennyson Road extension would encroach into State right of way, and would require an encroachment permit.

Use of State Right of Way

The project proposes to extend Tennyson Road and public utilities needed to serve the La Vista development across State right of way, which has been purchased and reserved for the Hayward Bypass project. Consequently, allowing this local road and utilities extension at this time requires special handling by the City of Hayward and the Department. In order to issue an encroachment permit for the extension the City and the Department must enter into a cooperative agreement. This agreement will address considerations such as the framework for valuation of the property, actions necessary should the Hayward Bypass proceed or should the property used for the extension subsequently be determined by the State to be excess right of way. The Department has begun to prepare a draft of this cooperative agreement. The La Vista Development project must be conditioned to reflect that this cooperative agreement must be approved by the City and the Department before an encroachment permit can be issued to extend the road and utilities.

Water Quality

Any discharges originating from within the proposed project limits entering Department right of way should comply with the Department's statewide NPDES permit (construction as well as permanent runoff); appropriate documentation should demonstrate this. In addition, please forward all documents demonstrating compliance with the City of Hayward's NPDES permit for our review so that we can ensure that water quality standards are being complied with before discharge to the Department's right of way.

Please describe in detail the applicable permanent treatment Best Management Practices (BMPs) that are to be used to ensure that the quality of storm water runoff meets applicable standards. Elaborate and provide documentation, specifications and any other pertinent material describing all applicable BMPs.

Cultural Resources

Since the Department is a responsible agency for the proposed project, the following statement should be added to the cultural resources section of the initial study: In compliance with CEQA (15064.5), PRC 5024.5 and the Caltrans Environmental Handbook Volume 1, if ground disturbing activities within the Department's right of way take place as part of this project and there is an inadvertent archaeological or burial discovery, all construction within 100 feet of the find shall cease and the Caltrans Cultural Resource Study Office, District 4, shall be immediately contacted. A staff archaeologist will evaluate the finds within one business day of being contacted at (510) 286-5613 or (510) 286-5618. Historic or prehistoric resources may consist of,

but not be limited to, dark friable soils, charcoal, obsidian or chert flakes, grinding bowls, shell fragments, bone, glass, metal, ceramics, wood, or similar debris deposits.

Encroachment Permit

Work that encroaches onto the State ROW requires an encroachment permit that is issued by the Department. To apply, a completed encroachment permit application, environmental documentation, and five (5) sets of plans clearly indicating State ROW must be submitted to the address below. Traffic-related mitigation measures should be incorporated into the construction plans during the encroachment permit process. See the website link below for more information. http://www.dot.ca.gov/hq/traffops/developserv/permits/

Sean Nozzari, District Office Chief
Office of Permits
California DOT, District 4
P.O. Box 23660
Oakland, CA 94623-0660

In addition, the Department reserves the right to require additional information and/or studies from the City and project developer during the encroachment permit and cooperative agreement process.

Please feel free to call or email Patricia Maurice of my staff at (510) 622-1644 or patricia_maurice@dot.ca.gov with any questions regarding this letter.

Sincerely,

TIMOTHY C. SABLE
District Branch Chief
IGR/CEQA

c: Ms. Terry Roberts, State Clearinghouse
Ms. Saravana Suthanthira, Alameda County Congestion Management Agency

CITY OF
HAYWARD
HEART OF THE BAY

July 6, 2005

Mr. Timothy Sable
District Branch Chief
IGR/CEQA
Caltrans District 4
P.O. Box 23660
Oakland, CA 94623-0660

RE: Response to Caltrans Comments on La Vista Development Mitigated Negative Declaration ALA238280/SCH2005062031

Dear Mr. Sable:

I wanted to follow up your letter and your conversation with my staff regarding District 4 IGR comments on the above project. Please note that under separate cover, a copy of the conditions of approval for the project was sent to Dana Cowell, Deputy District Director Planning and Local Assistance and someone with whom we have been working on the Tennyson Road issues. We believe that the conditions of approval address most of your comments. A copy of the staff report including these conditions is attached for your reference.

Mission-Garin Annexation Project Traffic Impact Study

Our staff would be happy to work with your traffic engineers to address any concerns you may have with the traffic analysis. However, please note that the base document, the Mission-Garin Annexation EIR (SCH #: 2002072047) was done in a manner that is consistent with the City of Hayward General Plan and our standard is HCM 1994 Stopped Delay. The EIR was adopted and certified by City Council in July of 2003. We reviewed your comments on the Draft Annexation EIR and you did not indicate that HCM 2000 was required. A copy of your comments and our responses are attached. Thus, concerns with the traffic study methodology should have been addressed during the preparation of the Annexation EIR.

The Annexation EIR analyzed four different development scenarios. None of the scenarios was found to cause any of the Mission Boulevard (SR 238) study intersections to operate at an LOS below D, which is the City threshold standard. Since the subject project (La Vista Development) is proposed to provide less housing units than three of the four proposed development scenarios, it may be concluded that the development will not result in a worse LOS at any of the Mission Boulevard intersections. Note that the mitigated negative declaration was prepared using the Annexation EIR as the base document. Consequently, the mitigated negative declaration is consistent with the Annexation EIR and the traffic analysis performed in the Hayward General Plan. Using another methodology would not be appropriate as it would be inconsistent with the previously approved studies for the Mission-Garin annexation area.

continued...

DEPARTMENT OF PUBLIC WORKS
ENGINEERING & TRANSPORTATION DIVISION
777 B STREET, HAYWARD, CA 94541-5007
TEL: 510/583-4730 • FAX: 510/583-3620 • TDD: 510/247-3340

While a freeway and highway analysis was not done in the Annexation EIR, the fact that the subject project will not negatively impact any of the Mission Boulevard intersections may be used to indicate that the impact on other state facilities such as I-880 will be negligible.

Finally, please note that the Mission-Garin Annexation EIR was given a letter of exemption from Alameda County Congestion Management Agency Tier 1 Land Use Analysis Program Requirements (see attached).

Tennyson Road

Your three comments dealing with the Mission Boulevard/Tennyson Road intersection, Tennyson Road extension and use of State Right-of-Way are generally correct. City staff is currently working with the District Director and other Caltrans staff on the process for extending Tennyson Road across Caltrans right-of-way that was reserved for the soon to be deleted Hayward Bypass project. Also, please see Conditions of Approval 8, 13, and 14 (page 7 of Attachment K of the staff report) and Condition 91e (page 16).

Water Quality

Please see the Conditions of Approval related to Storm Drainage on pages 10 and 11 of Attachment K of the staff report.

Cultural Resources

As indicated in the Initial Study, a March 20, 2005, site assessment revealed no evidence of significant cultural resources; we can add your requested language to the Initial Study.

Encroachment Permit

As discussed with Deputy Director Cowell, the City of Hayward, not the developer, will be the applicant for the encroachment permit and as such will respond to the appropriate Caltrans encroachment permit requirements.

We look forward to working with you on this project. Please feel free to call me at (510) 583-4740 if you have any questions. If you have any questions or further concerns about the traffic analysis, please contact Ms. Roxy Carmichael-Hart, Senior Transportation Planner, of my staff at (510) 583-4781.

Very truly yours,

ROBERT A. BAUMAN
Deputy Director of Public Works/City Engineer

RCH/fsr

Attachments: Proposed Conditions of Approval
Caltrans Comments on Draft Mission-Garin EIR and Response
CMA Letter of Tier I Exemption for Mission-Garin Annexation EIR 7-31-2002

cc: Roxy Carmichael-Hart, Senior Transportation Planner
Farhad Iranitalab, Transportation-Development Manager
David Rizk, Senior Planner

EAST BAY REGIONAL PARK DISTRICT

PARKS FOR THE FUTURE

July 7, 2005

Planning Commission
City of Hayward
777 B Street
Hayward, CA 94541

RE: Garin Regional Park
La Vista Quarry

Dear Madame Chair and Commissioners:

The East Bay Regional Park District is aware of the residential proposal for the La Vista Quarry site. This property is immediately adjacent to Garin Regional Park. In fact on two occasions the slope on the quarry site had failed and a portion of the regional parkland collapsed towards the quarry operation.

District staff did hear about the project from a postcard regarding a neighborhood meeting, where there was a project presentation and an opportunity to ask questions. Unfortunately, the Park District had not received the referral that apparently had been sent out on May 25, 2005. So no written comments have been submitted.

The Park District has several comments regarding this project.

- Geology – As previously mentioned the quarry slope has failed two times which resulted in a change to the park boundary. In both cases, other land was exchanged for the affected land. The District is concerned that the slope is indeed stable and that the current park boundary will be protected from further failure. The Park District requests that the Geological Hazard Abatement District (GHAD) be set up such that it will protect the integrity of the Park boundary.
- Water tank – The current Garin water tank is a visual impact to the Garin Regional Park's high use area. It is unclear as to the exact location of the second water tank. The Park District requests that District staff be consulted and has the opportunity to review the new tank location for visual impacts. If there is a visual impact, the Park District requests that there is every effort to reduce the impact through the use of lowering the tank into the ground, or developing a high berm around the tank with a landscape screen, and non-reflective paint that helps the tank blend into the surroundings.

Thank you for the opportunity to comment on this project.

Very truly yours,

Linda J. P. Chavez
Senior Planner

2950 Peralta Oaks Court P.O. Box 5381 Oakland, CA 94605-0381
TEL 510 635-0135 FAX 510 569-4319 TDD 510 633-0460 www.ebparks.org

CITY OF
HAYWARD
HEART OF THE BAY

Initial Study Checklist
pursuant to the California Environmental Quality Act

1. **Project title:** La Vista Development

2. **Lead agency / project sponsor's name and address:**
City of Hayward, 777 B Street, Hayward, CA 94541.

3. **Contact person and information:** David Rizk, AICP Associate Planner david.rizk@hayward-ca.gov (510) 583-4004

4. **Project location:** 28806 and 28816 Mission Boulevard in unincorporated Alameda County, located east of Mission Boulevard (State Highway 238) and west of Garin Regional Park at the site of the current La Vista Quarry - Assessor's Parcel Numbers 083010000201, 083010000202, 083007500207, 083007500209, 083012500112 (portion), 083026500600 (portion)

5. **Existing General Plan Land Use designation:** Limited Open Space

6. **Existing Pre-Zoning designation:** Agriculture (AB10A)

7. **Project description**: The 162-acre site is proposed for subdivision (Tract 7620) for development of 179 single-family residential lots and related streets on 29.4 acres, a 16-acre neighborhood park with stormwater detention basins, a community center or additional park area on 14.6 acres and open space and trails on the remaining 102 acres (see attached Exhibit A). The project developer will be required to install an additional water tank at the Garin Reservoir site, located south of the project site off Garin Avenue. The project would also entail construction of an eastward extension of Tennyson Road from Mission Boulevard to the development, as well as a new connector road leading from the development to Alquire Parkway.
The project also entails 1) amendments to the City of Hayward's General Plan Land Use designations to *Limited Medium Density Residential* (8.7 to 12.0 dwelling units per net acre) for the residential portion of the site, to *Parks and Recreation* for the park and community center sites, with the remainder of the site proposed to remain *Limited Open Space* (see attached Exhibit B) and 2) amendments to zoning/prezoning designations, to a *Planned Development (PD) District* for the residential area of the property and eastern hillside and to *Open Space/Parks and Recreation (OS)* for the park/community center areas, with the remainder of the site to remain as *Agriculture (AB10A)* (see attached Exhibit C). The property is proposed to be annexed into the City of Hayward, and an environmental impact report (SCH # 2002072047) was certified by the City of Hayward related to the proposed annexation in July of 2003.

8. **Existing land uses and setting**: The project site contains the active La Vista Quarry, which includes an asphalt batch plant, aggregate processing plant and concrete/asphalt recycling facility.

9. **Surrounding land uses and setting**: Developed rural and suburban residential sites exist to the north and south, Garin Regional Park is located to the east, the 285-unit Clarendon Hills apartment complex is located to the southwest and an undeveloped 15½-acre resident parcel is located to the west, along with minimally developed State-owned lands (see attached Exhibit D).

10. **Other public agencies whose approval may be required**: Local Agency Formation Commission of Alameda County, California Department of Transportation, California Regional Water Quality Control Board, Bay Area Air Quality Management District, California Department of Toxic Substances Control, California Department of Fish & Game, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:
The environmental factors checked below would be potentially affected by this project, as indicated by the checklist on the following pages.

☒	Aesthetics	☐	Agriculture Resources	☒	Air Quality
☒	Biological Resources	☐	Cultural Resources	☒	Geology & Soils
☒	Hazards & Hazardous Materials	☒	Hydrology & Water Quality	☐	Land Use & Planning
☐	Mineral Resources	☒	Noise	☐	Population & Housing
☐	Public Services & Utilities	☐	Transportation	☒	Mandatory Findings of Significance

DETERMINATION:
On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

	June 6, 2005
Signature	Date
David Rizk, AICP, Associate Planner	City of Hayward
Printed Name	For

EVALUATION OF ENVIRONMENTAL IMPACTS:

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS - Would the project:				
a) Have a substantial adverse effect on a scenic vista? ***Comments:*** *Although the foothills to the east of Mission Boulevard provide a recognized backdrop to the built environment in this portion of Hayward, the proposed development is located on an active quarry site that has been substantially altered from its natural condition due to mineral extraction activities that have occurred over a number of decades. Therefore, the proposed project would not impact a scenic vista.*	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? ***Comments:*** *The project site is not within a State scenic highway view corridor; the closest State scenic highway being Interstate 580 at the San Leandro city limit, approximately four miles to the northwest.*	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings? ***Comments:*** *As indicated in attached Exhibits E through I, the proposed development would convert exposed, unvegetated land within an active quarry site to one with landscaping and associated single-family residential development that would be minimally visible from various vantage points in the vicinity. In the context of the highly disturbed quarry site, the proposed development would not represent a substantial degradation of the existing visual character of the site and its surroundings. Also, the project incorporates specific provisions of Mitigation Measure 4.1-1 of the Mission-Garin Annexation Study Project Program Environmental Impact Report (MG EIR; SCH No. 2002072047) that was certified by Hayward in July of 2003, including:* ♦ *Use of non-reflective glazing and prohibition on reflective metal roofing, garage doors and trim material;* ♦ *Use of earth tone field and trim colors for residential dwellings;* ♦ *Use of roof forms that minimize exposure of buildings;* ♦ *Design of roadways that minimize views of*	☐	☒	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
pavement beyond the project site; and ♦ *Use of techniques to minimize aesthetic impacts of individual residences, including, but not limited to, building design and use of landscape screening.* *Also, as indicated in the attached March 2005 tree report by HortScience, Inc. (Exhibit J), only 17 trees, which are Blue-Gum Eucalyptus, out of a total 153 on-site trees, will be removed as a result of the project. Such removal, given the number of other trees in the area and the proposed tree replacement plan as reflected in the project landscape plans, would not be considered as substantially degrading the existing visual character or quality of the site and its surroundings.* ***Impact:*** *Additional trees may be required to be removed in the western area of the park and possible community center, which could degrade the existing visual character of the site. Also, the project would also entail construction of an additional water tank at the Garin Reservoir site, located to the south off Garin Avenue (see attached Exhibit D). The introduction of a new tank could also degrade the existing visual character of the surrounding site in the area.* ***Mitigation Measure I-c:*** ***In accordance with Mitigation Measure 4.1-1 of the MG EIR, the additional tank will be required to be painted neutral, earth-tone colors to blend in with the natural environment and screened with trees and shrubs, in accordance with the City's Hillside Design Guidelines. Also, any tree removals shall be replaced with new trees equal in size and species or value, in accordance with the City's Tree Preservation Ordinance, to be approved by the City Landscape Architect. Implementation of such measure will ensure such impacts generated by the project are less than significant.***				
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area? ***Comments:*** *The designs of the proposed homes utilize non-reflective materials for walls and incorporate darker, earth-tone colors. The subject site is currently utilized for the production of asphalt-concrete materials via a plant. The plant, located in the western central portion of the property, has a minimal amount of lighting.* ***Impact:*** *Proposed street lights and exterior lighting associated with new homes could adversely*	☐	☒	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
affect nighttime views of the area from surrounding homes in the area and from views toward the hills from the west. ***Mitigation Measure I-d:*** ***In accordance with MG EIR Mitigation Measure 4.1-3, a detailed lighting plan shall be provided, to be submitted as part of a precise development plan, to incorporate fixtures that shall ensure that lighting off of the project site will be minimized, to prohibit landscape uplighting, with fixtures and plan to be approved by the Planning Director. Implementation of such measure will ensure lighting and glare impacts are less than significant.***				
II. AGRICULTURE RESOURCES - Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? ***Comment:*** *The site does not involve Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the "Important Farmland in California, 2002" map of the Farmland Mapping and Monitoring Program of the California Department of Conservation, Division of Land Resource Protection.*	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? ***Comment:*** *The site does not involve a Williamson Act contract and, given the active quarry use, does not have potential for an agricultural use.*	☐	☐	☐	☒
c) Involve other changes in the existing environment that could result in conversion of Farmland, to non-agricultural use? ***Comment:*** *See comments IIa) and IIb) above.*	☐	☐	☐	☒
III. AIR QUALITY - Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan? ***Comment:*** *The project would not conflict with or obstruct implementation of the Bay Area Air Quality Management District's (BAAQMD's) most recent Air Quality Plan (year 2000) in that the project proposes a number of units that were within a range anticipated in Hayward's General Plan Update EIR (SCH No. 2001072069), certified by the City in 2002. The City's General Plan has been determined to be consistent*	☐	☐	☐	☒

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
with the BAAQMD's Air Quality plan, according to the General Plan Update EIR.				
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐

Comment: *According to the project geotechnical engineer, unengineered fill that exists on the project site, as well as material to the south at the Garin Vista site that may be used for fill material on the project site, may contain sepentinite fragments. Serpentine rock often contains chrysotile asbestos fibers. Asbestos is classified as a known human carcinogen and was identified as a toxic air contaminant by the California Air Resources Board in 1986.*

Impact: *Serpentinite fragments that may exist in the unengineered fill on site and in imported material brought to the site have the potential to contain asbestos material, which could be released into the air if disturbed, which could negatively impact nearby residents.*

Mitigation Measure III-b: ***Prior to the start of any construction or grading activity, including hauling of material to the project site, an asbestos dust mitigation plan approved by the Bay Area Air Quality Management District (BAAQMD) shall be implemented throughout the duration of construction or grading activity. In accordance with the State's "Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations" (CCR Title 17, Division 3, Chapter 1, Subchapter 7.5, Sections 93105 et seq. – see attached Exhibit K), the dust mitigation plan must specify dust mitigation practices which are sufficient to ensure that no equipment or operation emits dust that is visible crossing the property line, and must include one or more provisions addressing each of the following topics (see pages 6 through 11 of Exhibit K):***

a) Track-out prevention and control measures.

b) Keeping active storage piles adequately wetted or covered with tarps.

c) Control for disturbed surface areas and storage piles that will remain inactive for more than seven (7) days.

d) Control for traffic traveling on project site unpaved roads, parking lots, and staging areas.

e) Control for earth moving activities.

f) Control for off-site transport.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Post construction stabilization of disturbed areas. ***h) Air-monitoring for asbestos (if required by the BAAQMD's Air Pollution Control Officer).*** ***i) Frequency of reporting.*** ***Implementation of such measures will ensure air quality impacts related to naturally occurring asbestos are less than significant.***				
c): Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard? ***Comment:*** *The Bay Area has non-attainment status for federal and California state ambient air quality standards for ozone, as well as for State ambient air quality standards for particulate (PM_{10}) and fine particulate ($PM_{2.5}$) matter.* ***Impact:*** *The project, which is proposed to entail roughly 3.16 million cubic yards of balanced on-site cut and fill grading, and also approximately 416,000 cubic yards of imported material, has the potential through the release of dust, to exceed particulate matter standards and negatively affect local residents.* ***Mitigation Measure III-c:*** ***In accordance with MG EIR Mitigation Measure 4.2-1, grading activities shall incorporate standard dust control measures, to include, but not be limited to frequent watering of the site, use of soil stabilizers, hydroseeding of graded areas and other measures that comply with Bay Area Air Quality Management District recommendations for dust control. Project construction grading plans shall state such measures on the plans, to be approved by the Hayward Public Works Department staff. Implementation of such measure will ensure such impacts are less than significant.***	☐	☒	☐	☐
d): Expose sensitive receptors to substantial pollutant concentrations? ***Comment:*** *The proposed limits of grading are shown to extend to the property lines of parcels containing existing residences located at the north end of Bodega Street and to the northwest of the proposed community center/park sites.* ***Impact:*** *The proximity of proposed grading, including truck traffic associated with hauling of grading material, to adjacent residences has the potential to expose occupants of those homes to elevated levels of fine particulate matter.*	☐	☒	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Mitigation Measure III-d: Implement Measures III-b and III-c above, which will ensure such air quality impacts are less than significant.				
e): Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒
Comment: *The project entails a residential development, along with a proposed community center and park. The project is not expected to create objectionable odors.*				
IV. BIOLOGICAL RESOURCES - Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
Comment: *The project site contains an active, ongoing surface mining operation that has been in operation for decades. The upper portions of the site are located adjacent to Garin Regional Park, which provides habitat for a number of special status species. As indicated in Mitigation Measures 4.3-5 through 4.3-9 of the "Mission-Garin Annexation Study Project Program Environmental Impact Report" (MG EIR; SCH No. 2002072047) that was certified by Hayward in July of 2003, project-level habitat assessments and surveys for a variety of species are required. Specifically:*				
♦ *MG EIR Mitigation Measure 4.3-5 requires that a California red-legged frog habitat assessment be conducted utilizing guidance established by the U.S. Fish and Wildlife Service (USFWS), with the assessment to be reviewed and confirmed by the USFWS. A red-legged frog habitat assessment was conducted by Wetland Research Associates (WRA) in March of 2005, who concluded that the lack of suitable aquatic habitat, associated uplands, and connectivity to potential habitats make the site extremely unlikely to support the red-legged frog (see attached Exhibit L, a March 2005 report entitled, "California Red-legged Frog Habitat Assessment, La Vista Quarry, Hayward, Alameda County, California"). The USFWS has not reviewed and confirmed the assessment.*				
♦ *Mitigation Measure 4.3-6 of the MG EIR requires that a focused Alameda whipsnake habitat assessment be conducted at project-specific levels to determine if*				

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suitable habitat and if primary constituent elements for critical habitat for the whipsnake are present, with the assessment to be submitted to the USFWS for review and confirmation. Wetland Research Associates conducted an assessment in March of 2005 and concluded that suitable habitat is not present at the project site, given the lack of shrub and chaparral communities, undisturbed rock outcrop areas and connectivity to potential habitats (see attached Exhibit M, a March 2005 report entitled, "Alameda Whipsnake Habitat Assessment, La Vista Quarry, Hayward, Alameda County, California"). The USFWS has not reviewed and confirmed the assessment.

- *Mitigation Measures 4.3-7 and 4.3-8 of the MG EIR require that focused special status raptor/shrike and Golden Eagle habitat surveys be conducted at project-specific levels, following survey protocols established by resource agencies, with Golden Eagle and developed in consultation with the California Department of Fish and Game (CDFG). The mitigation measures indicate if any such special-status species are observed within specified line-of-sight distances (250 feet for Western burrowing owl, ¼-mile for Golden Eagle, 200 feet for loggerhead shirke and 300 feet for all other special-status raptors), then construction/grading activity not be conducted during the nesting season (typically running from March through the end of August) or during any active Golden Eagle pair breeding or nesting season. Wetland Research Associates conducted four surveys between March 17 and May 3 of 2005 (see attached Exhibit N, a report dated May 23, 2005 entitled, "La Vista Quarry Nesting Raptor and Shrike Studies" and attached Exhibit O, a report dated May 23, 2005 entitled, "La Vista Quarry Golden Eagle Studies.") An April 13, 2005 survey revealed an active red-tailed hawk nest in a eucalyptus tree approximately 1,700 feet northeast of the intersection of Mission Boulevard and the quarry access road and approximately 1,000 feet east of the quarry office. No other nesting raptors were observed, nor was suitable burrow habitat observed during the surveys.*

- *Mitigation Measure 4.3-9 requires that a focused rare plant survey be conducted by a qualified botanist during the appropriate season, in accordance with survey protocols acceptable to the USFWS and CDFG. Wetland Research Associates conducted a rare plant survey in April of 2003 and also researched the California Department of Fish and Game's Natural Diversity Data Base records and the*

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electronic version of the California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California for the East Bay area(see attached Exhibit P, a report dated September of 2003 entitled, "Rare Plant Survey of La Vista Quarry, Hayward, Alameda County, California"). The report indicates that 15 special-status plants could occur in the area, of which, nine had blooming periods during the date of the April survey and appropriate habitat was determined not to exist for the other six species. No such species were observed.

Impact: *Given the proximity of the project to Garin Regional Park, the project has the potential to significantly impact special-status plant and animal species and their habitat.*

Mitigation Measure IV-a:

In accordance with Mitigation Measures 4.3-5 through 4.3-6 of the Mission-Garin Annexation EIR, prior to the start of grading or construction, the U.S. Fish and Wildlife Service (USFWS) shall confirm all habitat assessments conducted by Wetland Research Associates for California red-legged frog and Alameda whipsnake. If California red-legged frogs or Alameda whipsnakes and/or their occupied habitats are determined to be present based on results of habitat assessments or protocol-level surveys, then a project specific California red-legged frog and/or Alameda whipsnake mitigation plan should be developed, approved by the USFWS and CDFG prior to development, and implemented.

In accordance with Mitigation Measures 4.3-7 through 4.3-8 of the Mission-Garin Annexation EIR, prior to the start of grading or construction, surveys utilizing protocols acceptable to the resource agencies, including burrowing owl survey protocol and protocol for Golden Eagle surveys established by the California Department of Fish and Game (CDFG), shall be conducted. If such surveys reveal the presence of nesting Golden Eagles within 0.25 mile and in direct line-of-sight distance from project activity, presence of Western burrowing owls within 250 feet, presence of loggerhead shrikes within 200 feet or presence of any other special-status raptors within 300 feet of project activity, construction activity within the above-specified buffer zones shall be completed before the nesting season or be postponed until after the nesting season (March through the end of August). The limit related to presence of Golden Eagles shall be applicable during the entire tenure eagles are actively nesting within the buffer zone, not just during the typical breeding

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season.				
Also, given suitable on-site habitat exists for loggerhead shrike and a nesting pair of red-tailed hawks was observed on site, further raptor and shrike and Golden Eagle surveys following survey protocols established by resource agencies shall be conducted during the nesting season immediately preceding start of grading or construction, to confirm no active raptor nests exist that could be impacted by construction activities.				
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒
Comment: *As indicated in the reports identified under item IVa) above, no such riparian habitat or other sensitive natural communities were identified within the limits of the proposed project development.*				
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act?	☐	☒	☐	☐
Comment: *Mitigation Measure 4.3-1 of the MG EIR requires that formal jurisdictional wetland delineations be conducted at a project-specific level, utilizing methodology set forth by the US Army Corps of Engineers. The project applicant's biological consulting firm, Wetland Research Associates (WRA) conducted a wetland delineation survey in March of 2005 and found no evidence of jurisdictional wetlands (see attached Exhibit Q, a report entitled "Delineation of Potential Jurisdictional Wetlands under Section 404 of the Clean Water Act, La Vista Quarry Study Area, Hayward, Alameda County, California," by Wetland Research Associates, dated May 23, 2005). However, the area within the limits of grading of the proposed eastward extension of Tennyson Road has not been recently surveyed, though WRA will be surveying such area in the near future. It is likely a jurisdictional wetland exists in such area in that a wetland measuring 6,324 square feet and located approximately 650 feet to the east of Mission Boulevard was identified in the same general area, as part of the environmental assessment for the previously proposed Route 238 Hayward Bypass Project. Such wetland is indicated on Plate 12C of the May 2000 "Final Environmental Impact Statement/Report and Final Section 4(F) Evaluation (Volume 1), Proposed Route 238 Hayward Bypass Project" (SCH No. 86093222). The Army Corps of*				

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Engineers concurred with the delineation in a March 8, 1996 letter and indicated such jurisdictional delineation would expire on March 8, 2001. The Corps has not issued a revised formal delineation. ***Impact:*** *Grading for the proposed eastward extension of Tennyson Road could impact the existing wetland located approximately 650 feet to the east of Mission Boulevard.* ***Mitigation Measure IV-c:*** ***Prior to the issuance of permits for grading or construction for the proposed Tennyson Road extension, formal jurisdictional wetland delineation/verification shall be secured from the US Army Corps of Engineers, including for the area associated with the eastward extension of Tennyson Road. If such delineation indicates a wetland exists which would be unavoidable and impacted by the proposed Tennyson Road extension or any other portion of the project, a permit/approval from the Corps shall be obtained and a wetland mitigation plan utilizing the standard minimum replacement ratio of 1:1 shall be developed and implemented prior to the start of grading and construction. Such mitigation plan shall be approved by the US Army Corps of Engineers, the California Department of Fish and Game and the California Regional Water Quality Control Board. Such measure will ensure impacts to jurisdictional wetlands as a result of the project would be less than significant.***				
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? ***Comment:*** *The project is proposed at an active quarry site in an area to the west of Garin Regional Park and is not expected to interfere substantially with such movements or corridors. Undeveloped lands would exist to the south of the project, maintaining an east-west corridor to Garin Regional Park.*	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? ***Comment:*** *The project would not conflict with any local policies or ordinances established to protect biological resources, except possibly Hayward's Tree Preservation Ordinance, which encourages preservation of trees.* ***Impact:*** *The project would entail removal of 17 of the*	☐	☒	☐	☐

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153 on-site trees (see attached Exhibit J). Since the 17 Blue Gum Eucalyptus trees exceed eight inches in diameter, they are considered "protected" trees, per the City's Tree Preservation Ordinance, and are required to be replaced with "like-size, like-kind trees or an equal value tree or trees as determined by the City's Landscape Architect." Also, additional trees may be removed as part of construction of the proposed community center and park and detention basins. ***Mitigation Measure IV-e:*** ***In accordance with Hayward's Tree Preservation Ordinance, any "protected" trees as defined by the City's Tree Preservation Ordinance that are to be removed as a result of the project shall be replaced with like-size, like-kind trees or trees equal in value to them, as determined by the City's Landscape Architect. Such measures will ensure impacts due to removal of protected trees are less than significant.***				
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? ***Comment:*** *No Habitat Conservation Plan, Natural Community Conservation Plan or any other local, regional or stat habitat conservation plans exist that would involve the project site.*	☐	☐	☐	☒
V. CULTURAL RESOURCES - Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in section 15064.5 of the CEQA Guidelines? ***Comment:*** *According to a March 20, 2005 cultural resources assessment by Basin Research Associates, no evidence of prehistoric or significant historic archaeological or architectural features or sites was observed during a March 2, 2005 field inventory of the project site. Therefore, no significant impacts to archaeological resources are anticipated as a result of the project.*	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5 of the CEQA Guidelines? ***Comment:*** *See comment V-a above. In compliance with CEQA (15064.5), PRC 5024.5 and the Caltrans Environmental Handbook Volume 1, if ground disturbing activities within the Department's right-of-*	☐	☐	☐	☒

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way take place as part of this project and there is an inadvertent archaeological or burial discovery, all construction within 100 feet of the find shall cease and the Caltrans Cultural Resource Study Office, District 4, shall be immediately contacted. A staff archaeologist will evaluate the finds within one business day of being contacted at (510) 286-5613 or (510) 286-5618. Historic or prehistoric resources may consist of, but not be limited to, dark friable soils, charcoal, obsidian or chert flakes, grinding bowls, shell fragments, bone, glass, metal, ceramics, wood, or similar debris deposits.				
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? ***Comment:*** *See comment Va) above.*	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries? ***Comment:*** *Given the highly disturbed nature of the project site due to active mining activity, it is unlikely any human remains will be disturbed as a result of the proposed project. However, in accordance with State law and standard grading procedures, if any human remains are discovered, work in the vicinity of such remains shall cease and the County Coroner contacted for a determination as to whether such remains may be those of Native Americans. Any subsequent activity regarding such remains shall follow procedures as outlined in CEQA Guidelines Section 15064.5(e).*	☐	☐	☒	☐
VI. GEOLOGY AND SOILS - Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault? ***Comment:*** *The project site is within the State's Earthquake Fault Zone. Significant trenching has been conducted on the project site, with the results of such trenching and observations summarized in four reports by the project geological consulting firm, Berlogar Geotechnical Consultants. The reports, which have been reviewed and accepted by the City's geotechnical peer-review consultant, are:* ♦ *"Fault Investigation Report, La Vista Quarry, Hayward, California," dated February 29, 2000;* ♦ *"Supplemental Fault Investigation Report, La*	☐	☒	☐	☐

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Vista Quarry, Hayward, California," dated February 3, 2001; ♦ *"Report Fault Investigation, Marcotte Property, Alquire Parkway, Hayward, California," dated December 3, 2001;* ♦ *"Fault Investigation, Proposed Community Center, Northwestern Site Corner, La Vista Quarry, Hayward, California," dated February 18, 2005.* *The reports identify a concentrated fault zone measuring 96 to 280 feet wide along the generally recognized active trace of the Hayward fault. Such concentrated fault zone, along with the standard recommended minimum 50-foot setback to the east of such zone, are reflected on the vesting tentative tract map and associated plans. The reports also identify an area of discontinuous fault features southeast of the main fault traces that are concluded to be a zone of potential secondary ground deformation during main trace fault rupture, within which special reinforced foundations are recommended. Such area is also shown on the submitted tract map and plans.* ***Impact:*** *Construction of homes close to the active Hayward fault trace could result in injuries, death and/or property damage as a result of fault trace rupture.* ***Mitigation Measure VI-ai):*** ***No habitable structures, including a possible community center, shall be built closer than 50 feet of the active Hayward fault trace and concentrated fault zone, as indicated on the submitted plans. Additionally, special foundation designs shall be incorporated into homes proposed to be built within the identified special foundation zone at the southeast corner of the proposed development. The design of such foundations and location of homes and possible community center shall be in accordance with the recommendations of the project geotechnical consultant, to be confirmed via plan review and "as-built" letters from the project geotechnical consultant, to be submitted prior to issuance of building permits and prior to project finalization, respectively. Such measures will ensure impacts related to fault rupture are less than significant.***			
ii) Strong seismic ground shaking? ***Comment:*** *The severity of ground shaking at a particular site is controlled by several factors,*	☐	☒	☐	☐

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including the distance from the earthquake source, the earthquake magnitude, and the type, thickness and condition of underlying geologic materials. The project geotechnical consultant, Berlogar Geotechnical Consultants, have provided design-level recommendations in a report dated May 24, 2005 (see pages 13 to 30 of such report, attached as Exhibit R), including recommendations related to:

- *landslide treatments (five of seven identified on-site landslides will be removed and replaced with engineered fill and the remaining two will be left in place in that they are located outside the reclaimed quarry slope area along the northern project boundary away from existing or future structures),*
- *repair of existing erosion gullies on the existing reclaimed portion of the quarry slope (to be removed and replaced with engineered fill or treated with a buttress fill, and planted with fast-growing, deep-rooted grasses),*
- *removal of nonengineered fill from areas of proposed improvements (if used as engineered fill, compacted to 95% density greater than 20 feet below finished grade and to 90% compaction within 20 feet of finished grade), and*
- *potential settlement of future engineered fill below proposed improvements (anticipated to range up to three inches after completion of grading), recommended to be monitored by a California-licensed surveyor just after finished grading is completed, every two weeks for a few months after grading and every month thereafter for several more months (to be specified for as long as recommended by the project geotechnical consultant and approved by the City Engineer).*

Impact: *The fact that the active Hayward fault runs through the project site increases the chances that severe ground shaking will likely occur during a major seismic event, which could result in loss of life and/or property.*

Mitigation Measure VI-aii: ***As recommended by the City's geotechnical peer-reviewer (see Exhibit S) , prior to issuance of construction permits, the project geotechnical consultant shall review the final construction plans to ensure that site grading, fault and slope setbacks, foundation designs, subdrainage, etc. are in accordance with the project consultant's recommendations, and***

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provide a plan review letter to the City. Also, the project certified engineering geologist and geotechnical engineer shall be on site during grading, excavations, keyways, cuts, etc. to verify that actual geologic conditions, fault locations and special foundation zones are as anticipated and that appropriate supplemental recommendation be provided, as necessary. The results of such inspections, testing, and/or modifications shall be documented in an "as-built" letter/report prepared by the project engineering geologist/geotechnical engineer and submitted to the City before final approval of permits is granted. Implementation of such measures, including careful monitoring of grading during construction by the project engineering geologist and geotechnical engineer, will ensure such impacts are less than significant.				
iii) Seismic-related ground failure, including liquefaction? ***Comment:*** *The project geotechnical consultant indicates the potential for liquefaction is low. Also, the site is shown outside a liquefaction zone, according to the State's Seismic Hazard Zones Map. Therefore, hazards related to ground failure and liquefaction are considered low in probability.*	☐	☐	☒	☐
iv) Landslides? ***Comment:*** *See discussion under item VI-aii above.* ***Impact:*** *See discussion under item VI-aii above.* ***Mitigation Measure VI-aiv: Implement Mitigation Measure VI-aii, which will reduce the significance of landslide-related impacts to a level of insignificance.***	☐	☒	☐	☐
b) Result in substantial soil erosion or the loss of topsoil? ***Comment:*** *The proposed project would result in a large hillside above and to the east of the proposed development, with slopes ranging in steepness from 3:1 to 2:1. Also, 2:1 slopes are proposed between rows of homes.* ***Impact:*** *Unprotected areas after finished grading could result in soil erosion and loss of topsoil, impacting on-site and off-site improvements.* ***Mitigation Measure VII-b: All exposed areas within the proposed project limits of grading are to be planted with vegetation, to the satisfaction of the City's Landscape Architect or, if temporary stockpiles of material are created on-site, covered with material to prevent material from being washed away.***	☐	☒	☐	☐

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c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? ***Comment:*** *See discussion under item VI-aii above.* ***Impact:*** *See discussion under item VI-aii above.* ***Mitigation Measure VI-c:*** ***Implement Mitigation Measure VI-aii, which will reduce the significance of such impacts to a level of insignificance.***	☐	☒	☐	☐
d) Be located on expansive soil, creating substantial risks to life or property? ***Comment:*** *The fill used for the project will not be expansive.*	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems? ***Comment:*** *The development would be required to connect to the City's public sewer system.*	☐	☐	☐	☒
VII. HAZARDS AND HAZARDOUS MATERIALS - Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? ***Comment:*** *The project would entail construction of 179 single-family homes and related improvements, including a community center and park. Therefore, no such hazards related to routine project operations or functions are anticipated.*	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? ***Comment:*** *Asbestos is classified as a known human carcinogen by state, federal and international agencies and was identified as a toxic air contaminant by the California Air Resources Board (CARB) in 1986. All types of asbestos are hazardous and may cause lung disease and cancer. Asbestos is a term used for several types of naturally-occurring fibrous minerals found in many parts of California. The most common type of asbestos is chrysotile, but other types are also found in California. Serpentine rock often contains chrysotile asbestos. Serpentine rock, and its parent material, ultramafic rock, are abundant in the Sierra foothills, the Klamath Mountains, and Coast Ranges. According to the project geotechnical*	☐	☒	☐	☐

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engineer, there may be a potential for some serpentinite fragments to be present in old nonengineered fills on the site, as well as in import material from the Garin Vista site to the south. As indicated in attached Exhibit T, the project geotechnical consultant recommends that any such material with the potential to contain naturally-occurring asbestos be buried at least 10 feet below the finished grade surface in the residential lot area, with a consideration of disclosure to future buyers of properties, or be buried at least two feet below finished grade, with disclosure required for future buyers of properties. Also, the project geotechnical consultant recommends that asbestos-containing soil be buried at least two feet below finished grade surface in other areas, including the community park and center area, with disclosure to the City required. The consultant indicates there is suitable on-site material free of asbestos-containing materials to be used for the recommended "cap" at the upper portions of the ground surface.

Also, there may be contaminants on site related to the existing surface mining operation, including those associated with the existing 16,000-gallon propane tank located near the existing asphalt plant, the five 12,000-gallon underground oil storage tanks and the above-ground 7,000-gallon storage tank that stores SS-1 emulsion (50 percent oil and 50 percent soap and water).

Impact: *Release of asbestos fibers through disturbance of soil containing such material could result in a health hazard to nearby residents and workers.*

Also, contaminants in the soil related to the existing surface mining operation could pose a threat to construction workers and future residents and users of the community park.

