COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT

701 OCEAN STREET - 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX (831) 454-2131 TDD (831) 454-2123

TOM BURNS, PLANNING DIRECTOR

September 19,2005

Agenda Date: October **12,2005**

Planning Commission
County of Santa Cruz
701 Ocean Street
Santa Cruz, CA 95060

Subject: Graniterock Wilder Quarry
Five Year Permit Review Certificate **of** Compliance and Reclamation **Plan** Approval **92-0331**
Minor Mining Approval Amendment Application **98-0809**

Members of the Commission:

Permit Review and Minor Amendment

On September 14th, 2005 the Commission held a public hearing and considered the subject Permit Review and application for a Minor Mining Approval Amendment. Following the public hearing the Commission adopted the staff recommendation to return on October 12, 2005 with a recommendation to approve a Minor Mining Approval Amendment including measures to improve permit compliance. The revised mining plan and revegetation plan that would result from approval of this amendment are included for your review as Exhibit A & B, respectively.

The staff report for the September 14'' agenda listed a number of compliance issues and changes to the scope of operations, which warrant the imposition of the new conditions. New conditions regarding semi-annual reporting and monthly meetings were added during the public hearing. A *summary* of the new conditions from the September 14'' staff report and those added during the public hearing is provided in Exhibit C. ***An*** underline-strikeout version of the conditions of approval is provided in Exhibit D with a final version of the conditions of approval in Exhibit E.

Environmental Review

The Minor Mining Approval Amendment qualifies for an exemption from the California Environmental Quality Act (CEQA) because it is a minor alteration of **an** existing facility with no expansion of use. As conveyed to you in the September 14'' staff report, there are issues at the quarry that require revisions to the Habitat Conservation Plan (HCP) and processing of a Major Mining Approval Amendment. Following submission of a complete application for the Major Mining Approval Amendment staff will determine the appropriate Environmental Review procedure for that proposal.

Recommendation

- Approve the Minor Mining Approval Amendment (Application 98-0809) based on the analysis and discussion in the September 14th, 2005 staff report and Planning Commission hearing, the amended plans in Exhibit A, and the amended revegetation plan in Exhibit B;

- Approve the revised Conditions of Approval in Exhibit E;

- Approve the CEQA Notice of Exemption **for** the Minor Amendment (Exhibit F).

Sincerely,

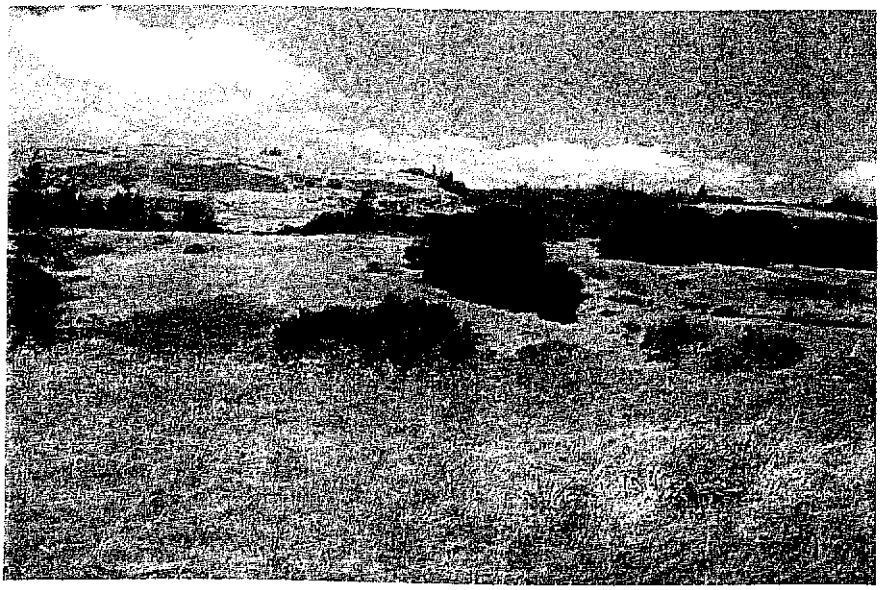
David Carlson
Resource Planner
Environmental Planning