Mitigation Measure VII-b(1): Implement Mitigation Measure III-b (Asbestos Dust Mitigation Plan). Also, reflective of recommendations of the project geotechnical consultant, no asbestos-containing material shall be placed within 10 feet of the finished grade surface within the proposed development, including all residential lots, streets and roads, outdoor open space areas and trails within and immediately adjacent to the development, and in the proposed community center and park areas and roads leading to the development (not intended to apply to reclaimed eastern hillside above development). Additionally, material to be used for

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the upper area "cap" shall be tested in accordance with a State-approved testing method, such as the Air Resources Board's Test Method 435, to confirm such material does not contain more than 0.25 percent asbestos material. Such measures will ensure impacts resulting from release of asbestos-containing materials will be less than significant. ***Mitigation Measure VII-b(2):*** ***In accordance with Mitigation Measure 4.6-1(a) of the MG EIR, prior to start of project grading, project developers shall contact the Alameda County Environmental Health Department, Bay Area Air Quality Management District, State Department of Toxic Substances Control and the Hazardous Materials Division of the Hayward Fire Department, for required site clearances, necessary permit and facility closure with regard to demolition and removal of hazardous material form the site. All work shall be performed by licensed contractors in accordance with state and federal OSHA standards. Worker safety plans shall be included for all demolition plans. Additionally, a Phase I Preliminary Site Assessment (PSA) shall be conducted to assess conditions and activities at the site in association with a surface mining operation that could represent the potential presence of hazardous materials. Also, if justified by the PSA, additional studies, including possibly a Phase II soil and groundwater quality investigation shall be conducted, with remedial measures identified in such investigation to be implemented in accordance with standard practices.*** ***Implementation of such measures will reduce such impacts related to hazardous materials to levels of insignificance.***				
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? ***Comment:*** *The project sit is not within one-quarter mile of an existing or proposed school.*	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? ***Comment:*** *The site is not included on the California Department of Toxic Substances Control's Cortese list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and therefore, no*	☐	☐	☐	☒

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such impact would occur as a result of the project.				
e) Result in a safety hazard for people residing or working within an area subject to an airport land use plan or within two miles of a public airport or public use airport? ***Comment:*** *The site is not located within two miles of a public airport or public use airport and therefore, no such impacts would occur as a result of the project.*	☐	☐	☐	☒
f) Result in a safety hazard for people residing or working in the vicinity of a private air strip? ***Comment:*** *The site is not located within the vicinity of a private air strip and therefore, no such impacts would occur as a result of the project.*	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? ***Comment:*** *The project would provide additional means of ingress and egress for residents in the area through the required extensions and connection of Tennyson Road and Alquire Parkway; however, the proximity of the Hayward fault trace to the project site could result in damaged roads and utility lines that could impede emergency response and evacuation activities.* ***Impact:*** *The planned extension of Tennyson Road and Alquire Parkway, and the connector road linking those extensions, roadways and utility lines that are proposed to cross the Hayward earthquake fault trace may be damaged during a seismic event, which could impair evacuation and emergency response activities during an emergency event.* ***Mitigation Measure VII-g:*** ***Recommendations of the project geotechnical engineer related to street and utility lines shall be incorporated into the project design (see Exhibit R, pages 17 and 18). Such recommendations indicate that utility lines are to be placed east of the Hayward earthquake fault trace for the Alquire Parkway extension and that special design features, such as flexible pipes, shutoff valves on either side of the fault trace and use of an outer conduit, be incorporated where utility lines would cross the fault trace for the Tennyson Road extension. The design of water main pipes crossing the Hayward fault trace shall be consistent with the City's Standard Detail 227. Such measures will ensure such impacts will be less than significant.***	☐	☒	☐	☐

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h) Expose people or structures to a significant risk involving wildland fires?	☐	☒	☐	☐

Comment: *The project site is located in a hillside area that contains limited water supply and restricted emergency vehicle access. Strict adherence to the City's "Urban/Wildland Interface Guidelines", including development and implementation of a fuel management program, will help reduce wildland fire hazards once residential development projects are completed.*

Impacts: *However, hazards will exist during construction phases for both construction workers and surrounding (downhill) residents, unless proper measures are implemented, including providing adequate emergency vehicle access and sufficient water supply for fire suppression.*

Mitigation Measure VII-h: ***Prior to start of construction involving combustible materials, or as required by the Hayward Fire Department, an additional water tank equal in size to the existing water tank, shall be constructed at the Garin Reservoir Site to the south of the project (see Exhibit D), and improved with a water system acceptable to the Hayward Fire and Public Works Departments that would bring adequate water supply and pressure to the project site. Also, prior to the start of construction involving combustible materials, roadways acceptable to the Hayward Fire Department shall be constructed, to provide emergency vehicle access to the project site. Also, a fuel management plan, acceptable to the Hayward Fire Department, shall be implemented throughout construction and incorporated into the design of homes and structures. Such measures will ensure hazards related to wildland fires are insignificant.***

VIII. HYDROLOGY AND WATER QUALITY - Would the project:

a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐

Comment: *The project proposes a drainage system that would result in storm water flowing into a series of detention basins proposed in the western portion of the property in proposed park area. From the basins, storm water would eventually discharge into drainage improvements maintained by the Alameda County Flood Control and Water Conservation District (Line A), with storm water eventually flowing into San Francisco Bay.*

Impacts: *During construction and after project completion, there is the potential for erosion of*

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exposed surfaces to enter the stormwater system, which could negatively impact water quality and violate water quality standards. ***Mitigation Measure VIII-a:*** ***Per State regulations, a Notice of Intent (NOI), and Storm Water Pollution Prevention Plan (SWPPP) and Stormwater Quality Protection Plan shall be prepared and submitted to the State for review and approval. These documents shall also be submitted along with the grading permit application for review and approval by the City of Hayward. Grading and construction plans shall incorporate erosion and sedimentation control measures to be implemented during all phases of construction activities.*** ***The improvement plans for the project shall incorporate Best Management Practices (BMP's) designed in accordance with applicable provisions of the Alameda County Clean Water Program NPDES permit Section C.3, including the hydraulic sizing criteria, which will ensure that storm water runoff is treated prior to discharge from the site and that runoff rates are such that downstream impacts are reduced to the maximum extent practical. Such measures will ensure that water quality impacts are less than significant.***				
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level? ***Comment:*** *The project would be served by the City's public water system and would not rely on groundwater for a source of water. Also, the amount of groundwater lost due to impervious surfaces associated with development would be considered insignificant in the context of the vicinity and undeveloped hillsides to the east above Bodega Street residents. Therefore, impacts on groundwater are anticipated to be minimal.*	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site? ***Comment:*** *The project proposes a drainage system that would result in storm water flowing into a series of detention basins proposed in the western portion of the property in proposed park area. From the basins, storm water would eventually discharge into drainage improvements maintained by the Alameda County Flood Control and Water Conservation District (Line*	☐	☒	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
D), with storm water eventually flowing into San Francisco Bay. ***Impacts:*** *The proposed stormwater drainage system could result in substantial erosion that could negatively impact downstream properties.* ***Mitigation Measure VIII-c:*** ***The development plans for the site will not substantially alter the drainage pattern of the area. The development's improvement plans will incorporate BMP's, including erosion and sedimentation control measures, that will treat all water prior to discharge and will ensure that the discharge rate from the site is consistent with existing rates.***				
d) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site? ***Comment:*** *No such impacts are anticipated in that the drainage system will be required to be approved by the City of Hayward and the Alameda County Flood Control and Water Conservation District.*	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? ***Comment:*** *The project, located in Alameda County Flood Control and Water Conservation District's (ACFCD) Zone 3A, would entail construction of a 179-unit residential development, with associated roads and impervious surfaces. Drainage from such development would flow into proposed detention basins in the western portion of the project site in proposed park areas, which would release stormwater to ACFCD's Line D, an earth-lined channel located southwesterly of the project site.* ***Impacts:*** *The project could generate stormwater runoff that could exceed the capacity of downstream facilities.* ***Mitigation Measure VIII-e:*** ***Proposed detention basins and project drainage system shall be designed in accordance with Alameda County Flood Control and Water Conservation District's standards, with such design to be supported via hydraulic calculations from the project engineer, to be reviewed and approved by the ACFCD and the City of Hayward Public Works Department. Any increased flow resulting from the proposed development would be required to be mitigated on-site. Implementation of such measures will ensure***	☐	☒	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
no impacts related to capacity of downstream facilities would be significant.				
f) Otherwise substantially degrade water quality? ***Comment:*** *No such impacts other than those identified in subsections a) and c) are anticipated.*	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? ***Comment:*** *According to FEMA Flood Insurance Rate Maps, this site is not within a 100-year flood hazard area.*	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows? ***Comment:*** *According to FEMA Flood Insurance Rate Maps, this site is not within a 100-year flood hazard area.*	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? ***Comment:*** *Proposed development would be in the eastern hills to the east of Mission Boulevard, several hundred feet in elevation above Mission Boulevard and sea level. Therefore, no such impacts are anticipated.*	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow? ***Comment:*** *See comment under VIII-i above.*	☐	☐	☐	☒
IX. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community? ***Comment:*** *The development is proposed at the periphery of existing development to the west of Garin Regional Park and would not divide an established community.*	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect? ***Comment:*** *The project is located in unincorporated Alameda County, whose regulations currently govern the property. The project would entail amendments to Hayward's General Plan Land Use designation for the property from Limited Open Space to Limited Medium Density Residential and Parks and Recreation. Any approval of the proposal would include a condition that the site be annexed into the City of Hayward prior to recordation of the final map.*	☐	☐	☒	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
The project will be required to be in compliance with the City's Hillside Design Guidelines and Mission-Garin Area Special Design District (SD-5) provisions, within the context of the Planned Development District provisions, which allows for consideration of deviations from typical development standards, provided offsetting facilities or amenities are provided. *Also, in accordance with the State's Surface Mining and Reclamation Act (SMARA), the project will be required to be consistent with any final approved reclamation plan approved by the State's Office of Mine Reclamation and the applicable SMARA lead agency (to be City of Hayward or Alameda County, depending on timing of annexation).* *Therefore, project impacts related to these types of impacts are anticipated to be less than significant.*				
c) Conflict with any applicable habitat conservation plan or natural community conservation plan? ***Comment:*** *The project would not conflict with any such plan.*	☐	☐	☐	☒
X. MINERAL RESOURCES - Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? ***Comment:*** *The project site currently contains an active surface mining operation (La Vista Quarry). The mine has a surface mining permit from Alameda County to operate through the year 2008, and the quarry land owners have indicated a desire to develop the property with residences. The Hayward General Plan states on page 7-5, "Upon closure of the La Vista Quarry, the City would instead rely on the production of other quarries in the region, which is expected to be adequate to meet the needs of the City and others for the foreseeable future."* *Reasons to support closure of the quarry and development of the proposed project include:* *1. Enhanced visual treatment of the area, including trees and related amenities (i.e., trails, etc.) associated with a residential development.* *2. Compatibility with residential development in an area that over the years has developed with residences in a more suburban setting and will continue to develop with such uses.* *3. Provision of needed housing, including affordable housing as required by the City's Inclusionary Housing Ordinance.*	☐	☐	☐	☒

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
4. *Provision of a community park and funding and construction of a community center on site or in the general vicinity, in an area that is underserved by such facilities.* 5. *Alternative sources of aggregate material in the vicinity from newer quarries becoming available, such as from the Sunol quarry, located south of I-680 and State Route 84.* 6. *Reduction in demand for aggregate material resources, due to alternative sources of material becoming available through recycling/reuse and the use of dredged sand.* *Therefore, no impacts related to this land use issue are anticipated.*				
b) Result in the loss of availability of a locally important mineral resource recovery site? ***Comment:*** *See comments under item X-a above.*	☐	☐	☐	☒
XI. NOISE - Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? ***Comment:*** *The project would involve significant amounts of grading with large grading equipment, as well as construction of homes and roads. Section 4-1.03 of the Hayward Municipal Code governs persistent noise and construction noise. Under this section, repeated or persistent loud noise is considered unlawful. Construction activities generating noise are limited to the hours of 7 a.m. to 7 p.m., Monday through Saturday. Construction hours on Sundays are limited to 10 a.m. to 6 p.m.* ***Impact:*** *The project could negatively impact nearby residents due to temporary excessive construction noise.* ***Mitigation Measure XI-a:*** ***In accordance with MG EIR Mitigation Measure 4.9-1, a Construction Noise Management Plan shall be prepared and implemented. Such plan must be approved by the Hayward Community and Economic Development Director prior to issuance of grading permits and shall contain, at minimum, a listing of hours of construction operations (which shall be in accordance with the City's construction hours), use of mufflers on construction equipment, limitation of on-site speed limits, identification of haul routes to minimize travel through residential areas and identification of noise monitors. Specific noise management measures shall be included in***	☐	☒	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
appropriate contractor specifications. Such measures will reduce temporary construction noise impacts to levels of insignificance.				
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? ***Comment:*** *As stated in the MG Draft EIR on page 145, no significant vibration impacts are anticipated.*	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? ***Comment:*** *The project would entail development of single-family homes and a public park. Ambient noise levels associated with such development would be less than those that currently exist with an active mining operation. Therefore, no such impacts are anticipated.*	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? ***Comment and Impact:*** *As indicated under item XI-a above, there will be expected temporary significant construction noise impacts.* ***Mitigation Measure XI-d:*** ***Implement Mitigation Measure XI-a, which would reduce such impacts to a level of insignificance.***	☐	☒	☐	☐
e) Exposure of people residing or working in the project area to excessive noise levels due to location within an airport land use plan or within two miles of a public airport or public use airport? ***Comment:*** *No such airports are within two miles of the project site and the site is outside the Hayward Executive Airport's influence area.*	☐	☐	☐	☒
f) Exposure of people residing or working in the project area to excessive noise levels due to location within the vicinity of a private airstrip? ***Comment:*** *No such airstrips are within two miles of the project site.*	☐	☐	☐	☒
XII. POPULATION AND HOUSING - Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? ***Comment:*** *Utilizing an average household size of 3.08 (Census 2000 median household size for Hayward), the project would introduce an additional 550 persons to the area. However, as indicated in the discussion in Section 4.10 of the Mission Garin*	☐	☐	☒	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Annexation Project Program EIR, proposed development on the subject site would fall within the range of development anticipated and analyzed in the Hayward General Plan, adopted by the City in March of 2002. The MG EIR evaluated impacts of development on this site that ranged from 27 to 321 dwelling units and concluded no significant impacts related to population and housing above that anticipated in the Hayward General Plan EIR would be expected. Therefore, impacts related to increased population would be less than significant.				
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? ***Comment:*** *No existing housing would be displaced as a result of the project.*	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? ***Comment:*** *No existing housing would be displaced as a result of the project.*	☐	☐	☐	☒

XIII. PUBLIC SERVICES & UTILITIES - Would the project result in:

a) Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for the following public services:				
Fire protection? ***Comment:*** *As indicated in section 4.12 of the MG EIR, such impacts are not expected to be significant. Visual impacts related to a new water tank have been addressed previously in this document.*	☐	☐	☒	☐
Police protection? ***Comment:*** *As indicated in section 4.12 of the MG EIR, such impacts are not expected to be significant.*	☐	☐	☒	☐
Schools? ***Comment:*** *The project site is within the Treeview Elementary School attendance area of the Hayward Unified School District. The project developer will be required to pay required school impact mitigation fees, which, per State law, is considered full mitigation.*	☐	☐	☒	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Parks/Recreation? ***Comment:*** *A new community park and possible new community center are proposed. No significant impacts associated with construction of such facilities that are not identified elsewhere in this document are anticipated. The provision of a new park and possible new community center in an area that lacks adequate parkland would be a beneficial impacts*	☐	☐	☒	☐
b) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? ***Comment:*** *Impacts associated with the number of units on this site that were analyzed in the MG EIR in Section 4.12 were determined to be insignificant. Since the number of units proposed for this project would be less than the maximum analyzed in the MG EIR, project impacts would be expected to be insignificant.*	☐	☐	☒	☐
c) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? ***Comment:*** *As indicated in the MG EIR in Section 4.12, adequate capacity exists at the City's wastewater treatment facility to accommodate the proposed development. However, an existing undersized sewer interceptor line along the western portion of Tennyson Road between I-880 and Hesperian Road will need to be upgraded and the project will be required to contribute its fair share of the cost for such improvement. Such upgrade will entail construction of a new line parallel to the existing Tennyson Road line.* *Impacts associated with construction of a required new water tank and system at the Garin Reservoir site have been addressed previously.*	☐	☐	☒	☐
d) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? ***Comment:*** *As indicated in the Hydrology-Water Quality section of this document, the project analyzed would entail construction of new detention basins in the proposed community park. No significant impacts associated with such construction that have not been analyzed elsewhere in this document are anticipated.*	☐	☐	☒	☐
e) Require new or expanded water supplies from existing entitlements and resources?	☐	☐	☒	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Comment: *As indicated in Section 4.12 of the MG EIR, Hayward has virtually unlimited water supply from the Hetch-Hetchy system. Therefore, no such impacts would be anticipated.*				
f) A determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? ***Comment:*** *As indicated on page 183 of the MG Draft EIR, the City has sufficient capacity to serve the amount of development proposed on the subject site.*	☐	☐	☒	☐
g) Require additional landfill capacity? ***Comment:*** *Sufficient landfill capacity exists and such impacts are not anticipated to be significant.*	☐	☐	☒	☐
h) Comply with federal, state, and local statutes and regulations related to solid waste? ***Comment:*** *The project would be required to do so, including complying with the City's demolition and recycling ordinance.*	☐	☐	☒	☐
XIV. TRANSPORTATION - Would the project:				
a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)? ***Comment:*** *The MG EIR analyzed such impacts for a range of alternatives that anticipated a greater number of residential units on the subject site than are proposed. The MG EIR assumed a maximum of 321 units for the subject site and the proposed project would entail 179 units. The project would also entail the extension of Tennyson Road eastward to the development from Mission Boulevard and also improvements to the Mission Boulevard/Tennyson Road intersection, all of which would be done within existing right-of-way. Such impacts are anticipated to be less than significant as a result of this project.* *The proposed park and community center would not be expected to generate significant traffic during peak-hour, in that such activities would generally be limited to evening and weekend hours.*	☐	☐	☒	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Comment: *The MG EIR analyzed such impacts for a range of alternatives that anticipated a greater number of residential units on the subject site than are proposed. The MG EIR assumed a maximum of 321 units for the subject site and the proposed project would entail 179 units. Such impacts were determined not to exist in association with the level of development analyzed in the MG EIR. The Mission-Garin Annexation EIR received a letter of exemption from the Alameda County Congestion Management Agency's Land Use Analysis program requirements on March 1, 2003. Therefore, no such impacts are anticipated as a result of this project.*				
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks? ***Comment:*** *The project will not impact air traffic patterns.*	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? ***Comment:*** *No such undesirable design features are proposed. All roads will be required to meet City standards and the Tennyson Road/Mission Boulevard intersection improvements will require an encroachment permit from the State.*	☐	☐	☐	☒
e) Result in inadequate emergency access? ***Comment:*** *The project would provide two public roads leading into the development, via extension of Tennyson Road and extension of Alquire Parkway that would lead to the southern portion of the development. The Hayward Fire Department staff has indicated the two access points are acceptable. Maximum roadway slopes in certain sections are shown at 15%, the maximum allowed by the Fire Department.*	☐	☐	☐	☒
f) Result in inadequate parking capacity? ***Comment:*** *The proposed park and community center will be required to be compliant with the City's parking standards, which require one parking space for every 200 square feet of gross floor area forsuch facilities as the proposed community center (at 20,000 square feet would require 100 spaces). Additional parking would be provided for the proposed ball fields. The conceptual plans show approximately 170 parking spaces. Adequate land exists to accommodate parking to meet the needs of the park; therefore, such*	☐	☐	☒	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
impacts would be less than significant.				
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)? ***Comment:*** *The project would not conflict with such plans.*	☐	☐	☐	☒

XV. MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? ***Comment:*** *As discussed under the Biology section, the project could impact nesting raptors, given there is suitable habitat around the periphery of the site in trees for certain species and there is potential for impacts due to tree removals. Mitigation Measures have been identified to reduce such impacts to levels of insignificance.*	☐	☒	☐	☐
b) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals? ***Comment:*** *No such impacts have been identified. The project would provide housing opportunities for Hayward area residents, including those associated with affordable housing, due to the City's Inclusionary Housing Ordinance.*	☐	☐	☒	☐
c) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? ***Comment:*** *No such impacts have been identified.*	☐	☐	☐	☒
d) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly? ***Comment:*** *As indicated in the Air Quality, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality and Noise sections, the project could cause substantial adverse effects on human beings due to the potential presence of naturally-occurring asbestos, particulate matter, earthquake fault traces and other geologic hazards such as landslides, steep slopes with the potential to erode and construction noise. Mitigation measures have been identified to reduce such impacts to levels of insignificance.*	☐	☒	☐	☐

List of Attachments

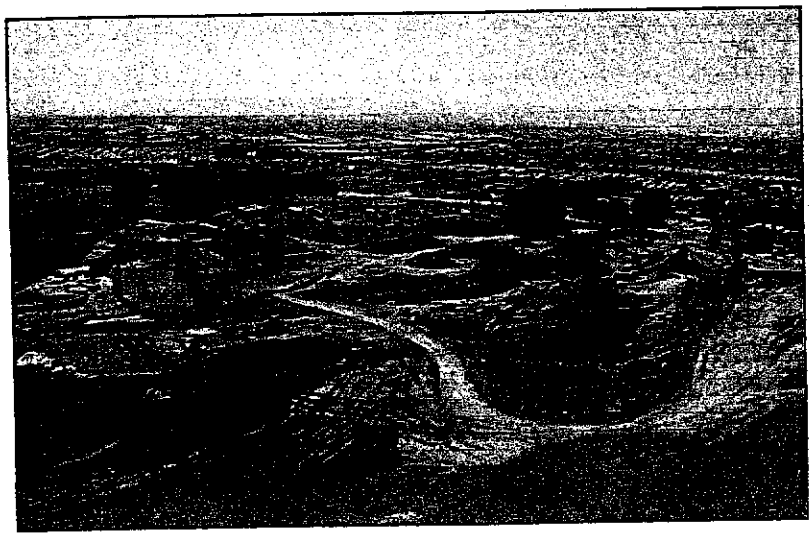
A Development plans (Vesting Tentative Map, Preliminary Development Plan, Architectural Plans)
B General Plan Land Use Designations
C Zoning/Prezoning Designations
D Aerial vicinity map
E Vantage point reference map for photo simulations
F Photo simulation of development viewed toward east at the Tennyson Road/Mission Blvd. intersection
G Photo simulation of development viewed from the South Hayward BART Station platform
H Photo simulation of development viewed toward east across the CalTrans property along Dixon Street
I Photo simulation of development viewed toward north along proposed Alquire Parkway connector road
J "Tree Report, La Vista Quarry, Hayward, CA," by HortScience, Inc., March 2005
K "Final Regulation Order, Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations," California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 7.5, Sections 93105 et seq.)
L "La Vista Quarry California Red-legged Frog Habitat Assessment," by Wetland Research Associates, May 23, 2005
M "La Vista Quarry Alameda Whipsnake Habitat Assessment," by Wetland Research Associates, May 23, 2005
N "La Vista Quarry Nesting Raptor and Shrike Studies," by Wetland Research Associates, May 23, 2005
O "La Vista Quarry Golden Eagle Studies," by Wetland Research Associates, May 23, 2005
P "La Vista Quarry Rare Plant Survey," by Wetland Research Associates, May 23, 2005
Q "La Vista Quarry Wetland Delineation," by Wetland Research Associates, May 23, 2005
R "Design-Level Geotechnical Report, Proposed La Vista Quarry Development, La Vista Quarry Site and Marcotte Property, Hayward, California, Volume 1 of 3," by Berlogar Geotechnical Consultants, March 24, 2005
S "Geotechnical and Geologic Review, Proposed La Vista Quarry Development, Hayward, California," by Harlan Tait Associates, Consulting Geotechnical Engineers, May 24, 2005
T "Supplemental Recommendations for Capping Serpentinite, Proposed La Vista Quarry Development, La Vista Quarry Site and Marcotte Property, Hayward, California," by Berlogar Geotechnical Consultants, June 2, 2005

DUE TO THE COLOR OF ATTACHMENTS A – I, THEY HAVE BEEN ATTACHED AS SEPARATE LINKS

Attachment J

HORTSCIENCE INC.

Tree Report
La Vista Quarry
Hayward CA



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March 2005

Tree Report
La Vista Quarry
Hayward, CA

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Exhibits

Introduction

The La Vista Quarry is located near Mission Boulevard in Hayward. The DeSilva Group is planning to develop the quarry. It requested that HortScience, Inc. prepare a Tree Report for the site. This report provides the following information:

1. A survey of trees currently growing on the site.
2. An assessment of the impacts of constructing the proposed project on the trees.
3. Guidelines for tree preservation during the design, construction, and maintenance phases of development.

Survey Methods

The tree survey was conducted March 11 and 14, 2005. The survey consisted of the following steps:

1. Identifying each tree as to species.
2. Tagging each tree with an identifying number.
3. Measuring the diameter of the trunk at a point 54" above grade.
4. Evaluating the health and structural condition using a scale of 1 – 5:
   5 - A healthy, vigorous tree, reasonably free of signs and symptoms of disease, with good structure and form typical of the species.
   4 - Tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.
   3 - Tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care.
   2 - Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.
   1 - Tree in severe decline, dieback of scaffold branches and/or trunk; most of foliage from epicormics; extensive structural defects that cannot be abated.
5. Rating the suitability for preservation as "good", "moderate", or "poor". Suitability for preservation considers the health, age and structural condition of the tree, and its potential to remain an asset to the site for years to come.

   Good: Trees with good health and structural stability that have the potential for longevity at the site.
   Moderate: Trees with somewhat declining health and/or structural defects than can be abated with treatment. The tree will require more intense management and monitoring, and may have shorter life span than those in 'good' category.
   Poor: Tree in poor health or with significant structural defects that cannot be mitigated. Tree is expected to continue to decline, regardless of treatment. The species or individual may have characteristics that are undesirable for landscapes, and generally are unsuited for use areas.

6. Appraise the value of the trees using the techniques described in the Guide for Plant Appraisal, 9th edition (Champaign IL:2000, International Society of Arboriculture).

The results of the survey are found in the attached ***Tree Survey.***

Description of Trees

There were 153 trees growing on the La Vista Quarry site, representing eight taxa (Table 1). The **Tree Survey** and **Tree Location Map** in the Exhibits describe each tree by tag number.

The site consisted of the quarry operation, with trees growing in distinct linear rows. The most commonly occurring species was blue gum (35% of the population). The closely related compact blue gum was also well represented (17%). The four Eucalyptus species account for 64% of the trees growing on the site.

Three species were native to the area and may be indigenous to the site: Calif. bay, coast live oak, and elderberry. These grew in a creek setting on the north border of the property.

The condition ratings were based on a visual assessment of tree health and structure. Tree condition was generally fair (44%) to good (37%). Twenty-nine trees (19%) were in poor condition.

Table 1: Condition ratings and frequency of occurrence of trees.

Common Name	Scientific Name	Condition Rating			No. of Trees
		Poor (1-2)	Fair (3)	Good (4-5)	
Buckeye	*Aesculus californica*	1	3	2	6
Red gum	*Eucalyptus camaldulensis*	--	2	--	2
Blue gum	*Eucalyptus globulus*	9	18	26	53
Compact blue gum	*E. globulus* 'Compacta'	5	8	13	26
Silver dollar gum	*Eucalyptus polyanthemos*	10	7	--	17
Coast live oak	*Quercus agrifolia*	3	25	14	42
Elderberry	*Sambucus callicarpa*	1	--	1	2
Calif. bay	*Umbellularia californica*	--	5	--	5
Total		**29**	**68**	**56**	**153**
		19%	44%	37%	100%

Protected trees

Hayward's tree ordinance (Ordinance No. 02-18) defines trees of four inches in diameter or greater of certain native species, and all trees eight inches and greater, as Protected Trees. All the trees included in our report except two (#25 and 142) are defined as protected trees. There are 151 Protected Trees in total.

Suitability for Preservation

Before evaluating the impacts that will occur during development, it is important to consider the quality of the tree resource itself, and the potential for individual trees to function well over an extended length of time. Trees that are preserved on development sites must be carefully selected to make sure that they may survive construction impacts, adapt to a new environment and perform well in the landscape. Our goal is for long-term health, structural stability and longevity.

Evaluation of suitability for preservation considers several factors:

- **Tree health**
  Healthy, vigorous trees are better able to tolerate impacts such as root injury, demolition of existing structures, changes in soil grade and moisture, and soil compaction than are non-vigorous trees.

- **Structural integrity**
  Trees with poor branch attachments and other structural defects that cannot be corrected are likely to fail. Such trees should not be preserved in areas where damage to people or property could occur.

- **Species response**
  There is a wide variation in the response of individual species to construction impacts and changes in the environment. In our experience, trees such as California black walnut, are difficult to preserve. They rarely recover from injuries to the root system. In contrast, other species, such as Deodar cedar, are more tolerant of site disturbance.

- **Tree age and longevity**
  Old trees, while having significant emotional and aesthetic appeal, have limited physiological capacity to adjust to an altered environment. Young trees are better able to generate new tissue and respond to change.

Each tree was rated for suitability for preservation based upon its age, health, structural condition and ability to safely coexist within a development environment (see ***Tree Survey Form***).

Table 2: Tree suitability for preservation

Good Trees with good health and structural stability that have the potential for longevity at the site. Eighteen (18) trees were rated as having good suitability for preservation. Their species distribution is shown below.

No. of trees	Species
3	Buckeye
14	Coast live oak
1	Elderberry

Trees with fair health and/or structural defects that may be abated with treatment were rated as **moderate** in suitability for preservation. Trees in this category require more intense management and monitoring, and may have shorter life-spans than those in the "good" category. One hundred nine (109) trees were rated as having moderate suitability for preservation. Their species distribution is shown below.

No. of trees	Species
45	Blue gum
2	Buckeye
5	CA bay
25	Coast live oak
22	Compact blue gum
2	Red gum
8	Silver dollar gum

Trees in poor health or with significant defects in structure that cannot be abated with treatment were rated **low** in suitability for preservation. These trees can be expected to decline regardless of management. The species or individual tree may possess either characteristics that are undesirable in landscape settings or be unsuited for use areas. Twenty-six (26) trees were rated as having low suitability for preservation. Their species distribution is shown below.

No. of trees	Species
8	Blue gum
1	Buckeye
3	Coast live oak
4	Compact blue gum
1	Elderberry
9	Silver dollar gum

We cannot recommend retention of trees with low suitability for preservation in areas where people or property will be present. Retention of trees with moderate suitability for preservation depends upon the intensity of proposed site changes.

Evaluation of Impacts and Recommendations for Preservation

Appropriate tree retention develops a practical match between the location and intensity of construction activities and the quality and health of trees. The ***Tree Survey Forms*** were the reference point for tree condition and quality. Potential impacts from construction were evaluated using the Site Plans provided by Calson Barbee & Gibson. These plans depicted the layout of lots, entry roads, and grading.

Using the plan, the potential impacts from construction were assessed for each tree. The most significant impacts to trees would occur as the result of the following:

- Grading to provide suitably stable building sites.
- Trenching to install underground utilities.

- Based upon our evaluation of these plans, the proposed plan would allow the preservation of 136 trees (see Table 4). Preservation of these trees is predicated on creation of a **Tree Protection Zone** (see ***Tree Preservation Guidelines***).

Implementation of the proposed plan would require the removal of the remaining 17 trees (Table 3). Four of these were poor in suitability for preservation. All of the trees that would be removed are blue gum, none are **Protected Trees.**

Table 3: Trees removed by the proposed development

Tree No.	Species	Trunk diameter (inches)	Appraised value
137	Blue gum	24,22,17,8,7	$2,850
138	Blue gum	20	$600
139	Blue gum	18,7,6,6	$650
140	Blue gum	21,16,9	$1,550
141	Blue gum	11,10,8,6	$650
142	Blue gum	7	$50
143	Blue gum	12,12,8	$500
144	Blue gum	14	$400
145	Blue gum	15,11,9	$850
146	Blue gum	18,6,5,4	$350
147	Blue gum	16,14	$400
148	Blue gum	13,7,4	$200
149	Blue gum	18,16,13,9	$1,650
150	Blue gum	15,8	$600
151	Blue gum	14	$150
152	Blue gum	16,10	$700
153	Blue gum	14,8,5	$400

Appraisal of Value

The City of Hayward requires that the value of trees to be preserved or removed during development be established. In so doing, I employed the standard methods found in ***Guide for Plant Appraisal***, 9th edition (published in 1992 by the International Society of Arboriculture, Savoy IL). In addition, I referred to ***Species Classification and Group Assignment*** (2004), a publication of the Western Chapter of the International Society of Arboriculture. These two documents outline the methods employed in tree appraisal.

The value of landscape trees is based upon four factors: size, species, condition and location. Size is measured as trunk diameter, normally 54" above grade. Where trees were cut off at ground level, I measured the diameter at this point and then estimated the trunk diameter at 54" above grade.

The species factor considers the adaptability and appropriateness of the plant in the East Bay area. The ***Species Classification and Group Assignment*** lists recommended species ratings and evaluations. Condition reflects the health and structural integrity of the individual. The location factor considers the site, placement and contribution of the tree in its surrounding landscape.

The appraised value of each individual tree is shown in the **Tree Survey**. The total of the appraised values of all 153 trees was **$219,900**.

The appraised value of the 17 trees that would be removed by the project is **$12,550** (Table 3).

The appraised value of the 136 trees to be preserved is **$207,350**.

Tree Preservation Guidelines

The goal of tree preservation is not merely tree survival during development but maintenance of tree health and beauty for many years. Trees retained on sites that are either subject to extensive injury during construction or are inadequately maintained become a liability rather than an asset. The response of individual trees will depend on the amount of excavation and grading, the care with which demolition is undertaken, and the construction methods. These impacts can be minimized by coordinating any construction activity inside the TREE PROTECTION ZONE.
The following recommendations will help reduce impacts to trees from development and maintain and improve their health and vitality through the clearing, grading and construction phases.

Design recommendations

1. Any plan affecting trees should be reviewed by the Consulting Arborist with regard to tree impacts. These include, but are not limited to, improvement plans, utility and drainage plans, grading plans, landscape and irrigation plans and demolition plans.

2. The Consulting Arborist will identify a TREE PROTECTION ZONE for trees to be preserved in which no soil disturbance is permitted. For design purposes, the TREE PROTECTION ZONE shall be defined by the dripline. If grading must encroach within the dripline, the Consulting Arborist will determine if a smaller TREE PROTECTION ZONE is possible.

3. Site and Grading Plans shall be modified to prevent any intrusion within the TREE PROTECTION ZONE of trees to be preserved.

4. Prior to demolition, the Consulting Arborist will prepare a **Tree Fencing Plan**, detailing the location of all protective fencing.

5. No underground services including utilities, sub-drains, water or sewer shall be placed in the TREE PROTECTION ZONE.

6. **Tree Preservation Notes** should be included on all plans.

7. Any herbicides placed under paving materials must be safe for use around trees and labeled for that use.

8. Irrigation systems must be designed so that no trenching will occur within the TREE PROTECTION ZONE.

Pre-construction treatments and recommendations

1. Fence all trees to be retained to completely enclose the TREE PROTECTION ZONE prior to demolition, grubbing or grading. Fences shall be 6 ft. chain link or equivalent as approved by consulting arborist. Fencing shall be placed at the dripline. Fences are to remain until all grading and construction is completed.

Recommendations for tree protection during construction

1. No grading, construction, demolition or other work shall occur within the TREE PROTECTION ZONE. Any modifications must be approved and monitored by the Consulting Arborist.

2. Any root pruning required for construction purposes shall receive the prior approval of, and be supervised by, the Consulting Arborist.

3. If injury should occur to any tree during construction, it should be evaluated as soon as possible by the Consulting Arborist so that appropriate treatments can be applied.

4. Root-injured trees have a limited capacity to absorb water. Therefore, it is important to insure adequate soil moisture in the area of active roots. One to several irrigations may be needed for trees that are at risk. Irrigations should be specified by the Consulting Arborist.

5. No excess soil, chemicals, debris, equipment or other materials shall be dumped or stored within the TREE PROTECTION ZONE.

6. Any additional tree pruning needed for clearance during construction must be performed by a Certified Arborist and not by construction personnel.

7. Supplemental irrigation will be required for the Coast redwood trees during the dry season, approximately May through October. Irrigation should be surface-applied, once per week, with the equivalent of one inch of water covering the soil surface within the dripline.

Maintenance of impacted trees

Trees preserved at the La Vista Quarry will experience a physical environment different from that pre-development. As a result, a comprehensive management plan for the trees must be developed that considers the broad objectives of development as well as the needs of the specific species. Following construction, a management plant that includes pruning, fertilization, mulch, pest management, replanting and irrigation must be developed. In addition, provisions for monitoring both tree health and structural stability following construction must be made a priority. As trees age, the likelihood of failure of branches or entire trees increases. Therefore, the management plan must include an annual inspection for hazard potential.

HortScience, Inc.

Sincerely,

Ed Brennan

Ed Brennan
Certified Arborist #WC-0105
Registered Consulting Arborist #373

HortScience Tree Survey

The DeSilva Group
La Vista Quarry
Hayward CA
March 2005

TREE No.	SPECIES	TRUNK DIAMETER (inches)	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	PROTECTED TREE?	APPRAISED VALUE (US Dollars)	COMMENTS
1	Blue gum	38	4	Moderate	Yes	$2,700	Two trunks attach at 7'.
2	Blue gum	8	4	Moderate	Yes	$150	Sapling with narrow crown.
3	Blue gum	17	4	Moderate	Yes	$600	Replaced leader.
4	Compact blue gum	44	4	Moderate	Yes	$3,350	Multi-stemmed at 5'.
5	Compact blue gum	38	4	Moderate	Yes	$2,700	Multi-stemmed at 5'.
6	Compact blue gum	22,18,17	4	Moderate	Yes	$2,200	Multi-stemmed at 3'.
7	Compact blue gum	59	4	Moderate	Yes	$4,700	Multi-stemmed at 8'.
8	Compact blue gum	26,8,8	4	Moderate	Yes	$1,600	Narrow crown.
9	Compact blue gum	10,10,8,6	1	Poor	Yes	$100	Extensive dieback.
10	Compact blue gum	15,13,12,12	4	Moderate	Yes	$1,350	Multi-stemmed at 4'.
11	Blue gum	44,13,11	4	Moderate	Yes	$3,950	Multi-stemmed at base.
12	Compact blue gum	36,14,10,8	4	Moderate	Yes	$3,200	Multi-stemmed at 3'.
13	Compact blue gum	26,14,14,10,10	3	Moderate	Yes	$1,700	Interior branch dieback.
14	Compact blue gum	16,12,6,6	4	Moderate	Yes	$1,000	Multi-stemmed at base.
15	Compact blue gum	18,13,13,6,6	4	Moderate	Yes	$1,400	Multi-stemmed at 4'.
16	Compact blue gum	25,16,13	4	Moderate	Yes	$2,100	Multi-stemmed at base.
17	Compact blue gum	41,26,21,13	4	Moderate	Yes	$5,600	Multi-stemmed at base.
18	Compact blue gum	19,13,10	2	Poor	Yes	$550	Extensive dieback.
19	Compact blue gum	18,9,8,8	2	Poor	Yes	$450	Cavity at base of trunk.
20	Compact blue gum	24,22,20,17	3	Moderate	Yes	$2,500	Trunk wounds.
21	Compact blue gum	14,13,6	3	Moderate	Yes	$600	Pruned to clear utility line.
22	Compact blue gum	60	3	Moderate	Yes	$3,400	Multi-stemmed at 6'.
23	Blue gum	44	2	Poor	Yes	$1,450	Topped to clear utility line.
24	Compact blue gum	16,10,8,8	3	Moderate	Yes	$700	Topped to clear utility line.

HortScience Tree Survey

The DeSilva Group
La Vista Quarry
Hayward CA
March 2005

TREE No.	SPECIES	TRUNK DIAMETER (Inches)	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	PROTECTED TREE?	APPRAISED VALUE (US Dollars)	COMMENTS
25	Blue gum	7	2	Poor	No	$50	Topped to clear utility line.
26	Blue gum	42	3	Moderate	Yes	$2,250	Pruned to clear utility line.
27	Blue gum	27	4	Moderate	Yes	$1,450	Two trunks attach at 16'.
28	Blue gum	24,16	4	Moderate	Yes	$1,650	Good form and health.
29	Blue gum	35,8,8	4	Moderate	Yes	$2,650	Good form and health.
30	Blue gum	41,20,18	5	Moderate	Yes	$5,750	Excellent form and health.
31	Blue gum	35	5	Moderate	Yes	$3,050	Two trunks attach at 6'.
32	Blue gum	37	3	Moderate	Yes	$1,850	Poor color foliage.
33	Compact blue gum	16,6,5	2	Poor	Yes	$300	Poor color foliage.
34	Blue gum	56,20	2	Poor	Yes	$2,250	Poor color foliage, branch dieback.
35	Blue gum	12	4	Moderate	Yes	$300	High crown.
36	Silver dollar gum	15	3	Moderate	Yes	$1,200	Second trunk was removed.
37	Silver dollar gum	12	3	Moderate	Yes	$800	Second trunk was removed.
38	Blue gum	12,10,8,6,6	3	Moderate	Yes	$500	Multi-stemmed at base.
39	Compact blue gum	38	4	Moderate	Yes	$2,700	Multi-stemmed at 15'.
40	Silver dollar gum	18,13	3	Moderate	Yes	$2,600	Third trunk failed.
41	Silver dollar gum	14,14,14,10,9	2	Poor	Yes	$2,200	Multi-stemmed at base, conk, topped to clear ut
42	Silver dollar gum	23	3	Moderate	Yes	$2,800	Failure in upper crown.
43	Blue gum	29	3	Moderate	Yes	$1,200	Topped to clear utility lines.
44	Compact blue gum	18,15,14,12,11	2	Moderate	Yes	$750	Topped to clear utility lines.
45	Silver dollar gum	18,15,14,12,11	2	Poor	Yes	$2,850	Poor color foliage.
46	Silver dollar gum	19,13,8	2	Poor	Yes	$1,900	Poor color foliage.
47	Blue gum	42	4	Moderate	Yes	$3,150	Multi-stemmed at 6'.
48	Compact blue gum	14,12,8,8,8	3	Moderate	Yes	$700	Poor color foliage.

HortScience Tree Survey

The DeSilva Group
La Vista Quarry
Hayward CA
March 2005

TREE No.	SPECIES	TRUNK DIAMETER (inches)	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	PROTECTED TREE?	APPRAISED VALUE (US Dollars)	COMMENTS
49	Compact blue gum	24	3	Moderate	Yes	$850	Branch dieback.
50	Compact blue gum	34	3	Moderate	Yes	$1,600	Poor color foliage.
51	Silver dollar gum	36	3	Moderate	Yes	$6,600	Second trunk was removed.
52	Silver dollar gum	19,17	2	Poor	Yes	$2,050	Trunk wounds.
53	Silver dollar gum	10,10	2	Poor	Yes	$650	Trunks attach at base.
54	Blue gum	34	4	Moderate	Yes	$2,300	Good form and health.
55	Silver dollar gum	16,8	2	Poor	Yes	$1,050	Extensive trunk wounds.
56	Blue gum	36	4	Good	Yes	$2,500	Good form and health.
57	Compact blue gum	12,10,9,8	4	Moderate	Yes	$800	Multi-stemmed at base.
58	Silver dollar gum	19,9	3	Moderate	Yes	$2,350	Multi-stemmed at 4'.
59	Silver dollar gum	19,12	2	Moderate	Yes	$1,600	Previous branch failures.
60	Silver dollar gum	18,16	2	Poor	Yes	$1,850	Conk on trunk.
61	Silver dollar gum	28	2	Poor	Yes	$2,500	Trunk wounds.
62	Blue gum	29,15,12	2	Poor	Yes	$1,050	Upper crown dying back.
63	Silver dollar gum	15,12,10	2	Poor	Yes	$1,500	Upper crown dying back.
64	Blue gum	42	3	Moderate	Yes	$2,250	Pruned to clear utility lines.
65	Silver dollar gum	7,4,4	3	Moderate	Yes	$450	Multi-stemmed at base.
66	Blue gum	22	4	Moderate	Yes	$1,000	Good form and health.
67	Red gum	8,6,5	3	Moderate	Yes	$250	Multi-stemmed at base.
68	Red gum	13,12,10,10,6	3	Moderate	Yes	$900	Multi-stemmed at base, branch dieback.
69	Coast live oak	23	4	Good	Yes	$3,000	Good form and health.
70	Coast live oak	18,16	4	Good	Yes	$3,300	Trunks attach at base.
71	Coast live oak	15,7	4	Good	Yes	$1,500	Trunks attach at base.
72	Coast live oak	23	3	Moderate	Yes	$2,150	Cavity in trunk.

HortScience Tree Survey

The DeSilva Group
La Vista Quarry
Hayward CA
March 2005

TREE No.	SPECIES	TRUNK DIAMETER (inches)	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	PROTECTED TREE?	APPRAISED VALUE (US Dollars)	COMMENTS
73	Coast live oak	11	3	Moderate	Yes	$500	High crown.
74	Coast live oak	17,14	4	Good	Yes	$2,750	Basal wound.
75	Coast live oak	11,6	4	Good	Yes	$900	Trunks attach at base.
76	Coast live oak	17	4	Good	Yes	$1,650	Trunks attach at 6'.
77	Coast live oak	14	3	Moderate	Yes	$800	Leaning trunk.
78	Coast live oak	13	3	Moderate	Yes	$700	Leaning trunk.
79	Coast live oak	14	3	Moderate	Yes	$800	Previous trunk failure.
80	Coast live oak	12	3	Moderate	Yes	$600	Leaning trunk.
81	CA bay	11,11,10,8	3	Moderate	Yes	$2,150	Cavity in one trunk.
82	Coast live oak	9,3	3	Moderate	Yes	$400	Leaning trunk.
83	Coast live oak	12	3	Moderate	Yes	$600	Basal cavity.
84	Coast live oak	12	3	Moderate	Yes	$600	Basal cavity.
85	Coast live oak	9	3	Moderate	Yes	$350	Crook in trunk.
86	Coast live oak	12,12,6	3	Moderate	Yes	$1,300	Multi-stemmed at 3'.
87	Coast live oak	11	3	Moderate	Yes	$500	High crown.
88	CA bay	12,8,8,7	3	Moderate	Yes	$1,700	Multi-stemmed at base.
89	CA bay	8	3	Moderate	Yes	$350	Leaning trunk.
90	Coast live oak	7	2	Poor	Yes	$150	Leaning trunk.
91	Coast live oak	9	2	Poor	Yes	$200	Cavity in lower trunk.
92	Coast live oak	16,14	4	Good	Yes	$2,500	Trunks attach at base.
93	Coast live oak	16	4	Good	Yes	$1,450	Good form and health.
94	Coast live oak	16	2	Poor	Yes	$650	Leaning trunk.
95	Coast live oak	10,9	3	Moderate	Yes	$750	High crown.
96	Coast live oak	20	3	Moderate	Yes	$1,650	Multi-stemmed at 5'.

HortScience Tree Survey

The DeSilva Group
La Vista Quarry
Hayward CA
March 2005

TREE No.	SPECIES	TRUNK DIAMETER (inches)	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	PROTECTED TREE?	APPRAISED VALUE (US Dollars)	COMMENTS
97	Coast live oak	9,8	3	Moderate	Yes	$600	Trunks attach at 2'.
98	Coast live oak	14,10	4	Good	Yes	$1,700	Trunks attach at base.
99	Buckeye	7	3	Good	Yes	$150	Leaning trunk..
100	CA bay	12,10,10,9,9,8	3	Moderate	Yes	$2,250	Sprouts of former large tree.
101	Buckeye	12,10,10,9,9,8	3	Moderate	Yes	$1,350	Trunk wounds.
102	Buckeye	7,7	3	Moderate	Yes	$300	Leaning trunk.
103	Buckeye	8	4	Good	Yes	$300	Multi-stemmed at 5'.
104	Elderberry	8	4	Good	Yes	$350	Good form and health.
105	Elderberry	7	2	Poor	Yes	$100	Cavity in trunk.
106	Coast live oak	14	4	Good	Yes	$1,150	Good form and health.
107	Buckeye	7	2	Poor	Yes	$100	Leaning trunk.
108	Coast live oak	10,9	4	Good	Yes	$1,050	Good form and health.
109	Coast live oak	20	4	Good	Yes	$2,300	Good form and health.
110	Coast live oak	10	3	Moderate	Yes	$400	Leaning trunk.
111	Coast live oak	10,8,7	3	Moderate	Yes	$850	Multi-stemmed at base.
112	Coast live oak	12	3	Moderate	Yes	$600	High crown.
113	Coast live oak	9	3	Moderate	Yes	$350	Crown leans south.
114	Coast live oak	10,7	3	Moderate	Yes	$600	Weak attachment.
115	Coast live oak	12,10	3	Moderate	Yes	$1,000	Trunks attach at base.
116	Coast live oak	12,10,7	3	Moderate	Yes	$1,200	Trunks attach at base.
117	Coast live oak	8	3	Moderate	Yes	$300	High crown.
118	Coast live oak	11	4	Good	Yes	$700	High crown.
119	Coast live oak	8	3	Moderate	Yes	$300	Leaning trunk.
120	CA bay	13,12	3	Moderate	Yes	$1,650	Cavity in trunk.

HORTSCIENCE TREE SURVEY

The DeSilva Group
La Vista Quarry
Hayward CA
March 2005

TREE No.	SPECIES	TRUNK DIAMETER (inches)	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	PROTECTED TREE?	APPRAISED VALUE (US Dollars)	COMMENTS
121	Coast live oak	14,12	3	Moderate	Yes	$1,400	Trunks attach at base.
122	Buckeye	12,9	4	Good	Yes	$1,000	Trunks attach at base.
123	Coast live oak	17,13	4	Good	Yes	$2,600	Trunks attach at base.
124	Blue gum	26,25,25	4	Moderate	Yes	$3,850	Large branch failure, pendulous low branches.
125	Blue gum	10	3	Moderate	Yes	$150	Slender trunk, high crown.
126	Blue gum	9,4	3	Moderate	Yes	$150	Slender trunk, high crown.
127	Blue gum	8	3	Moderate	Yes	$100	Slender trunk, high crown.
128	Blue gum	56,28,25,19	4	Moderate	Yes	$8,000	Multi-stemmed at base.
129	Blue gum	25	4	Moderate	Yes	$1,250	Grows within crown of 128.
130	Blue gum	8,6	3	Moderate	Yes	$150	Trunks attach at base.
131	Blue gum	8	3	Moderate	Yes	$100	Slender trunk with high crown.
132	Blue gum	23	3	Moderate	Yes	$750	Crown leans north.
133	Blue gum	10	3	Moderate	Yes	$150	Crown leans north.
134	Blue gum	14	3	Moderate	Yes	$300	Slender trunk with high crown.
135	Blue gum	9	3	Moderate	Yes	$100	Slender trunk with high crown.
136	Blue gum	66	5	Moderate	Yes	$6,650	Large spreading crown.
137	Blue gum	24,22,17,8,7	4	Moderate	Yes	$2,850	Multi-stemmed at base.
138	Blue gum	20	3	Moderate	Yes	$600	Bow in trunk at base.
139	Blue gum	18,7,6,6	3	Moderate	Yes	$650	Multi-stemmed at base.
140	Blue gum	21,16,9	4	Moderate	Yes	$1,550	Multi-stemmed at base.
141	Blue gum	11,10,8,6	4	Moderate	Yes	$650	One trunk girdled.
142	Blue gum	7	2	Poor	No	$50	Suppressed crown.
143	Blue gum	12,12,8	3	Moderate	Yes	$500	Multi-stemmed at 1'.
144	Blue gum	14	4	Moderate	Yes	$400	Good form and health.

HortScience Tree Survey

The DeSilva Group
La Vista Quarry
Hayward CA
March 2005

TREE No.	SPECIES	TRUNK DIAMETER (inches)	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	PROTECTED TREE?	APPRAISED VALUE (US Dollars)	COMMENTS
145	Blue gum	15,11,9	4	Moderate	Yes	$850	Multi-stemmed at base.
146	Blue gum	18,6,5,4	2	Poor	Yes	$350	Main trunk failed.
147	Blue gum	16,14	2	Poor	Yes	$400	Sprouts from burned stump.
148	Blue gum	13,7,4	2	Poor	Yes	$200	Sprouts from burned stump.
149	Blue gum	18,16,13,9	4	Moderate	Yes	$1,650	Multi-stemmed at base.
150	Blue gum	15,8	4	Moderate	Yes	$600	Crown leans south.
151	Blue gum	14	2	Moderate	Yes	$150	Trunk wounded at base.
152	Blue gum	16,10	4	Moderate	Yes	$700	Multi-stemmed at base.
153	Blue gum	14,8,5	3	Moderate	Yes	$400	Multi-stemmed at base.

Tree Survey Map

La Vista
Hayward CA

Prepared for:
The DeSilva Group, Inc.
Dublin CA

March 2005

No Scale

Notes:
Base map provided by:
Carlson, Barbee & Gibson, Inc.
San Ramon CA

Driplines and numbered tree locations are approximate.

HORTSCIENCE Inc.
P. O. BOX 764 PLEASANTON CA 94566
(925) 484-0211 FAX (925) 484-0596

FINAL REGULATION ORDER

ASBESTOS AIRBORNE TOXIC CONTROL MEASURE FOR CONSTRUCTION, GRADING, QUARRYING, AND SURFACE MINING OPERATIONS

Section 93105. Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations.

(a) Effective Date.

(1) No later than 120 days after the approval of this section by the Office of Administrative Law, each air pollution control and air quality management district must:

(A) Implement and enforce the requirements of this section; or

(B) Propose their own asbestos airborne toxic control measure as provided in Health & Safety Code section 39666(d).

(2) *Pre-existing Operations*: The owner/operator of any project in which the construction, grading, quarrying, or surface mining operation started before the effective date of this section shall comply with this section by:

(A) The date the district begins implementing and enforcing this section as required in subsection (a)(1)(A); or

(B) The compliance date specified in the airborne toxic control measure adopted by the district as required in subsection (a)(1)(B).

(b) Applicability. Unless one of the specific exemptions specified in subsection (c) applies, this section shall apply to any construction, grading, quarrying, or surface mining operation on any property that meets any of the following criteria:

(1) Any portion of the area to be disturbed is located in a geographic ultramafic rock unit; or

(2) Any portion of the area to be disturbed has naturally-occurring asbestos, serpentine, or ultramafic rock as determined by the owner/operator, or the Air Pollution Control Officer (APCO); or

(3) Naturally-occurring asbestos, serpentine, or ultramafic rock is discovered by the owner/operator, a registered geologist, or the APCO in the area to be disturbed after the start of any construction, grading, quarrying, or surface mining operation.

(c) General Exemptions.

(1) *Geologic Evaluation*: The APCO may provide an exemption from this section for any property that meets the criterion in subsection (b)(1) if a registered geologist has conducted a geologic evaluation of the property and determined that no serpentine or ultramafic rock is likely to be found in the area to be disturbed. Before an exemption can be granted, the owner/operator must provide a copy of a report detailing the geologic evaluation to the APCO for his or her consideration.

(A) At a minimum, the geologic evaluation must include:

1. A general description of the property and the proposed use;

2. A detailed site characterization which may include:
   i. A physical site inspection;
   ii. Offsite geologic evaluation of adjacent property;
   iii. Evaluation of existing geological maps and studies of the site and surrounding area;
   iv. Development of geologic maps of the site and vicinity;
   v. Identification and description of geologic units, rock and soil types, and features that could be related to the presence of ultramafic rocks, serpentine, or asbestos mineralization; and
   vi. A subsurface investigation to evaluate the nature and extent of geologic materials in the subsurface where vertical excavation is planned; methods of subsurface investigation may include, but are not limited to borings, test pits, trenching, and geophysical surveys;

3. A classification of rock types found must conform to the nomenclature based on the International Union of Geological Science system;

4. A description of the sampling procedures used;

5. A description of the analytical procedures used, which may include mineralogical analyses, petrographic analyses, chemical analyses, or analyses for asbestos content;

6. An archive of collected rock samples for third party examination; and

7. A geologic evaluation report documenting observations, methods, data, and findings; the format and content of the report should follow the Guidelines for Engineering Geologic

Reports issued by the State Board of Registration for Geologists and Geophysicists.

(B) The district may request any additional tests or other information needed to evaluate an application for exemption.

(C) The district shall grant or deny a request for an exemption within 90 days of the receipt of a complete application.

(D) If the request for an exemption is denied, the APCO shall provide written reasons for the denial.

(E) *Expiration of the Geologic Exemption:* If the owner/operator discovers any naturally-occurring asbestos, serpentine, or ultramafic rock in the area to be disturbed after the exemption is granted, then:

1. The owner/operator must comply with the requirements of this section;

2. The owner/operator must report the discovery of the naturally-occurring asbestos, serpentine, or ultramafic rock to the APCO no later than the next business day; and

3. The exemption under subsection (c)(1) shall expire and cease to be effective.

(2) If a method is developed to accurately demonstrate that property located in a geographic ultramafic rock unit has no detectable asbestos in the area to be disturbed, then the ARB Executive Officer shall propose to the Board for adoption a regulatory amendment allowing the method to be utilized, as appropriate, to obtain an exemption from the requirements specified in this section.

(3) *Agriculture and Timber Harvesting*: This section shall not apply to agricultural operations or timber harvesting except for construction of roads and buildings. Construction of roads is subject to the requirements of subsection (e) if the road is part of a construction or grading operation, quarry, or surface mine, and is subject to the requirements of subsection (d) if the road is not part of a construction or grading operation, quarry, or surface mine.

(4) *Homeowners and Tenants*: Individuals engaged in covered activities on residential property they own or occupy are exempt from subsections (e)(1) and (e)(3)(A).

(5) *Sand and Gravel Operations*: The APCO may provide an exemption for crushing, screening and conveying equipment, stockpiles, and off-site material transport at a sand and gravel operation if the operation processes only materials from an alluvial deposit.

(A) The district shall grant or deny a request for an exemption within ninety (90) days of the receipt of a complete application.

(B) If the request for an exemption is denied, the APCO shall provide written reasons for the denial.

(d) Requirements for Road Construction and Maintenance. These requirements shall apply to roads that are not part of a construction or grading project, quarry, or surface mine.

(1) No person shall conduct any road construction or maintenance activities that disturb any area that meets any criterion listed in subsections (b)(1) or (b)(2) unless all of the following conditions are met.

(A) The APCO is notified in writing at least fourteen (14) days before the beginning of the activity or in accordance with a procedure approved by the district.

(B) All the following dust control measures are implemented during any road construction or maintenance activity:

1. Unpaved areas subject to vehicle traffic must be stabilized by being kept adequately wetted, treated with a chemical dust suppressant, or covered with material that contains less than 0.25 percent asbestos;

2. The speed of any vehicles and equipment traveling across unpaved areas must be no more than fifteen (15) miles per hour unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment traveling more than 15 miles per hour from emitting dust that is visible crossing the project boundaries;

3. Storage piles and disturbed areas not subject to vehicular traffic must be stabilized by being kept adequately wetted, treated with a chemical dust suppressant, or covered with material that contains less than 0.25 percent asbestos; and

4. Activities must be conducted so that no track-out from any road construction project is visible on any paved roadway open to the public.

(C) Equipment and operations must not cause the emission of any dust that is visible crossing the project boundaries.

(2) No person shall conduct any road construction or maintenance activity that disturbs the ground surface in an area that meets the criteria in subsection (b)(3) unless:

(A) The APCO is notified no later than the next business day of the discovery that the area meets the criteria in subsection (b)(3); and

(B) The requirements of subsections (d)(1)(B) through (d)(1)(C), are implemented within twenty-four (24) hours of the discovery.

(3) *Exemptions from the Requirements for Road Construction and Maintenance.* The following exemptions may apply in addition to the applicable general exemptions specified in subsection (c).

(A) *Emergency Road Repairs:* Subsection (d)(1)(A) shall not apply when construction of a road or firebreak, or a road repair is necessary due to a landslide, flood, or other emergency or to mitigate a condition that constitutes an imminent hazard to the public. The owner/operator shall notify the APCO no later than the next business day of the action taken and the condition establishing the applicability of this subsection.

(B) *Remote locations:* The APCO may provide an exemption from the requirements of subsection (d) for any activity which will occur at a remote location.

1. The district shall grant or deny a request for an exemption within ninety (90) days of the receipt of a complete application.

2. If the request for an exemption is denied, the APCO shall provide written reasons for the denial.

(e) Requirements for Construction and Grading Operations.

(1) *Areas of one acre or less meeting the criteria in subsections (b)(1) or (b)(2)*: No person shall engage in any construction or grading operation on property where the area to be disturbed is **one (1.0) acre or less** unless all of the following dust mitigation measures are initiated at the start and maintained throughout the duration of the construction or grading activity:

(A) Construction vehicle speed at the work site must be limited to fifteen (15) miles per hour or less;

(B) Prior to any ground disturbance, sufficient water must be applied to the area to be disturbed to prevent visible emissions from crossing the property line;

(C) Areas to be graded or excavated must be kept adequately wetted to prevent visible emissions from crossing the property line;

(D) Storage piles must be kept adequately wetted, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile;

(E) Equipment must be washed down before moving from the property onto a paved public road; and

(F) Visible track-out on the paved public road must be cleaned using wet sweeping or a HEPA filter equipped vacuum device within twenty-four (24) hours.

(2) *Areas greater than one acre meeting the criteria in subsections (b)(1) or (b)(2)*: No person shall engage in any construction or grading operation on property where the area to be disturbed is **greater than one (1.0) acre** unless:

(A) An Asbestos Dust Mitigation Plan for the operation has been:

1. Submitted to and approved by the district before the start of any construction or grading activity; and

2. The provisions of that dust mitigation plan are implemented at the beginning and maintained throughout the duration of the construction or grading activity; and

(B) For a project started before the effective date of this section for which an asbestos dust mitigation plan was submitted at least sixty (60) days before the effective date, and for which the district has not yet approved the asbestos dust mitigation plan:

1. The measures in subsection (e)(1) must be implemented and maintained until the district-approved asbestos dust mitigation plan is implemented; and

2. The provisions of the district-approved asbestos dust mitigation plan must be implemented within fourteen (14)

days of district approval of the plan and maintained throughout the remainder of the construction or grading activity.

(3) *Property that meets the criteria in subsection (b)(3)*: No person shall engage in any construction or grading operation unless the following requirements are met:

(A) The owner/operator notifies the district of the discovery of naturally-occurring asbestos, serpentine, or ultramafic rock no later than the next business day;

(B) The dust mitigation measures in subsection (e)(1) are implemented within twenty-four (24) hours after determining that the property meets the criteria in subsection (b)(3); and

(C) For operations in which the area to be disturbed is **one (1.0) acre or less**, the dust mitigation measures in subsection (e)(1) are maintained throughout the duration of the construction or grading activity; or

(D) For operations in which the area to be disturbed is **greater than one (1.0) acre**, the owner/operator must:

1. Submit an asbestos dust mitigation plan to the district within fourteen (14) days of the discovery of naturally-occurring asbestos, serpentine, or ultramafic rock;

2. Maintain the dust mitigation measures in subsection (e)(1) until the provisions of the district-approved asbestos dust mitigation plan are implemented;

3. Implement the provisions of the district-approved asbestos dust mitigation plan within fourteen (14) days of district approval of the plan; and

4. Maintain the provisions of the district-approved asbestos dust mitigation plan throughout the remainder of the construction or grading activity.

(4) *Asbestos Dust Mitigation Plans*: An Asbestos Dust Mitigation Plan must specify dust mitigation practices which are sufficient to ensure that no equipment or operation emits dust that is visible crossing the property line, and must include one or more provisions addressing **each** of the following topics.

(A) Track-out prevention and control measures which shall include:

1. Removal of any visible track-out from a paved public road at any location where vehicles exit the work site; this shall be accomplished using wet sweeping or a HEPA filter equipped vacuum device at the end of the work day or at least one time per day; and

2. Installation of one or more of the following track-out prevention measures:
   i. A gravel pad designed using good engineering practices to clean the tires of exiting vehicles;
   ii. A tire shaker;
   iii. A wheel wash system;
   iv. Pavement extending for not less than fifty (50) consecutive feet from the intersection with the paved public road; or
   v. Any other measure as effective as the measures listed above.

(B) Keeping active storage piles adequately wetted or covered with tarps.

(C) Control for disturbed surface areas and storage piles that will remain inactive for more than seven (7) days, which shall include one or more of the following:

1. Keep the surface adequately wetted;

2. Establishment and maintenance of surface crusting sufficient to satisfy the test in subsection (h)(6);

3. Application of chemical dust suppressants or chemical stabilizers according to the manufacturers' recommendations;

4. Covering with tarp(s) or vegetative cover;

5. Installation of wind barriers of fifty (50) percent porosity around three (3) sides of a storage pile;

6. Installation of wind barriers across open areas; or

7. Any other measure as effective as the measures listed above.

(D) Control for traffic on on-site unpaved roads, parking lots, and staging areas which shall include:

1. A maximum vehicle speed limit of fifteen (15) miles per hour or less; and

2. One or more of the following:
   i. Watering every two hours of active operations or sufficiently often to keep the area adequately wetted;
   ii. Applying chemical dust suppressants consistent with manufacturer's directions;
   iii. Maintaining a gravel cover with a silt content that is less than five (5) percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, to a depth of three (3) inches on the surface being used for travel; or
   iv. Any other measure as effective as the measures listed above.

(E) Control for earthmoving activities which shall include one or more of the following:

1. Pre-wetting the ground to the depth of anticipated cuts;

2. Suspending grading operations when wind speeds are high enough to result in dust emissions crossing the property line, despite the application of dust mitigation measures;

3. Application of water prior to any land clearing; or

4. Any other measure as effective as the measures listed above.

(F) *Control for off-site transport.* The owner/operator shall ensure that no trucks are allowed to transport excavated material off-site unless:

1. Trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments; and

2. Loads are adequately wetted and either:
   i. Covered with tarps; or
   ii. Loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than six inches from the top and that no point of the load extends above the top of the cargo compartment.

(G) *Post construction stabilization of disturbed areas.* Upon completion of the project, disturbed surfaces shall be stabilized using one or more of the following methods:

1. Establishment of a vegetative cover;

2. Placement of at least three (3.0) inches of non-asbestos-containing material;

3. Paving;

4. Any other measure deemed sufficient to prevent wind speeds of ten (10) miles per hour or greater from causing visible dust emissions.

(H) *Air monitoring for asbestos (if required by the APCO).*

1. If required by the district APCO, the plan must include an air-monitoring component.

2. The air monitoring component shall specify the following:
   i. Type of air sampling device(s);
   ii. Siting of air sampling device(s);
   iii. Sampling duration and frequency; and
   iv. Analytical method.

(I) *Frequency of reporting*: The plan shall state how often the items specified in subsection (e)(5)(B), and any other items identified in the plan, will be reported to the district.

(5) *Recordkeeping and Reporting Requirements.*

(A) *Recordkeeping Requirements:* The owner/operator shall maintain all of the following records for at least seven (7) years following the completion of the construction project:

1. The results of any air monitoring conducted at the request of the APCO;

2. The documentation for any geologic evaluation conducted on the property for the purposes of obtaining an exemption, except the archive of collected samples which may be discarded at the expiration of the exemption or one (1) year after the exemption is granted whichever is less; and

3. The results of any asbestos bulk sampling that meets any of the following conditions:
   i. The asbestos bulk sampling was conducted by the owner/operator to document the applicability of or compliance with this section, or
   ii. The asbestos bulk sampling was done at the request of the district APCO.

(B) *Reporting Requirements:* The owner/operator of any grading or construction operation subject to this section shall submit the following to the District:

1. The results of any air monitoring conducted at the request of the APCO; and

2. The results of any asbestos bulk sampling that meets any of the following conditions:
   i. Asbestos bulk sampling conducted by the owner/operator to document applicability of or compliance with this section; or
   ii. Asbestos bulk sampling done at the request of the APCO.

(f) Requirements for Quarrying and Surface Mining Operations.

(1) No person shall engage in any quarrying or surface mining operation that meets the criteria of subsections (b)(1) or (b)(2) unless an Asbestos Dust Mitigation Plan for the operation has been submitted to and approved by the District and the fugitive dust mitigation measures specified in the Plan are implemented and maintained throughout the duration of any quarrying or surface mining operation except,

(A) *Pre-existing Operations*: The owner or operator of any quarrying or surface mining operation that was in operation before the date this section is implemented as determined pursuant to subsection (a) that has not obtained district approval of the asbestos dust mitigation plan may continue operating if all the following conditions are met:

1. The owner/operator has submitted an asbestos dust mitigation plan to the district at least sixty (60) days prior to the date specified in subsection (a);

2. The owner/operator implements all of the dust mitigation measures specified in subsections (f)(2)(B) and (f)(2)(C) by the effective date specified in subsection (a) and maintains

them until the provisions of an approved asbestos dust mitigation plan are implemented; and

3. The owner/operator implements the provisions of the asbestos dust mitigation plan within fourteen (14) days following district approval of the plan.

(B) *Mineral exploration activities*: Mineral exploration activities as defined in the California Public Resources Code section 2714(d) in an area meeting any of the conditions of subsection (b) are not required to submit an asbestos dust mitigation plan but shall instead implement and maintain the following measures throughout the duration of the activity:

1. Limit vehicle speeds on the site to fifteen (15) miles per hour or less;

2. Apply sufficient water during any ground disturbance to prevent visible dust from crossing the property line;

3. Keep disturbed areas and storage piles adequately wetted until they are permanently stabilized;

4. Install a track-out prevention device designed to prevent track-out onto any paved public road;

5. Clean up any visible track-out at the end of the workday or at a minimum within twenty-four (24) hours; and

6. Cover, treat with a chemical dust suppressant, or otherwise stabilize any disturbed areas when operations cease for more than seven (7) days.

(2) The owner/operator of any quarry or surface mine that meets any of the criteria in subsection (b)(3) shall:

(A) Notify the APCO no later than the next business day of the discovery.

(B) Implement all the following measures within twenty-four (24) hours following the discovery:

1. Keep stock and working piles adequately wetted during the addition and removal of material;

2. Keep on-site unpaved roads, parking lots, and staging areas stabilized using one of the following measures:
   i. Adequately wetted; or
   ii. Controlled using dust palliatives or suppressants; or
   iii. paving; or
   iv. Covered to a depth of three (3) inches with gravel that contains less than 0.25 percent asbestos as determined using an approved asbestos bulk test method;

3. Keep exposed areas and inactive stockpiles that are prone to mechanical or wind disturbances:
   i. Adequately wetted; or
   ii. Controlled using dust palliatives or suppressants, paving, wind berms or breaks; or
   iii. Covered with tarps or material that contains less than 0.25 percent asbestos as determined using an approved asbestos bulk test method;

4. Ensure that materials to be quarried, excavated, or graded are adequately wetted;

5. Ensure that all loads are adequately wetted before and during truck loading operations;

6. Ensure that all trucks transporting materials off-site meet the conditions of either paragraph i or paragraph ii at the time the truck leaves the site:
   i. Loads are adequately wetted and covered with tarps; or
   ii. Loads are adequately wetted and the material does not touch the front back or sides of the cargo compartment at any point less than six (6) inches from the top and no point of the load extends above the top of the cargo compartment; and

7. Limit vehicle speeds within the quarry or surface mining operation to fifteen (15) miles per hour or less.

(C) Implement all of the following measures within fourteen (14) days of the determination that the operation meets any of the criteria in subsection (b)(3).

1. Measures to ensure that material being excavated, crushed, screened, loaded, transferred or conveyed does not result in any dust that is visible crossing the property line.

2. Measures to ensure that no grinding mill, screening operation, or transfer point on a belt conveyor discharges into the air any visible emissions other than uncombined water vapor, for a period aggregating more than three minutes in any one hour which are:
   i. Fifty percent as dark or darker in shade as that designated as number one on the Ringlemann Chart, as published by the United States Bureau of Mines; or
   ii. Of such opacity as to obscure an observers view to a degree equal to or greater than smoke as described in subsection (f)(2)(C)2.i. or ten (10) percent opacity.

3. Measures to ensure that no crusher discharges into the air any visible emissions other than uncombined water vapor, for a period aggregating more than three minutes in any one hour which are:
   i. Seventy-five percent as dark or darker in shade as that designated as number one on the Ringlemann Chart, as published by the United States Bureau of Mines; or
   ii. Of such opacity as to obscure an observers view to a degree equal to or greater than smoke as described in subsection (f)(3)(C)3.i. or fifteen (15) percent opacity.

4. Measures for material handling sufficient to meet the requirements of subsections (f)(2)(C)1. through (f)(2)(C)3. Such measures may include the following:
   i. Installation and operation of spraybars on all conveyors; and
   ii. Installation of shrouds at all drop points.

5. Track-out control and prevention measures which shall include:
   i. Installation of a gravel pad, grizzly, tire washing system, or paving at least fifty (50) feet of the access road, and
   ii. Cleaning any visible track-out off the paved public road using wet sweeping or a HEPA filter equipped vacuum device at the end of each workday.

6. Stabilization of all on-site roads, parking lots, and staging areas open to the public by one of the following methods:
   i. Pave with asphalt or concrete, or
   ii. Treat with a chemical dust suppressant applied according to manufacturers directions, or
   iii. Maintain a gravel cover that has a depth of at least three (3) inches and contains less than 0.25 percent asbestos

as determined using an approved asbestos bulk test method.

(D) Submit an Asbestos Dust Mitigation Plan to the District within fourteen (14) days and maintain the measures specified in subsections (f)(2)(B) and (f)(2)(C) until the asbestos dust mitigation measures in the district-approved Asbestos Dust Mitigation Plan are implemented.

(3) An Asbestos Dust Mitigation Plan required by subsections (f)(1) and (f)(2)(D) must include sections which address each of the following topics.

(A) A Fugitive Dust Mitigation Component which shall, at a minimum, include the measures specified in subsections (f)(2)(B) and (f)(2)(C), unless the APCO determines that it is appropriate to add, omit, or modify these measures depending on site-specific parameters. The plan shall also require that:

1. Equipment and operations do not emit dust that is visible crossing the property line;

2. Crushers do not discharge into the air any visible emissions other than uncombined water vapor, for a period aggregating more than three minutes in any one hour, which is:
   i. Seventy-five percent as dark or darker in shade as that designated as number one on the Ringlemann Chart, as published by the United States Bureau of Mines; or
   ii. Of such opacity as to obscure an observers view to a degree equal to or greater than smoke as described in subsection (f)(3)(A)2.i. or fifteen (15) percent opacity; and

3. Grinding mills, screening operations, and transfer points on belt conveyors do not discharge into the air any visible emissions other than uncombined water vapor, for a period aggregating more than three minutes in any one hour, which is:
   i. Fifty percent as dark or darker in shade as that designated as number one on the Ringlemann Chart, as published by the United States Bureau of Mines; or
   ii. Of such opacity as to obscure an observers view to a degree equal to or greater than smoke as described in subsection (f)(3)(A)3.i. or ten (10) percent opacity.

(B) *Air monitoring for asbestos (if required by the APCO).*

1. If required by the district APCO, the plan must include an air monitoring component.

2. The air monitoring component shall specify the following:
   i. Type of air sampling device(s);
   ii. Siting of air sampling device(s);
   iii. Sampling duration and frequency; and
   iv. Analytical method.

(C) *Frequency of reporting.* The plan shall state how often the items specified in subsection (f)(5)(B), and any other items identified in the plan, will be reported to the district.

(4) Upon petition by the owner/operator the APCO may approve the use of requirements or restrictions established under other regulatory programs to meet the requirements of subsection (f) under the following conditions:

(A) The requirements or restrictions are equivalent to or more stringent than the requirements of subsection (f); and

(B) The requirements or restrictions are enforceable by the APCO.

(5) *Recordkeeping and Reporting Requirements*: The owner/operator of a surface mining or quarrying operation subject to this section must comply with the following recordkeeping and reporting requirements.

(A) *Recordkeeping Requirements:* The owner/operator shall maintain all of the following records for at least seven (7) years:

1. The results of any air monitoring conducted at the request of the APCO;

2. The documentation for any geologic evaluation conducted on the property for the purpose of obtaining an exemption except, the archive of collected rock samples which may be discarded at the expiration of the exemption or one (1) year after the district granted or denied the exemption, whichever comes first; and

3. The results of any asbestos bulk sampling that meets any of the following conditions:

i. The asbestos bulk sampling was conducted by the owner/operator to document the applicability of, or compliance with this section; or
ii. The asbestos bulk sampling was done at the request of the district APCO.

(B) *Reporting Requirements:* The owner/operator shall submit the following to the District:

1. The results of any air monitoring conducted at the request of the APCO;

2. The documentation of any geologic evaluation conducted on the property in question; and

3. The results of any asbestos bulk sampling that meets any of the following conditions:
   i. Asbestos bulk sampling conducted by the owner/operator to document applicability of or compliance with this section; or
   ii. Asbestos bulk sampling done at the request of the district APCO.

(g) **Air Monitoring for Asbestos.** Pursuant to the requirements of Health and Safety Code section 41511:

(1) Air monitoring may be required by the district APCO.

(2) The APCO may revise the asbestos dust mitigation plan on the basis of the results of the air monitoring.

(h) **Test Methods.**

(1) *Ultramafic Rock*: The ultramafic rock composition of any material shall be determined using standard analysis techniques including, but not limited to, color index assessment, microscopic examination, petrographic analysis or rock thin sections, or chemical analysis techniques, such as X-ray fluorescence spectrometry or inductively coupled plasma analysis.

(2) *Bulk Sampling Methods*: ARB Test Method 435, or an alternative asbestos bulk test method approved in writing by the Executive Officer of the California Air Resources Board, shall be used to determine the asbestos content of a bulk sample. For the purposes of determining compliance with this section, references in ARB Test Method 435 to "serpentine aggregate" shall mean "gravel" or other "bulk materials" to be tested for asbestos content.

(3) *Analysis of Air Samples*: Analysis of all air samples shall follow the analytical method specified by the United States Environmental Protection Agency, Asbestos Hazard Emergency Response Act (AHERA) criteria for asbestos (40 CFR, Part 763 Subpart E, Appendix A, adopted October 30, 1987), with the following exceptions:

(A) The analytical sensitivity shall be 0.001 structures per cubic centimeter (0.001 s/cc); and

(B) All asbestos structures with an aspect ratio greater than three to one (3 to1) shall be counted irrespective of length.

(4) The results of the analysis of air samples shall be reported as transmission electron microscopy (TEM) asbestos structures per cubic centimeter (s/cc).

(5) *Adequately Wetted*: Field determination of "adequately wetted" shall be as follows:

(A) If the district-approved asbestos dust mitigation plan has specified a percent moisture content for specific materials the determination shall be as specified in the district-approved asbestos dust mitigation plan; or

(B) If no moisture threshold is specified in a district-approved asbestos dust mitigation plan, a sample of at least one (1) quart in volume shall be taken from the top three (3) inches of a road, or bare area or from the surface of a stockpile. The sample shall be poured out from a height of four (4) feet onto a clean hard surface. The material shall be considered to be adequately wetted if there is no observable dust emitted when the material is dropped.

(6) *Surface Crusting*: "Measurement of the stability of surface crusting on horizontal surfaces" shall be as follows:

(A) Where a visible crust exists, drop a steel ball with a diameter of 15.9 millimeters (0.625 inches) and a mass ranging from 16 to 17 grams from a distance of 30 centimeters (one foot) directly above (at a 90 degree angle perpendicular to) the ground surface. If blowsand (thin deposits of loose grains covering less than 50 percent of the surface that have not originated from the surface being tested) is present, clear the blowsand from the surfaces to be tested before dropping the steel ball.

(B) A sufficient crust is determined to exist if, when the ball is dropped according to subsection (h)(6)(A), the ball does not sink into the surface so that it is partially or fully surrounded by loose grains and, upon removing the ball, the surface on which it was dropped has not been pulverized so that loose grains are visible.

(C) Drop the ball three times each in three representative test areas within a survey area measuring 1 foot by 1 foot that represents a random portion of the surface being evaluated. The test area shall be deemed to have passed if at least two of the three times the ball was dropped, the results met the criteria in subsection (h)(6)(B). If all three test areas pass, the area shall be deemed to be "sufficiently crusted".

(i) **Definitions.** For the purposes of this section, the following definitions shall apply:

(1) "Access road" means any road extending from a public thoroughfare onto the property of a construction project, quarry, or surface mining operation.

(2) "Adequately wetted" means sufficiently moistened with water to minimize the release of particulate matter into the ambient air as determined by the test method(s) in subsection (h)(5).

(3) "Agricultural operation" means activities necessary for the growing and harvesting of crops or raising of fowl or animals.

(4) "APCO" means the executive officer, air pollution control officer, or the designee of the executive officer or air pollution control officer of any air pollution control or air quality management district created or continued in existence pursuant to Part 3 (commencing with section 40000), Division 26, Health and Safety Code.

(5) "Approved asbestos bulk test method" means ARB Test Method 435 or an alternative asbestos bulk test method approved in writing by the Executive Officer of the California Air Resources Board.

(6) "ARB" means the California Air Resources Board.

(7) "ARB Test Method 435" means the test method specified in title 17, California Code of Regulations, section 94147.

(8) "Asbestos" means asbestiforms of the following minerals: chrysotile (fibrous serpentine), crocidolite (fibrous riebeckite), amosite (fibrous cummingtonite--grunerite), fibrous tremolite, fibrous actinolite, and fibrous anthophyllite.

(9) "Asbestos-containing material" means any material that has an asbestos content of 0.25 percent or greater.

(10) "Asbestos Dust Mitigation Plan" means a detailed written document specifying measures that would be implemented to minimize the emissions of asbestos-laden dust.

(11) "Carry-out" or "track-out" means any bulk material that adheres to and agglomerates on the exterior surfaces of motor vehicles, haul trucks, and/or equipment, including tires, and that has fallen or been deposited onto a paved public roadway.

(12) "Construction," "grading," "construction or grading operation" and "construction or grading activity" mean any surface disturbance conducted with powered equipment or any related activity, including, but not limited to, all surface and subsurface cuts and fills, excavation, trenching, stockpiling, bulldozing, and landfills.

(13) "District" means any air pollution control or air quality management district created or continued in existence pursuant to Part 3 (commencing with section 40000), Division 26, Health and Safety Code.

(14) "Geographic ultramafic rock unit" means a geographic area that is designated as an ultramafic rock unit or ultrabasic rock unit, including the unit boundary line, on any of the maps referenced in Appendix A.

(15) "Geologic evaluation" means an evaluation of a property to determine the presence of various types of rocks, including ultramafic rock, serpentinite, or other metamorphic derivatives of ultramafic rock.

(16) "Gravel pad" means a layer of gravel, rock, or crushed rock which is at least one inch or larger in diameter and less than five (5) percent silt content, maintained at the point of intersection of a paved public roadway and a work site entrance to dislodge mud, dirt, and debris from tires of motor vehicles and haul trucks prior to leaving a worksite.

(17) "Grizzly" means a device used to dislodge mud, dirt, and debris from the tires and undercarriage of motor vehicles and haul trucks prior to leaving the work site.

(18) "HEPA filter" means a High Efficiency Particulate Air filter used to remove particles less than one (1) micron in aerodynamic diameter and operates at removal efficiencies of 99.9 percent or greater.

(19) "Naturally-occurring asbestos" means asbestos that has not been processed in an asbestos mill.

(20) "Owner/operator" or "person" includes, but is not limited to:

(A) An individual, trust, firm, joint stock company, business concern, partnership, limited liability company, association, or corporation including, but not limited to, a government corporation;

(B) Any city, county, district, commission, the state or any department, agency, or political subdivision thereof, any interstate body, and the federal government or any department or agency thereof to the extent permitted by law; or

(C) A project proponent and any of its contractors or subcontractors.

(21) "Paving" means creating a cover consisting of portland cement, asphalt concrete, or chip seal.

(22) "Project Boundaries" means the right-of-way and any construction easements adjacent to and necessary for the purposes of a specific road construction project or maintenance activity.

(23) "Property" means any real property including, but not limited to, any contiguous parcel or parcels of land and anything attached to, or erected on it.

(24) "Quarrying" means the act of obtaining stone from the earth by means of cutting, digging, excavating, or blasting and includes processes used to convert the excavated material into commercial products.

(25) "Registered geologist" means an individual that is currently licensed as a geologist with the State of California, Department of Consumer Affairs, Board of Geology and Geophysicists.

(26) "Remote location" means any location that is at least one (1.0) mile from the location of a receptor. "Receptor" includes, but is not limited to, any hospital, school, day care center, work site, business, residence, and permanent campground. The distance to the nearest receptor is to be measured from the outermost limit of the area to be disturbed or road surface, whichever is closer.

(27) "Road Construction and Maintenance" means the activities undertaken to build roads, highways, railroads, bridges, culverts, drains and other works incidental to road or highway construction, and maintenance activities that involve grading or excavation. Road Construction and Maintenance does

not include the construction of rest stops, maintenance buildings, or parking lots. These excluded activities are subject to the requirements of subsection (e).

(28) "Road surface" means the traveled way of a road and any shoulder which may extend up ten (10) feet from the edge of the traveled way.

(29) "Sand and Gravel Operation" means any facility operating in alluvial deposits.

(30) "Serpentine" means any form of the following hydrous magnesium silicate minerals: antigorite, lizardite, and chrysotile.

(31) "Serpentinite" means a rock consisting almost entirely of serpentine, although small amounts of other minerals such as magnetite, chromite, talc, brucite, and tremolite-actinolite may also be present. "Serpentinite" is a metamorphic derivative of the ultramafic rocks, peridotite, pyroxenite, or dunite.

(32) "Surface mining" means all, or any part of, the process involved in the mining of minerals on mined lands by removing overburden and mining directly from the mineral deposit, open-pit mining of minerals naturally exposed, mining by the auger method, dredging and quarrying, or surface work incident to an underground mine. "Surface mining" includes, but is not limited to, in place distillation or retorting or leaching, the production and disposal of mining waste, prospecting and exploratory activities or any activity subject to regulation under the Surface Mining and Reclamation Act of 1975, Public Resources Code section 2700 et seq.

(33) "Ultrabasic rock" means ultramafic rock.

(34) "Ultramafic rock" means an igneous rock composed of 90 percent or greater of one or a combination of the following iron/magnesium-rich, dark-colored silicate minerals: olivine, pyroxene, or more rarely amphibole. For the purposes of this section, "ultramafic rock" includes the following rock types: dunite, pyroxenite, and peridotite; and their metamorphic derivatives.

(35) "Visible emissions" means any particulate matter that is visually detectable without the aid of instruments other than corrective lenses.

NOTE: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, and 41511, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39666, and 41511, Health and Safety Code.

APPENDIX A

California Department of Conservation
Division of Mines and Geology

AVAILABLE GEOLOGIC MAPS FOR CALIFORNIA

GEOLOGIC ATLASES OF CALIFORNIA Scale 1:250,000

GEOLOGIC ATLAS OF CALIFORNIA: ALTURAS
Compiled by Gay, T.E. and others, 1958

GEOLOGIC ATLAS OF CALIFORNIA: BAKERSFIELD
Compiled by Smith, A.R., 1964 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: DEATH VALLEY
Compiled by Streitz, R.L. and Stinson, M.C., 1974 (reprinted 1991)

GEOLOGIC ATLAS OF CALIFORNIA: FRESNO
Compiled by Matthews, R.A. and Burnett, J.L., 1965 (reprinted 1991)

GEOLOGIC ATLAS OF CALIFORNIA: KINGMAN
Compiled by Jennings, C.W., 1961

GEOLOGIC ATLAS OF CALIFORNIA: LONG BEACH
Compiled by Jennings, C.W., 1962 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: LOS ANGELES
Compiled by Jennings, C.W. and Strand, R.G., 1969 (reprinted 1991)

GEOLOGIC ATLAS OF CALIFORNIA: MARIPOSA
Compiled by Strand, R.G., 1967 (reprinted 1991)

GEOLOGIC ATLAS OF CALIFORNIA: NEEDLES
Compiled by Bishop, C.C., 1963 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: REDDING
Compiled by Strand, R.G., 1962

GEOLOGIC ATLAS OF CALIFORNIA: SALTON SEA
Compiled by Jennings, C.W., 1967 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: SAN LUIS OBISPO
Compiled by Jennings, C.W., 1958 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: SAN DIEGO - EL CENTRO
Compiled by Strand, R.G., 1962 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: SANTA ANA
Compiled by Rogers, T.H., (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: SANTA CRUZ
Compiled by Jennings, C.W. and Strand, R.G., 1958 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: SANTA MARIA
Compiled by Jennings, C.W., 1959 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: TRONA
Compiled by Jennings, C.W., 1962

GEOLOGIC ATLAS OF CALIFORNIA: UKIAH
Compiled by Jennings, C.W. and Strand, R.G., 1960 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: WALKER LAKE
Compiled by Koenig, J.B., 1963 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: WESTWOOD
Compiled by Lyndon, P.A. and others, 1960

REGIONAL GEOLOGIC MAP SERIES Scale 1:250,000

GEOLOGIC MAP OF THE CHICO QUADRANGLE
(set of five sheets)
By Saucedo, G.J. and Wagner, D.L., 1992

GEOLOGIC MAP OF THE SACRAMENTO QUADRANGLE
(set of four sheets)
Compiled by Wagner, D.L. and others, 1981

GEOLOGIC MAP OF THE SANTA ROSA QUADRANGLE
(set of five sheets)
Compiled by Wagner, D.L. and Bortugno, E.J. (reprinted 1999)

GEOLOGIC MAP OF THE SAN BERNARDINO QUADRANGLE
(set of five sheets)
Compiled by Bortugno, E.J. and Spittler, T.E. (reprinted 1998)

GEOLOGIC MAP OF THE WEED QUADRANGLE
(set of four sheets)
By Wagner, D.L. and Saucedo, G.J., 1987

GEOLOGIC MAP OF THE SAN FRANCISCO-SAN JOSE QUADRANGLE
(set of five sheets)
By Wagner, D.L., Bortugno, E.J. and McJunkin, R.D., 1990
Color-coded faults

LOCAL GEOLOGIC MAPS

AREAS MORE LIKELY TO CONTAIN NATURALLY-OCCURRING ASBESTOS IN WESTERN EL DORADO COUNTY, CALIFORNIA
By Ron Churchill, March 2000
Scale 1:100,000

SERPINTINITE SURVEY OF LAKE COUNTY, CALIFORNIA – MAP A, ULTRAMAFIC, ULTRABASIC, AND SERPENTINE ROCK AND SOILS OF LAKE COUNTY,
Adopted: March 2, 1992
Scale: 1:100,000

Attachment L

wra
ENVIRONMENTAL CONSULTANTS

May 23, 2005

Michael Willcoxon, Esq.
11555 Dublin Boulevard, Suite 201
Dublin, California 94568

RE: La Vista Quarry California Red-legged Frog Habitat Assessment

Dear Mr. Willcoxon:

In March 2005, WRA conducted a California red-legged frog habitat assessment in accordance with Mitigation Measure 4.3-5 of the Mission-Garin Annexation Final EIR (City of Hayward 2003). The results of this habitat assessment indicate that habitat present on the La Vista Quarry parcel is unsuitable for the California red-legged frog, and that any proposed development of the quarry would not impact the species or potential habitat. The lack of suitable aquatic habitat, associated uplands, and connectivity to potential habitats make this site extremely unlikely to support the species. In addition, long-term quarry operations have created unsuitable habitat conditions for the frog and most other wildlife species.

The attached report provides details regarding methods and results of the assessment. Please call if you have any questions.

Sincerely,

Jeff Dreier
Associate Wildlife Ecologist

2169-G East Francisco Blvd., San Rafael, CA 94901 (415) 454-8868 tel (415) 454-0129 fax info@wra-ca.com www.wra-ca.com

California Red-legged Frog Habitat Assessment

LA VISTA QUARRY
HAYWARD, ALAMEDA COUNTY
CALIFORNIA

Prepared For:
Michael Willcoxon, Esq.
11555 Dublin Blvd., Suite 201
Dublin, California 94568
925-828-7999

Contact:
Jeff Dreier
dreier@wra-ca.com

Date:
March 2005

wra
ENVIRONMENTAL CONSULTANTS
2169-G East Francisco Blvd., San Rafael, CA 94901 (415) 454-8868 tel (415) 454-0129 fax info@wra-ca.com www.wra-ca.com

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Purpose and Goals of this Assessment

On March 15, 2005, WRA conducted a California red-legged frog (*Rana aurora draytonii*) habitat assessment for the La Vista Quarry, Hayward, California. The purpose of this assessment was to determine (1) the presence of suitable habitat and, (2) the potential for occurrence of the California red-legged frog within the quarry parcel (Study Area). The Study Area is within Critical Habitat Unit 15, as proposed by the U.S. Fish and Wildlife Service (USFWS) in April 2004. Currently, this Critical Habitat designation has not been finalized, however, the results of this assessment provide information on the availability of the Primary Constituent Elements within the Study Area. The goals of this assessment are to provide the landowner, USFWS, and the City of Hayward with specific information on the habitat quality and likelihood of California red-legged frog occurrence in the Study Area including a Primary Constituent Elements Analysis (PCEA). Completion of this assessment complies with Mitigation Measure 4.3-5 of the Mission-Garin Annexation Final EIR (City of Hayward 2003).

1.2 General Study Area Description

The La Vista Quarry site is located in central Alameda County (Figure 1). Garin Regional Park marks the east boundary of the property, residential areas and scattered undeveloped lots exist along the south and west boundaries, and open grazed grassland separates the site from the Garin-Vista site to the southeast. The approximately 213-acre site is characterized by a steep and irregular topography. The quarry has been in operation for decades, resulting in a continually shifting mosaic of bare ground, exposed rock, stormwater detention basins, and invasive plant species (Figure 2). Heavy equipment operates throughout much of the site on a regular basis. Current land use on the southern grassland section is grazing. These past and ongoing disturbances have resulted in the absence of native plant communities on the site, which is dominated by non-native annual grasses, fennel (*Foeniculum vulgare*), mustard (*Brassica* sp.), milk thistle (*Silybum marianum*), artichoke thistle (*Cynara cardunculus*), and yellow star thistle (*Centaurea solstitialis*).

2.0 BACKGROUND INFORMATION

2.1 Natural History of the California Red-legged Frog

The California red-legged frog is the largest native frog in the western United States. The posterior abdomen and hind legs of adults are often red or salmon pink. The back has prominent dorsolateral folds, and is characterized by small black flecks and larger irregular dark blotches with indistinct outlines on a brown, gray, olive, or reddish-brown background color (USFWS 2002).