Reviewed **By:** _____
Ken Hart
Principal Planner
Environmental Planning

Exhibits:

A. Amended Mining Plans
B. Amended Revegetation Plan
C. Summary of New and Amended Conditions of Approval
D. Conditions of Approval Underline Strikeout Version
E. Conditions of Approval Final Version
F. Categorical Exemption (CEQA Determination)

AMENDED REVEGETATION PLAN FOR THE WILDER SAND PLANT



FEBRUARY *2005*

Greening associates

EXHIBIT B

AMENDED REVEGETATION PLAN
FOR THE
WILDER SAND PLANT

Prepared for

Granite Rock Coinpany
Jim West, Public Affairs
P O Box 50001
Watsonville, CA 95077
tel 831/768-2071

Prepared by

Greening Associates
Suzanne Schettler, Revegetation Specialist
P O Box 277
Ben Lomond. CA 95005
tel 831/336-1745

FEBRUARY *2005*

EXHIBIT B

CONTENTS

FIGURES

TABLES

COVER PHOTO

The coastal terraces near the eastern property line *of* Wilder Sand Plant. Foreground is an unmined area of the quarry, beyond is state park land. The quarry reservoir ai the right edge (above white pipe) *is* on the property line. Grassland reference sites in this vicinity are being used to guide the revegetation planning. May 19. 2004.