2.1.1 Range, Populations, and Activity

The California red-legged frog is one of two subspecies of the red-legged frog (*Rana aurora*). The northern red-legged frog (*R. aurora aurora*) is distributed in coastal drainages from Sonoma County northward. The California red-legged frog occurs along the Coast ranges from Marin County southward, and in the Sierra Nevada foothills from Butte County southward. It is mostly extirpated

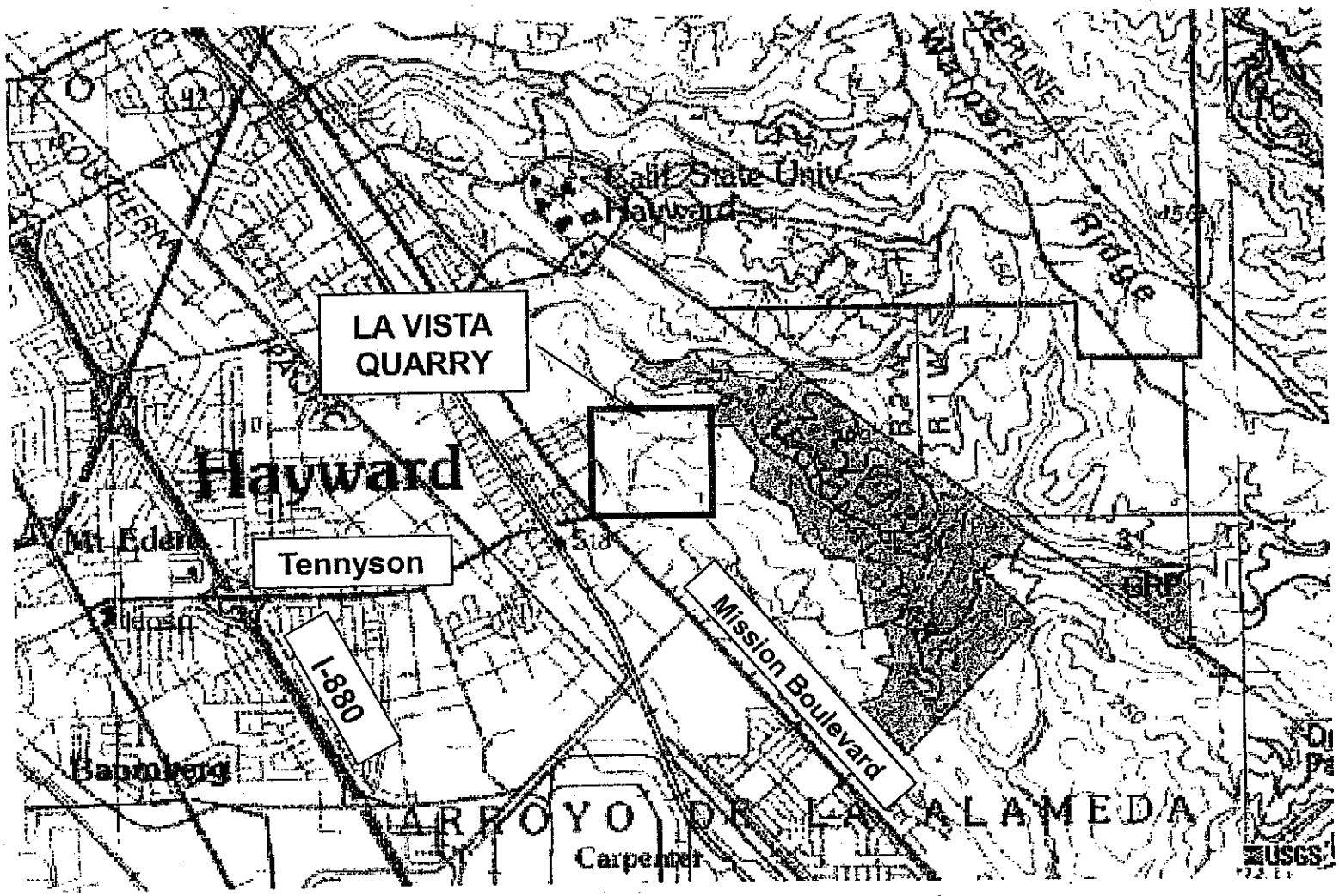

Figure 1. Portion of the USGS Hayward quadrangle showing the location of the La Vista Quarry east of Mission Boulevard in Hayward.

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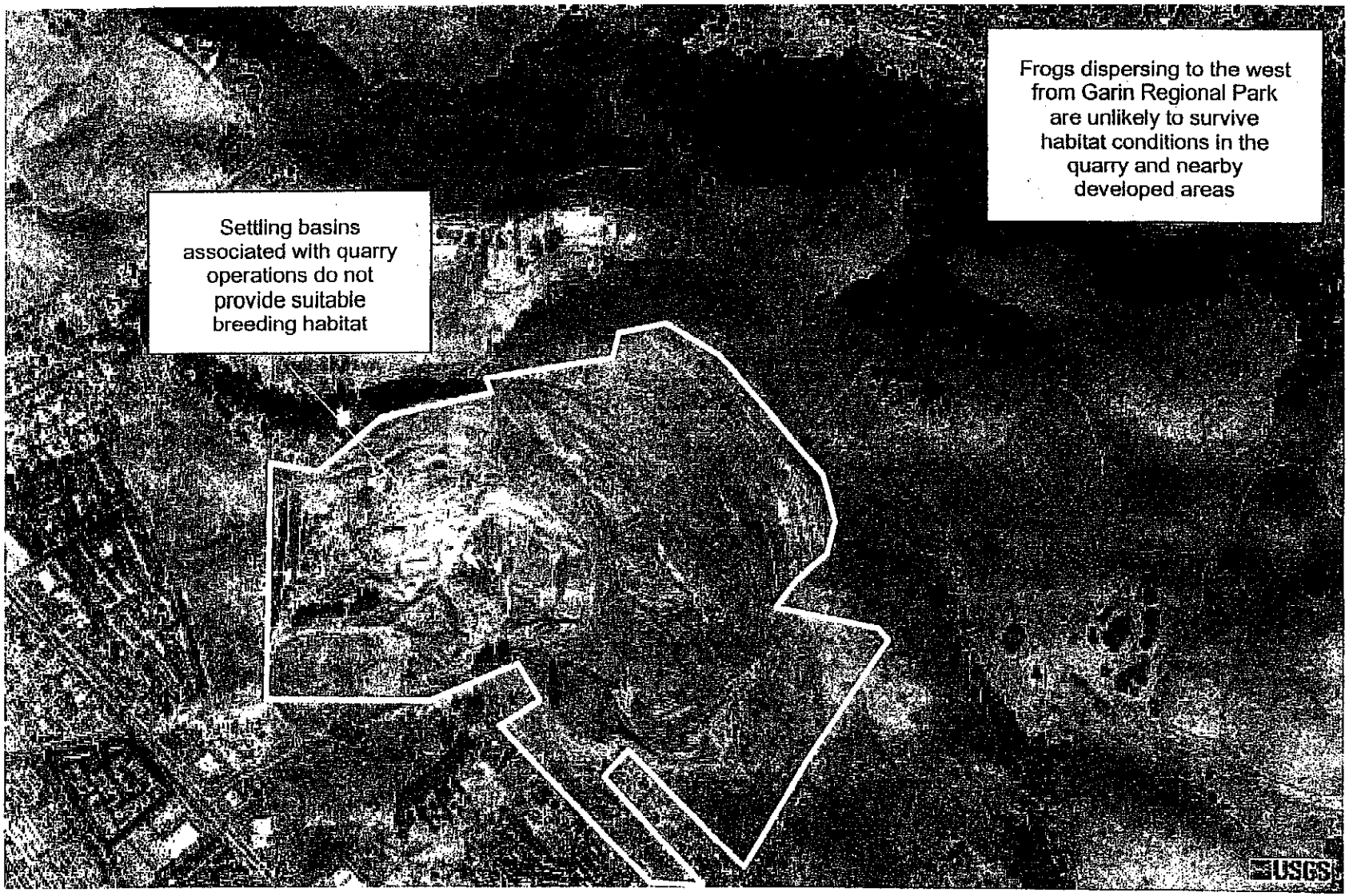

Figure 2. Aerial photograph showing approximate boundary, and habitat conditions within and adjacent to the Study Area. The primary constituent elements of proposed critical habitat for the California red-legged frog are not present.

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from the floor of the Central Valley.

California red-legged frogs breed from November through March, although earlier breeding has been recorded in southern localities. Males appear at breeding sites 2–4 weeks before females. Female California red-legged frogs deposit egg masses on emergent vegetation so that the masses float on the surface of the water (Hayes and Miyamoto 1984). Egg masses contain about 2,000–5,000 moderate-sized (0.08–0.11 inches in diameter), dark reddish brown eggs (Jennings and Hayes 1985). Eggs hatch in 6–14 days, and larvae generally undergo metamorphosis 3.5–7 months after hatching; however, California red-legged frog tadpoles have recently been observed to overwinter in some areas (Fellers et al. 2001). Males attain sexual maturity by 2 years and females by 3 years of age.

2.1.2 Habitat Use

California red-legged frogs have been found at elevations from sea level to about 5,000 feet. They use a variety of habitat types; these include various aquatic, riparian, and upland habitats (USFWS 2001). However, individual frogs may complete their entire life cycle in a pond or other aquatic site that is suitable for all life stages. California red-legged frogs breed in aquatic habitats such as marshes, ponds, deep pools and backwaters in streams and creeks, lagoons, and estuaries. Breeding adults are often associated with dense, shrubby riparian or emergent vegetation and areas with deep (>27 inches) still or slow-moving water (USFWS 2001). However, these frogs often successfully breed in artificial ponds with little or no emergent vegetation and have been observed in stream reaches that are not covered in riparian vegetation. An important factor influencing the suitability of aquatic breeding sites is the general lack of introduced aquatic predators (USFWS 2001).

Red-legged frogs spend a substantial amount of time resting and feeding in riparian and emergent vegetation. The moisture and camouflage provided by the riparian plant community may provide good foraging habitat and may facilitate dispersal in addition to providing pools and backwater aquatic areas for breeding. Dispersal sites typically provide forage or cover opportunities and include boulders or rocks and organic debris such as downed trees or logs; industrial debris; and agricultural features such as drains, watering troughs, spring boxes, and abandoned sheds (USFWS 2001). California red-legged frogs also use small mammal burrows and moist leaf litter (Jennings and Hayes 1994). Incised stream channels with portions narrower and deeper than 18 inches may also provide habitat. Use of this habitat type by California red-legged frogs is most likely dependent on year-to-year variations in climate and habitat suitability and varying requisites per life stage (USFWS 2001).

2.1.3 Population Levels and Occurrence in the Project Area

No protocol-level California red-legged frog surveys have been conducted within the Study Area, however, this species has been recorded within a few miles of the Study Area. Sightings have been recorded in Garin Regional Park, within 2 miles of the Study Area (CDFG 2004).

2.1.4 Dispersal

California red-legged frog juveniles and adults may disperse from breeding sites at any time of year. California red-legged frogs have been found more than 1.8 miles from their breeding site living within streams. They have been observed in adjacent dense riparian vegetation more than than 328 feet from water, although they typically occur within 200 feet of water (USFWS 2001).

Beginning with the first rains in the fall, some individuals make overland excursions through upland habitats during periods of wet weather. Most of these overland movements take place at night. Evidence from marked frogs on the coast of California near San Simeon indicate that frogs may move over upland habitats for a distance of about 1 mile during the course of a wet season. In addition, California redlegged frogs have been observed to make long-distance movements that are straight-line, point-to-point migrations rather than using corridors for moving between habitats. (USFWS 2001).

2.2 Federal Authority

The California red-legged frog was federally listed as threatened on May 23, 1996 (USFWS 1996). Critical habitat was originally designated for the frog on March 13, 2001, but was soon vacated and remanded. The USFWS proposed Critical Habitat again on April 13, 2004. This proposed designation is expected to be finalized in 2005.

3.0 METHODS

Guidance on Site Assessment and Field Surveys for California Red-legged Frogs (USFWS 1997) provides guidance to accurately assess the status of the California red-legged frog in the vicinity of a project site. The assessment evaluates whether the site is within the range of the species, whether there are documented occurrences within 5 miles, and the habitats present within one mile of the project boundaries. This assessment also investigated the presence of characteristics of critical habitat.

On May 5, 2004, the Study Area was traversed on foot to map potential breeding habitats and to evaluate California red-legged frog habitat suitability. The habitat assessment was performed using a comparison of existing conditions with the Primary Constituent Elements of proposed critical habitat (USFWS 2004). In addition, recent sighting information was gathered from the California Natural Diversity Database (CDFG 2004).

According to the USFWS (2004), the primary constituent elements of critical habitat for the California red-legged frog are those habitat components that are essential for the primary biological needs of foraging, sheltering, breeding, maturation, and dispersal. Critical habitat for the California red-legged frog includes: (a) essential aquatic habitat; (b) associated uplands; and (c) dispersal habitat connecting essential aquatic habitat.

3.1 Breeding and Foraging Habitat

Aquatic habitat is essential for providing space, food, and cover, necessary to sustain all life stages

of California red-legged frogs. It consists of virtually all low-gradient fresh water bodies, including natural and man-made ponds, backwaters within streams, marshes, lagoons, and dune ponds, except for deep lakes and reservoirs inhabited by non-native predators. Aquatic habitat used for breeding must have a minimum deep water depth of 20 inches and maintain water at least March through July (USFWS 2004).

To be a primary constituent element for California red-legged frog critical habitat, the aquatic components must consist of two or more breeding sites located within 1.25 miles of each other; at least one of the breeding sites must also be a permanent water source. Also, the aquatic component can consist of two or more seasonal breeding sites with a permanent nonbreeding water source located within 1.25 miles of each breeding site (USFWS 2004).

3.2 Associated Upland Habitat for Forage, Shelter, and Water Quality Maintenance

Associated upland and riparian habitat is essential to maintain California red-legged frog populations associated with essential aquatic habitat. The associated uplands and riparian habitat provide food and shelter sites and assist in maintaining the integrity of aquatic sites by protecting them from disturbance and supporting the normal functions of the aquatic habitat (USFWS 2004). Essential upland habitat consists of all upland areas within 300 feet of the edge of the ordinary high-water mark, or no further than the watershed boundary.

3.3 Dispersal Habitat

Essential dispersal habitat provides connectivity among California red-legged frog breeding habitat (and associated upland) patches. While frogs can pass many obstacles, and do not require a particular type of habitat for dispersal, the habitat connecting essential breeding locations and other aquatic habitat must be free of barriers (physical or biological feature that prevents frogs from dispersing beyond the feature) and at least 300 feet wide. Essential dispersal habitat consists of all upland and wetland habitat free of barriers that connects two or more patches of essential breeding habitat within 1.25 miles of one another (USFWS 2004).

4.0 RESULTS

The Study Area is within the known range of the California red-legged frog. The CNDDB had two reports of the California red-legged frog within the Hayward USGS quad. The closest sighting to the Study Area is approximately 2 miles east in Garin Regional Park. No amphibians of any type were observed during the March 15, 2005 site visit. Habitat conditions in and adjacent to the Study Area are discussed below with emphasis on characteristics of critical habitat.

4.1 Breeding and Foraging Habitat

The only aquatic habitat in the Study Area consists of maintained settling basins within the quarry that function as drainage and water quality control systems and are part of the ongoing quarry operations. California red-legged frogs are unlikely to be present in these basins because they are regularly maintained, contain little or no cover, and are isolated from suitable habitat in Garin Regional Park to the east.

4.2 Associated Upland Habitat for Forage, Shelter, and Water Quality Maintenance

Associated habitat for forage, shelter, and water quality maintenance is not present in the Study Area because no suitable breeding habitat is present.

4.3 Dispersal Habitat

Dispersal habitat, as defined above, is not present in the Study Area because no suitable breeding habitat is present. In addition, impediments to dispersal, including development and quarry operations, would likely result in unsuccessful dispersal of frogs moving west from Garin Regional Park.

5.0 CONCLUSION

The results of this habitat assessment indicate that habitat present on the La Vista Quarry parcel is unsuitable for the California red-legged frog, and that any proposed development of the quarry would not impact the species or potential habitat. The lack of suitable aquatic habitat, associated uplands, and connectivity to potential habitats make this site extremely unlikely to support the species. Analysis of the Primary Constituent Elements confirm this conclusion that the existing conditions found in the Study Area could not support the California red-legged frog. In addition, long-term quarry operations have created unsuitable habitat conditions for the frog and most other wildlife species.

6.0 REFERENCES

California Department of Fish and Game. 2004. Natural Diversity Data Base, Wildlife Habitat Data Analysis Branch. Sacramento.

City of Hayward. 2003. Mission-Garin Annexation Final EIR. City of Hayward. May 2003.

Fellers, G. M., A. E. Launer, G. Rathbun, S. Bobzien, J. Alvarez, D. Sterner, R. B. Seymour, and M. Westphal. 2001. Overwintering tadpoles in the California red-legged frog (Rana aurora draytonii). Herpetological Review. 32(3):156-157.

Hayes, M. P., and M. M. Miyamoto. 1984. Biochemical, behavioral and body size differences between Rana aurora aurora and R. a. draytonii. Copeia 1984(4):1018-1022.

Jennings, M.R. and M.P. Hayes. 1994. Amphibian and reptile species of special concern in California. Final report submitted to the California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California. Contract No. 8023.

USFWS. 1996. Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the California Red-legged Frog; Final Rule. Federal Register. Vol. 61, No. 101. 25813-25833.

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USFWS. 2001. Endangered and Threatened Wildlife and Plants; Final Determinations of Critical Habitat for the California Red-legged Frog; Final Rule. Federal Register. Vol. 66, No. 49. 14626-14674.

USFWS. 2002. Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*). USFWS, Portland, Oregon. Viii + 173 pp.

USFWS. 2004. Endangered and Threatened Wildlife and Plants; Proposed Determination of Critical Habitat for the California Red-legged Frog (*Rana aurora draytonii*). Federal Register. Vol. 69, No. 71. 19620-19642.

APPENDIX A
CDFG Natural Diversity Database California Red-legged Frog Occurrences in the Hayward Quadrangle

Rana aurora draytonii
California red-legged frog

Element Code: AAABH01022

Status
Federal: Threatened
State: None

NDDB Element Ranks
Global: G4T2T3
State: S2S3

Other Lists
CDFG Status: SC

Habitat Associations
General: LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.
Micro: REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

Occurrence No. 34 **Map Index:** 17146 **EO Index:** 12283
Occ Rank: Poor
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: STEARNS, D. 1990 (OBS)

Dates Last Seen
Element: 1990-07-10
Site: 1990-07-10
Record Last Updated: 1995-11-06

Quad Summary: HAYWARD (3712261/447A)
County Summary: ALAMEDA

Lat/Long: 37.63108° / -122.01667°
UTM: Zone-10 N4165338 E586765
Mapping Precision: SPECIFIC
Symbol Type: POINT
Radius: 80 meters

Township: 03S
Range: 01W
Section: XX **Qtr:** XX
Meridian: M
Elevation: 900 ft

Location: GARIN REGIONAL PARK, 2.6 MI SE OF CSU HAYWARD, ALAMEDA COUNTY.
Location Detail: 1 ADULT FOUND IN POND.
Ecological: POND IN GRASSLAND COMMUNITY. 10% VEGETATIVE COVER (PONDWEED, ALGAE). 85% VEGETATIVE COVER AROUND POND PERIMETER (GRASS, THISTLE).
Threat: CATTLE USE.
General: RED-LEGGED FROGS PREFER MORE CATTAIL COVER FOR PROTECTION. HABITAT COULD BE IMPROVED BY FENCING OFF POND TO AVOID OVERGRAZING AND TRAMPLING.
Owner/Manager: EBRPD-GARIN/DRY CREEK RP

Sources
STE90F04 STEARNS, DANIELLE. FIELD SURVEY FORM FOR RED-LEGGED FROGS FROM GARIN REGIONAL PARK. 1990-07-10.

Rana aurora draytonii
California red-legged frog

Element Code: AAABH01022

Status
Federal: Threatened
State: None

NDDB Element Ranks
Global: G4T2T3
State: S2S3

Other Lists
CDFG Status: SC

Habitat Associations
General: LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.
Micro: REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

Occurrence No. 580 Map Index: 49027 EO Index: 49027
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: JENNINGS, M. R. 2000 (OBS)

Dates Last Seen
Element: 2000-07-14
Site: 2000-07-14

Record Last Updated: 2002-10-15

Quad Summary: HAYWARD (3712261/447A)
County Summary: ALAMEDA

Lat/Long: 37.70572° / -122.01715°
UTM: Zone-10 N4173619 E586636
Mapping Precision: SPECIFIC
Symbol Type: POINT
Radius: 80 meters

Township: 03S
Range: □01
Section: 06 Qtr: XX
Meridian:
Elevation: M
430 ft

Location: HOLLIS CANYON, 0.3 MILE UPSTREAM FROM THE MOUTH, 2 MILES EAST OF CASTRO VALLEY, NORTH OF I-580
Location Detail: SITE IS PROPOSED AS PART OF A MITIGATION LAND BANK.
Ecological: HABITAT CONSISTS OF A STREAM FLOWING THROUGH A SMALL VALLEY, WITH DENSE OAK FOREST UPSLOPE. ALAMEDA WHIPSNAKE AND WPT ALSO FOUND IN THE VICINITY.
Threat: THREATENED BY FLOODING AND ILLEGAL DUMPING.
General: 2 ADULTS AND 25+ LARVAE OBSERVED/COLLECTED (MRJ #1526) ON 14 JUL 2000; DEPOSITED AT CAS.
Owner/Manager: PVT

Sources
JEN00F17 JENNINGS, MARK R. (RANA RESOURCES). FIELD SURVEY FORM FOR RANA AURORA DRAYTONII. 2000-07-14.

Attachment M

wra
ENVIRONMENTAL CONSULTANTS

May 23, 2005

Michael Willcoxon, Esq.
11555 Dublin Boulevard, Suite 201
Dublin, California 94568

RE: La Vista Quarry Alameda Whipsnake Habitat Assessment

Dear Mr. Willcoxon:

In March 2005, WRA conducted an Alameda whipsnake habitat assessment in accordance with Mitigation Measure 4.3-6 of the Mission-Garin Annexation Final EIR (City of Hayward 2003). The results of this habitat assessment indicate that habitat present on the La Vista Quarry parcel is unsuitable for the Alameda whipsnake, and that any proposed development of the quarry would not impact the species or potential habitat. The Study Area is unlikely to support a population of this species because suitable habitat characteristics, including scrub and/or chaparral communities, undisturbed rock outcrop areas, and connectivity to potential habitats, are absent.

The attached report provides details regarding the methods and results of the assessment. Please call if you have any questions.

Sincerely,

Jeff Dreier
Associate Wildlife Ecologist

2169-G East Francisco Blvd., San Rafael, CA 94901 (415) 454-8868 tel (415) 454-0129 fax info@wra-ca.com www.wra-ca.com

Alameda Whipsnake Habitat Assessment

LA VISTA QUARRY
HAYWARD, ALAMEDA COUNTY
CALIFORNIA

Prepared For:
Michael Willcoxon, Esq.
11555 Dublin Blvd., Suite 201
Dublin, California 94568
925-828-7999

Contact:
Jeff Dreier
dreier@wra-ca.com

Date:
March 2005

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1.0 INTRODUCTION

1.1 Purpose and goals of this assessment

On March 15, 2005, WRA conducted an Alameda whipsnake (*Masticophis lateralis euryxanthus*) habitat assessment for the La Vista Quarry, Hayward, California. The purpose of this assessment was to determine (1) the presence of suitable habitat and, (2) the potential for occurrence of Alameda whipsnake within the quarry parcel (Study Area). The Study Area is adjacent to Critical Habitat Unit 3, as designated by the U.S. Fish and Wildlife Service (USFWS) in October 2000. Currently, this Critical Habitat designation has been vacated and remanded, however, the results of this assessment provide information on the availability of the Primary Constituent Elements within the Study Area. The goals of this assessment are to provide the landowner, USFWS, and the City of Hayward with specific information on the habitat quality and likelihood of Alameda Whipsnake occurrence on the properties mentioned above including a Primary Constituent Elements Analysis (PCEA). Completion of this assessment complies with Mitigation Measure 4.3-6 of the Mission-Garin Annexation Final EIR (City of Hayward 2003).

1.2 General Study Area Description

The La Vista Quarry site is located in central Alameda County (Figure 1). Garin Regional Park marks the east boundary of the property, residential areas and scattered undeveloped lots exist along the south and west boundaries, and open grazed grassland separates the site from the Garin-Vista site to the southeast. The approximately 150-acre site is characterized by a steep and irregular topography. The quarry has been in operation for decades, resulting in a continually shifting mosaic of bare ground, exposed rock, stormwater detention basins, and invasive plant species (Figure 2). Heavy equipment operates throughout much of the site on a regular basis. Current land use on the southern grassland section is grazing. These past and ongoing disturbances have resulted in the absence of native plant communities on the site, which is dominated by non-native annual grasses, fennel (*Foeniculum vulgare*), mustard (*Brassica* sp.), milk thistle (*Silybum marianum*), artichoke thistle (*Cynara cardunculus*), and yellow star thistle (*Centaurea solstitialis*).

2.0 BACKGROUND INFORMATION

2.1 Natural History of the Alameda Whipsnake

The whipsnake is a slender, fast-moving, diurnal snake with a broad head, large eyes, and slender neck. Whipsnakes range from 3 to 4 feet in length. The dorsal surface is sooty black in color with a distinct yellow-orange stripe down each side. The forward portion of the bottom surface is orange-rufous colored, the midsection is cream colored, and the rear portion and tail are pinkish. The adult whipsnake virtually lacks black spotting on the bottom surface of the head and neck. Juveniles may show very sparse or weak black spots.

2.1.1 Range, Populations, and Activity

The Alameda whipsnake is one of two subspecies of the California whipsnake (*Masticophis lateralis*). The chaparral whipsnake (*M. lateralis lateralis*) is distributed from northern California,

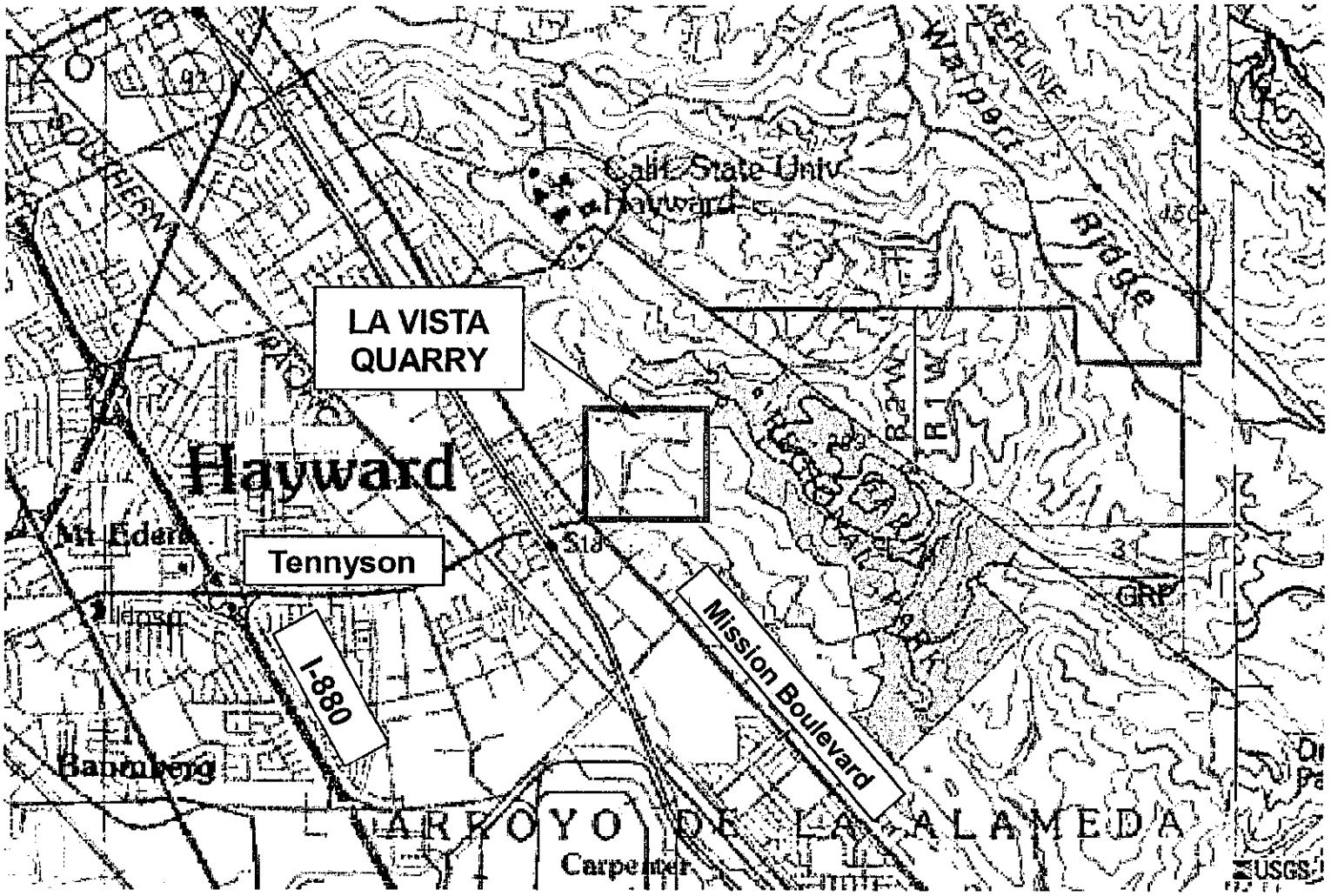

Figure 1. Portion of the USGS Hayward quadrangle showing the location of the La Vista Quarry east of Mission Boulevard in Hayward.

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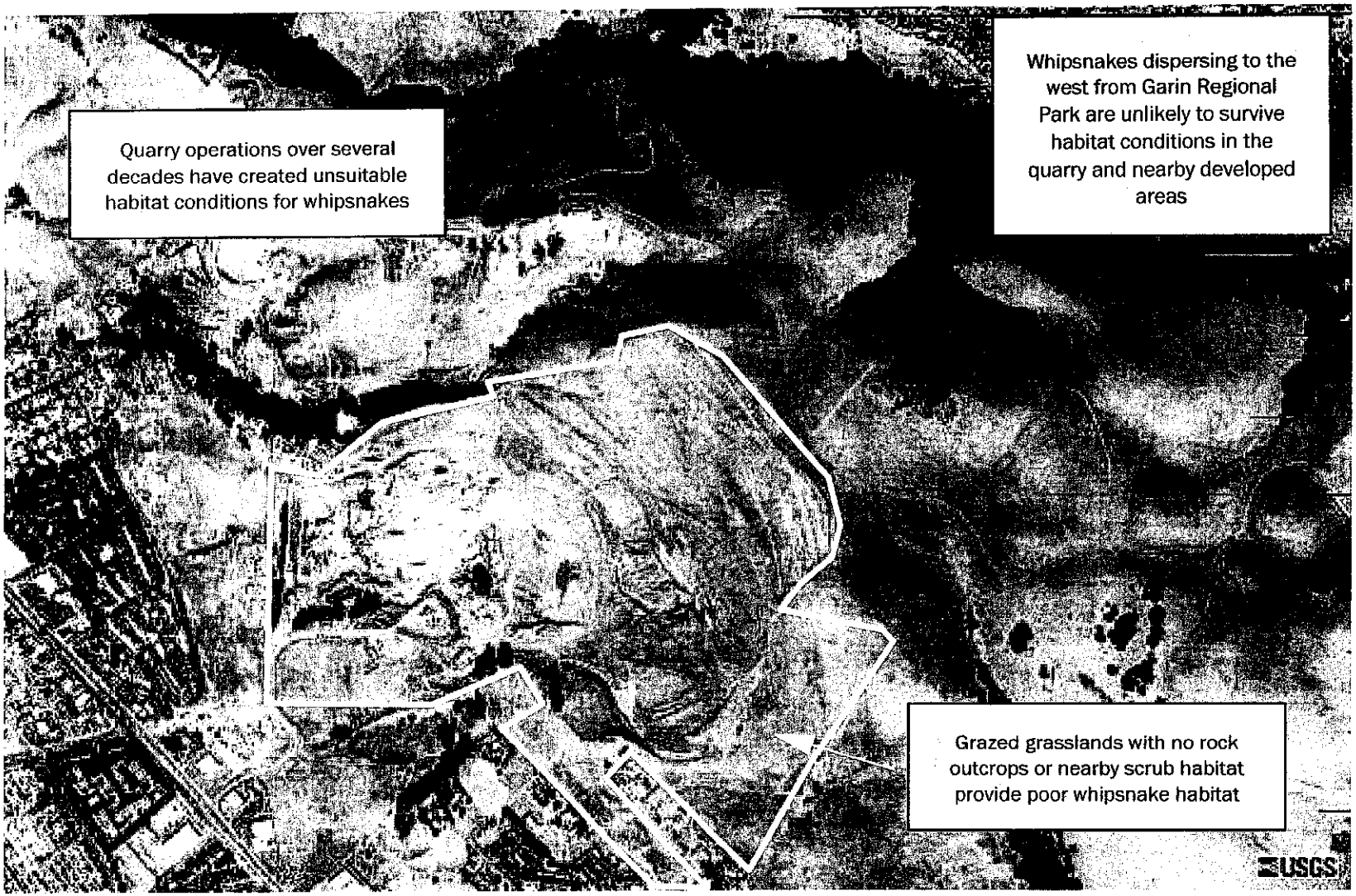

Figure 2. Aerial photograph showing approximate boundary, and habitat conditions within and adjacent to the Study Area. Rock outcrops and scrub habitats typical of Alameda whipsnake habitat are not present.

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west of the Sierran crest and desert, to central Baja California. The Alameda whipsnake is restricted to a small portion of this range, primarily the inner Coast Range in western and central Contra Costa and Alameda Counties.

Adult whipsnakes appear to have a bimodal (two times of the year) seasonal activity pattern with peaks during the spring mating season and a smaller peak during late summer and early fall. Although short, aboveground movements may occur during the winter, whipsnakes generally retreat in November into a hibernaculum (shelter used during the snake's dormancy period) and emerge in March. Courtship and mating occur from late-March through mid-June. During this time, males move around throughout their home ranges, while females appear to remain at or near their hibernaculum, where mating occurs. Male home ranges of 4.7 to 21.5 acres were recorded, and showed a high degree of spatial overlap. Several individual snakes monitored for nearly an entire activity season appeared to maintain a stable home range. Movements of these individuals were multi-directional, and individual snakes returned to specific areas and retreat sites after long intervals of non-use. Snakes had one or more core areas within their home range, while large areas of the home range received little use (Swaim 1994).

2.1.2 Habitat Use

Recent telemetry data indicate that, although home ranges of whipsnakes are centered on shrub communities, whipsnakes may venture into adjacent habitats, including grassland, oak savanna, and occasionally oak-bay woodland. Most telemetry locations are within 170 feet of scrub habitat, but distances of greater than 500 feet occur (Swaim 1994). Initial data indicate that adjacent habitats may play a crucial role in certain life history and physiological needs of the whipsnake, but the full extent has yet to be determined. Telemetry data indicate that whipsnakes may remain in grasslands for periods ranging from a few hours to several weeks at a time. Grassland habitats are used by male whipsnakes most extensively during the mating season in spring. Female whipsnakes use grassland areas most extensively after mating, possibly in their search for suitable egg-laying sites (Swaim 1994). Rock outcrops can be an important feature of whipsnake habitat because they provide retreat opportunities for whipsnakes and support lizard populations. Lizards, especially the western fence lizard (*Sceloporus occidentalis*), appear to be the most important prey item of whipsnakes (Stebbins 1985; Swaim 1994; Harry Green, Museum of Vertebrate Zoology, U.C. Berkeley, pers. comm. 1998, cited in the Federal Register), although other prey items are taken, including skinks, frogs, snakes, and birds (Stebbins 1985; Swaim 1994). Most radio telemetry locations for whipsnakes were within the distribution of major rock outcroppings and talus (a sloping mass of rock debris at the base of a cliff) (Swaim 1994).

Whipsnakes have been found in association with a variety of shrub communities including diablan sage scrub, coyote bush scrub, and chaparral (Swaim 1994), also classified as coastal scrub, mixed chaparral, and chamise-redshank chaparral (Mayer and Laudenslayer 1988, cited in the Federal Register). However, the type of vegetation may have less to do with preference by the whipsnake than the extent of the canopy, slope exposure, the availability of retreats such as rock outcrops and rodent burrows, and prey species composition and abundance (Swaim 1994).

Core areas (areas of concentrated use) of the whipsnake most commonly occur on east, south, southeast, and southwest facing slopes (Swaim 1994). However, recent studies indicate that

whipsnakes do make use of north facing slopes in more open stands of scrub habitat (K. Swaim, pers. comm. 1999).

2.1.3 Population Levels and Occurrence in the Project Area

No protocol-level Alameda whipsnake surveys have been conducted within the Study Area, however, there have been whipsnakes recorded within a few miles of the Study Area. Official sightings have been recorded in Garin Regional Park, and east of the park in the vicinity of the Blue Rock Country Club (LSA, 1998).

2.1.4 Dispersal

Past trapping efforts and studies to assess habitat use have largely been oriented toward larger adults. Little data is available regarding juvenile movement/dispersal or other long-range movement. While most studies have shown that at least adult whipsnake primarily use habitats within 500 feet of core scrub habitat, longer-range movements away from scrub habitats have been documented. Swaim (1999) reports 13 documented occurrences of whipsnake greater than 500 feet from scrub habitats. These 13 observations ranged in distance from approximately 600 feet to over 21,100 feet (approx. 4 miles). The median distance was 2,000 feet.

2.2 Federal Authority

The Alameda whipsnake was federally listed as threatened on December 5, 1997 (62 FR 64306). Critical habitat was designated for the whipsnake on October 3, 2000 (65 FR 58933), effective November 2, 2000. The USFWS designated approximately 164,150 hectares (406,598 acres) in Alameda, Contra Costa, San Joaquin, and Santa Clara Counties as Critical Habitat for the whipsnake. Currently, the Critical Habitat designation has been vacated and remanded.

3.0 METHODS

On May 5, 2004, the Study Area was traversed on foot to map potential scrub habitats and to evaluate Alameda whipsnake habitat suitability. The habitat assessment was performed using a comparison of existing conditions with the Primary Constituent Elements of Alameda whipsnake habitat (USFWS 2000). In addition, recent sighting information was gathered from the California Natural Diversity Database (CDFG 2004).

According to the USFWS (2000), the primary constituent elements for the Alameda whipsnake are those habitat components that are essential for the primary biological needs of foraging, sheltering, breeding, maturation, and dispersal.

The primary constituent elements are in areas that support scrub communities, including mixed chaparral, chamise-redshank chaparral, coastal scrub, and annual grassland and oak woodlands that lie adjacent to scrub habitats. In addition, the primary constituent elements for the snake may be found in grasslands and various oak woodlands that are linked to scrub habitats by substantial rock outcrops or river corridors. Other habitat features that provide a source of cover for the whipsnake during dispersal or are near scrub habitats and contain habitat features (e.g., rock

outcrops) that support adequate prey populations may also contain primary constituent elements.

Within these plant communities, Alameda whipsnakes require plant canopy covers that supply a suitable range of temperatures for the species' normal behavioral and physiological requirements (including but not limited to foraging, breeding, and maturation). Openings in the plant canopy or scrub/grassland edge provide sunning and foraging areas. Corridors of plant cover and retreats (including rock outcrops) sufficient to provide for dispersal between areas of habitat, and plant community patches of sufficient size to prevent the deleterious effects of isolation (such as inbreeding or the loss of a subpopulation due to a catastrophic event) are also essential.

Also within the plant communities, specific habitat features needed by whipsnakes include, but are not limited to, small mammal burrows, rock outcrops, talus, and other forms of cover to provide temperature regulation, shelter from predators, egg laying sites, and winter hibernaculum. Many of these same elements are important in maintaining prey species. Adequate insect populations are necessary to sustain prey populations.

4.0 RESULTS

The CNDDB had three reports of Alameda Whipsnake within the Hayward USGS quad. The closest sighting to the Study Area is approximately 2 miles east in Garin Regional Park. No snakes of any type were observed during the March 15, 2005 site visit.

The majority of the Study Area lacks many of the Primary Constituent Elements described in the Alameda whipsnake critical habitat designation. No scrub or chaparral habitat is present within the Study Area, and there is no connectivity to shrub or chaparral habitats east of the site. Some retreats are available within the Study Area, including small mammal burrows, and rock outcrops exposed during quarry operations, however these areas are isolated and make up a small proportion of the site. It is unlikely due to the isolation from scrub habitat and the limited nature of these retreat sites that they would be used by any whipsnakes. There are no corridors of plant cover to provide shelter for snakes potentially dispersing from Garin Regional Park toward the active quarry.

5.0 CONCLUSION

The results of this habitat assessment indicate that habitat present on the La Vista Quarry parcel is unsuitable for the Alameda whipsnake, and that any proposed development of the quarry would not impact the species or potential habitat. The lack of shrub, chaparral communities, undisturbed rock outcrop areas, and connectivity to potential habitats make this site extremely unlikely to support any whipsnakes. Analysis of the Primary Constituent Elements confirm this conclusion that the existing conditions found in the Study Area could not support the whipsnake. In addition, long-term quarry operations have created unsuitable habitat conditions for the whipsnake and most other wildlife species.

6.0 REFERENCES

California Department of Fish and Game. 2004. Natural Diversity Data Base, Wildlife Habitat Data Analysis Branch. Sacramento.

City of Hayward. 2003. Mission-Garin Annexation Final EIR. City of hayward. May 2003.

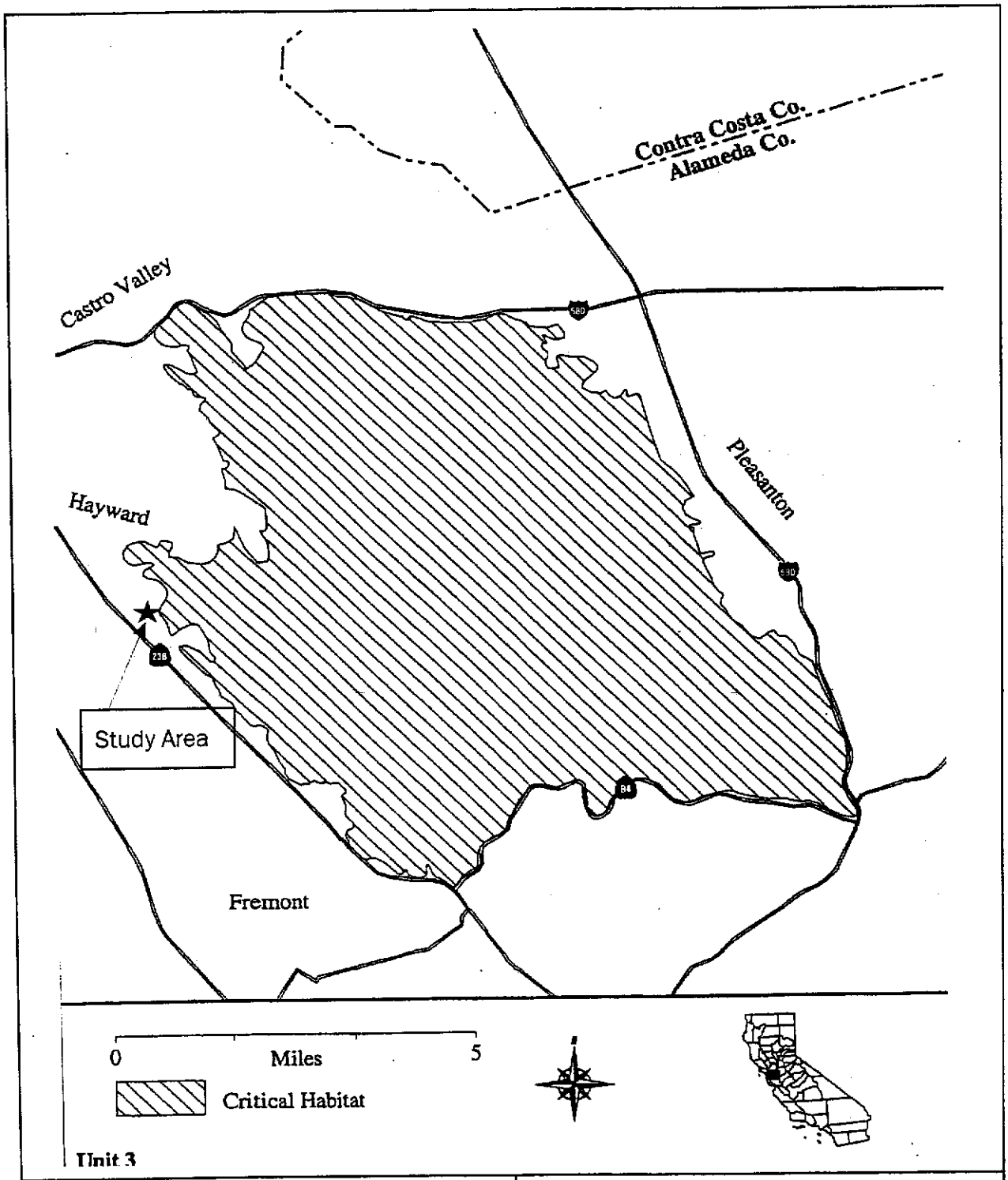
LSA Associates. 1998. Biological Assessment Blue Rock Country Club.

McGinnis, S.M. 1992. Status of the Alameda whipsnake (*Masticophis lateralis euryxanthus*) on the southern portion of the expanded Gateway Project site, Orinda, California. Prepared for LSA Associates, Richmond, California.

McGinnnis, S.M. 1991. The status of the Alameda whipsnake (Masticophis lateralis euryxanthus) on the proposed Gateway Development site, Orinda, California. Prepared for LSA Associates.

Swaim, K.E. 1994. Aspects of the ecology of the Alameda whipsnake *Masticophis lateralis euryxanthus*. M.S. Thesis. California State University, Hayward. 140 pp.

USFWS. 2000. Endangered and Threatened Wildlife and Plants; Final Determination of Critical Habitat for the Alameda Whipsnake (Masticophis lateralis euryxanthus). Federal Register. Vol. 65, No. 192. 58933-58962.



APPENDIX A. Map of Alameda Whipsnake Critical Habitat Unit 3 (currently remanded), showing approximate location of Study Area. USFWS, Federal Register, Vol 65, No. 192, Page 58954.

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APPENDIX B
CDFG Natural Diversity Database Alameda Whipsnake Occurrences in the Hayward Quadrangle

Masticophis lateralis euryxanthus

Alameda whipsnake — **Element Code:** ARADB21031

Status		NDDB Element Ranks		Other Lists	
Federal:	Threatened	**Global:**	G4T2	**CDFG Status:**	
State:	Threatened	**State:**	S2		

Habitat Associations

General: RESTRICTED TO VALLEY-FOOTHILL HARDWOOD HABITAT OF THE COAST RANGES BETWEEN VIC OF MONTEREY AND N SAN FRANCISCO BAY.

Micro: INHABITS SOUTH-FACING SLOPES AND RAVINES WHERE SHRUBS FORM A VEGETATIVE MOSAIC WITH OAK TREES AND GRASSES.

* SENSITIVE *

Occurrence No. 41 **Map Index:** 33500 **EO Index:** 29423

Dates Last Seen

Occ Rank: Fair — **Element:** 1991-05-23
Origin: Natural/Native occurrence — **Site:** 1991-06-XX
Presence: Presumed Extant
Trend: Unknown
Main Source: SWAIM, K. 1991 (OBS) — **Record Last Updated:** 2000-11-30

Quad Summary: HAYWARD (3712261/447A)
County Summary: ALAMEDA

* SENSITIVE *

Lat/Long: — **Township:**
UTM: — **Range:**
Mapping Precision: — **Section:** — **Qtr:**
Symbol Type: — **Meridian:**
Radius: — **Elevation:**

Location: *SENSITIVE* Location information suppressed.

Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.

Ecological: HABITAT CONSISTS A MOSAIC OF COYOTE BRUSH SCRUB/OAK WOODLAND. AN ADJACENT PORTION OF THIS SITE IS NOW DEVELOPED.

Threat: DEVELOPMENT - LOSS OF MOST OF THE GRASSLAND/SCRUB ECOTONE AREAS

General:

Owner/Manager:

Sources

MCG91R02 MCGINNIS, SAMUEL M. THE STATUS OF THE ALAMEDA WHIPSNAKE (MASTICOPHIS LATERALIS EURYXANTHUS) ON THE CENTEX/INTOWNE DEVELOPMENT SITE, HAYWARD, CALIFORNIA. 1991-07-10.

SWA91F02 SWAIM, KAREN. FIELD SURVEY FORM FOR MASTICOPHIS LATERALIS EURYXANTHUS. 1991-XX-XX.

Masticophis lateralis euryxanthus

Alameda whipsnake — **Element Code:** ARADB21031

Status		NDDB Element Ranks		Other Lists	
Federal:	Threatened	**Global:**	G4T2	**CDFG Status:**	
State:	Threatened	**State:**	S2		

Habitat Associations

General: RESTRICTED TO VALLEY-FOOTHILL HARDWOOD HABITAT OF THE COAST RANGES BETWEEN VIC OF MONTEREY AND N SAN FRANCISCO BAY.

Micro: INHABITS SOUTH-FACING SLOPES AND RAVINES WHERE SHRUBS FORM A VEGETATIVE MOSAIC WITH OAK TREES AND GRASSES.

* SENSITIVE *

Occurrence No. 42 **Map Index:** 33501 **EO Index:** 29424

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: SWAIM, K. 1999 (OBS)

Dates Last Seen
Element: 1999-XX-XX
Site: 1999-XX-XX

Record Last Updated: 2001-02-13

Quad Summary: HAYWARD (3712261/447A)
County Summary: ALAMEDA

* SENSITIVE *

Lat/Long:
UTM:
Mapping Precision:
Symbol Type:
Radius:

Township:
Range:
Section: **Qtr:**
Meridian:
Elevation:

Location: *SENSITIVE* Location information suppressed.

Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.

Ecological: HABITAT CONSISTS OF A MOSAIC OF COYOTE BRUSH SCRUB, GRASSLAND, AND COAST LIVE OAK/BAY WOODLAND.

Threat: THREATENED BY PROPOSED DEVELOPMENT (PORTION TO BE DEDICATED TO EBRPD AS OPEN SPACE).

General:

Owner/Manager:

Sources

SWA00F01 SWAIM, KAREN. FIELD SURVEY FORM FOR MASTICOPHIS LATERALIS EURYXANTHUS. 2000-XX-XX.

SWA90F04 SWAIM, KAREN. FIELD SURVEY FORM FOR MASTICOPHIS LATERALIS EURYXANTHUS. 1990-XX-XX.

SWA99F04 SWAIM, KAREN (SWAIM BIOLOGICAL CONSULTING). FIELD SURVEY FORM FOR MASTICOPHIS LATERALIS EURYXANTHUS. 1999-XX-XX.

Masticophis lateralis euryxanthus

Alameda whipsnake

Element Code: ARADB21031

Status

Federal: Threatened
State: Threatened

NDDB Element Ranks

Global: G4T2
State: S2

Other Lists

CDFG Status:

Habitat Associations

General: RESTRICTED TO VALLEY-FOOTHILL HARDWOOD HABITAT OF THE COAST RANGES BETWEEN VIC OF MONTEREY AND N SAN FRANCISCO BAY.

Micro: INHABITS SOUTH-FACING SLOPES AND RAVINES WHERE SHRUBS FORM A VEGETATIVE MOSAIC WITH OAK TREES AND GRASSES.

* SENSITIVE *

Occurrence No. 50 **Map Index:** 41593 **EO Index:** 41593

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: SWAIM, K. 1999 (OBS)

Dates Last Seen

Element: 1999-05-26
Site: 1999-05-26

Record Last Updated: 1999-09-13

Quad Summary: HAYWARD (3712261/447A)
County Summary: ALAMEDA

* SENSITIVE *

Lat/Long:
UTM:
Mapping Precision:
Symbol Type:
Radius:

Township:
Range:
Section: **Qtr:**
Meridian:
Elevation:

Location: *SENSITIVE* Location information suppressed.

Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.

Ecological: ROAD IS ADJACENT TO A MOSAIC OF GRASSLAND, SCRUB, AND OAK WOODLAND. SURROUNDING AREA INCLUDES EBMUD WATESHED AND WILLOW PARK GOLF COURSE.

Threat:

General:

Owner/Manager:

Sources

SWA99F01 SWAIM, KAREN (SWAIM BIOLOGICAL CONSULTING). FIELD SURVEY FORM FOR MASTICOPHIS LATERALIS EURYXANTHUS. 1999-05-26.

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May 23, 2005

Michael Willcoxon, Esq.
11555 Dublin Boulevard, Suite 201
Dublin, California 94568

RE: La Vista Quarry Nesting Raptor and Shrike Studies

Dear Mr. Willcoxon:

Between March 17 and May 3, 2005, WRA conducted four nesting raptor and shrike surveys at the La Vista Quarry site in Hayward. These surveys were conducted in accordance with Mitigation Measure 4.3-7 of the Mission-Garin Annexation Final EIR (City of Hayward 2003). The purpose of these surveys was to determine if burrowing owls (*Athene cunicularia*), golden eagles (*Aquila chrysaetos*), loggerhead shrikes (*Lanius luduvicianus*), and other raptors are nesting at the La Vista Quarry (Study Area). This letter provides findings regarding the breeding status of these birds on the site.

Study Area

The Study Area is located in central Alameda County. Garin Regional Park marks the east boundary of the property, residential areas and scattered undeveloped lots exist along the south and west boundaries, and open grazed grassland separates the site from the Garin-Vista site to the southeast. The approximately 213-acre site is characterized by a steep and irregular topography. The quarry has been in operation for decades, resulting in a continually shifting mosaic of bare ground, exposed rock, stormwater detention basins, and invasive plant species. Heavy equipment operates throughout much of the site on a regular basis. Current land use on the southern grassland section is grazing. These past and ongoing disturbances have resulted in the absence of native plant communities on the site, which is dominated by non-native annual grasses, fennel (*Foeniculum vulgare*), mustard (*Brassica* sp.), milk thistle (*Silybum marianum*), artichoke thistle (*Cynara cardunculus*), and yellow star thistle (*Centaurea solstitialis*). Several large eucalyptus trees are located near the quarry entrance.

Nesting Habitat

Most raptors, such as golden eagles and red-tailed hawks (*Buteo jamaicensis*) nest in trees. Others, such as northern harrier (*Circus cyaneus*), nest on the ground. The burrowing owl is associated with ground squirrel burrows. The active quarry portion of the Study Area does not provide suitable nesting habitat for raptors or loggerhead shrikes. Quarry operations generally would preclude these birds from attempting to nest in the quarry. The open grazed grassland southeast of the quarry does provide potential habitat for the harrier and burrowing owl. The eucalyptus trees associated with the quarry entrance may provide suitable conditions for tree-nesting species.

2169-G East Francisco Blvd., San Rafael, CA 94901 (415) 454-8868 tel (415) 454-0129 fax info@wra-ca.com www.wra-ca.com

Methods

During each survey, the Study Area was traversed on foot to observe breeding behavior of the target species, and conduct a protocol-level burrowing owl survey.

Nesting habitat suitability was assessed by noting where conditions were suitable for nesting raptors and shrikes. Focused surveys were then conducted for each nesting group: tree nest, shrub nest, cavity nest, and ground nest. Nest site associations for each species are provided in Table 1.

Table 1. Raptor and shrike nesting habitat associations. Species are those that are most likely to occur in the San Francisco Bay region in habitat similar to that found within and adjacent to the Study Area.

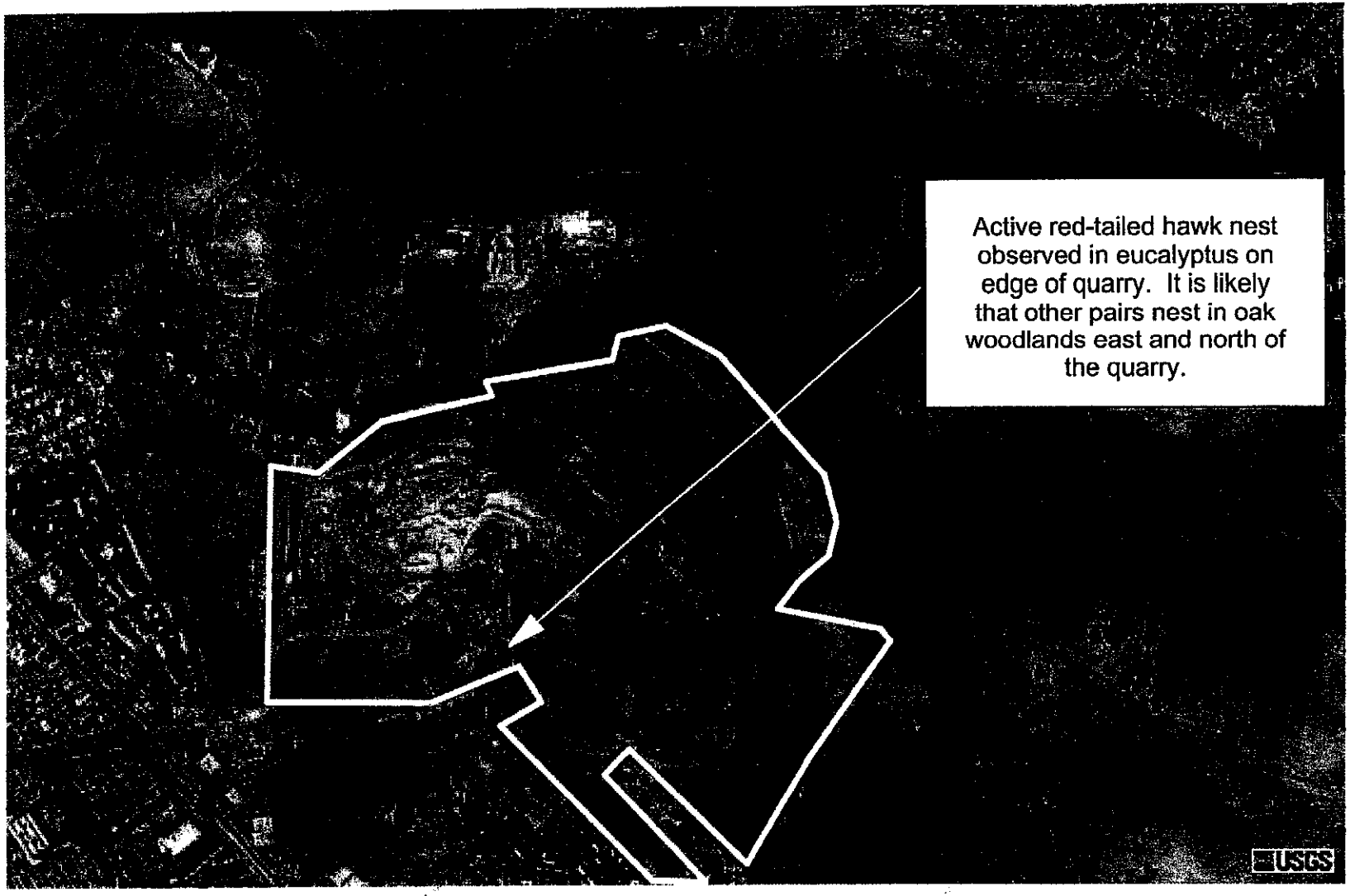
Tree-nesting Species	white-tailed kite Cooper's hawk red-shouldered hawk red-tailed hawk golden eagle great horned owl loggerhead shrike
Shrub-nesting Species	white-tailed kite loggerhead shrike
Ground-nesting Species	northern harrier burrowing owl short-eared owl
Cliff-nesting Species	golden eagle peregrine falcon prairie falcon great horned owl
Cavity-nesting Species	American kestrel common barn owl western screech owl

If a target species was observed, the biologist would note its behavior, and map its location and movements. Behavior can indicate if a nest is located in the Study Area. Although the California Department of Fish and Game has not developed survey guidelines for nesting raptors in urban habitats, the methodology used in these surveys has been shown to be effective in locating active raptor nests.

The burrowing owl survey protocol followed guidelines developed by the Burrowing Owl Consortium and adopted by the California Department of Fish and Game. The property was searched on foot to locate suitable burrows potentially used by owls. This is equivalent to a Phase I reconnaissance survey described in the accepted protocol, in which burrows are inspected to determine if any are actively used by owls. Burrows occupied by owls usually have feathers, pellets, prey remains, and whitewash close to the entrance. Owl foraging perches also show these characteristics.

Results

Nesting habitat was not present for those species that nest on cliffs or in cavities. Suitable ground-



Aerial photograph showing approximate boundary of Study Area. In Spring 2005, an active red-tailed hawk nest was observed in a eucalyptus tree located as shown.

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nesting habitat was limited to the grazed grasslands southeast of the quarry, while tree and shrub habitat was primarily located near the quarry entrance.

On April 13, 2005, an active red-tailed hawk nest was observed in a eucalyptus tree approximately 1700 feet northeast of the intersection of Mission Boulevard and the quarry access road and approximately 1000 feet east of the quarry office. The nesting pair are obviously acclimated to quarry operations.

No other nesting raptors were observed. No suitable burrow habitat was observed in the grassland area; therefore, burrowing owls are unlikely to be present in the Study Area.

Although suitable nesting habitat for the loggerhead shrike was present, no nests were observed.

Please call if you have any questions.

Sincerely,

Jeff Dreier
Associate Wildlife Ecologist

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May 23, 2005

Michael Willcoxon, Esq.
11555 Dublin Boulevard, Suite 201
Dublin, California 94568

RE: La Vista Quarry Golden Eagle Studies

Dear Mr. Willcoxon:

Between March 17 and May 3, 2005, WRA conducted four nesting raptor surveys at the La Vista Quarry site in Hayward. The first survey determined that suitable golden eagle nesting habitat (large isolated trees, cliffs) is not present. Nesting habitat located east of the Study Area in Garin Regional Park is not within line-of-sight of the quarry parcel. In accordance with Mitigation Measure 4.3-8 of the Mission-Garin Annexation Final EIR (City of Hayward 2003), WRA monitored the grazed grassland portion of the La Vista Quarry parcel to determine if it is an important foraging area for eagles nesting in the region. This letter provides findings regarding golden eagle use of the site as foraging habitat.

Study Area

The Study Area is located in central Alameda County. Garin Regional Park marks the east boundary of the property, residential areas and scattered undeveloped lots exist along the south and west boundaries, and open grazed grassland separates the site from the Garin-Vista site to the southeast. The approximately 213-acre site is characterized by a steep and irregular topography. The quarry has been in operation for decades, resulting in a continually shifting mosaic of bare ground, exposed rock, stormwater detention basins, and invasive plant species. Heavy equipment operates throughout much of the site on a regular basis. Current land use on the southern grassland section is grazing. These past and ongoing disturbances have resulted in the absence of native plant communities on the site, which is dominated by non-native annual grasses, fennel (*Foeniculum vulgare*), mustard (*Brassica* sp.), milk thistle (*Silybum marianum*), artichoke thistle (*Cynara cardunculus*), and yellow star thistle (*Centaurea solstitialis*). Several large eucalyptus trees are located near the quarry entrance.

Methods

During each survey the grazed grassland portion of the Study Area was traversed on foot to assess golden eagle prey abundance, and to observe eagle behavior. Eagles prey largely on hares, rabbits, and ground squirrels. They also will feed on feral cats, fawns, large birds, and carrion.

Results

Prey abundance appeared to be low during the assessment. Typical prey species were not observed in the grassland area. No golden eagles were observed.

The four surveys suggest that due to low abundance of prey, the quarry area is most likely not an important foraging area for the golden eagle. Please call if you have any questions.

Sincerely,

Jeff Dreier
Associate Wildlife Ecologist

Attachment P

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ENVIRONMENTAL CONSULTANTS

May 23, 2005

Michael Willcoxon, Esq.
11555 Dublin Boulevard, Suite 201
Dublin, California 94568

RE: La Vista Quarry Rare Plant Survey

Dear Mr. Willcoxon:

In April 2003, WRA conducted a rare plant survey that complies with Mitigation Measure 4.3-9 of the Mission-Garin Annexation Final EIR (City of Hayward 2003). The results of this rare plant survey indicate that habitat present on the La Vista Quarry parcel is unsuitable for special status plant species.

The attached report provides details regarding the methods and results of the survey. Please call if you have any questions.

Sincerely,

Tim DeGraff
Associate

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PLANNING DIVISION

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RARE PLANT SURVEY OF LA VISTA QUARRY

Hayward, Alameda County, California

Prepared for:

DeSilva Group
PO Box 2922
Dublin, CA 94568
Contact: Jay Egy
(925) 828-7999

Prepared by:

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September 2003

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1.0 INTRODUCTION

This report presents the results of a rare plant survey conducted on the La Vista Quarry site northeast of Mission Boulevard in Hayward, central Alameda County ("Study Area") (Figure 1). The approximately 98-acre site is bordered by Garin Regional Park to the east, undeveloped grassland to the west, south, and north, and residential development to the southwest. The majority of the Study Area is currently an active quarry, and quarry operations have also been conducted southeast of the Study Area.

1.1 Study Area Description

The Study Area is topographically diverse, ranging in elevation from approximately 100-800 feet (30-250 m). Active quarry operations on the majority of the Study Area have left the land heavily disturbed and nearly devoid of vegetation, and have altered the topography by creating steep terraces up the ridge. Several small buildings and man-made ponds associated with quarry operations are located within the Study Area.

There are several stands of eucalyptus trees (*Eucalyptus* sp.) in the western portion of the Study Area near the quarry buildings. Tree tobacco (*Nicotiana glauca*) is also scattered throughout the quarry portion of the Study Area, as well as other native and non-native trees and shrubs including Peruvian pepper tree (*Schinus molle*), toyon (*Heteromeles arbutifolia*), and coyote bush (*Baccharis pilularis*). Patches of highly-disturbed annual grassland and coyote bush scrub are located on the hillsides of the quarry. Non-native grass species in the grassland patches include wild oats (*Avena barbata*), ripgut brome (*Bromus diandrus*), and foxtail barley (*Hordeum murinum*). Native and non-native forb species in these areas include mustards (*Brassica* spp.), clovers (*Trifolium* spp.), geranium (*Geranium* spp.), filaree (*Erodium botrys*), and lupine (*Lupinus* spp.).

Near the top of the hill within the quarry the soil is rocky and disturbed, but scattered forbs still grow on top of the terraces. These species include mustards, geranium, and lupines, as well as flowers that may have been part of a seed mix, such as California bluebells (*Phacelia campanularia*), goldfields (*Lasthenia glabrata*), and tidy tips (*Layia* sp.).

Intact non-native annual grassland is located in the southwest corner of the Study Area as well as in the 'peninsula-like' southern lobe. This grassland is dominated by the non-native grasses, such as, wild oats, ripgut brome, and Harding grass (*Phalaris aquatica*), and other common ruderal species including wild radish (*Raphanus sativus)*, mustards, wild beet (*Beta vulgaris*), sour clover *(Melilotus indica)*, clovers, milk thistle (*Silybum marianum*), geranium, filaree, and fennel (*Foeniculum vulgare*).

On the margins of the man-made ponds there are a few wetland plant species including cattail (*Typha* sp.) and rabbit-foot grass (*Polypogon monspeliensis*).

The Soil Survey of Alameda Area, California (USDA 1966) indicates that detailed soil mapping has not been completed on the majority of the Study Area. Part of the eastern portion of the Study Area has been mapped and contains one mapping unit: AmE2–Altamont clay, moderately deep, 30 to 45 percent slopes, eroded.

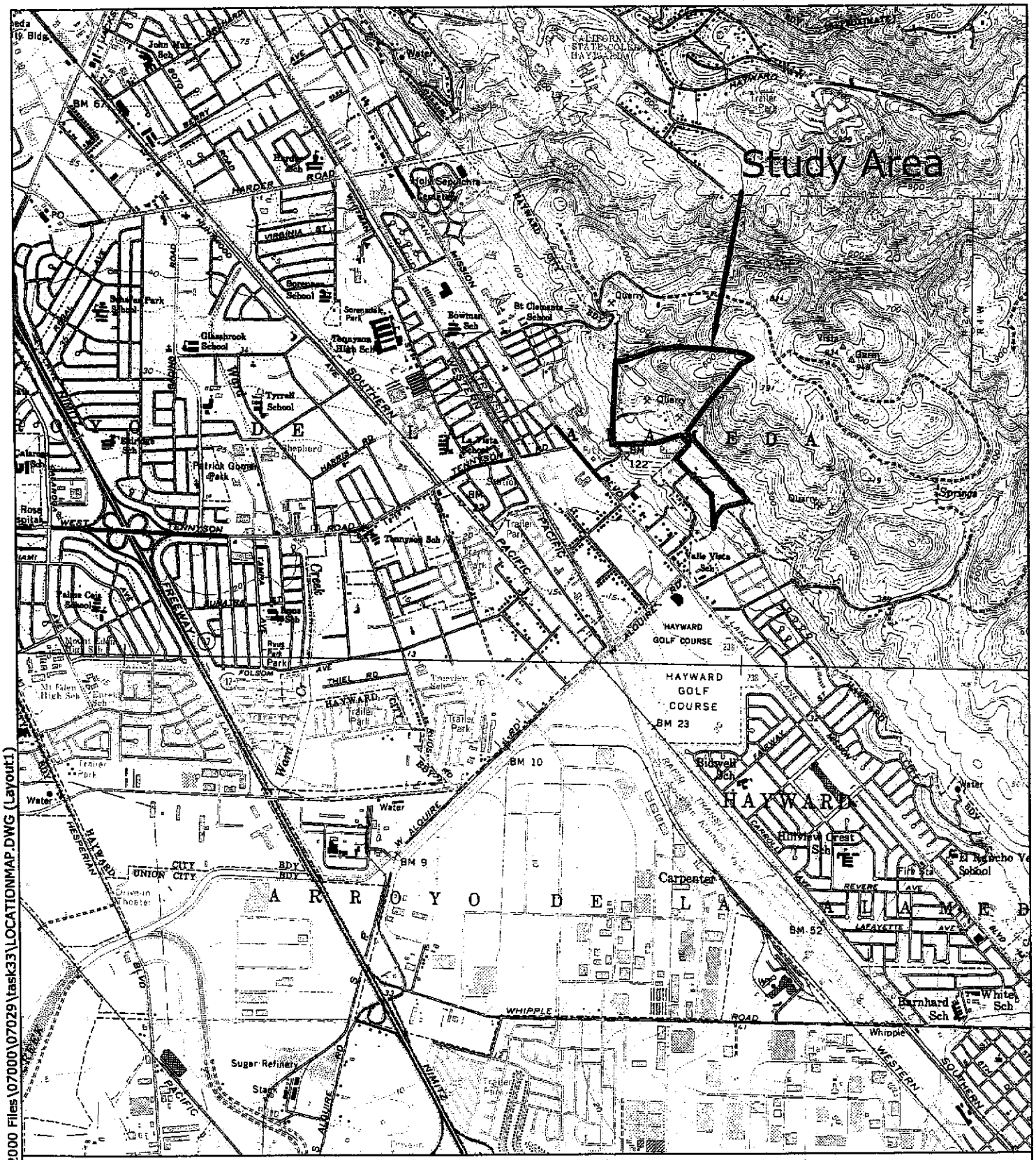

Figure 1

Location Map of Study Area

Source: USGS DRG Hayward and Newark
Drawn By: G.w.O.

Wetlands Research Associates, Inc.

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2.0 METHODS

2.1 Background Data

A background information search was conducted to identify potential rare plant species that may occur in the Study Area vicinity (Appendix A). Sources for this search included an April 2003 search of the California Department of Fish and Game's Natural Diversity Data Base (CNDDB) records and the electronic version of the California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California for the Hayward, Newark, Dublin, and Niles USGS quadrangles. Rare plants are defined here to include: (1) all plants that are federal-or state-listed as rare, threatened or endangered, (2) all federal and state candidates for listing, (3) all plants included in Lists 1 through 4 of the CNPS Inventory (CNPS 2001), and (4) plants that qualify under the definition of "rare" in the California Environmental Quality Act, section 15380.

2.2 Field Survey

The field survey was conducted on April 3, 2003 by botanists who have experience with the rare plant species that could occur in the area. The survey followed the protocol for plant surveys described by Nelson (1987). All plants were identified, using The Jepson Manual (Hickman 1993), to the taxonomic level necessary to determine whether or not they were rare.

3.0 RESULTS

3.1 Background Data

The background data search resulted in 15 special status plants recorded for the vicinity of the Study Area within the approximate elevation ranges and habitat types found in the Study Area. Appendix A lists these species along with their federal, state, and CNPS status, blooming period, and habitat description.

3.2 Field Survey

Forty-six plant species were identified on the Study Area (Appendix B). No plants observed were special status plant species. Most of the Study Area is heavily disturbed from current and past quarry operations, and vegetation in these areas is sparse and primarily consists of introduced species. In those areas with intact grassland vegetation, ruderal non-native forbs and annual grasses are the dominant species.

Nine of the fifteen special status plants on the list in Appendix A had blooming periods coinciding with the field survey, so it was determined that these species are not present in the Study Area. Five of the remaining six species on the list of special status plants recorded for the vicinity of the Study Area are unlikely to occur in the Study Area due to lack of appropriate habitat and/or soil type.

4.0 CONCLUSIONS

No special status plant species were found in the Study Area during the April 3, 2003 plant survey. Based on the results of the field visit, and disturbed nature of the site, no special status plant species are expected to occur on the site. As a result, no further plant surveys are recommended.

5.0 REFERENCES

California Department of Fish and Game. 2003. Natural Diversity Data Base records of rare and endangered plant species for the Hayward, Newark, Dublin, and Niles USGS quadrangles.

California Native Plant Society. 2003. Electronic Inventory of Rare and Endangered Vascular Plants of California. California Native Plant Society, Sacramento, California.

California Native Plant Society. 2001. Inventory of Rare and Endangered Vascular Plants of California. Special Publication Number 1, Sixth Edition. California Native Plant Society, Sacramento, California.

Hickman, J.C. (ed.) 1993. The Jepson manual: higher plants of California. University of California Press.

Nelson, James R. 1987. Rare Plant Surveys: Techniques for Impact Assessment. From Proceedings of a California Conference on the Conservation and Management of Rare and Endangered Plants, Sacramento, California, November 1986. California Native Plant Society Publication.

U.S. Department of Agriculture, Soil Conservation Service. 1966. Soil Survey of Alameda Area, California. 95 pp. plus Appendices.

APPENDICES

Appendix A. Special status plant species of central Alameda County that may occur, or are known to occur in habitats similar to those found in the Study Area. List compiled from an April 2003 search of the California Department of Fish and Game (CDFG) Natural Diversity Data Base and the California Native Plant Society (CNPS) Electronic Inventory for the Hayward, Newark, Dublin, and Niles USGS quadrangles.

SPECIES	STATUS *	HABITAT	POTENTIAL FOR OCCURRENCE
Astragalus tener var *tener* alkali milk-vetch	1B	Usually associated with alkali playa, grassland (adobe clay), and vernal pools/alkaline. 1-60 m. Blooms March-June.	**Not present.** Appropriate habitat not present in Study Area. Species not observed during April survey.
Balsamorhiza macrolepis var *macrolepis* big-scale balsamroot	1B	Chaparral, cismontane woodland, and valley and foothill grassland, sometimes on serpentine soils. 90-1,400 m. Blooms March-June.	**Not present.** Grassland is present in Study Area, but serpentine soil is not. Species not observed during April survey.
Campanula exigua chaparral harebell	1B	Chaparral. Rocky, usually serpentine, soil. 275-1250 m. Blooms May-June.	**Not present.** Study Area is below typical elevation for this species and lacks appropriate habitat. Species not observed during April survey
Centromadia parryi ssp *congdonii* Congdon's tarplant	1B, FSC	Occurs in valley and foothill grassland, often in alkaline soils. 1-230 m. Blooms June-November.	**Low.** Grassland is present in Study Area, but alkaline soil is not.
Dirca occidentalis western leatherwood	1B	Broadleafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, riparian forest, riparian woodland. Mesic sites. 50-395 m. Blooms January-April.	**Not present.** Study Area lacks appropriate habitat. Species not observed during April survey.
Fritillaria liliacea fragrant fritillary	1B, FSC	Cismontane woodland, coastal scrub, valley and foothill grassland, often on serpentine soils. 3-410 m. Blooms February-April.	**Not present.** Grassland is present in Study Area, but serpentine soil is not. Species not observed during April survey.
Helianthella castanea Diablo helianthella	1B, FSC	Usually found in chaparral/oak woodland transition in rocky azonal soils; often in partial shade, also valley and foothill grassland, riparian woodland. 60-1,300 m. Blooms April-June.	**Not present.** Limited suitable habitat occurs in Study Area. Species not observed during April survey.
Holocarpha macradenia Santa Cruz tarplant	FT, SE, 1B	Coastal prairie, coastal scrub, valley and foothill grassland, often clay/sandy, 10-220 m. Blooms June-October.	**Low.** Limited suitable habitat may occur in Study Area, but species has been extirpated from the San Francisco Bay Area.

SPECIES	STATUS *	HABITAT	POTENTIAL FOR OCCURRENCE
Lasthenia conjugens Contra Costa goldfields	FE, 1B	Cismontane woodland, playas (alkaline), valley and foothill grassland, vernal pools. Mesic sites. 0-470 m. Blooms March-June.	**Not present.** Appropriate habitat not present in Study Area. Species not observed during April survey.
Lathyrus jepsonii var. *jepsonii* Delta tule pea	1B	Freshwater and brackish marshes and swamps. 0-4 m. Blooms May-September.	**Not present.** Study Area is above typical elevation for this species. Appropriate habitat not present in Study Area. Species not observed during April survey
Monardella antonina ssp. *antonina* San Antonio Hills monardella	List 3	Chaparral, cismontane woodland. 500-1000 m. Blooms June-August.	**Not present.** Study Area is below typical elevation for this species. Appropriate habitat not present in Study Area. Species not observed during April survey
Monardella villosa ssp. *globosa* robust monardella	1B	Chaparral (openings), cismontane woodlands, coastal scrub. 185-600 m. Blooms June-July.	**Low.** Appropriate habitat not present in Study Area.
Plagiobothrys chorisianus var. *chorisianus* Choris's popcorn-flower	1B	Chaparral, coastal prairie, coastal scrub. Mesic. 15-100 m. Blooms March-June.	**Not present.** Appropriate habitat not present in Study Area. Species not observed during April survey.
Plagiobothrys glaber hairless popcorn-flower	1A	Associated with meadows and coastal marshes, and wet alkaline soils in valleys. 15-180 m. Blooms March-May.	**Not present.** Soils and general habitat conditions are not typical of this species. Species not observed during April survey.
Strephanthus albidus ssp. *peramoenus* most beautiful jewel-flower	1B	Chaparral, cismontane woodland, valley and foothill grassland. Serpentine soils. 110-1000 m. Blooms April-June.	**Not present.** Appropriate soil type not present in Study Area. Species not observed during April survey.

* Status Codes:

FE	Federal Endangered
FT	Federal Threatened
FSC	USFWS Species of Concern
SE	State Endangered
ST	State Threatened
1A	CNPS list of plants presumed extinct in California
1B	CNPS list of plants rare, threatened, or endangered in California and elsewhere
List 3	CNPS list of plants about which more information is needed

Appendix B. Plant species observed within the La Vista Quarry Study Area April 2003

Scientific Name	Common Name
Amsinckia menziesii var. intermedia	fiddleneck
Anagallis arvensis	scarlet pimpernel
Avena barbata	wild oats
Baccharis pilularis	coyote brush
Bellardia trixago	bellardia
Beta vulgaris	beet
Brassica nigra	black mustard
Bromus diandrus	ripgut brome
Bromus hordeaceus	soft chess
Carduus pycnocephalus	Italian thistle
Cortaderia sp.	pampas grass
Cynara cardunculus	cardoon
Erodium botrys	filaree
Eschscholzia californica	California poppy
Eucalyptus sp.	eucalyptus
Foeniculum vulgare	fennel
Geranium spp.	geranium
Gnaphalium luteo-album	everlasting
Heteromeles arbutifolia	toyon
Hordeum murinum	foxtail barley
Hordeum vulgare	barley
Hypochaeris radicata	rough catsear
Juncus effusis	rush
Layia sp.	tidy tips
Lasthenia glabrata	yellow-ray goldfields
Linum grandiflorum	scarlet flax
Lolium multiflorum	Italian ryegrass
Lotus sp.	lotus
Lupinus spp.	lupine
Malva nicaeensis.	bull mallow
Medicago polymorpha	bur clover
Melilotus indica	sour clover
Nicotiana glauca	tree tobacco
Phacelia campanularia	California bluebell
Phalaris aquatica	Harding grass
Picris echioides	bristly ox-tongue
Plantago lanceolata	English plantain
Polypogon monspeliensis	rabbit-foot grass
Raphanus sativus	wild radish
Schinus molle	Peruvian pepper-tree

Scientific Name	Common Name
Silybum marianum	milk thistle
Trifolium incarnatum	crimson clover
Trifolium sp.	clover
Typha sp.	cattail
Vicia villosa	winter vetch
Vicia sp.	vetch

Attachment Q

wra
ENVIRONMENTAL CONSULTANTS

May 23, 2005

Michael Willcoxon, Esq.
11555 Dublin Boulevard, Suite 201
Dublin, California 94568

RE: La Vista Quarry Wetland Delineation

Dear Mr. Willcoxon:

In March 2005, WRA conducted a delineation of potential jurisdictional wetlands in accordance with Mitigation Measure 4.3-1 of the Mission-Garin Annexation Final EIR (City of Hayward 2003). The results of this study indicate that no potential jurisdictional wetlands or waters were observed in the Study Area. The quarry contains two managed ponds and one incidental depression which are exempt from Corps of Engineers jurisdiction. No areas meeting Corps wetland parameters were observed.

The attached report provides details regarding the methods and results of the delineation. Please call if you have any questions.

Sincerely,

Crystal Acker
Associate

2169-G East Francisco Blvd., San Rafael, CA 94901 (415) 454-8868 tel (415) 454-0129 fax info@wra-ca.com www.wra-ca.com

Delineation of Potential Jurisdictional Wetlands under Section 404 of the Clean Water Act

LA VISTA QUARRY STUDY AREA
HAYWARD, ALAMEDA COUNTY
CALIFORNIA

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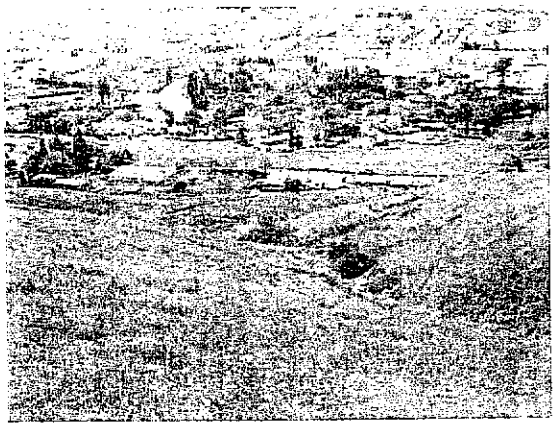
Date:
May 23, 2005



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1.0 INTRODUCTION

1.1 Study Background

The 170-acre La Vista Quarry Study Area is in Hayward, Alameda County, California ("Study Area") (Figure 1). It is located southwest of Garin Regional Park, and is surrounded by residential and commercial development to the south and west, and grazed grassland to the north and east. The Study Area contains the active La Vista Quarry and undeveloped land which is currently used for cattle and horse grazing.

In March 2005, WRA conducted a routine wetland delineation to describe the location and extent of waters, including wetlands, which may be considered jurisdictional by the U.S. Army Corps of Engineers ("Corps") under Section 404 of the Clean Water Act. This report presents the results of this delineation.

1.2 Regulatory Background

Section 404 of the Clean Water Act

Section 404 of the Clean Water Act gives the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (Corps) regulatory and permitting authority regarding discharge of dredged or fill material into "navigable waters of the United States". Section 502(7) of the Clean Water Act defines navigable waters as "waters of the United States, including territorial seas." Section 328 of Chapter 33 in the Code of Federal Regulations defines the term "waters of the United States" as it applies to the jurisdictional limits of the authority of the Corps under the Clean Water Act. A summary of this definition of "waters of the U.S." in 33 CFG 328.3 includes (1) waters used for commerce and subject to tides; (2) interstate waters and wetlands; (3) "other waters" such as intrastate lakes, rivers, streams, and wetlands; (4) impoundments of waters; (5) tributaries of waters; (6) territorial seas; and (7) wetlands adjacent to waters. Therefore, for purposes of the determining Corps jurisdiction under the Clean Water Act, "navigable waters" as defined in the Clean Water Act are the same as "waters of the U.S." defined in the Code of Federal Regulations above.

The limits of Corps jurisdiction under Section 404 as given in 33 CFR Section 328.4 are as follows: (a) Territorial seas: three nautical miles in a seaward direction from the baseline; (b) Tidal waters of the U.S.: high tide line or to the limit of adjacent non-tidal waters; (c) Non-tidal waters of the U.S.: ordinary high water mark or to the limit of adjacent wetlands; (d) Wetlands: to the limit of the wetland.

2.0 METHODS

Prior to conducting field surveys, available reference materials were reviewed, including Soil Surveys of the Alameda Area (USDA, Soil Conservation Service(SCS) 1966) and Alameda County, Western Part (USDA, SCS 1981), the Hayward USGS 7.5' quadrangle, and available aerial photographs of the site. A focused evaluation of indicators of wetlands and waters was performed in the Study Area on March 24, 2005. The methods used in this study to delineate jurisdictional wetlands and waters are based

on the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Corps Manual; Environmental Laboratory 1987). The routine method for wetland delineation described in the Corps Manual was used to identify areas potentially subject to Corps Section 404 jurisdiction within the Study Area. A general description of the Study Area, including plant communities present, topography, and land use was also generated during the delineation visits. The methods for evaluating the presence of wetlands and other waters of the United States employed during the site visit are described in detail below.

2.1 Potential Section 404 Wetlands

Section 328.3 of the Federal Code of Regulations defines wetlands as:

> "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."
>
> (EPA, 40 CFR 230.3 and CE, 33 CFR 328.3)

The delineation studiy determined the presence or absence of wetland indicators used by the U.S. Army Corps of Engineers in making a jurisdictional determination. The three criteria used to delineate wetlands are the presence of: (1) hydrophytic vegetation, (2) wetland hydrology, and (3) hydric soils. According to the Corps Manual:

> "....[E]vidence of a minimum of one positive wetland indicator from each parameter (hydrology, soil, and vegetation) must be found in order to make a positive wetland delineation."

Data on vegetation, hydrology, and soils collected at sample points during the delineation site visit were reported on standard Corps data forms. Once an area was determined to be a potential jurisdictional wetland, its boundaries were delineated using advanced GPS equipment and mapped on a topographic basemap/aerial photograph. The areas of potential jurisdictional wetlands were measured digitally using ArcGIS and AutoCAD software. Indicators described in the Corps Manual that were used to make wetland determinations at each sample point in the Study Area are summarized below.

Vegetation

Dominant plant species identified in the Study Area were assigned a wetland indicator status according to the U.S. Fish and Wildlife Service List of Plant Species that Occur in Wetlands (Reed 1988). This wetland plant classification system is based on the expected frequency of occurrence in wetlands as follows:

OBL	Obligate, always found in wetlands	> 99%
FACW	Facultative wetland, usually found in wetlands	67-99%
FAC	Facultative, equal occurrence in wetland or non-wetlands	34-66%
FACU	Facultative upland, usually found in non-wetlands	1-33%
UPL / NL	Upland / Not Listed, not found in wetlands	<1%

Plants with OBL, FACW, and FAC indicator status are classified as hydrophytic vegetation in the Corps Manual methodology. When greater than 50 percent of the dominant plant species have an indicator status of OBL, FACW, and/or FAC, the hydrophytic vegetation criterion is met. Dominant herbaceous plant species are those having greater than 20 percent relative areal cover.

Hydrology

The Corps jurisdictional wetland hydrology criterion is satisfied if an area is inundated or saturated for a period sufficient to create anoxic soil conditions during the growing season (minimum of 18 consecutive days in the San Francisco Bay Area). Evidence of wetland hydrology can include direct evidence (primary indicators), such as visible inundation or saturation, drift lines, and surface sediment deposits (including algal mats), or indirect indicators (secondary indicators), such as oxidized root channels and the FAC-neutral test. If indirect or secondary indicators are used, at least two secondary indicators must be present to conclude that an area has wetland hydrology. Primary and secondary hydrology indicators were used to determine if areas surrounding each sample point in the Study Area satisfied the Corps hydrology criterion. Depressions and topographic low areas were examined for these hydrological indicators.

Soils

The Natural Resource Conservation Service defines a hydric soil as:

> *"A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part."*
>
> (Federal Register July 13, 1994, US Department of Agriculture, Natural Resource Conservation Service.)

Soils formed over long periods of time under wetland (anaerobic) conditions sometimes possess characteristics that indicate they meet the definition of hydric soils. Hydric soils generally have a characteristic low chroma matrix color, designated 0, 1, or 2, used to identify them as hydric. Chroma designations are determined by comparing a soil sample with a standard Munsell soil color chart (GretagMacbeth 2000). Soils with a chroma of 0 or 1 are considered hydric; soils with a chroma of 2 must also have mottles to be considered hydric. Soil profiles at each sample point in the Study Area were described to include horizon depths, color, redoximorphic features, and texture to determine if the soils satisfy the Corps criteria for hydric soils. The NRCS manual Field Indicators of Hydric Soils in the United States (USDA, NRCS, 2002) was also used as a guide for determining hydric soils in the Study Area.

2.2 Potential Section 404 Non-Tidal Waters/ Other Waters of the U.S.

Areas that are inundated for sufficient duration and depth to exclude growth of hydrophytic vegetation, such as lakes and ponds, or that convey water, such as streams, are also subject to Section 404

jurisdiction. In the San Francisco Bay Region, these "waters" can include intermittent and ephemeral streams, as well as lakes, rivers, and tidal waters. Areas delineated as non-tidal waters are characterized by an ordinary high water (OHW) mark, defined as:

> *...that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impresses on the bank, shelving, changes in the characteristics of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.*
>
> Federal Register Vol. 51, No. 219,
> Part 328.3 (d). November 13, 1986

Non tidal waters are identified in the field by the presence of a defined river or stream bed, a bank, and evidence of the flow of water, or by the absence of emergent vegetation in ponds or lakes. Corps jurisdiction of waters in non-tidal areas extends to the ordinary high water (OHW) mark described above. Non tidal waters that were found within the Study Area were mapped using a sub-meter accuracy GPS system and are described in the Results section of this report.

2.3 Areas Exempt from Section 404 Jurisdiction

Some areas that meet the technical criteria for wetlands or waters may not be jurisdictional under the Clean Water Act. Included in this category are some man-induced wetlands, which are areas that have developed at least some characteristics of naturally occurring wetlands due to either intentional or incidental human activities. Examples of man-induced wetlands include, but are not limited to, irrigated wetlands, impoundments, or drainage ditches excavated in uplands, wetlands resulting from filling of formerly deep water habitats, dredged material disposal areas, and wetlands resulting from stream channel realignment.

Also included in this category are artificial lakes and ponds created by excavating and/or diking dry land to collect or retain water, and which are used exclusively for such purposes as stock watering, settling basins, or rice growing. Water-filled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel are generally not considered to be jurisdictional, unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of a water of the United States.

In addition, some isolated wetlands and waters may also be considered outside of Corps jurisdiction as a result of the Supreme Court's decision in Solid Waste Agency of Northern Cook County (SWANCC) v. United States Army Corps of Engineers (531 U.S. 159 (2001)). Isolated wetlands and waters are those areas that do not have a surface or groundwater connection to and are not adjacent to a navigable "Waters of the U.S.", and do not otherwise exhibit an interstate commerce connection.

Areas suspected of being exempt were identified on the site (see Section 4.0 Results).

3.0 STUDY AREA DESCRIPTION

The Study Area contains the approximately 139-acre La Vista Quarry and about 31 acres of undeveloped land. The quarry has been significantly altered from its native state and is composed of steep cut-slopes, man-made terraces, detention basins, and roads. This area is still being actively used as a quarry. The undeveloped portion is characterized by steep slopes to the north and more gently sloping to relatively flat topography to the south surrounding existing residences. Site elevation ranges from about 140 to 765 feet NGVD. Several ephemeral drainage swales occur on the site. Two of these are small features located in the lower southeast portion of the site; a larger one occurs along the southeastern boundary of the active quarry. None of these features exhibits a defined bed and bank or ordinary high water mark. An emergent wetland created by a semi-perennial seep source and an intermittent creek occur off-site, near the southeastern boundary.

The Study Area is bounded by undeveloped grazed grassland and Garin Regional Park to the north and east, and residential and commercial development to the south and west. The Study Area is located in the southeastern corner of the Hayward U.S. Geological Service (USGS) 7.5 minute quadrangle.

Vegetation

The quarry portion of the site is primarily unvegetated. The dominant plant community in the undeveloped portion of the site is annual grassland composed of non-native annual grasses and forbs. Dominant plants varied from place to place along with site topography. Dominant plants observed include foxtail barley (*Hordeum murinum*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), Italian ryegrass (*Lolium multiflorum*), slender wild oats (*Avena barbata*), wild radish (*Raphanus sativus*), fennel (*Foeniculum vulgare*), cut-leaf geranium (*Geranium dissectum*), black mustard (*Brassica nigra*), and purple vetch (*Vicia benghalensis*).

A drainage swale occurs along the southeast boundary of the quarry. Most of this swale is vegetated by the same species as the surrounding hillsides. However, a few individual shrubs and a thicket of shrubs/trees occurs near the bottom of the swale, containing coyote brush (*Baccharis pilularis*), Himalayan blackberry (*Rubus discolor*), California Bay (*Umbellularia californica*), edible fig (*Ficus carica*), and red willow (*Salix laevigata*). One willow was observed to be leafing out; four or five additional willows appeared to be dead. This may have occurred in the recent past due to a decrease in hydrology; drainage from the top of the swale was observed to have been redirected away from the swale into the quarry drainage system.

A complete list of plant species observed within the Study Area is provided in Appendix C.

Hydrology

The principal hydrological sources for the Study Area are direct precipitation and run-off from adjacent hills north and east of the Study Area. Two seeps expose groundwater near the southeastern border of the Study Area and may contribute some water to the site. (The off-site intermittent stream drains away from the Study Area). None of the ephemeral drainages have a defined bed and bank, and likely

do not convey a significant amount of water. Water in three quarry ponds is collected from overland surface flow and precipitation; the ponds are typically not filled from municipal sources (unless required during a very dry year).

Soils

The Study Area is split between two Soil Surveys, which describe the soil types slightly differently. The Soil Surveys of the Alameda Area, (USDA 1966) and Alameda County, Western Part (USDA 1981) indicate that the Study Area has five native soil types:

AmE2 (102)- Altamont clay, moderately deep, 30 to 45 percent slopes, eroded
AaD (101)- Altamont clay, 15 to 30 percent slopes
CdB (108)- Clear Lake clay, drained, 3 to 7 percent slopes (108 described as 2 to 9% slopes)
DbE2- Diablo clay, 30 to 45 percent slopes, eroded
140- Rincon clay loam, 0 to 2 percent slopes

These soil types are described in detail below and are shown in Figure 2.

Altamont clay soils found on the Study Area occur on smooth, well rounded hills which are either moderately (AaD/101) or steeply sloped (AmE2/102). The majority of the La Vista Quarry property is underlain by these soils. The top 28 inches of a typical soil profile is a dark-brown clay, with strong to moderate prismatic structure, that is very hard when dry, very firm when moist, and very sticky and plastic when wet. The AaD soil is deep, while the AmE2 soil is underlain by bedrock that restricts root penetration at 18 to 36 inches. The soil is well drained and slowly permeable. Runoff is medium to rapid. Altamont clay soils found on the Study Area are not listed as hydric soils by the USDA-NRCS. However, both soils can contain Clear Lake clay and/or Pescadero clay inclusions which may be hydric when found on basin rims.

Clear Lake clay is found on gentle to moderate slopes of basins. Within the Study Area, it is present in a small area along the southern border of the site. The top 36 inches of a typical profile is a dark-gray clay with strong prismatic structure, that is very hard when dry, very firm when moist, and very sticky and plastic when wet. In some areas, the soil is calcareous throughout. The soil is very deep, moderately well-drained, and slowly permeable. This Clear Lake clay soil may be hydric when found on basin floors.

The Diablo clay soil found on the Study Area occurs on steeper slopes of smooth, well-rounded hills. The surface may be broken in a few places near drainageways or seeps. Within the Study Area, it is found in a small area on the southeastern border of the site. The top 15 inches of a typical soil profile is a dark-gray clay with strong prismatic structure that is very hard when dry, very firm when moist, and very sticky and plastic when wet. The subsoil to 32 inches is a mottled gray and olive-gray silty clay to 32 inches. The soil is deep, well drained, and slowly permeable. This Diablo clay soil is not listed as a hydric soil by the USDA-NRCS. However, this soil can contain Clear Lake clay and/or Pescadero clay inclusions which may be hydric when found on basin rims.

The Rincon clay loam soil found on the Study Area occurs on low terraces. Within the Study Area, this soil is found only in the extreme southern tip of the site. The top 16 inches of a typical soil profile is a grayish brown clay loam; the subsoil to 52 inches is a dark grayish brown heavy clay loam in the upper part and a brown clay in the lower part. The soil is very deep, well drained, and slowly permeable. This Rincon clay loam is not listed as a hydric soil by the USDA-NRCS. However, this soil can contain Clear Lake clay inclusions which may be hydric when found on fluvial terraces.

The majority of the site is occupied by the active quarry where the soils have been significantly disturbed. The soils in the Study Area that are undisturbed appear to match the mapped native soil types.

4.0 RESULTS

Vegetation, soils and hydrology data collected during the delineation site visit are reported on standard Corps data forms in Appendix A. Potential jurisdictional areas are described in the following sections and shown on the enclosed map in Appendix B. A list of plant species observed during the site visit is included as Appendix C. Representative site photographs are included in Appendix D.

4.1 Potential Section 404 Wetlands

No potential wetland areas occur within the Study Area. The majority of the site is occupied by the active quarry or is composed of hilly uplands which may convey water, but would not capture it to create wetland conditions. The shrub thicket observed in the drainage swale by the quarry was dominated by wetland classified shrubs (willows and Himalayan blackberry), but lacked indicators of hydrology and hydric soils. Vegetation in the other two swales was not hydrophytic and was not noticeably different from the surrounding hillsides. These swales also lacked indicators of hydrology and hydric soils.

4.2 Potential Section 404 Non-Tidal Waters/ Other Waters of the U.S.

Three drainage features were observed along the southeastern portion of the Study Area. These drainage swales did not exhibit an ordinary high water mark or a defined bed and bank, and therefore, was determined to be non-jurisdictional.

4.3 Areas Exempt from Section 404 Jurisdiction

Three ponds were delineated in the quarry. Two of these are actively managed as settling/detention basins to collect and provide water for quarry operations. A series of constructed swales and pipes was observed directing flow down the quarry slopes into these ponds. A third, smaller pond was observed that was apparently created incidentally during excavation of materials. This feature appeared to hold water only on a short-term basis. At the time of the site visit, all ponds were filled to maximum capacity, totaling 1.49 acres.

The preamble to 33 CFR Part 328 in the November 13, 1986 Federal Register (51 FR 41217, Section328.3) states: "For clarification, it should be noted that we generally do not consider the following waters to be 'Waters of the United States': ... (c) Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing, ... (e) Water-filled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States."

The smaller pond was excavated in dry land in order to extract minerals; small water-filled depressions such as this one are periodically created and re-filled during regular quarry operations. The two managed quarry ponds are man-made features created in uplands to function as settling basins and to provide water for regular quarry operations. These features have not been abandoned and continue to be actively used and maintained as part of ongoing quarry operations. Therefore, these areas are not subject to Corps jurisdiction. These features would also likely be exempt from Corps jurisdiction as isolated waters under SWANCC.

5.0 POTENTIAL CORPS OF ENGINEERS JURISDICTION

No potential jurisdictional wetlands or waters were observed in the Study Area. The quarry contains two managed ponds and one incidental depression which are exempt from Corps jurisdiction. Three drainage swales observed in the southeastern portion of the site lacked an OHW mark and a defined bed and bank. No areas meeting corps wetland parameters were observed. The majority of the site is within the active quarry; the remaining undeveloped portion is hilly and vegetated by non-native upland plants.

The conclusion of this delineation is based on conditions observed at the time of the field survey (March 24, 2005).

6.0 REFERENCES

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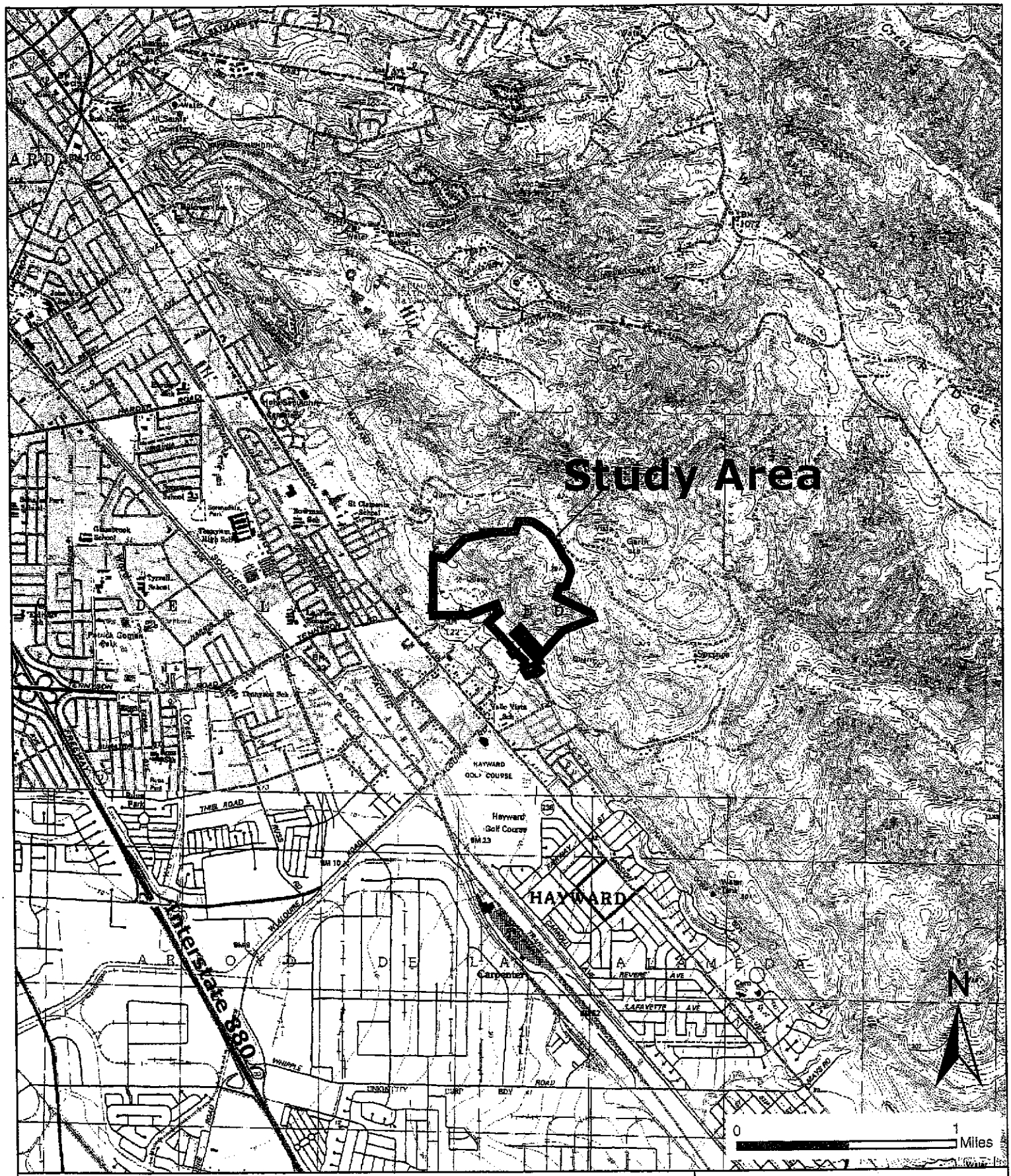

Figure 1. Location Map

La Vista Quarry Study Area
Hayward, Alameda County, California

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Date: May 2005
Basemap: USGS ORG Mosaic sw_0301.sid
Map By: GwO
Filepath: I:\Acad2000 files\07000\07029\gis\Task 33\ArcMap\Figure 1.mxd

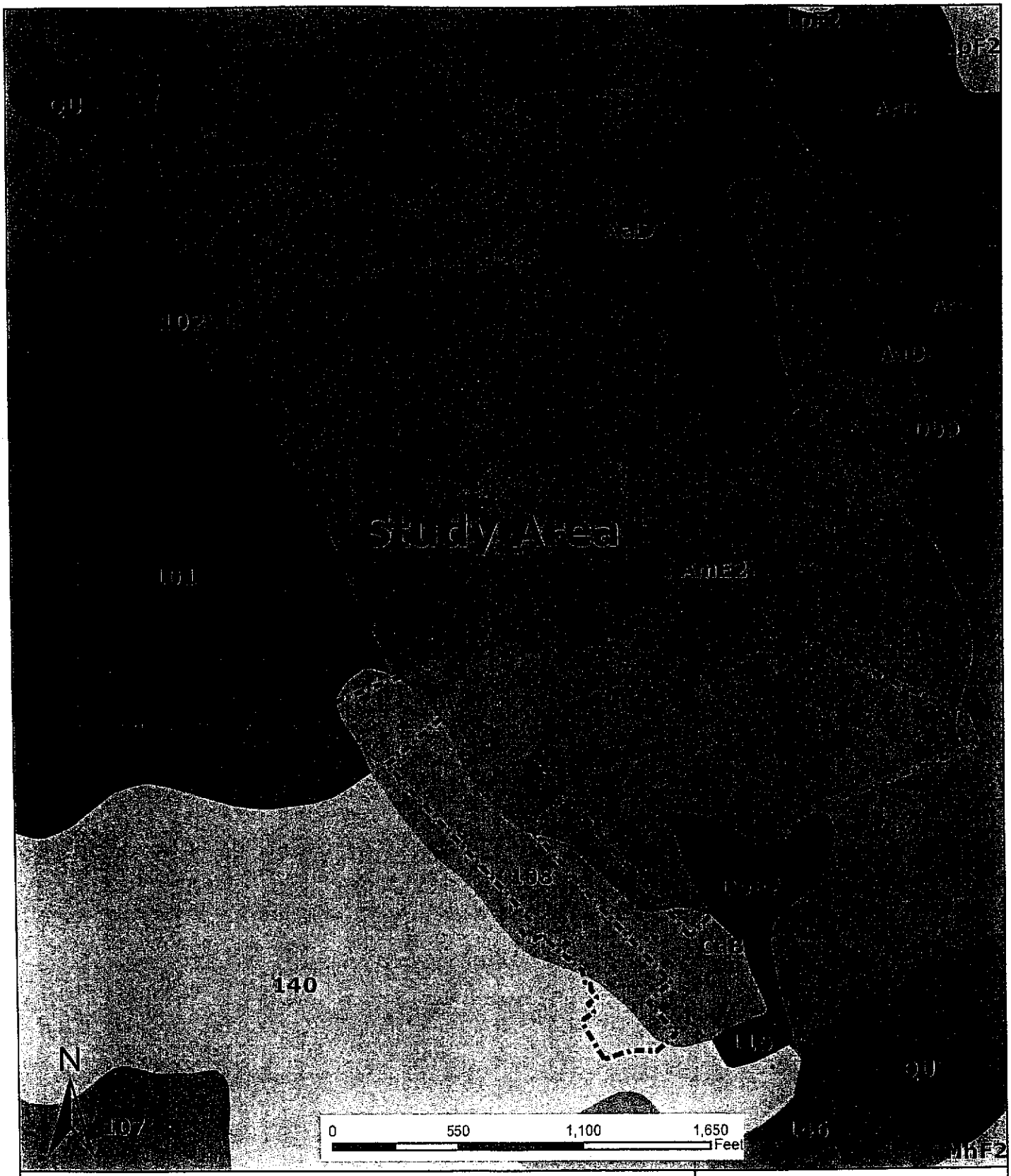


Figure 2. Soil Map

La Vista Quarry Study Area
Hayward, Alameda County, California

wra
ENVIRONMENTAL CONSULTANTS

Date: April 2005
Basemap: SSURGO Digital Soil Surveys - Alameda Area, Alameda County West
Map By: Chris Zumwalt
Filepath: I:\Acad2000 files\07000\07029\gis\Task 33\ArcMap\Figure 2.mxd

APPENDICES

Appendix A
Corps Delineation Data Forms

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: La Vista Quarry	Date: 3/24/2005
Applicant/Owner: The DeSilva Group	County: Alameda
Investigator: WRA, Inc., Crystal M. Acker	State: California
Do Normal Circumstances exist on the site? ☒ Yes ☐ No	Community ID: non-native grassland
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No	Transect ID:
Is the area a potential Problem Area? (if needed explain on reverse.) ☐ Yes ☒ No	Plot ID: 1u

VEGETATION

Dominant Plant Species	Stratum	Indicator	Sub-dominant Plant Species	Stratum	Indicator
1. Hordeum murinum	H		1. Vicia benghalensis	H	
2. Raphanus sativus	H		2. Foeniculum vulgare	H	FACU
3. Silybum marianum	H		3. Geranium dissectum	H	
4.			4.		
5.			5.		
6.			6.		
7.			7.		
8.			8.		

Percent of Dominant Species that are OBL, FACW and/or FAC: (excluding FAC-) 0%

Remarks : Non-native grassland on hillside. Vegetation does not meet hydrophytic vegetation criteria.

HYDROLOGY

Recorded Data
- ☐ Stream, Lake or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

No Recorded Data Available

Field Observations :

Depth of Surface Water : none (in.)

Depth to Free Water in Pit : none (in.)

Depth To Saturated Soil : none (in.)

Wetland Hydrology Indicators :

Primary Indicators :
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage patterns In Wetlands

Secondary Indicators (2 or more required) :
- ☐ Oxidized Root Channels In Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral test
- ☐ Other (Explain In Remarks)

Hydrology Remarks : Soil was moist due to recent rains, but not saturated. No hydrology indicators observed.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	La Vista Quarry	Date :	3/24/2005
Applicant/Owner:	The DeSilva Group	County :	Alameda
Investigator:	WRA, Inc., Crystal M. Acker	State :	California

Do Normal Circumstances exist on the site?	☒ Yes ☐ No	Community ID:	shrub thicket
Is the site significantly disturbed (Atypical Situation)?	☐ Yes ☒ No	Transect ID:	
Is the area a potential Problem Area? (if needed explain on reverse.)	☐ Yes ☒ No	Plot ID:	2u

VEGETATION

Dominant Plant Species	Stratum	Indicator	Sub-dominant Plant Species	Stratum	Indicator
1. Ficus carica	T		1. Raphanus sativus	H	
2. Rubus discolor	S	FACW*	2. Brassica nigra	H	
3. Salix laevigata	T	FACW	3.		
4.			4.		
5.			5.		
6.			6.		
7.			7.		
8.			8.		

Percent of Dominant Species that are OBL, FACW and/or FAC: (excluding FAC-) 67%

Remarks : Sample point located in shrub thicket in drainage swale. At sample location willow was alive; 4 additional willows in thicket appeared to be dead. Vegetation meets hydrophytic vegetation criteria; however, blackberry often grows in non-wet areas and mature willows may be responding to groundwater deeper than 12 inches. The area may have been wetter in the past than it currently is.

HYDROLOGY

Recorded Data
- ☐ Stream, Lake or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

No Recorded Data Available

Field Observations :

Depth of Surface Water : none (in.)

Depth to Free Water in Pit : none (in.)

Depth To Saturated Soil : none (in.)

Wetland Hydrology Indicators :

Primary Indicators :
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage patterns In Wetlands

Secondary Indicators (2 or more required) :
- ☐ Oxidized Root Channels In Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral test
- ☐ Other (Explain In Remarks)

Hydrology Remarks : Soil was moist due to recent rains, but not saturated. No hydrology indicators observed.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	La Vista Quarry	Date :	3/24/2005
Applicant/Owner:	The DeSilva Group	County :	Alameda
Investigator:	WRA, Inc., Crystal M. Acker	State :	California
Do Normal Circumstances exist on the site?	☒ Yes ☐ No	Community ID:	non-native grassland
Is the site significantly disturbed (Atypical Situation)?	☐ Yes ☒ No	Transect ID:	
Is the area a potential Problem Area? (if needed explain on reverse.)	☐ Yes ☒ No	Plot ID:	3u

VEGETATION

Dominant Plant Species	Stratum	Indicator	Sub-dominant Plant Species	Stratum	Indicator
1. Foeniculum vulgare	H	FACU	1. Brassica nigra	H	
2. Hordeum murinum	H		2.		
3. Phalaris californica	H	FAC	3.		
4. Raphanus sativus	H		4.		
5.			5.		
6.			6.		
7.			7.		
8.			8.		

Percent of Dominant Species that are OBL, FACW and/or FAC: (excluding FAC-) 25%

Remarks : Non-native grassland in wide swale. Vegetation does not meet hydrophytic vegetation criteria.

HYDROLOGY

Recorded Data
- ☐ Stream, Lake or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

No Recorded Data Available

Field Observations :

Depth of Surface Water : none (in.)

Depth to Free Water in Pit : none (in.)

Depth To Saturated Soil : none (in.)

Wetland Hydrology Indicators :

Primary Indicators :
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage patterns In Wetlands

Secondary Indicators (2 or more required) :
- ☐ Oxidized Root Channels In Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral test
- ☐ Other (Explain In Remarks)

Hydrology Remarks : Soil was moist due to recent rains, but not saturated. No hydrology indicators observed.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: La Vista Quarry	Date: 3/24/2005
Applicant/Owner: The DeSilva Group	County: Alameda
Investigator: WRA, Inc., Crystal M. Acker	State: California
Do Normal Circumstances exist on the site? ☒ Yes ☐ No	Community ID: non-native grassland
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No	Transect ID:
Is the area a potential Problem Area? (if needed explain on reverse.) ☐ Yes ☒ No	Plot ID: 4u

VEGETATION

Dominant Plant Species	Stratum	Indicator	Sub-dominant Plant Species	Stratum	Indicator
1. Foeniculum vulgare	H	FACU	1.		
2. Hordeum murinum	H		2.		
3. Raphanus sativus	H		3.		
4.			4.		
5.			5.		
6.			6.		
7.			7.		
8.			8.		

Percent of Dominant Species that are OBL, FACW and/or FAC: (excluding FAC-) 0%

Remarks : Non-native grassland in lowest elevation portion of swale. Vegetation does not meet hydrophytic vegetation criteria.

HYDROLOGY

Recorded Data
- ☐ Stream, Lake or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

No Recorded Data Available

Field Observations :

Depth of Surface Water : none (in.)

Depth to Free Water in Pit : none (in.)

Depth To Saturated Soil : none (in.)

Wetland Hydrology Indicators :

Primary Indicators :
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage patterns in Wetlands

Secondary Indicators (2 or more required) :
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral test
- ☐ Other (Explain in Remarks)

Hydrology Remarks : Soil was moist due to recent rains, but not saturated. No hydrology indicators observed.

Appendix B
Map of Potential Jurisdictional Wetlands and Waters

The map in Appendix B is oversized and is not included in this copy of the wetlands report. However, such map is available for review during normal business hours at the Hayward Planning Division located on the first floor of Hayward City Hall at 777 B Street in downtown Hayward.

Please contact David Rizk at 510-583-4004 or at david.rizk@hayward.ca-gov to arrange to view such map.

Appendix C
List of Plant Species Observed During the Delineation

Appendix C. Plant species observed on the La Vista Quarry property, March 24, 2005

Scientific Name	**Common Name**	**Wetland Status [1]**	**Native Status [2]**
Anagallis arvensis	scarlet pimpernel	FAC	I
Avena barbata	slender wild oats		I
Baccharis pilularis	coyote brush		N
Brassica nigra	black mustard		I
Bromus diandrus	ripgut brome		I
Bromus hordeaceus	soft chess	FACU-	I
Carduus pycnocephalus	Italian thistle		I
Centaurea solstitialis	yellow star thistle		I
Cirsium vulgare	bull thistle	FACU	I
Erodium botrys	storksbill, broad-leaf filaree		I
Erodium cicutarium	red-stemmed filaree		I
Eschscholzia californica	California poppy		N
Eucalyptus sp.	eucalyptus		I
Ficus carica	edible fig		A-2
Foeniculum vulgare	fennel	FACU	I
Geranium dissectum	cut-leaf geranium		I
Hirschfeldia incana	summer mustard		I
Hordeum murinum	foxtail barley		I
Lolium multiflorum	Italian ryegrass	FAC*	I
Medicago polymorpha	California burclover	FACU	I
Phalaris californica	California canary grass	FAC	N
Picris echioides	bristly ox-tongue	FAC*	I
Pinus sp.	horticultural pine		I
Raphanus sativus	wild radish		I
Rubus discolor	Himalayan blackberry	FACW*	I
Salix laevigata	red willow	FACW	N
Silybum marianum	milk thistle		I
Trifolium hirtum	rose clover		I
Umbellularia californica	California bay	FAC	N
Vicia benghalensis	purple vetch		I

[1] Key to Wetland Status

As published by U.S. Fish and Wildlife Service (Reed 1988):

OBL	Obligate, always found in wetlands (>99% probability in wetlands)
FACW	Facultative wetland, usually found in wetlands (67%-99% probability in wetlands)
FAC	Facultative, equal in wetland and non-wetlands (34%-66% probability in wetlands)
FACU	Facultative upland, usually found in non-wetlands (<34% probability in wetlands)
*	indicates limited or conflicting information used to assign indicator status
+	indicates frequency towards the wetter end of a category
-	indicates frequency towards the dryer end of a category

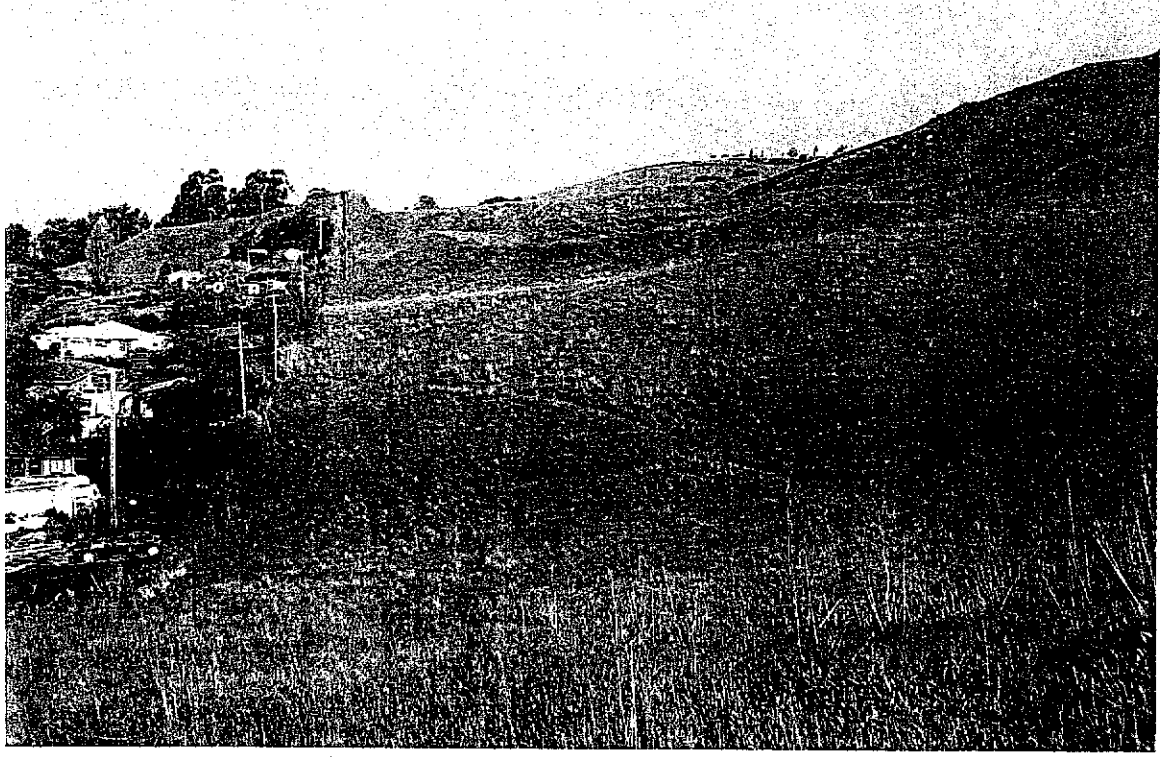
[2] Key to Native Status

N	Native to California
I	Introduced to California

Introduced plants that have been listed by the California Invasive Plant Council (Cal-IPC):

A-1	Most invasive wildland pest plants: widespread distribution
A-2	Most invasive wildland pest plants: regional distribution
B	Wildland Pest Plants of Lesser Invasiveness

Appendix D
Representative Photographs of the Study Area



Top: Photo taken looking NW down property boundary towards quarry. The drainage swale crossing the road in central-right side of photo is outside Study Area; Study Area begins just NW of the swale.

Bottom: Photo taken standing near SE Study Area corner, looking NE towards off-site intermittent drainage (far right) and off-site seep wetlands (central right).

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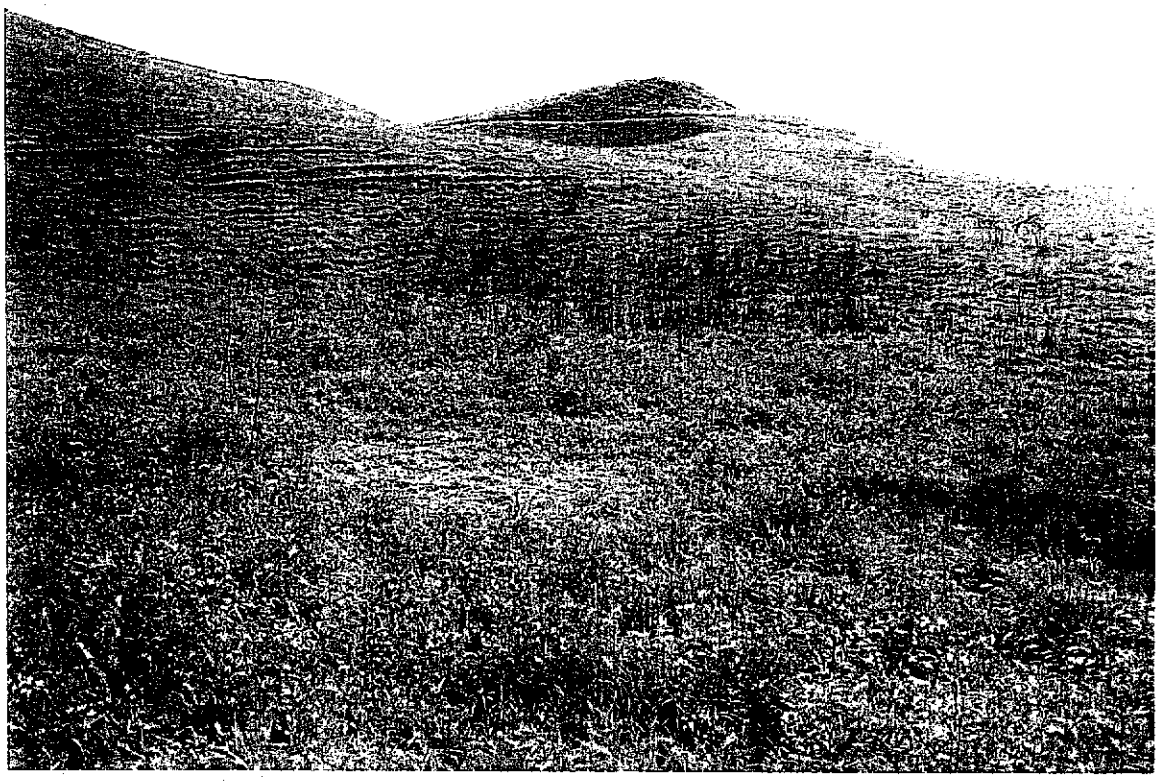
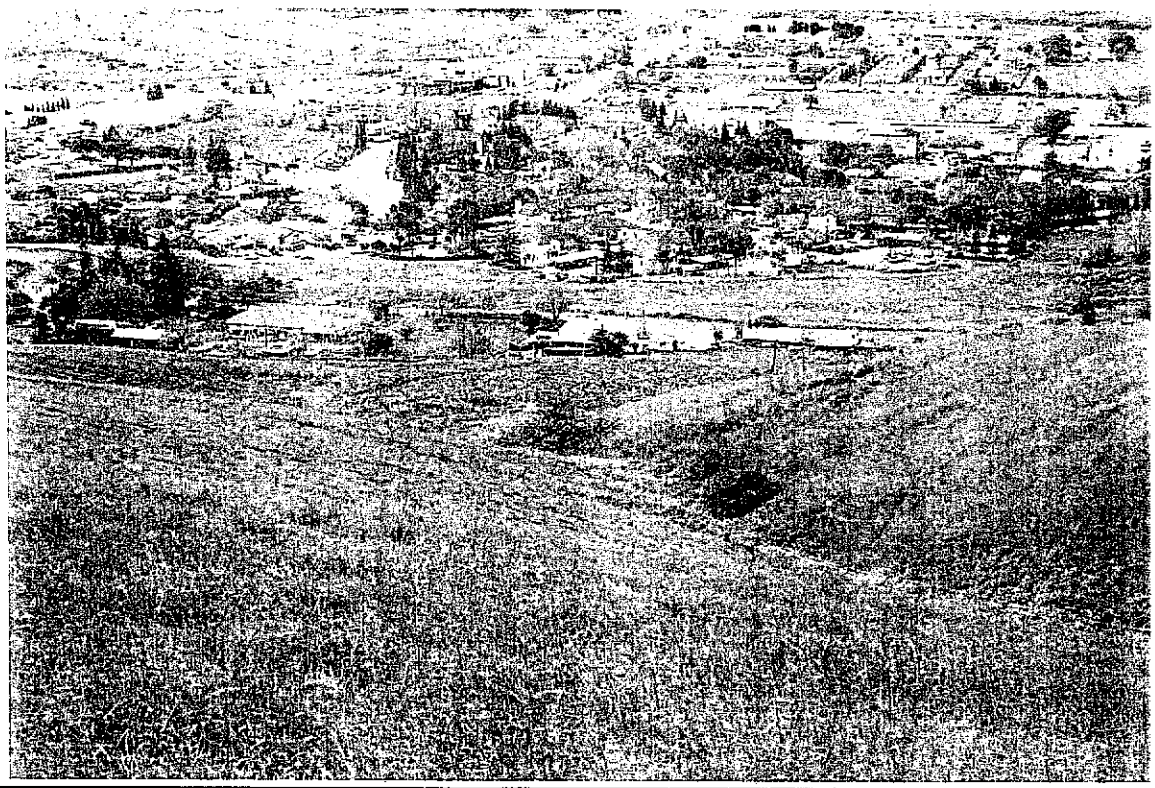
Photographs taken at La Vista Quarry Site, March 24, 2005





Top: Hillside vegetation dominated by wild radish, foxtail barley, and fennel.

Bottom: Overview of NW edge of undeveloped part of Study Area. The quarry is just on the other side of the steep hill on right of photo.

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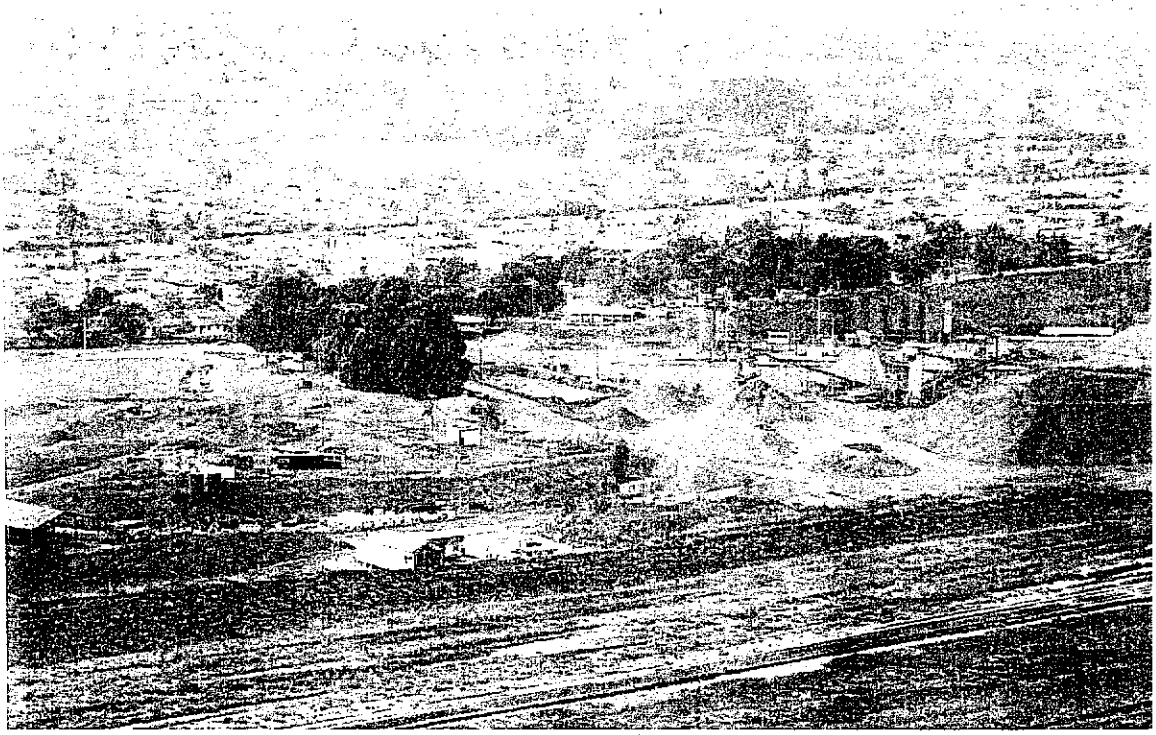
Photographs taken at La Vista Quarry Site, March 24, 2005



Top: Overview of quarry from NE side. Note drainage pipes present crossing center of photo.

Bottom: Close-up of quarry taken from NE edge.

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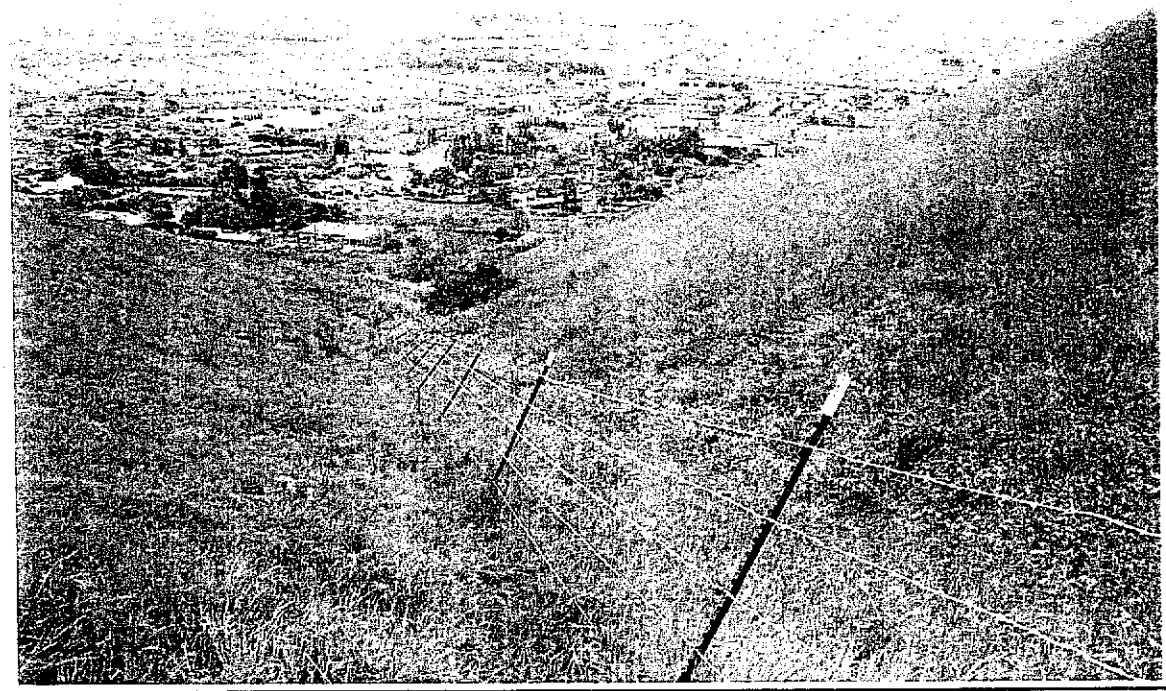
Photographs taken at La Vista Quarry Site, March 24, 2005



Top: Drainage pipe discharging into an inlet structure. This pipe was observed immediately upstream of the drainage swale shown below, and appeared to be intercepting water which may have previously been conveyed by the swale.

Bottom: Drainage swale, photo taken just downstream of above photo. This swale lacked an OHWM and had no defined bed of bank.

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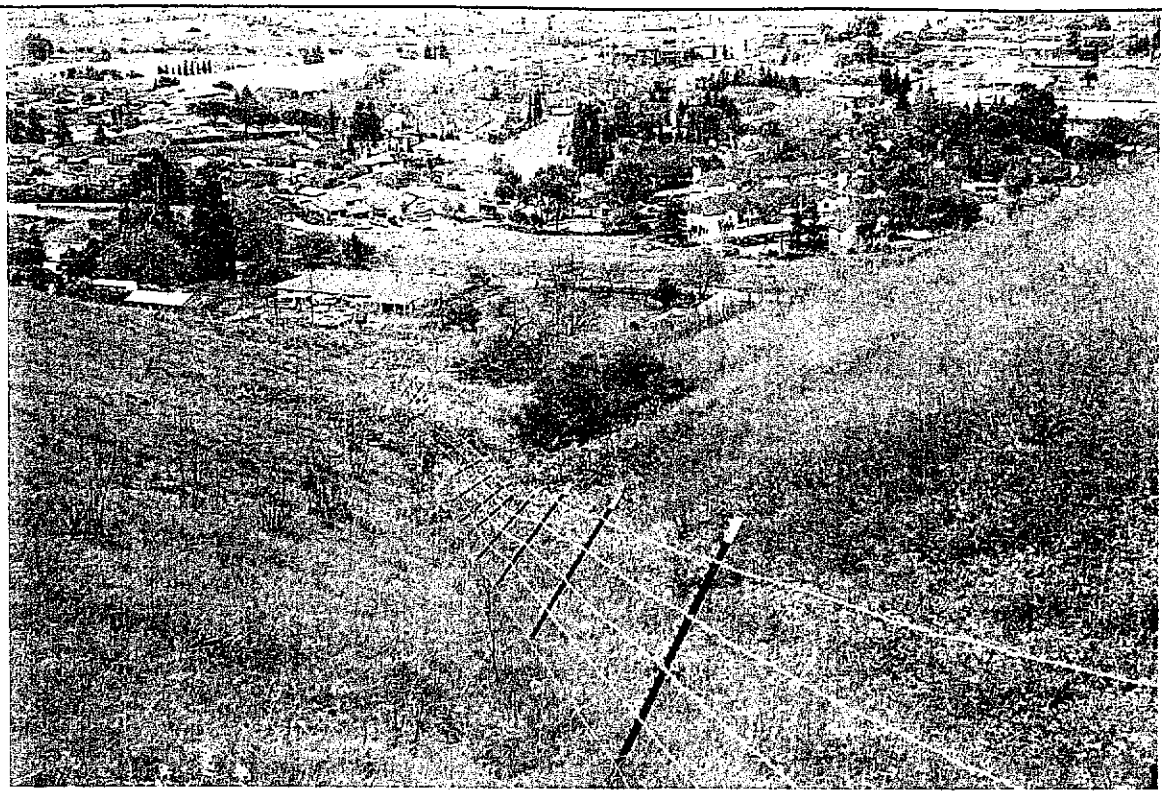
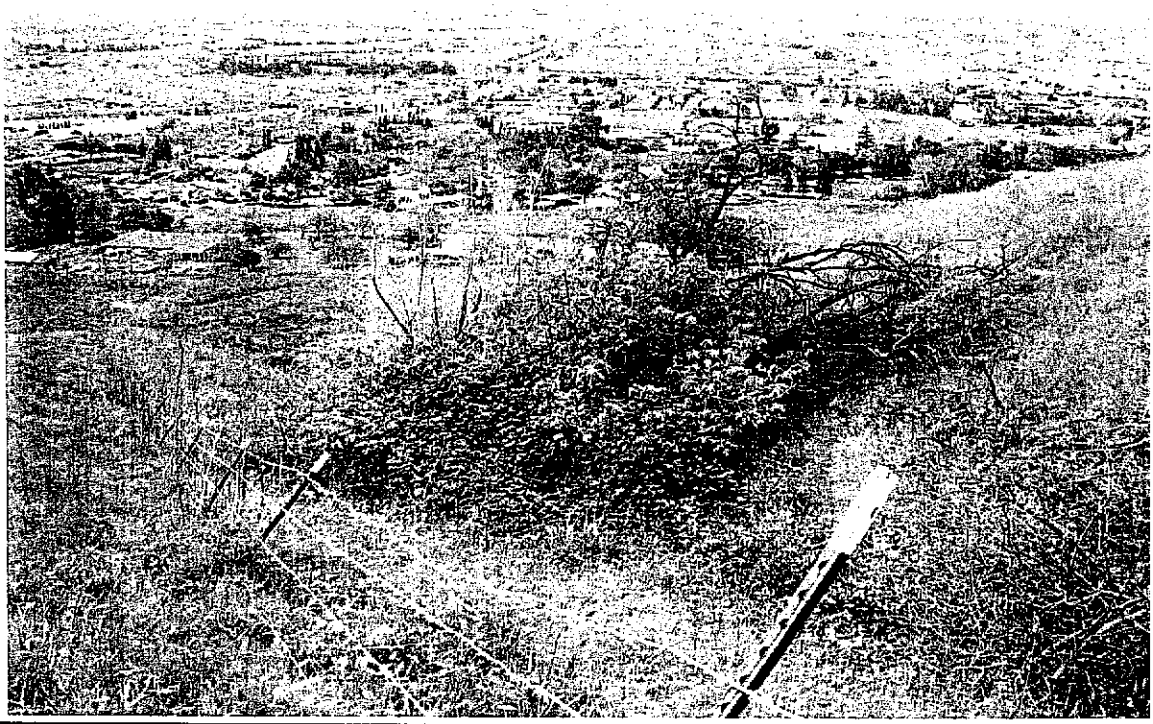
Photographs taken at La Vista Quarry Site, March 24, 2005





Top: Moving SE down swale towards large coyote brush (foreground) and shrub thicket (background).

Bottom: Shrub thicket: light green tree in foreground is fig, background trees are willows and a bay, understory dominated by Himalayan blackberry with wild radish and mustards. Most of the willows (right corner and background appeared to be dead.

Photographs taken at La Vista Quarry Site, March 24, 2005

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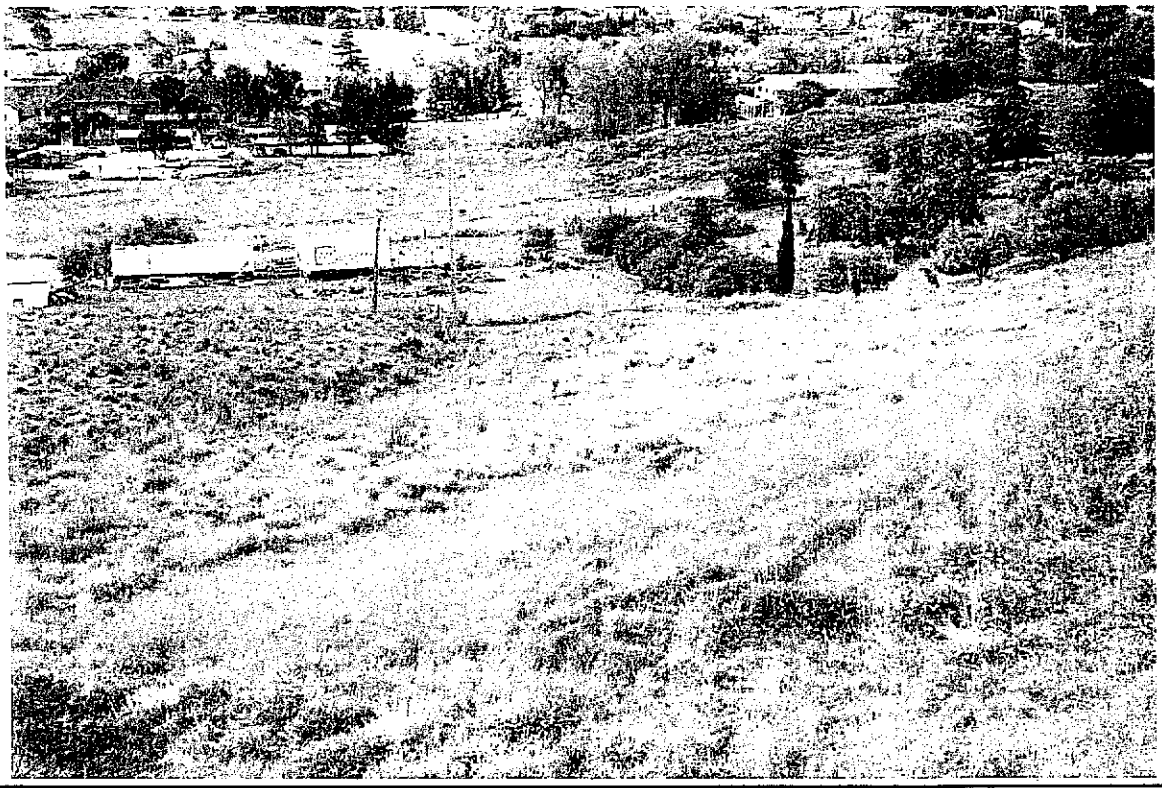
ENVIRONMENTAL CONSULTANTS



Top: Shrub thicket, photo taken looking NW towards quarry hill. The willow on the far right was alive; the other four appeared to be dead.

Bottom: Downslope of shrub thicket. This area dominated by fennel, foxtail barley, black mustard, canary grass, and wild radish. A small swale feature was present (central photo) but the area did not meet wetland criteria.

Photographs taken at La Vista Quarry Site, March 24, 2005

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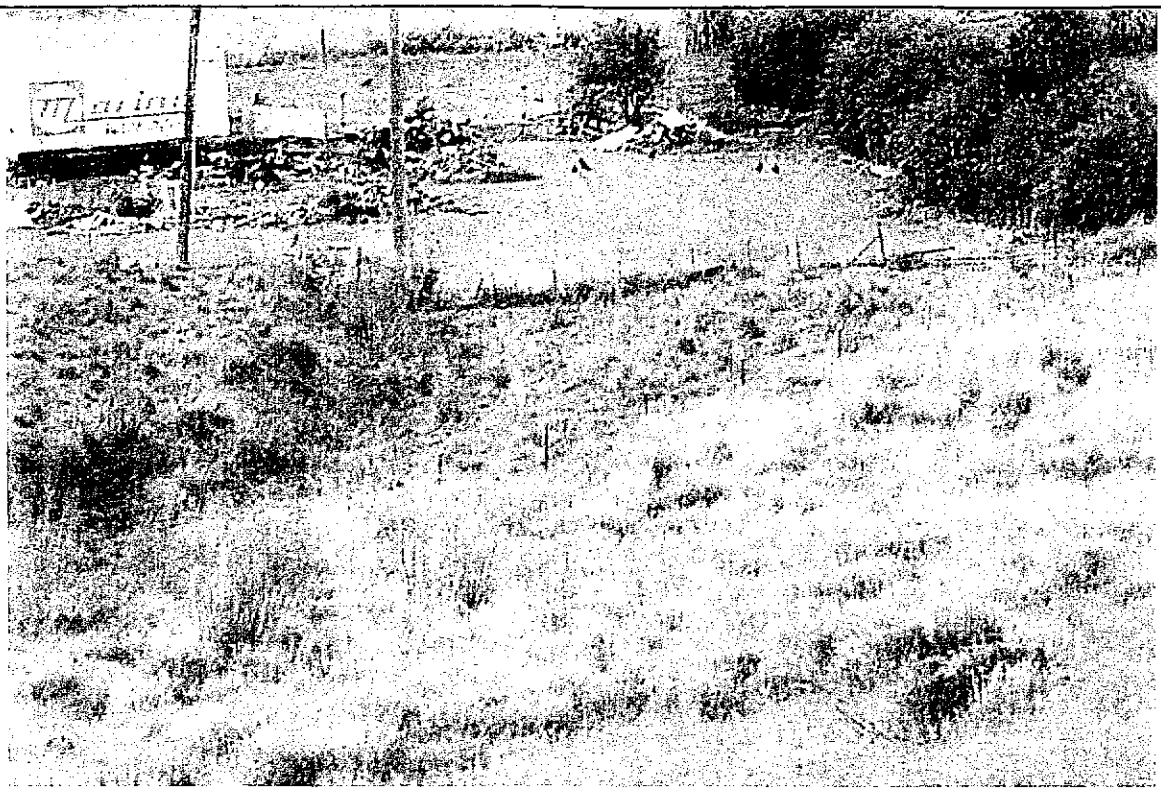
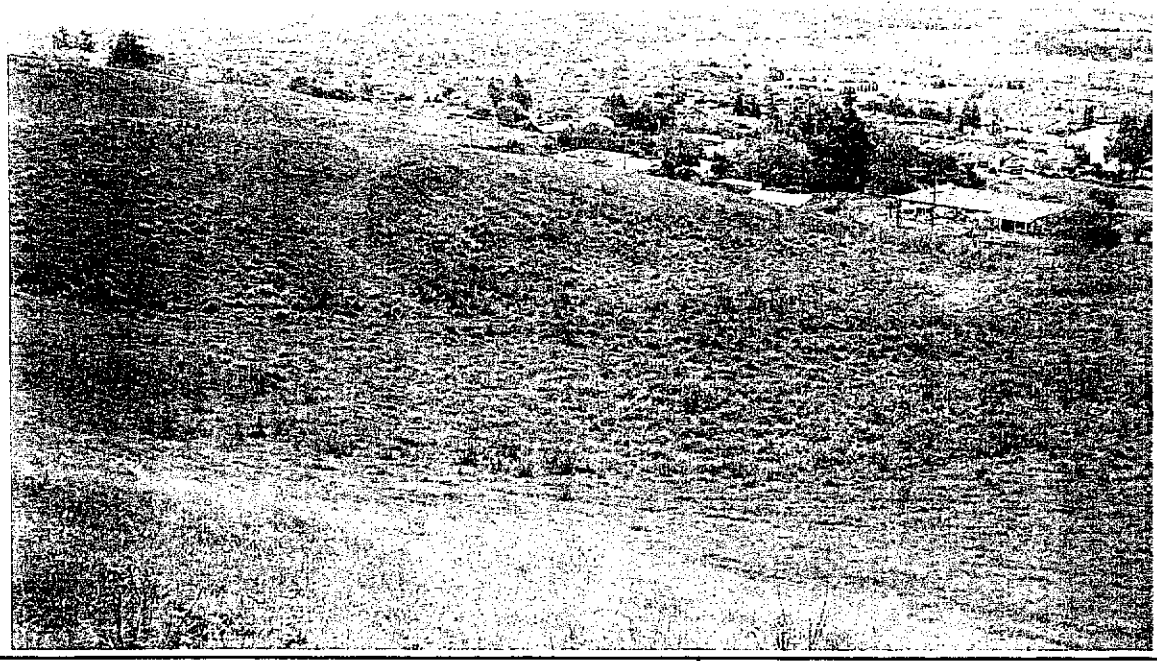
ENVIRONMENTAL CONSULTANTS





Top: Close-up of above swale.

Bottom: Overview of lower elevation area to east of above swale. Top of first hill is approximate Study Area boundary to east.

Photographs taken at La Vista Quarry Site, March 24, 2005

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ENVIRONMENTAL CONSULTANTS

DESIGN-LEVEL GEOTECHNICAL REPORT
PROPOSED LA VISTA QUARRY DEVELOPMENT
LAVISTA QUARRY SITE AND MARCOTTE PROPERTY
HAYWARD, CALIFORNIA

VOLUME 1 OF 3

FOR
THE DESILVA GROUP
March 24, 2005

Job No. 1692.107

BERLOGAR GEOTECHNICAL CONSULTANTS

March 24, 2005
Job No. 1692.107

BGC
BERLOGAR
GEOTECHNICAL
CONSULTANTS

Mr. Jay Egy
The DeSilva Group
11555 Dublin Boulevard
Dublin, California 94568

Subject: Design-Level Geotechnical Report
Proposed La Vista Quarry Development
La Vista Quarry Site and Marcotte Property
Hayward, California

Dear Mr. Egy:

Attached is our report presenting the results of our geotechnical investigation for the proposed residential development at La Vista Quarry in Hayward, California. The report is presented in three volumes: Volume 1 presents the main text and plates, and Volumes 2 and 3 contain the appendices.

We appreciate the opportunity to be of service to the DeSilva Group on the La Vista Quarry project. If you have any questions regarding the contents of this report, we would be pleased to discuss them with you.

Respectfully submitted,

BERLOGAR GEOTECHNICAL CONSULTANTS

Frank Groffie

Frank J. Groffie
Principal Geologist

FJG/PSL:pv/jmb

Copies: Addressee (8)
Attention: Mr. Jay Egy
Carlson, Barbee & Gibson (1)
Attention: Mr. Ken Robinson

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HAYWARD, CALIFORNIA

INTRODUCTION

This report presents our design-level geotechnical findings, conclusions, and recommendations for proposed residential development of the La Vista Quarry site and Marcotte property in Hayward, California. The Marcotte property (presently owned by DeSilva Group LLC) will be combined with the La Vista Quarry site to form the site of the proposed development.

SITE LOCATION AND DESCRIPTION

The La Vista Quarry site and Marcotte property are located northeast of the intersection of Mission Boulevard and Tennyson Road, in Hayward, California. The quarry site has an irregular shape measuring about 3,400 feet across. The quarry site is bounded on the north by properties belonging to Tavake, Cuevas, Clanton, and East Bay Regional Park District, on the east by the land belonging to Warren, on the south by the Moita, Marcotte, and Ersted properties, and on the west by land of the State of California. Portions of these properties on the south and west would be used for western roadway access to the site, as explained below.

The Marcotte property connects to the La Vista Quarry site on its south side and extends from the quarry site about 1,700 feet in panhandle fashion. The Marcotte property is bounded on the northeast by the Moita, Goidon, Rose, and Browne properties, and on the southwest by the Clarendon Hills development and the Silva property. The Vicinity Map, Plate 1, shows the site in relation to surrounding features.

PROPOSED PROJECT

The proposed residential project is shown on a drawing titled *Conceptual Layout, La Vista Quarry*, dated February 24, 2005, by Carlson, Barbee & Gibson (CBG), at a scale of 1 inch equals 100 feet. The residential development would be located in about the middle of the quarry site. The layout calls for 179 single-family residential lots each measuring a minimum of 45 feet by 80 feet. The lots would be arranged across a modified rectangular grid. Five streets would be included. The attached 2005 Interim Geologic Map, Plate 3, includes CBG's layout drawing as a base.

The proposed residential development will be located near the base of a tall graded slope facing the development; this will be the reclaimed main quarry slope. The reclaimed main quarry slope will have gradients between 2 horizontal to 1 vertical (2H:1V) and 3H:1V. Large areas will be graded at gradients of 2½H:1V, particularly the lowest 150 feet. The finished slope will be provided with 10-foot-wide drainage benches about every 40 vertical feet.

The proposed mass grading of the site generally will result in three level terraces split by two low slopes. These two slopes will be located in rear yards, face southwest at a gradient of 2H:1V, and be approximately 20 feet tall each. On the downslope (southwest) side of the development, the residential area would slope down (southwest) about 50 vertical feet at a gradient between 2H:1V and 3.3H:1V to the present quarry floor. Proposed grading in the residential area itself would involve making cuts and fills up to 60 feet deep. Proposed grading on the adjacent (lower part of the) main quarry slope would involve making cuts up to 60 feet deep and design fills up to 30 feet deep.

The conceptual plan shows seven retaining walls, which will be about 6 feet tall. One wall will face east, toward the Moita property, where E Street will pass by the Moita property, and will retain future engineered fill placed for E Street. The other six walls will be alongside some of the corner lots, namely Lots 32, 33, 84, 85, 96, 112, 129, 130, 163, 146, and 147. These walls will retain grade differences between the lots and adjacent streets.

Main roadway access would be from the west by way of the proposed A Street, which would be a new easterly extension of Tennyson Road. Proposed grading for the Tennyson extension would mainly involve a slot cut 45 feet deep below existing grades. Cut slopes would face inward toward the roadway at gradients mostly of 3H:1V and heights up to 75 feet tall. The western end of the proposed south-facing cut slope for the roadway would have a gradient of 2H:1V and height of about 45 feet.

Secondary access would be from the south by way of the proposed E Street, which would be a new extension of Alquire Parkway. Grading for the proposed E Street would involve a 10-foot-deep cut, 20-foot-deep fill, and low (20 feet maximum) cut and fill slopes at gradients of 2H:1V.

A separate drawing shows proposed improvements on the west side of the quarry site. The drawing titled La Vista Quarry Park, by Gates, shows a proposed 20,000-square-foot community center, a sports field, and detention basin; the sports field would also serve as a second detention basin. An access roadway and parking lot would extend past the sports field and to the community center. Proposed grading for these improvements would involve a cut about 10 feet deep on the east end of the sports field, a cut about 6 feet deep on the upslope (north) side of the detention basin, and design fill up to 20 feet deep across much of the rest of the area, particularly the roadway and sports field.

BGC prepared a report in early 2005 addressing the potential for surface rupture at the community center site. However, BGC has not addressed geotechnical engineering aspects of the community center, which would be a project of the City of Hayward.

PREVIOUS INVESTIGATIONS

La Vista Quarry is an active rock quarry. The quarry has a long history of operation dating back to the 1950s. Its main product is crushed rock for use in road aggregate base and asphaltic concrete.

BGC has performed numerous investigations and prepared reports regarding quarry activities and potential uses and reclamation of the La Vista and Marcotte properties. Relevant reports by BGC were dated 1991, 1993, 1995, 1997, 1998, 1999(a,b), 2000(a,b), 2001, 2002, 2004(a,b), and early 2005. The attached *References* list these reports. Subsurface data from numerous test pits, trenches, and borings have been collected during these investigations over the years. Laboratory test data also were generated from samples collected during the investigations. These subsurface and laboratory data are the basis for the design-level findings, conclusions, and recommendations presented in this report (Volume 1). For this reason, all the data available from our earlier investigations are compiled in Volume 2 of this report, along with brief explanations of the investigations that generated the data.

PURPOSE

The purpose of this report is to present our conclusions and recommendations for cut and fill slope

construction, site preparation and grading, house foundation considerations, corrosion considerations, underground utility installation, and preliminary pavement sections. The scopes of work for the various investigations are summarized in appendices.

FINDINGS

SURFACE CONDITIONS

The quarry site is in a generally bowl-shaped area that generally faces southwest. Existing site grades vary from approximate Elevation 780 feet on the east property line to about Elevation 138 feet at the southwest property corner. At the time of this report, reclamation of much of the main (upper) quarry slope had recently been performed, in the eastern portion of the site, and approximate finished grades have been achieved in much of this area. A section of finished to nearly finished cut slope about 1,700 feet long extends from the high point, at Elevation 780 feet, down to about Elevation 520 feet. Several drainage benches have been constructed. Erosion gullies have developed on the reclaimed slope in various locations. Also, partial filling for the reclamation was placed during the last few years at the base of the slope, in the central portion of the site.

The central part of the site is the main area of quarrying. Currently, quarrying appears to be concentrated mainly in the area of proposed Lots 65 through 95. Most of the original topography in this area has been extensively modified by quarrying, with cuts of more than 300 feet deep below original grade. The quarry floor is now at about Elevation 220 feet above MSL. At least some quarrying activity has been initiated in essentially all of the site. Temporary cut slopes in this area have been oversteepened as part of the quarry operation. Various machinery, small buildings, and other structures associated with quarrying are present, particularly in the central and west parts of the property.

The Marcotte property is on a gently sloping southwest-facing hillside. The topography has been modified by some artificial removals and placements of soil. This property is not occupied by buildings, and is mostly covered with grass and other low vegetation.

REGIONAL GEOLOGY

La Vista Quarry is located on the western flank of Walpert Ridge, which is part of the Coast Ranges geomorphic province. The Coast Ranges province is characterized by a series of parallel, northwesterly-trending, folded and faulted mountain chains. In this part of the province, the ridges are composed of a core of marine sedimentary rocks deposited from the upper Jurassic and early Cretaceous periods of geologic time (about 150 million years before present) until the late Cretaceous period (about 65 million years before present). Slabs of partly metamorphosed seafloor igneous rocks, such as greenstone, gabbro, and serpentine, are associated with the sedimentary rocks of this age. The region has been folded and faulted as a result of tectonic forces generated during uplift of the area beginning during the Pliocene epoch.

SEISMIC SETTING

Table 1, below, lists the seven known active faults believed to present the highest potential levels of ground shaking at the site, their distances from the site, their potential maximum moment-magnitude earthquakes, and their CBC fault classes, based on data published by Cao et al. (2003).

Table 1. Significant faults in the region.

Fault	Distance to fault (mi)	Distance to fault (km)	Compass direction to fault	Earthquake magnitude (Mw)	CBC fault class
Hayward, southern	0.1	0.1	SW	6.7	A
Calaveras, northern	7.3	11.7	E	6.8	B
Mt. Diablo	12.8	20.5	NE	6.6	B
San Andreas, peninsula	16.8	27.0	SW	7.1	A
Monte Vista – Shannon	17.7	28.5	SW	6.7	B
San Gregorio	26.1	42.0	W	7.3	A
San Andreas, north coast north	30.1	48.5	W	7.4	A

SITE GEOLOGY

GENERAL

Robinson (1956) and Dibblee (1980) mapped bedrock across a wide area that included the site. Bedrock units mapped at the site are Knoxville formation, serpentinite, gabbro/diabase, and Franciscan Complex greenstone and sheared rocks, all of which date to the Jurassic to Cretaceous Periods. Regional structure of the sedimentary Knoxville formation in the vicinity of the site strikes northwest and dips steeply to the northeast. Many bedding attitudes with dips to the east were observed in bedrock exposures. Some southwest-dipping bedding was found in close proximity to the sheared zone on the eastern portion of the site. Bedding and shear attitudes generally have been found to be steep. Findings from our cut slope mapping in the eastern portion of the site have shown only small deviations in bedrock conditions from those expected based on BGC's previous investigation (2000a) of the main quarry slope. Geologic units are described below in order from youngest to oldest.

ARTIFICIAL FILL

Artificial fill is material that has been placed by man. Areas of artificial fill identified on site are shown on the 2005 Interim Geologic Map by the symbol "Qaf". The fill is further subdivided into five different subunits, "Qaf_1" through "Qaf_5", based on the different origins of the fill deposits.

Most of the quarry floor on the western half of the quarry site is covered with fill consisting of various stockpiled quarry materials and fill placed as a relatively level working surface for quarry operations. These quarry floor fills are identified with the symbol "Qaf_1" on the 2005 Interim

Geologic Map. These fills probably also contain pond sediment, slope wash, and talus, which are naturally deposited but are otherwise similar to the artificially placed material. The thickness of the Qaf_1 unit is variable, and the thickness in any given location could change from month to month or year to year depending on the quarry activities. On the west side of the site, where this fill is occupied by quarry machines, structures, and buildings, its surface and thickness have been relatively unchanging for a few decades. We estimate a maximum thickness of roughly 20 to 25 feet, as suggested by findings in Borings B-2 (BGC 2004a) and C-7.

Large portions of the steep, west-facing slopes east of the current quarry operations are underlain by sidecast quarry-slope fill (labeled "Qaf_2" on the 2005 Interim Geologic Map). This material was excavated from the eastern part of the site, pushed downslope, and deposited on steep (approximately 1H:1V) quarry cut slopes. A second area of sidecast fill underlies the steep slopes on the inward-facing west and north sides of the quarry. The sidecast fills are comparatively thin (estimated 15 to 30 feet thick) and are generally prone to internal instability and erosion. The thickest Qaf_2 fill was found to be 40½, 44, and more than 61 feet thick in Borings B-1, B-6, and B-5, respectively (BGC, 2000a), on the north side of the quarry.

Fill labeled "Qaf_3" on the 2005 Interim Geologic Map is fill that was placed under engineering observation and testing to repair a small landslide that affected the reclamation cut slope in the 2001-02 winter. This fill extended from Elevation 670 feet up to Elevation 730 feet and across an area of slope 400 feet across.

Fill labeled "Qaf_4" designates a large engineered fill placed along the base of the slope, in the central part of the site, up to about Elevation 360 feet. Based on our testing and observations, the fill was compacted to a minimum relative compaction of 95%. Preexisting fill was removed down to bedrock before engineered fill placement, and subdrains were installed under and behind the engineered fill. Records of our engineering services during fill placement will be presented in a construction observation and testing report when this grading has been completed.

Fill labeled "Qaf_5" designates a large nonengineered fill placed along the southwestern side of the Marcotte property. This fill was found to be 5 feet thick in Trench T-2 and at least 10 feet thick in Trench T-3. The fill probably attains an estimated thickness of some 15 feet where it has a stockpile configuration in the middle of the Marcotte property. It contains a small percentage of trash debris, as encountered in Trench T-2.

LANDSLIDES

Previous Regional Work

Nilsen (1975) prepared a regional photointerpretation map of landslides that includes the site. This map shows two landslide areas on the eastern part of the quarry site. These two landslides were removed by quarry operations. Majmundar (1995) prepared another regional photointerpretation map of landslides that includes the site. This map shows a landslide on the north margin of the quarry and corresponding to our designated Landslide 1 (see below).

Nilsen (1975) also interpreted what appears to be a coalescing landslide deposit of moderate depth

and extent occupying the southeastern half of the Marcotte property. However, the fault exploration trenches by BGC on the Marcotte property showed no landslide deposits in the area of the proposed access road to the project (E Street). The southeastern half of the Marcotte property is not in an officially seismic landslide hazard zone, according to the map by Davis (2003). Majmundar's map (1995) shows landsliding on the Marcotte property to a smaller extent than did Nilsen. Majmundar interpreted a landslide that is mostly downslope of the Marcotte property, with the landslide head extending some 100 feet up into the middle of the Marcotte property. That interpreted location was crossed by Trench T-2 (BGC, 2001a), which showed no evidence of such a landslide head.

Landslides on Quarry Margins

Landslides mapped by BGC are shown by the symbol "Qls" and landslide designation numbers on the 2005 Interim Geologic Map.

There are five landslide areas on natural slopes on the margins of quarry operations. Examination of older aerial photographs indicates that most of these landslides predate the mining activity.

Landslides 1, 3, 17, and 18 appear to involve surficial soil material and probably some highly weathered bedrock. We estimate the thickness of these landslides ranges from about 5 to 20 feet thick.

Landslides in Sidecast Fill

As described above, there are many seasonally active instabilities in the sidecast fills (Qaf_2) on steep slopes. The limits of unstable fill areas change from year to year as a result of the ongoing quarrying and deposition of additional fill. We did not map the locations of instabilities in the fill deposits in detail. The temporary slopes underlain by deposits of Qaf_2 should generally be considered unstable.

Landslide 15 is a deeper landslide (estimated 40 feet deep) involving quarry fill and, possibly, underlying Knoxville formation. The previously mapped limits of this landslide are now obscured by temporary sidecast fill.

Landslides in Cut Areas

When BGC performed earlier investigations at La Vista Quarry, landslides were given consecutive number designations. Many of these landslides have been removed over the years with deep cutting on the main quarry slope as part of reclamation activity: these include Landslides 4 through 14, 19, and 20. The 2005 Interim Geologic Map does not show these no-longer-existing landslides. (Landslide 2 is a small feature 100 feet outside the property that is also not shown.) In order to ease tracking of landslides, the number designations given to landslides at one time were kept from then on, which creates gaps in the number sequence of remaining landslides as those landslides went out of existence.

Landslide 16 is a coalescing relatively slope failure that occurred in a steep temporary cut slope east of the main active quarry pit, as shown on Plate 3. The slide has developed within oversteepened shale of the Knoxville formation and greenstone both during mining and during heavy winter rains.

During a reconnaissance in 2004, we observed fresh tension cracks in the headscarp of the landslide. The depth of sliding and sloughing is estimated to be on the order of 10 to 20 feet.

Landslide 21 is a relatively new landslide that developed in roughly the former location of (removed) Landslide 14. The new landslide developed in the reclaimed cut slope in the Fall of 2002. We have estimated its depth at about 15 to 20 feet below existing grade. Using Test Pits TP2-1 through TP2-13 we explored the margins of this feature and immediate surrounding graded cut slopes. See Appendix L for the test pit logs.

COLLUVIUM

Colluvium is surficial natural soil formed by creeping and washing of the weathering products from the underlying parent bedrock. Colluvium is given the symbol "Qc" on the 2005 Interim Geologic Map. Minor colluvial deposits are present around the margins of quarry excavations, and colluvium is also present on the Marcotte property. These soils generally consist of brown, medium-stiff to stiff, silty clay and sandy clay. The soils appear to generally have high plasticity and moderate to high expansion potential.

KNOXVILLE FORMATION

Most of the quarry cut slopes appear to be underlain by interbedded brown to black shale and brown to greenish-gray graywacke sandstone of the Knoxville formation. Knoxville formation is also present on the west side of the quarry and on land farther to the west approaching Mission Boulevard. This unit is marked on the 2005 Interim Geologic Map using the symbols "JKsh", "JKss" and "JKss/sh", depending on the proportions of shale and sandstone. Minor portions of the Knoxville formation also contain sandy fine conglomerate, most notably in the southeast corner of the quarry site and near Mission Boulevard. Exposures of Knoxville formation show rock that is generally weak to moderately strong, highly fractured to crushed, and generally thinly bedded.

SERPENTINITE AND GABBRO

Much of the east-central part of the quarry is underlain by serpentinite and gabbro. The area underlain by these rock types is shown using the symbols "sp" and "sp/gb" on the 2005 Interim Geologic Map. These rocks are dark green, friable to weak, and are generally highly sheared with abundant clay seams. The rock structure is complex with predominantly northwest striking and northeast dipping slickensided sheared zones evident in exposures.

FRANCISCAN SHEARED ROCK

In close proximity to the serpentinite, a zone of Franciscan sheared rock was mapped using the symbol "fsr". This rock consists predominantly of highly sheared shale with broken sandstone beds. In some areas, lenses or irregular-shaped inclusions of serpentinite are included. The shale is dark gray, friable, and contains abundant clay seams. The rock structure has been disrupted by extensive shearing. As found in the serpentinite rock, the dip of shearing is predominantly northeast. The Franciscan sheared rock has not performed well in steep slopes and has been associated with landsliding. A zone of highly sheared shale has been separately delineated and given the symbol

"fssh" on the 2005 Interim Geologic Map.

FRANCISCAN GREENSTONE

Most of the western part of the quarry is underlain by a hard, gray green, fine-grained metamorphosed volcanic rock known as "greenstone". The greenstone contains veins of quartz and is cut by numerous, generally northeast-dipping tectonic shear planes and associated zones of closely fractured to crushed rock. As a result, the rock in places has the appearance of gravel, with an average particle size of about 1 inch. There are scattered areas of more blocky rock with some large, intact boulder-size fragments. The greenstone is identified on the 2005 Interim Geologic Map with the symbol "fg". The greenstone has generally performed well in relatively steep slopes.

FAULTING

The published maps by Robinson (1956), Radbruch-Hall (1974), Herd (1978), Dibblee (1980; Plate 2), and Crane (1988) show the main trace of the Hayward fault passing through La Vista Quarry and the Marcotte property. This main trace is also the fault that ruptured in an 1868 earthquake (Davis, 1982). A portion of the quarry site and the entire Marcotte property are within a currently designated State of California earthquake fault zone for the active Hayward fault (Davis, 1982). The map by Davis (1982) shows two additional, secondary traces of the Hayward fault passing through the southwest part of the quarry site. These two traces trend northwest approximately along the 200-foot and 220-foot elevation contours. Crane's (1988) map shows a conjectured, east-dipping (into the hillside) thrust fault branching off the Hayward fault and passing about 1,300 feet southwest of the site.

The published maps by others show the general trend of the Hayward fault in the vicinity as about N40°W. The Hayward fault is generally thought to show primarily a right-lateral strike-slip sense of motion. The possibility that the fault's sense of motion also has a significant thrust component is starting to be appreciated by the local geologic community. Crane's thrust fault to the southwest would be an example of this component. The local secondary traces on Davis's (1982) map could be another example. Thus, there possibly could be active east-dipping thrust faults in a zone about 1,500 feet southwest of the main fault trace.

BGC performed four investigations into the issue of active faulting and prepared reports dated 2000(b), 2001(a), 2001(b), and 2005. As a result of our 2000 and 2001(a) fault investigation work, we mapped a concentrated zone of the Hayward fault passing through the main quarry area. As a result of additional work in 2001(b), we further delineated the concentrated fault zone to the southeast, on part of the Marcotte property. This concentrated fault zone is approximately 96 to 280 feet wide. A 50-foot setback from the eastern limit of the concentrated fault zone was recommended for structures intended for human occupancy. The 2005 Interim Geologic Map shows the concentrated fault zone and 50-foot setback.

The Hayward fault passes through the length of the Marcotte property, southeast to northwest. In the eastern part of the Marcotte property, efforts to delineate faulting in detail for purposes of siting buildings for human occupancy were not continued beyond the proposed residential development. Trench T-2, however, extends across the width of the property. An interpreted fault feature was

observed at Trench Station 0+80. However, this feature had a moderate dip of 60° eastward and was overlain by an undisturbed horizontal layer of native soil; consequently, this feature is not likely to be the locus of active fault creep. At Station 1+60, a prominent fault trace was observed offsetting soil layers. This feature had a steep dip of 73° and lacked an overlying undisturbed horizontal layer of native soil, though this lack could be due to movement of artificial fill at this location. We believe this feature at Station 1+60 is probably an important trace of the active Hayward fault and the locus of active fault creep. This conclusion is supported by mapping by Lienkaemper (1992), who showed two active, creeping traces of the Hayward fault passing through the Marcotte property. One of Lienkaemper's two mapped fault traces crosses Trench T-2 at about Station 1+60, and the other trace is approximately along the southwest boundary of the Marcotte property. (Trenches T-3, T-4, and T-6 were too short to provide further fault investigation coverage.)

The margins of serpentinite, gabbro, and the sheared rocks underlying the main quarry slope were also mapped as faults (ancient) by Dibblee (1980). These faults are probably inactive, since they are relatively far from the active Hayward fault trace and outside the official fault zone. Regardless, these faults pose no concern, since no development is proposed on the main quarry slope.

Secondary fault traces, shown with letter designations on the map, cross the west part of the quarry site. These faults could be additional active fault traces associated with the Hayward fault, since they are in the official fault zone, and based on findings in some of our exploratory trenches. Regardless of possible presence of active fault traces, no structures for human occupancy are proposed in these areas.

BGC's 2005 fault investigation pertained to the proposed community center site. Some bedrock shears were encountered. These shears are ancient and are better thought of as inherent to the ancient greenstone rock itself rather than as related to present-day (active Hayward) faulting; these shears are not depicted on the 2005 Interim Geologic Map. No active faults were encountered during the 2005 fault investigation.

GROUNDWATER

In winter, numerous springs appear on the main quarry slope, some of which persist year-round. Clusters of seeps have been observed in various places on the main quarry slope at various times. They are transitory and widespread, and thus are not shown on the geologic map, Plate 3. Groundwater was encountered in only two test pits: at a depth of 7 feet in TP-14 and at a depth of 14 feet in TP-28 (BGC 2000a). Groundwater in the main quarry floor area is generally present a few feet or tens of feet below the predominant site grade, as shown in places by ponded water in pits. Groundwater levels in the quarry are variable and are known from past experience to fluctuate from winter to summer. The ongoing quarry excavations and drainage have resulted in some drawdown of groundwater in the working areas. A prominent spring is located on the west end of the proposed Tennyson Road extension, about 200 feet from Mission Boulevard, as shown on Plate 3.

Groundwater has been measured in piezometers and in auger borings as part of various investigations (Kaldveer Associates, 1989; BGC, 2000a, 2004a, 2004c). Table 2, below, presents groundwater levels where measured in various subsurface exploration points at various times.

Table 2. Groundwater measurements.

Exploration point	Investigation	Date of measurement	Ground surface elevation (ft)	Depth to groundwater (ft)	Groundwater elevation (ft)
EB-1	KA (1989)	01/17/89	705	5	700
EB-2	KA (1989)	01/17/89	648	45	603
EB-3	KA (1989)	01/17/89	305	13	292
B-1	BGC (2000a)	03/12/99	380	> 46½	< 333½
B-2	BGC (2000a)	03/12/99	480	20	460
B-3	BGC (2000a)	03/12/99	345	25	320
B-4	BGC (2000a)	03/12/99	488	15	473
S-1	BGC (2004a)	11/18/03	221	7	214
S-2	BGC (2004a)	11/18/03	236	40	196
S-3	BGC (2004a)	11/18/03	215	4	211
S-5	BGC (2004a)	11/18/03	270	2	268
S-7	BGC (2004a)	11/18/03	296	17	279
S-8	BGC (2004a)	11/18/03	279	8	271
S-9	BGC (2004a)	11/18/03	250	29	221
S-10	BGC (2004a)	11/18/03	243	8	235
B-2	BGC (2004a)	02/19/04	210	12½	197½
B-3	BGC (2004a)	02/23/04	221	13	208
B-4	BGC (2004a)	03/02/04	275	4	271
P-1	BGC (2004c)	01/27/05	333	41	292
P-2a	BGC (2004c)	01/27/05	220	4	216
P-2b	BGC (2004c)	01/27/05	220	3	217
P-3a	BGC (2004c)	01/27/05	213	13	200
P-3b	BGC (2004c)	01/27/05	212	21	191
P-4	BGC (2004c)	01/27/05	255	11	244
P-5	BGC (2004c)	01/27/05	270	39	231
P-6	BGC (2004c)	01/27/05	245	a	Artesian
P-7	BGC (2004c)	01/27/05	245	14	231
P-8	BGC (2004c)	01/27/05	222	36	186
P-9	BGC (2004c)	01/27/05	240	5	235

a. 2½ feet above ground (top of pipe).

STABILITY ANALYSIS, MAIN SLOPE

BGC's 2000(a) report presented the methods and results of a slope stability analysis through the future reclaimed main quarry slope. The expected strength parameters of the engineered fill were derived from triaxial consolidated-drained (TXCD) and consolidated-undrained (TXCU) compression tests. These strength tests were performed in BGC's laboratory on remolded samples of the existing sidecast fill, which is expected to be used in constructing the engineered fill placed against the lower 150 feet of the future reclaimed slope. Because of the nature of triaxial compression testing, the remolded samples generally failed along the weakest planes. For samples of shale, greenstone, and greenstone gouge, the failures took place mostly along preexisting fracture planes. Table 3, below, lists the results of the shear strength tests:

Table 3. Results of laboratory shear strength tests.

	Shear strength			
	At 4% strain		Peak	
Material and testing conditions	Cohesion (psf)[a]	Friction angle (degrees)	Cohesion (psf)[a]	Friction angle (degrees)
Engineered fill, TXCD				
Stress 0 to 3 ksf[b]	0	32	0	37
Stress 5 to 16 ksf	0	23	0	34
Engineered fill, TXCU (Stress 0 to 5 ksf)	0	37	0	39
Shale	0	31	0	36
Greenstone gouge	0	21	0	28
Greenstone	na[c]	na[c]	0	45

a. psf denotes pounds per square foot.
b. ksf denotes thousands of pounds per square foot.
c. Greenstone failed at strains smaller than 4%.

Analysis and judgment were added to the laboratory strength test results to derive material parameters used in stability analysis. Because of their similarity, the shear strengths of the serpentine/gabbro are assumed to be the same as that of the soil-like greenstone gouge. As discussed above under *Site Geology, General*, bedding planes in the bedrock underlying the main quarry slope generally dip into the slope, to the east or northeast. As a result, potential basal shears of slope failures in the southwest-facing main quarry slope would have to cross bedding-plane fractures, in other words, through intact rock. To account for such potential shearing through bedding, peak cohesion of the bedrock is assumed to be 1,500 to 2,500 psf, and cohesion at 4% strain is taken to be about 80% of peak cohesion. Table 4, below, lists the resulting material parameters used in the stability analysis.

Table 4. Material parameters used in stability analysis.

		Shear strength					
		At 4% strain		Peak		Residual	
Material	Moist unit weight (pcf)[a]	Cohesion (psf)[b]	Friction angle (degrees)	Cohesion (psf)[b]	Friction angle (degrees)	Cohesion (psf)[b]	Friction angle (degrees)
Engineered fill	125	0	31	0	36	--	--
Serpentinite, gabbro	135	1,200	21	1,500	28	--	--
Sheared shale	135	0	31	0	36	--	--
JKss/sh, fsr, JKsh	145	1,600	31	2,000	36	--	--
Greenstone	145	--	--	2,500	45	0	28

a. pcf denotes pounds per cubic foot.
b. psf denotes pounds per square foot

Phreatic surfaces modeled in our stability analyses assumed high groundwater conditions, with groundwater at about 50 to 60 feet below the ground surface.

We performed slope stability analyses on Cross Sections A-A', B-B', and C-C' using the material parameters listed above as input to the computer program GSLOPE. As observed during previous investigations, the engineered fill, shale, and greenstone gouge samples failed at strains of about 9% to 15%. However, the greenstone samples exhibited brittle failure at strains of less than 4%. To maintain strain compatibility and to account for possible progressive failure, the following two combinations of shear strength of the fills, serpentinite/gabbro, shale, and greenstone were used in our stability analysis for Sections B-B' and C-C':

- Shear strengths at 4% strain of the fills, shale, and serpentinite/gabbro, and the peak shear strength of the greenstone.
- Peak shear strength of the fills, shale, and serpentinite/gabbro, and residual shear strength of the greenstone (peak shear strength of the greenstone gouge.

The results of the stability analyses (static condition) indicate the main slopes designed and constructed according to the recommendations presented below will generally have static factors of safety of 1.5 or greater; see Table 5, below. Appendix N presents the computer output for the stability analyses.

We estimated potential seismic slope deformations using the simplified methods of Makdisi and Seed (1978). Seismic deformations were estimated assuming a peak ground acceleration of 0.75 g. Some deformation could occur, as shown in Table 5, as is the case with essentially all slopes under seismic conditions. However, these deformations are unlikely to have significant impacts on the proposed residential units.

Table 5. Slope stability results.

Cross Section	Static factor of safety	Yielding acceleration (g)	Seismic deformation (inches)
A-A'	2.25	0.34	9
B-B'	1.67 – 2.02	0.20	1
C-C'	1.57 – 1.71	0.16	3

CONCLUSIONS AND RECOMMENDATIONS

GENERAL

From a geologic and geotechnical standpoint, the proposed development can generally be constructed as planned provided the conclusions and recommendations contained in this report are followed and incorporated into project plans. The primary issues for the development consist of

- Future stability of the reclaimed main quarry slope, including landslide treatments and repair of existing erosion gullies on the existing reclaimed portion,
- Removal of nonengineered fill from areas of proposed improvements,
- Potential settlement of future engineered fill below proposed improvements,
- Possible minor serpentinite in old, nonengineered fill,
- Relationships between utilities and streets and the main creeping trace of the Hayward fault,
- Special foundations for the recommended special foundation zone.

RECLAIMED MAIN QUARRY SLOPE

Stability analyses through the main quarry slope were discussed earlier.

LANDSLIDE TREATMENT

Landslides 1 and 3 are located outside the limits of the proposed reclaimed main quarry slope. Potential future movement of these three landslides is not expected to have impacts on the proposed residential development or reclaimed quarry slope. Therefore, these three deposits can be left in place without remedial treatment.

Landslides 15 and 16 will be removed through a combination of design cuts and overexcavation. These areas will require careful observation by our geologists during future cutting and filling.

Portions of Landslides 17 and 18 have been removed by the main quarry slope reclamation. More of these two landslide deposits will be removed with continuation of the slope reclamation. Once slope reclamation is completed, minor portions of these two landslide deposits will remain beyond the

reclamation limits. Potential future movements of these remaining landslide portions would be in directions away from the development, and are not expected to have geotechnical impacts on the proposed residential development or reclaimed quarry slope. Therefore, those minor landslide deposits remaining after reclamation can be left in place without remedial treatment.

Landslide 21 is a new landslide that formed in the cut slope in late 2002. It has an estimated depth of 15 to 20 feet. We recommend that this landslide plus selected surrounding bedrock (fssh) be removed and replaced with drained, engineered fill. The material recommended for removal and replacement is shown in plan view on the 2005 Interim Geologic Map and in section view in Cross Section C-C' on Plate 4. The zone of removal and replacement will measure approximately 800 feet by 600 feet in plan view, and 150 feet wide at the bottom tapering to 75 feet wide at the top in section view. Subdrains should be extended up the back cut (finger drains) at maximum 30 feet center-to-center separations and connected to the back-of-keyway subdrain. These finger subdrains should be constructed in accordance with the recommendations under *Subdrainage*, below.

Table 6, below, summarizes recommendations for landslide treatment assuming (in other words, after) the design grading is performed as shown on the conceptual layout and as discussed above.

Table 6. Recommended landslide treatments.

Landslide	Recommended remedial measures after design grading
Landslide 1	None
Landslide 3	None
Landslide 15	Remove and replace with engineered fill
Landslide 16	Remove and replace with engineered fill
Landslide 17	None
Landslide 18	None
Landslide 21	Remove and replace with engineered fill

CUT PORTION OF SLOPE

The CBG plan shows the existing and future cut portion of the main slope at varying gradients. From the plan, in downward succession on the slope, we note slope gradients approximately as follows:

- 3H:1V in the sandstone & shale (JKss/sh) and sheared rock (fsr) units high on the slope,
- 2½H:1V in gabbro (gb),
- 8H:1V across most of the serpentinite/gabbro (sp/gb) unit,
- 2H:1V in sandstone and shale (JKss/sh),
- 2½H:1V in shale (JKsh)

The slope design was developed with earlier input from BGC and is appropriate in general. A portion of the cut slope exposes sheared shale (fssh); we assume the outer portion of this exposure will be rebuilt as a fill slope as recommended above under *Landslide Treatment.*

The stability of cut slopes in bedrock materials is largely dependent on the planned cut location and the orientation of the cut slope with respect to bedrock structure or other planes of geologic weakness. We recommend that all cut slope exposures be carefully examined by an engineering geologist during grading for evidence of potential instability. When adverse bedrock structure or other zones of geologic weakness are encountered in cut slopes during grading, we anticipate that remedial measures such as flattening the slope or constructing a slope buttress such as the depiction shown on Plate 8, titled *Typical Slope Buttress Details*. The project soils engineer should develop specific remedial alternatives as cut slope conditions are exposed during grading.

The plan also shows the slope provided with intermediate 10-foot-wide drainage benches spaced at intervals of 25 vertical feet. This drainage design was developed with earlier input from BGC and is appropriate. Benches should be provided with concrete-lined V ditches to intercept runoff.

FILL PORTION OF SLOPE

The CBG plan shows existing and future fill portions of the main slope at gradients varying between 2H:1V and 3H:1V. The plan also shows the slope provided with intermediate 10-foot-wide benches spaced at intervals of 40 vertical feet. Benches should be provided with concrete-lined V ditches to intercept runoff.

EROSION GULLY REPAIR

The existing reclaimed portion (upper) of the main quarry slope displays numerous shallow to deep erosion gullies. The resulting sediment has filled parts of the concrete drainage ditches, further degrading the drainage characteristics of the slope. The gullies should be repaired. One alternative is to repair them *en masse* by removing the gullies (plus surrounding materials as needed from a constructability standpoint) and replacing the portion of slope as a fill buttress as shown on Plate 8, titled *Typical SlopeButtress Details*. Another alternative, more appropriate for the smaller gullies, would be to fill them with compacted fill in accordance with the recommendations below under *Utility Trenches* and using techniques typically used in backfilling utility trenches.

The gully repair areas should be planted with deep-rooted, fast growing grasses before the first winter to reduce erosion. On a preliminary basis, some irrigation of slopes could be performed; however, specific details regarding irrigation systems, locations and discharge should be reviewed by this office.

RESIDENTIAL SETBACK FROM TOE OF MAIN QUARRY SLOPE

We have recommended a 100-foot setback from the toe of the reclaimed main quarry slope. The rationale is the 100-foot setback will provide a buffer zone where potential slope movements, which are expected to be minor, can be accommodated without impacting the planned structures. This 100-foot zone can be used for roadways, vehicle parking, and landscape improvements. A 100-foot

setback should be used where the slope is tall; the setback can be narrowed gradually to 50 feet wide on the north and south sides, where the slope height is less. CBG's conceptual layout, shown as a base for our Geologic Map, shows these setbacks.

NONENGINEERED FILL

As discussed above under *Artificial Fill*, much of the proposed development is presently underlain by fill. Fill placed under engineering controls, given the designations Qaf_3 and Qaf_4, is present in areas of existing and proposed improvements. This engineered fill is suitable for the proposed overlying finished slopes in those locations and can be left in place.

The remainder of the fill is nonengineered and has been given the designations Qaf_1, Qaf_2, and Qaf_5. Where proposed improvements would be placed, i.e., design engineered fill, residential lots, roadways, sports field, the nonengineered fill should be completely removed and replaced with engineered fill. We expect most to all of the fill material can be reused as engineered fill, subject to evaluation by the soils engineer during construction.

POTENTIAL SETTLEMENT OF ENGINEERED FILL

We have gained abundant experience in engineering fills in former quarries in which the material is granular and composed predominantly of hard volcanic rock with minor softer marine sedimentary rock, such as the material at La Vista Quarry. By placing the deeper fill at a minimum 95% relative compaction and shallower fill at a minimum 90% relative compaction, potential settlement of engineered fill at the La Vista Quarry development can be held to nominal amounts. Engineered fill for the proposed project will extend a maximum depth of about 80 feet. In these materials, using such minimum 90% and 95% compaction zones in fills this deep usually leads to total settlements of about 1 foot, ± ¼ foot. Based on our experience, we expect that about 75% to 80% of the total settlement will occur during the mass grading, leaving about 20% to 25% to occur afterward.

Based on this experience, and assuming the recommendations presented below under *Site Preparation and Grading* are followed, we estimate that total settlement of compacted fill will range up to about 1 foot, and post-grading settlement will range up to about 3 inches.

Settlement of fills should be monitored before foundation construction. Settlement monitoring should be started by installing surface settlement markers (driven steel stakes) into the ground soon after the fill reaches finished grade, and initial elevations of the stakes should be accurately surveyed. Subsequent rounds of elevation surveys should be made approximately every 2 weeks thereafter for a period of a few months and monthly thereafter for a few additional months. Surveys should be by a State-licensed surveyor.

Potential total and differential settlement at the site should be considered in the design of gravity underground utilities (storm drains and sewer lines) and surface drainage. The gravity underground utilities installed immediately after mass grading should be designed to accommodate the post-grading settlement. We recommend that one and one-half to two times the estimated post-grading long-term settlement be incorporated in the design of storm drain and sewer lines.

SERPENTINITE

A portion of the main quarry slope exposes serpentinite. BGC (1999b) evaluated the serpentinite from the standpoint of chrysotile asbestos content. This portion of the slope has been cut to design grades. We do not expect additional serpentinite will be cut or moved with the proposed design grading.

There may be a potential for some serpentinite fragments to be present in old nonengineered fills on the site: Qaf_1, Qaf_2, and Qaf_5. For this reason, the nonengineered fills that will be involved in remedial grading, i.e., removal and incorporation into new engineered fill, should be placed in the deeper portions of the engineered fill. Bedrock generated from future cutting on the main quarry slope per the design grading will provide suitable material for placing in the upper few feet below finished grades.

UTILITIES AND STREETS RELATIVE TO MAIN CREEPING FAULT TRACE

The potential for active creep on the Hayward fault to disrupt future utilities and streets should be addressed.

Alquire Parkway

We understand a water line will be provided (by others) on the northeast (uphill, same as development) side of the Hayward fault within the Alquire Parkway extension. We also understand the project includes constructing a branch from that future water line to the proposed La Vista residential development. The proposed La Vista project water line would be constructed in the proposed E Street right of way, through the Marcotte property.

We recommend the new E Street water line be located such that it is entirely northeast of the creeping main trace of the Hayward fault, starting from its branch from the future Alquire Parkway extension. This way, the E Street water line will not cross this fault trace, and will not need to be provided with flexibility to address fault creep. We recommend the E Street water line be located off, northeast of, the locations of the two main creeping fault traces in the vicinity, shown on the Geologic Map. These are the traces mapped by Lienkaemper (1992), which deserve to be taken into account, as discussed earlier under *Faulting*. We conclude, based on the trench exploration and research findings in this area, that taking these traces into account when planning water line locations will give appropriate protection to the water line against the risk of faulting. In addition, gas utility lines, planned in E Street, should also be kept off and northeast of these fault traces. If utility lines are installed within the proposed E Street alignment shown on CBG's conceptual layout, then we expect the risk posed by faulting to utility lines will be low. Also, the proposed E Street alignment as shown on the CBG conceptual layout is appropriate from the standpoint of the roadway itself.

Tennyson Road

We understand the project includes providing a water line in the proposed Tennyson Road right of way. This line will cross the creeping main trace of the Hayward fault. To address fault creep, the

line should be provided with flexibility at this fault crossing, using a series of flexible ball joints or a section composed of high-strength relatively flexible material. Flexible, high-density polyethylene pipe and fitting product systems are available for municipal applications. One manufacturer's flexible pipe system can incorporate thermal expansion/contraction joints, which could be used to handle fault creep. An oversize outer conduit around the water line should be provided to allow the fault strain to be distributed more or less evenly along the flexible line section. Flexibility and outer conduit should be provided across the concentrated fault zone shown on the Geologic Map.

In addition, measures should be taken to minimize utility disruptions on other types of utility lines. To accommodate expected fault creep movement, the relatively flexible utility lines, i.e., gas, electricity, and communications, should be provided with several inches of slack and be enclosed in an oversize outer conduit (sleeve) within the concentrated fault zone shown on the Geologic Map. Such a conduit will allow the lines within to slip freely as slack is taken up by fault creep. Gas lines should also be provided with shutoff valves on both sides of the fault zone to be used temporarily in the event of major fault movement.

Utility lines made of cast cement product or vitrified clay (storm drain, sewer) should be provided with observation manholes on either side of the concentrated fault zone shown on the Geologic Map. Manholes at these locations would facilitate periodic checks for pipeline strain. These utility lines in this zone should be installed as shallow as practical to make inspection, maintenance, and repair more practical.

Shutoff valves should be provided to give a practical way to address large-magnitude seismic fault rupture in water lines. (Such rupture would be infrequent, with recurrences on the order of decades or centuries.) Risers could be provided with shutoff valves and with fittings that would allow quick installation of a temporary aboveground bypass for an underground section that requires repair due to fault rupture. When the water line breaks or requires maintenance, a temporary overland flexible hose could be connected between the two valves to provide temporary water service, the valves would be turned to divert water into the bypass, the permanent underground line would be repaired, and the water then redirected through the permanent line. The water utility company should be consulted regarding the actual provisions for crossing the fault.

SPECIAL FOUNDATIONS

During 2001(b) subsurface exploration, BGC identified an area of secondary fault-related features We concluded the features in this area could display minor sympathetic rupture in the event of strong seismic ground shaking on the nearby (active Hayward) fault zone. Special foundations, such as post-tensioned slabs, were recommended for residences in this area to address this concern. We expect the foundations for the proposed residences will consist of post-tensioned slabs, and later in this report, under the heading *Foundations*, we discuss preliminary design recommendations for this type of residential foundation.

SITE PREPARATION AND GRADING

All grading operations should generally be done in accordance with the following recommendations:

1. Areas to be graded should be cleared and stripped of significant vegetation. Strippings should be stockpiled and reused as topsoil. Alternatively, strippings may be placed within engineered fill at a ratio of 1 part strippings to 10 or more parts clean soils.

2. All existing nonengineered fill (Qaf_1, Qaf_2, and Qaf_5 on Geologic Map) in areas of improvements should be removed down to bedrock or competent native soil.

3. Nonengineered fill that is reused for engineered fill should be placed deeper within the new engineered fill. It should not be placed in the upper 2 to 3 feet below finished grades unless approved in the field by the project geologist.

4. The exploratory trenches were loosely backfilled without compactive effort. The Geologic Map shows their locations. Where the trench backfill will not be removed by design cutting and where compacted fill or other improvements are planned, the trench backfill should be completely removed.

5. Zones of soft or saturated soils may be encountered during excavation and compaction; therefore, deeper excavation may be required to expose firm rock or soil. This need for deeper excavation in localized areas should be determined in the field by the soil engineer.

6. The exposed surface in fill areas should be scarified to a minimum depth of 12 inches. The scarified materials should be properly moisture-conditioned and recompacted as follows:

   - Within 20 feet of finished grade: at least 90% relative compaction at not less than 3% over optimum moisture content.
   - Below 20 feet from finished grade: at least 95% relative compaction at not less than 3% over optimum moisture content.

   Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same soil as determined by ASTM Test Method D1557-00. Optimum moisture is the water content (percentage by dry weight) corresponding to the maximum dry density.

7. In general, the on-site earth materials including the existing fill are considered acceptable for engineered fill and trench backfill, provided significant surface vegetation, debris, and other deleterious materials are removed.

8. All fill and backfill materials should be subject to evaluation by the soil engineer before use. Imported material should contain no deleterious matter or rock greater than 6 inches in largest dimension. Imported material should have a plasticity index of less than 30 in general, and also should have a plasticity index of less than 20 where the material would be placed shallower than 20 feet below finished grade.

9. Fill should be placed in thin lifts (normally 8 to 12 inches thick), uniformly moisture conditioned, and compacted in accordance with the following criteria:

- Within 20 feet of finished grade: at least 90% relative compaction at not less than 3% over optimum moisture content.
- Below 20 feet from finished grade: at least 95% relative compaction at not less than 3% over optimum moisture content.

Modification to the acceptable lift thickness should be determined in the field by the soil engineer and based on demonstrated compaction performance during grading, which will depend on the compaction equipment and methods used.

10. Special care should be taken to reduce the size of bedrock fill material in order that the material can be properly compacted. Some large rocks can be placed in the fill below the depth of foundations and below the inverts of utilities, providing proper compaction is achieved. Oversize (over 12 inches in size) rock should not be used within 5 feet of pad grades and within 10 feet of street grades. Oversize rocks should be spaced apart such that large rocks are not concentrated in pockets and can be surrounded by compacted fill.

11. Fill slopes should be overbuilt horizontally at least 2 feet and then cut back to design grade to expose a firm and compacted surface. Alternatively, fill slopes can be track-walked to achieve the recommended minimum relative compaction.

12. Granular material should be used for the backfilling of keyways and construction of 2H:1V fill slopes.

13. Observations and soil density tests in fill should be performed during grading to assist the contractor in obtaining the required degree of compaction and proper moisture content. Where compaction and moisture content are outside our recommended ranges, additional compactive effort should be made with adjustment of the moisture content as necessary until the recommended requirements are obtained.

14. The geotechnical engineer should be notified at least 48 hours before any grading operation. The procedures and methods of grading may then be discussed between the developer, contractor, and geotechnical engineer. This can facilitate the performance of grading operations and minimize possible construction delays.

EXCAVATION CHARACTERISTICS

Hard greenstone bedrock will be encountered in some cut areas for the project. Some of these areas could be difficult to excavate during mass grading. Since the site is an active quarry, we suggest the quarry personnel be asked about the methods and equipment they have found work well for excavating the greenstone rock at the quarry.

It will be desirable to overexcavate the building pads exposing hard rock to a depth of approximately 5 feet or the maximum depth of sanitary sewer laterals. (This will also help produce suitable conditions for landscaping.) Similarly, it will be desirable to overexcavate street and sidewalk areas to the maximum depths of underground utilities. On a preliminary basis, the overexcavation depths can be taken to be approximately 10 feet, but the project civil engineer can provide better depth

recommendations as project planning proceeds. These overexcavated areas would then be brought back up to design grade with select compacted fill. The compacted fill in place of hard bedrock will allow practical trench excavation for underground utility lines.

Excavation in hard rock will generate some boulder size rock fragments, which will require special handling for use in engineered fill, as recommended above under *Site Preparation and Grading*.

CUT SLOPES (EXCEPT MAIN QUARRY SLOPE)

(Our recommendations for the main quarry slope were presented above under *Reclaimed Main Quarry Slope, Cut Portion*.) We recommend that (less-significant) cut slopes in the residential area, generally be constructed in accordance with the following slope gradients:

- 3H:1V or gentler for cut slopes in native colluvium.
- 2H:1V or gentler for cut slopes in bedrock.

The stability of cut slopes in bedrock materials is largely dependent on the planned cut location and the orientation of the cut slope with respect to bedrock structure or other planes of geologic weakness. We recommend that all cut slope exposures be carefully examined by an engineering geologist during grading for evidence of potential instability. When adverse bedrock structure or other zones of geologic weakness are encountered in cut slopes during grading, we anticipate that remedial measures such as flattening the slope or constructing a slope buttress will be needed, such as the depiction shown on Plate 8, titled *Typical Buttress Details* The project soils engineer should develop specific remedial alternatives as cut slope conditions are exposed during grading.

Where cut slopes steeper than 3H:1V and over 30 feet high are planned, intermediate benches spaced no greater than 25 feet vertically should be provided. Benches should be at least 8 feet wide and have a concrete lined V-ditch along the bench to intercept runoff. Alternatively, cut slopes higher than 30 feet may be constructed without benches, provided additional erosion control is installed on the portion of the slope more than 30 feet below the top of the cut slope. Placement of 6 to 12 inches of clayey strippings on 3H:1V and flatter cut slopes has been effective at controlling erosion when benches and V-ditches are not utilized. Subdrainage should be installed at the toes of major cut slopes as determined during our review of the grading plans.

FILL SLOPES (EXCEPT MAIN QUARRY SLOPE)

The stability of planned fill slopes depends on proper keyways and benching, subdrainage, fill compaction, and slope gradients. We recommend that fill slopes in the proposed residential neighborhood be constructed at slope gradients no steeper than 2H:1V. This gradient assumes the outer 20 feet (minimum) of fill slopes is constructed of select, primarily granular material. In the unlikely event the outer portions of fill slopes cannot be constructed of select, primarily granular material, such fill slopes should be constructed at gradients no steeper than 3H:1V.

We estimate enough granular material is present on site to selectively construct the fill slopes out of primarily granular material at gradients of 2H:1V. If material is imported to the site at the time of fill slope construction, the soils engineer should evaluate the import for potential use in 2H:1V fill slope

construction. (Alternatively, material that is judged unsuitable for 2H:1V fill slope construction can be used in general, deeper fill placement.)

Fill slopes exceeding 30 feet in height and steeper than 3H:1V should have intermediate benches spaced no greater than 25 feet vertically. Benches should be at least 8 feet wide with a concrete lined V-ditch to intercept runoff. Alternatively, fill slopes higher than 30 feet and steeper than 3H:1V may be built without benches, provided additional erosion control matting is applied to the portion of the slope located about 30 feet below the top of the fill slope. Fill slopes should generally be constructed according to the recommendations as shown on Plate 5. Generally, keyway width should be at least 15 feet or one-half of the fill slope height, whichever is greater. Properly subdrained horizontal benches should be excavated into firm material or bedrock to key fills into the native material during slope construction. Subdrain lateral lines below fills should be spaced apart no more than 15 feet vertically.

SUBDRAINAGE

Seepage is expected to occur at the bottom of slopes, gullies, and at major cut slopes. We recommend that subdrainage be provided in the following areas. Seepage could also develop at the top of bedrock below the engineered fill placed for the residential development.

- At all springs and seepage areas,
- Below engineered fill placed for the residential development,
- Along the major swale and along other swales and gullies that receive fill,
- Where fill abuts natural uphill slopes,
- On the uphill sides of all keyways,
- At geologic contacts suspected to transmit seepage,
- At the toes of major cut slopes (as determined during grading plan review),
- In other areas of the site where seepage is observed during and after grading or as determined by the project geotechnical engineer or engineering geologist.

Engineered fill likely will need to be placed in deep, isolated excavations in the current quarry area. Some of this new engineered fill will be below the elevation of the lowest practical subdrain network; the lowest subdrain network will, in general, be placed below engineered fill, on top of bedrock. It will be acceptable that some deep pockets of engineered fill will be below future subdrains and will likely become saturated. Subdrains under new fill generally should be placed at maximum 30-foot vertical spacings. A preliminary subdrain plan should be prepared before grading to guide the earthwork contractor, and final configurations should be modified during construction, as approved by the soils engineer, to conform to actual field conditions.

Subdrains should consist of perforated PVC pipe conforming to ASTM Designation D 3034, Type SDR 23.5 for fill depths over 30 feet and Type SDR 35 for fill depths less than 30 feet. Perforations should be placed facing down. Subdrains should typically be at least 6 inches in diameter. Subdrains should be surrounded by and be underlain by at least 6 inches of Class 2 "Permeable Material," as

defined in Section 68-1.025 of the State of California Standard Specification (July, 2002). Subdrain trenches should be at least 18 inches wide and at least 4 feet deep. Final trench configurations should be approved by the soil engineer. Subdrain trenches should be capped with engineered fill or topsoil, depending upon the subdrain location. Subdrains should be positioned along the upslope sides of all keyway excavations. Typical subdrain details are presented on Plate 6. Subdrain systems should be discharged into accessible, observable storm drain structures where possible, such as manholes and drainage inlets. Elsewhere, subdrains should discharge to suitable open-space locations, such as concrete-lined ditches.

Some areas of seepage may develop after grading and house construction are completed. Additional subdrains will likely be needed in these areas should seepage develop.

EROSION PROTECTION

All cut and fill slopes should be planted with deep-rooted, fast growing grasses before the first winter to reduce erosion. On a preliminary basis, some irrigation of slopes could be performed; however, specific details regarding irrigation systems, locations and discharge should be reviewed by this office.

CUT/FILL TRANSITION LOTS

Along cut/fill transition lines through residential building pads, the cut portion of the lot should be overexcavated to a depth of at least 3 feet below finished grade and replaced with engineered fill. The overexcavation should extend at least 5 feet horizontally beyond foundation footprints.

FOUNDATIONS

Due to the high future ground shaking potential, we expect it will be appropriate to support the homes on concrete slabs-on-grade that are either post tensioned or conventionally reinforced. We can develop detailed geotechnical design criteria for such foundations once rough grades are established in the residential building area.

Where moisture vapor transmission through the slab would be objectionable, the use of vapor retarder and capillary moisture break should be considered by the designer of the slab. The slab designer should determine the thickness of the slab, capillary break, and vapor retarder.

CONCRETE SLABS ON GRADE

It is our opinion that, from a geotechnical engineering standpoint, concrete slabs-on-grade (driveways, walkways) can be supported on prepared subgrade.

During foundation and/or utility trench excavation, previously compacted subgrade soils may become disturbed. The disturbed subgrade soils should be moisture conditioned and recompacted according to the requirements outlined above under the heading *Site Preparation and Grading*.

Depending on the type of soil used to create subgrade, clayey soils may need special treatment before placing exterior concrete work. In areas of clayey subgrade soils, the subgrades soils should be

presaturated to at least 5% above optimum moisture content to a depth of at least 12 inches to promote some soil expansion before placement of concrete, thus reducing the amount of post-construction soil expansion. Also, the exterior concrete work subgrades should not be subject to heavy construction traffic, because it could be overcompacted by these vehicles. Due to a possible potential for post-construction soil expansion, construction and expansion joints should be considered by the slab designer. We can evaluate the soils present in exterior concrete-work subgrade areas when these surfaces are graded and develop specific treatment recommendations for specific lots.

UTILITY TRENCHES

Excavations should conform to applicable state and federal industrial worker safety requirements. Where trench excavations are more than 5 feet deep, they should be sloped and/or shored. Trench walls should be sloped no steeper than 1½H:1V in dry granular soils, and no steeper than 1H:1V in dry, cohesive soils. Flatter trench slopes may be required if seepage is encountered during construction or if exposed soil conditions differ from those encountered by the test borings. If full-sloped trench walls cannot be excavated due to site constraints, shoring should be provided to ensure trench stability and safety. We can provide soil parameters for shoring design on request.

Material quality, placement procedures, and compaction operations for utility line bedding and shading materials should meet the City of Hayward and other governing agency requirements. Utility trench backfill above the shading materials can consist of native soils processed to remove rubble, rock fragments over 8 inches in largest dimension, rubbish, vegetation, and other undesirable substances. Backfill materials should be placed in level lifts about 8 to 12 inches in loose thickness, brought to at least 3% over optimum moisture content and mechanically compacted to at least 90% relative compaction at depths below 30 inches of finished grade. No jetting should be permitted on this project.

Depending on time of year, rainfall, and localized grades, water could be intercepted during trench excavation, in which case dewatering is likely to be required.

RETAINING WALLS

Retaining walls of different types may have applicability in various locations on the project, depending on various localized factors as nearby utilities and foundations. The project civil and structural engineers may use their professional expertise in advising the builder in selection of wall types. We expect, nonetheless, that the proposed retaining wall next to the Moita property will likely be of the geogrid-reinforced modular-block type, such as Keystone. Table 7, below, presents geotechnical design parameters for such a wall. We expect the other (six) retaining walls, adjacent to project lots, will likely be of the conventional cantilever type. Table 8, below, presents geotechnical design parameters for such walls.

MODULAR BLOCK WALL

Table 7. Recommended geotechnical design parameters for modular block retaining wall.

Parameter	Recommended value
Reinforced fill	
Unit weight	125 pcf
Friction angle	33 degrees
Cohesion	0 psf
Retained fill	
Unit weight	125 pcf
Friction angle	33 degrees
Cohesion	0 psf
Foundation materials	
Unit weight	125 pcf
Friction angle	32 degrees
Cohesion	0 psf

The bases of the modular blocks should be at least 6 inches (level ground) and 16 inches (sloped ground) below lowest adjacent finished grade. Subdrains should be installed behind the modular blocks to prevent the buildup of hydrostatic pressure. Subdrain pipes should be set at the level of the base of the wall's gravel pad. For geo-grid reinforced block retaining walls more than 6 feet high, the permeable material blanket should be placed behind the geo-grid. Subdrains for retaining walls should consist of a vertical blanket of Caltrans Class 2 Permeable Material (conforming to Section 68 of Caltrans' Standard Specifications) a minimum of 1 foot thick and a 4-inch-diameter perforated pipe (SDR 35). The perforated pipes should have two rows of holes and be placed holes-down. The permeable blanket should extend up to about 1 foot of finished ground surface at the top. Subdrain pipes from behind the walls should be connected to solid collector pipes that outlet to drainage inlets, storm drains, or concrete-lined ditches.

CONCRETE AND MASONRY WALL

Concrete and masonry retaining walls can be supported on footing foundations founded on engineered fill, firm native soils, or bedrock. We recommend the following geotechnical criteria be incorporated in the retaining wall designs:

Table 8. Recommended geotechnical design parameters for cantilever retaining wall.

Parameter	Recommended value
Active pressure	
Level backfill	50 pcf [a]
3H:1V backfill	60 pcf [a]
2H:1V backfill	70 pcf [a]
Allowable bearing capacity	2,500 psf
Passive pressure	300 pcf [a]
Friction coefficient	0.3
Minimum footing depth	18 inches below lowest adjacent grade
Minimum footing width	18 inches

a. Active and passive pressures as equivalent fluid pressures in pounds per cubic foot.

The above active pressures do not include any surcharges. Therefore, the designer should include appropriate surcharge loads in retaining wall designs. Allowable bearing capacity may be increased by 1/3 for seismic and/or wind loads. Passive pressure assumes the designer neglects the upper 1 foot of soil in front of the wall if not confined by pavement or slab, and the upper 3 feet of soil in front of the wall in case of 2H:1V sloping ground conditions. The above lateral pressures also assume drained conditions. To prevent hydrostatic pressure buildup, the retaining walls should be provided with permanent backdrains. Subdrains should consist of a vertical blanket of Caltrans Class 2 Permeable Material (conforming to Section 68 of Caltrans' Standard Specifications) a minimum of 1 foot thick and a 4-inch-diameter perforated pipe (SDR 35). The perforated pipes should have two rows of holes and be placed holes-down. The permeable blanket should extend up to about 1 foot of finished ground surface at the top. Subdrain pipes from behind the walls should be connected to solid collector pipes that outlet to drainage inlets, storm drains, or concrete-lined ditches. Alternatively, manufactured drainage composites can be used. If their use is desired, we can provide specific recommendations.

PRELIMINARY PAVEMENT SECTIONS

The following recommendations for preliminary asphalt concrete pavement sections are intended as a conceptual guide for planning only. Pavement analyses are based upon an assumed resistance (R) value of 5, which we expect to be (conservatively) representative of final pavement subgrade materials, the Caltrans "Design Method for Flexible Pavement," and traffic indices (TIs) which are indications of load frequency and intensity. We assume that assigned TIs include provisions for heavy truck traffic related to construction activities. Table 9, below, presents recommended preliminary pavement sections:

Table 9. Preliminary recommended pavement sections.

	Thickness (inches)	
Traffic index	Asphalt concrete, Type B	Aggregate base, Caltrans Class 2
4	2½	8
4½	2½	10
5	2½	11
5½	3	12
6	3	14
6½	3½	15
7	4	16
7½	4	18
8	5	18
8½	5	20

Since this is a relatively large grading project, on-site material properties vary from hard greenstone to clayey materials, and import fill material could contain some clayey material also. Therefore, we recommend samples be obtained from the rough roadway subgrades after mass grading. Resistance (R)-value tests should be performed on these samples. Final pavement section recommendations should be made on the basis of these test results.

Before subgrade preparation, all utility trench backfill should be properly placed and compacted. Street subgrade soils should be moisture conditioned to at least 3% over optimum moisture content and rolled to at least 95% relative compaction to provide a smooth, *unyielding* surface. Subgrade soils should be maintained in a moist and compacted condition until covered with the pavement section.

Class 2 aggregate base should conform to the requirements in Section 26, Caltrans "Standard Specifications," (July 2002). The aggregate base should be placed in thin lifts in a manner to prevent segregation, uniformly moisture conditioned, and compacted to at least 95% relative compaction to provide a smooth, *unyielding* surface. Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same soil, as determined by the ASTM Test Method D1557-00.

To reduce the potential for subgrade soils and aggregate base being adversely affected by irrigation water or infiltrated rainwater, we recommend that roadway underdrains be installed at the bottom of the aggregate below the curb and gutter, as shown on Plate 7.

Where drop inlets or other surface drainage structures are to be installed, slots or weep holes should be provided to allow free drainage of the contiguous base course materials.

CORROSION CONSIDERATIONS

BGC performed sulfate testing on approximately ninety samples of material from La Vista Quarry. The samples were collected from fill material exported from the quarry between June 2002 and March 2004. Samples were analyzed by Cerco Analytical using ASTM Test Method D4327. The test results showed sulfate ion concentrations ranging from nondetect (below the method detection limit of 15 mg/kg) up to 760 mg/kg. Median and mean values of about 160 and 210 mg/kg, respectively, were found.

We believe these test results reasonably represent the on-site portion of material to be used for engineered fill. However, some import material, from presently unknown sources, is also expected to be used for engineered fill. Import might be used in near-surface fill in potential contact with future foundations and underground pipelines. We recommend that a more-extensive set of corrosion test results (including other parameters in addition to sulfate) be obtained at the time of construction from the actual near-surface fills. The test results should be shared with your structural engineer, civil engineer, and underground utility contractor. A corrosion specialist should be consulted for advice on selection of proper corrosion protection and final design thereof.

SEISMIC HAZARDS

FAULTS

BGC reports dated 2000(b) and 2001(a,b) reported on our fault investigations within the quarry site and Marcotte property. Those reports presented our recommendations for locating residential construction with regard to the potential for surface fault rupture. Recommendations included

- Setting back residences from the northeast side of the zone of concentrated faulting,
- Not locating residences southwest of the concentrated fault zone without further investigation,
- Not locating residences on the southwestern two-thirds of the Marcotte property without further investigation,

Locating the proposed residences as shown on CBG's conceptual layout (see Plate 3) will result in a low potential for surface rupture along active faults to affect the residences.

DESIGN PARAMETERS FOR SEISMIC GROUND SHAKING

The site is located in a region of high seismicity given the proximity of the Hayward fault and other active fault systems in the San Francisco Bay Area. As for all sites in the Bay Area, the project can be expected to experience at least one moderate to severe earthquake during the life span of the project. Ground shaking is a hazard that cannot be eliminated but can be partially mitigated through proper attention to seismic structural design and observance of good construction practices.

Due to the potential for strong ground shaking caused by earthquakes, the proposed homes should be constructed to withstand strong ground shaking. As a minimum, the following California Building Code (CBC) seismic design criteria should be incorporated into the structural design of homes.

Table 10. Recommended seismic design criteria per CBC.

Seismic zone	4
Soil profile type	S_D
Seismic source type (Hayward fault)	A
Closest distance (Hayward fault)	Less than 2 km

LIQUEFACTION

Liquefaction is the temporary transformation of loose, saturated, cohesionless soil into a viscous liquid during strong ground shaking from a major earthquake. There is no evidence of historic ground failure due to liquefaction on the site. The site is not in an official liquefaction hazard zone shown on the State of California seismic hazard zones map by Davis (2003). We have not encountered earth material susceptible to liquefaction at the site. We conclude the risk of liquefaction is very low.

GROUND SUBSIDENCE

Ground subsidence can occur as a result of "shakedown" when dry, cohesionless soils are subjected to earthquake vibrations of high amplitude. Loose cohesionless soil conditions might exist within nonengineered fills at the quarry site. However, these nonengineered fills will be removed below proposed improvements in accordance with our recommendations, which will result in a low risk of ground subsidence due to shakedown.

EARTHQUAKE-INDUCED LANDSLIDING

Strong ground shaking during a major earthquake is likely to cause reactivation of landslides in many parts of the San Francisco Bay area. The stability of all slopes is lower during earthquake disturbances than at other times. Small portions of the proposed residential building site are in official zones for earthquake-induced landslides, as shown on the map by Davis (2003). Grading, modification of the main slope, and landslide remediation in accordance with the recommendations in this report should reduce the risk of seismically induced landslides to low.

ADDITIONAL SERVICES

Our firm should be accorded the opportunity to review the final plans and specifications to determine if the recommendations of this report and our applicable earlier reports have been implemented in those documents. Results of the review should be summarized in writing.

To a degree, the performance of the site grading and improvement are dependent on the procedures and quality of the construction. Therefore, we should provide on-site soil observations of the contractor's procedures and the exposed soil and bedrock conditions, together with field and laboratory testing during site preparation and grading, placement and compaction of fill, underground utility installation, retaining wall construction, foundation installation, and pavement construction.

These observations will allow us to check the contractor's work for conformance with the intent of our recommendations and to observe any unanticipated soil conditions that could require modification of our recommendations. In addition, we would appreciate the opportunity to meet with the contractor before the start of grading to discuss the procedures and methods of construction. This can facilitate the performance of the construction operation and reduce possible misunderstandings and construction delays.

LIMITATIONS

The conclusions and recommendations of this report are based upon the information provided to us regarding the proposed improvements, subsurface encountered in test pits, borings, trenches, geologic reconnaissance, results of laboratory testing, and professional judgment. This study has been conducted in accordance with current professional geotechnical engineering and engineering geologic standards; no other warranty is expressed or implied.

The locations of the test pits, borings, and trenches were determined by pacing and estimation from established cultural features and topographic points of reference indicated on drawings supplied by CBG and are to be considered approximate only. The elevations of the borings and other elevations discussed in the text of this report were determined by interpolation between nearest adjacent ground surface contours shown on topographic maps supplied by CBG and are also to be considered approximate only. Site conditions described in the text are those existing at the time of our field explorations, which took place various times since 1991, and are not necessarily representative of such conditions at other locations and times.

If it is found during construction that subsurface conditions differ from those described on the test pit, trench, and boring logs, then the conclusions and recommendations in this report shall be considered invalid unless the changes are reviewed and the conclusions and recommendations modified or approved in writing. If changes are made to the nature or location of the proposed development, then our office will need to review the changes and develop supplemental conclusions and recommendations.

Respectfully submitted,

BERLOGAR GEOTECHNICAL CONSULTANTS

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HTA Harlan Tait Associates

Consulting Geotechnical Engineers

VIA FAX (1-510-583-3620) AND MAIL

May 24, 2005
Project No. 981.200

Mr. Jim Lear
City of Hayward – Public Works Department
Engineering and Transportation Division
777 B Street
Hayward, CA 94541-5007

SUBJECT: **GEOTECHNICAL AND GEOLOGIC REVIEW**
Proposed La Vista Quarry Development,
Hayward, California

REFERENCES:

1. Design Level Geotechnical Report, Proposed La Vista Quarry Development, La Vista Quarry Site and Marcotte Property, Hayward, California: report by Berlogar Geotechnical Consultants, dated March 24, 2005.

2. Fault Investigation, Proposed Community Center, Northwestern Site Corner, La Vista Quarry, Hayward, California: report by Berlogar Geotechnical Consultants, dated February 18, 2005.

3. Fault Investigation, Marcotte Property, Alquire Parkway, Hayward, California: report by Berlogar Geotechnical Consultants, dated December 3, 2001.

4. Supplemental Fault Investigation Report, La Vista Quarry, Hayward, California: report by Berlogar Geotechnical Consultants, dated December 3, 2001.

5. Fault Investigation Report, La Vista Quarry, Hayward, California: report by Berlogar Geotechnical Consultants, dated February 29, 2000.

6. Geologic Reviews, Alquist-Priolo Fault Zone Studies, La Vista Quarry, Hayward, California, Peer Reviews for the City of Hayward by Harlan Tait Associates: (a) for Proposed Community Center dated May 13, 2005; (b) for Marcotte Property dated May 13, 2005; and (c) for La Vista Quarry dated November 21, 2003.

Dear Mr. Lear:

INTRODUCTION

At your request, we have completed a geotechnical and geologic review of Reference 1, a design level geotechnical report prepared by Berlogar Geotechnical Consultants (BGC) for the proposed residential subdivision on the La Vista Quarry site and Marcotte Property in Hayward, California. The purpose of the report was to compile the previous geologic and subsurface exploration studies

on the sites and present geotechnical engineering recommendations for the development. The site is located east of the intersection of Mission Boulevard and Tennyson Road; the La Vista site is currently an active quarry and the Marcotte Property is undeveloped.

Site development plans are generally discussed in Reference 1 and a rough layout is shown on Plate 3 of Reference 1. Grading, drainage, utility, and development plans were not submitted for our review. The proposed development consists of 179 residential lots and five streets in the relatively level and gently sloping areas east of the Hayward fault zone and a community center, play fields, and runoff detention basin in the portion of the site west of the fault zone. Tennyson Road and Alquire Parkway will be extended to the site. Mass grading will include cuts up to 60 feet deep and fills up to 30 feet deep.

We have also reviewed previous fault investigation studies on the sites (References 2 through 5) and presented the results of our reviews in several letters (Reference 6). Our fault investigation reviews included several visits to the site for the purpose of observing materials revealed on cleared quarry faces and within exploration trenches excavated for the La Vista Quarry site.

SITE CONDITIONS

The proposed developable area is on the quarry floor at the base of steep, westerly - and southerly - facing quarry walls that extend up to several hundred feet above the quarry floor at inclinations of up to 80 to 100 percent. Quarry excavations have removed or disturbed large expanses of native soils. Various structures and stockpiled quarry materials presently exist throughout the quarry bottom. Undisturbed surficial soils consisting of areas of deep residual soil largely overlain by colluvium and patches of man-made fill generally mantle the terrain above the quarry cuts. Bedrock in the site area is composed of altered basic igneous rocks of the Franciscan Assemblage, primarily greenstone. BGC has identified five different types of fills on the site ranging from dumped fill to compacted, engineered fill with subdrains.

The State of California Earthquake Fault Zone for the active Hayward fault extends through the La Vista and Marcotte sites. BGC has mapped the concentrated fault zone representing the primary trace of the active Hayward fault and includes the surface rupture zone of the destructive East Bay earthquake of 1868. They conclude that it is reasonable to assume that future faulting will generally follow that rupture. In addition to more or less continuous slow creep that occurs along the fault, it is considered capable of up to six feet of horizontal surface displacement during sudden rupture. In addition to the primary fault zone, several subordinate fault traces that may have the potential for distributed displacement during a Hayward fault earthquake cross through the southwestern part of the La Vista site.

DISCUSSION

BGC performed stability analyses on planned slopes and has presented geotechnical engineering recommendations for site development. Stability analyses were performed on natural and planned graded slopes adjacent to the planned development. Material properties were based on laboratory testing results and were adjusted based on engineering judgement and knowledge of geologic conditions such as bedding angles relative to slope inclination.

BGC engineering recommendations included grading, cut and fill slope inclinations, utility trench backfill, foundations, subsurface and surface drainage control, retaining walls, slabs, erosion protection, preliminary pavement sections, and fault crossing mitigation for utilities. BGC recommended a building setback from the mapped fault zone and from the toe of the reclaimed quarry slopes.

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

In our opinion, the materials submitted by BGC contain sufficient data to support their recommendations of a developable area cleared of active faulting. The descriptions and logs of subsurface materials provide a reasonable, inclusive record of the soil and bedrock elements explored at this locality and sufficiently address the surface fault rupture hazard issues at the proposed site.

In our opinion, slope stability analyses and geotechnical engineering recommendations presented on Reference 1 are reasonable and support the conclusion that the planned development of the site is feasible. We have the following comments, which should be included in the development plans or require a response by BGC.

1. The grading plans should show the areas of cut and fill and indicate the volumes of cut and fill and import volumes.
2. A dust mitigation plan should be developed.
3. For landslides 17 and 18, the grading plans should show the portions of landslides to be removed and BGC should evaluate the potential for movement and off site impacts of the landslide material left in place and the need for any mitigation.
4. BGC should consult with the quarry personnel about the need for special excavation methods including blasting.

Prior to issuance of permit(s), BGC should review the final plans to ensure that site grading, fault and slope setbacks, foundation designs, subdrainage, etc. are in accordance with their recommendations, and provide a plan review letter to the City.

During grading, excavations, keyways, cuts, etc. should be inspected by the project Certified Engineering Geologist to verify that actual geologic conditions, fault locations and special foundation zones are as anticipated. Appropriate supplemental recommendations should be provided, as necessary. BGC should perform observation and testing services during construction. The results of such inspections, testing, and/or modifications should be documented in an "as-built" letter/report prepared by BGC and submitted to the City before final approval is granted.

CLOSURE

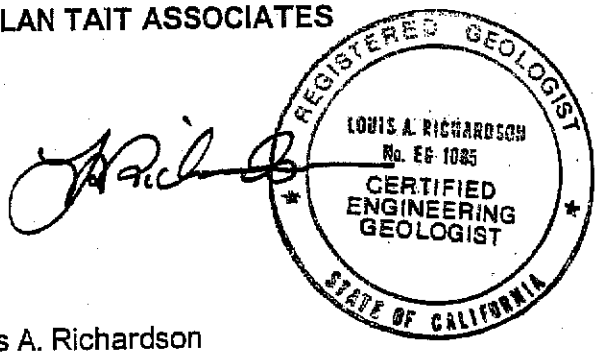
This peer review has been performed to provide technical assistance to the City of Hayward. Our services have been limited to our prior field reconnaissance and review of the referenced documents. Our opinions and conclusions are made in accordance with guidelines and

standards generally accepted at this time and in this locality for such a review. No other warranty or guarantee, expressed or implied, is intended.

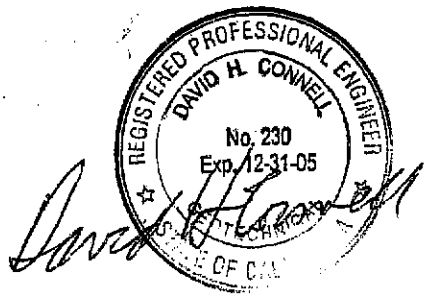
We trust that this provides you with the information you require at this time. Please call if you have any questions, or require additional information.

Very truly yours,

HARLAN TAIT ASSOCIATES



Louis A. Richardson
Certified Engineering Geologist 1085
Expires 9/30/05



David H. Connell
Geotechnical Engineer 230
Expires 12/31/05

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Attachment T

BERLOGAR GEOTECHNICAL CONSULTANTS

June 2, 2005
Job No. 1692.107

Mr. Jay Egy
The DeSilva Group
11555 Dublin Boulevard
Dublin, California 94568

Subject: Supplemental Recommendations for Capping Serpentinite
Proposed La Vista Quarry Development
La Vista Quarry Site and Marcotte Property
Hayward, California

Dear Mr. Egy:

INTRODUCTION

We previously prepared for you our report titled *Design-Level Geotechnical Report, Proposed La Vista Quarry Development, La Vista Quarry Site and Marcotte Property, Hayward, California*, dated March 24, 2005. That report presented geotechnical findings, conclusions, and recommendations for the proposed La Vista residential development. Included was discussion regarding serpentinite, on Page 17 of the report. The discussion, in part, explained that existing nonengineered fill on site could contain some serpentinite. This was followed with the recommendation to place this fill in the deeper portions of new engineered fill and to cover it with new material generated from design cuts in bedrock on site.

We refer to such a cover as nonserpentinitic cap, because the cap would be free of serpentinite. As you request, we provide, below, supplemental recommendations for nonserpentinite capping as part of the development project.

RESIDENTIAL LOTS

For residential lots, there are two alternatives depending on how you select to handle the issues of swimming pools and disclosures.

Alternative 1: The upper 2 feet (minimum) of engineered fill below residential lots should consist of material free of serpentinite. The potential presence of serpentinite containing naturally occurring asbestos below this 2-foot (minimum) cap in residential lots should be disclosed to purchasers of the lots. Note that potential excavations for swimming pools, large plantings, and the like by residential lot owners could lead to exposure of the potential naturally occurring asbestos and generation of excess soil with this constituent.

Alternative 2: The upper 10 feet (minimum) of engineered fill below residential lots should consist of material free of serpentinite. Consideration should be given to disclosing the potential presence of serpentinite containing naturally occurring asbestos below this 10-foot (minimum) cap in residential lots to purchasers of the lots.

COMMUNITY CENTER / PARK

The west side of the site is proposed for a new municipal park including at least one and possibly two play fields and possibly a community center. Play fields would also serve as stormwater detention areas. We understand that plans for this park are conceptual and are in flux at this time. The latest conceptual plan for this area, dated April 27, 2005, shows two sport fields at proposed elevations requiring new engineered fill some 20 to 30 feet thick. We recommend that serpentinite be excluded from the uppermost engineered fill placed below the site of a community center and designated play fields. This exclusion should also apply to other associated areas where recreational use would naturally lead people to disturb or contact the ground, such as picnic areas, pathways, and landscaped areas. We recommend the nonserpentinitic cap be a minimum of 2 feet thick. The potential presence of serpentinite containing naturally occurring asbestos below the nonserpentinitic cap in the municipal park should be disclosed in documents conveying this land to the City.

GENERAL

Material consisting of greenstone, sandstone, and shale derived from cuts into bedrock on site would be suitable for purposes of creating the nonserpentinitic cap. Note that minor zones of serpentinite were logged in Trench T-5, as presented in our March 2005 report. This area may be a proposed cut area. The possible serpentinitic cut material (if any) should be placed deep in engineered fill and be excluded from nonserpentinitic cap. Where serpentinitic material is exposed in design cuts, it should be overexcavated 2 feet below design grade and capped as discussed above. Old, existing nonengineered fill could contain serpentinite fragments and that will be cut as part of remedial grading and design grading; the cut material that is generated should be placed deep in engineered fill and be excluded from nonserpentinitic cap. Based on our current understanding of the proposed project and grading, we expect there will be sufficient space to place material affected by serpentinite deep in the engineered fill.

A geologist experienced in recognizing serpentinite and the other material types present should be present during grading to observe and to advise the contractor in excluding serpentinitic material from the recommended cap.

Our services have been rendered in accordance with current professional geotechnical engineering and engineering geologic standards; no other warranty is expressed or implied. We trust this letter provides you with the information required at this time. If you have questions, please call one of us at 925-484-0220.

Respectfully submitted,

BERLOGAR GEOTECHNICAL CONSULTANTS

Frank Berlogar
RCE 20383, Exp. 9/30/05

FG/FB:jmb

Copies: Addressee (3)

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