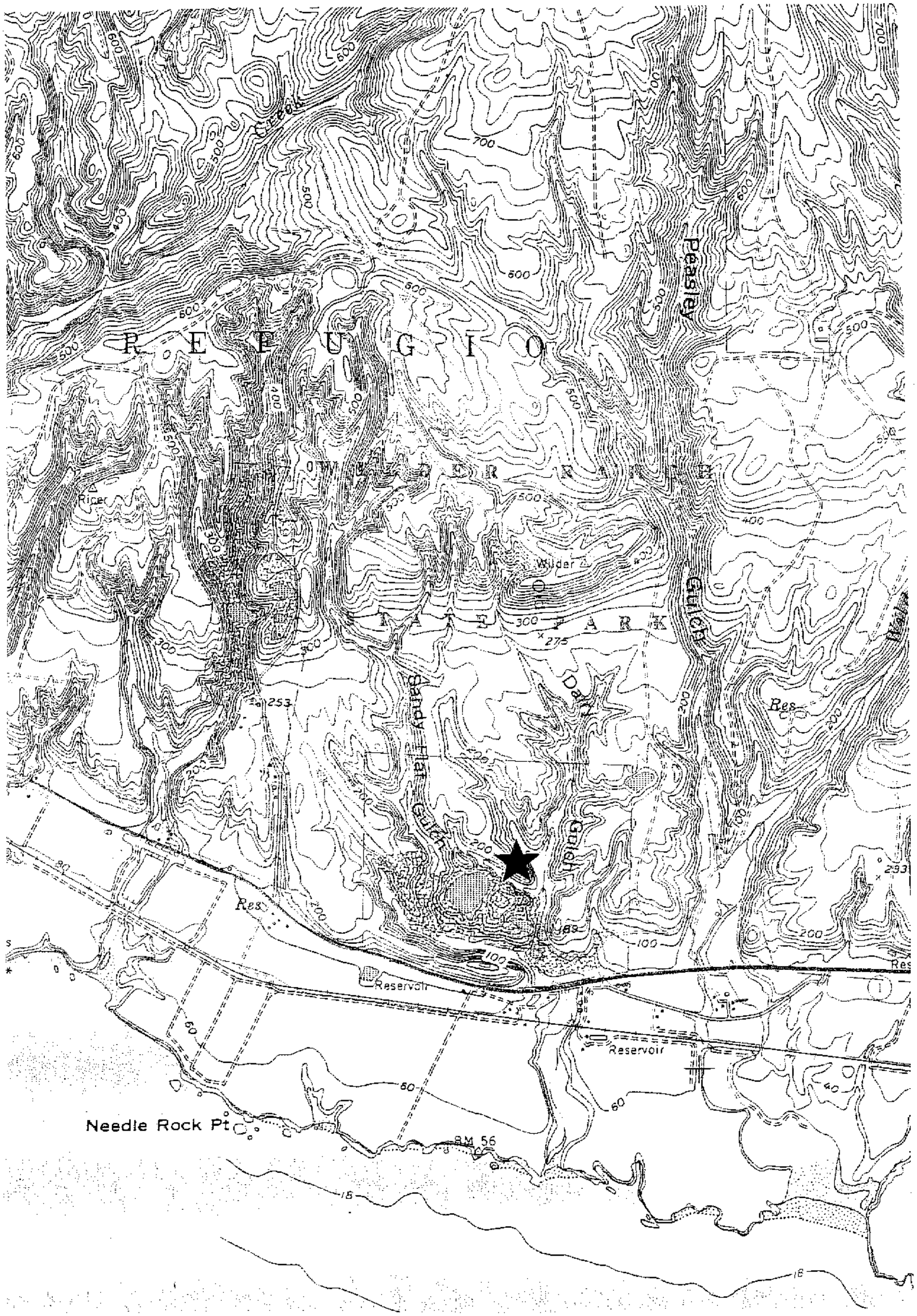


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EXHIBIT B

WILDER SAND PLANT
AMENDED REVEGETATION PLAN

FEBRUARY *2005*

I. INTRODUCTION

A. LOCATION

Graniterock's Wilder Sand Plant is located on the Santa Cruz County coast, one and a quarter miles west of the Santa Cruz city limits (see fiontispiecej. Highway 1 divides the property into two parts. The portion closest to the Pacific Ocean is about 25 acres, and contains two sediment ponds and a former rail loading facility. Excavation, processing and shipping of sand are conducted on approximately 275 acres on the inland side of the highway. The inland part of the quarry property is roughly rectangular in outline. The quarry is located on the first and second terraces above the ocean, at elevations ranging from 50 feet to approximately 225 feet. The quarry and its surroundings are illustrated on the frontispiece.

B. ENVIRONMENTAL SETTING

The majority of the site is coastal prairie that was grazed hv beef cattle from the Santa Cruz Mission starting in the 1790s. Early records indicate that defore cattle grazing was introduced, the coastal terraces of this region were managed by indigenous people's use of fire (Gordon, 1985). Until sand mining began here in 1967, the quarry property was part ofthe Wilder Ranch. In 1974, the rest of the surrounding ranch became Wilder Ranch State Park. Grazing was discontinued in 1987 by State Park policy. The grazing regime had sustained an assemblage of native grassland species that were still conspicuous in 1991 (S. Schettler, personal observation; Habitat Restoration Group [HRG] 1992). At that time native species were common in steeper areas of grassland just above the forest and scrub in the canyons, and in several locations on both sides of the eastern property line, as well as where a very thin layer of soil mantles the underyling rock.

The quarry property is dissected by the canyons of *two* named streams that flow southward toward the ocean. In the western half, Sandy Flat Gulch and a tributary outline the sides of a fonner ridge that has been removed by mining. Sandy Flat Gulch drains the larger of the two watersheds, and flows perennially in some years (HRG 1992). In the eastern half ofthe quarry, Old Dairy Gulch is an intermittent stream that flows into Sandy Flat Gulch a short distance inside the quarry entrance.

Where the streams incise the second terrace, they form canyons occupied by mixed riparian vegetation including Douglas-firs. Wind-blown shapes of the Firs attest to the strength of winds that frequently blow down the canyons. Farther downstream where the streams cross the flatter first terrace, the tree canopies are lower in stature and consist of Arroyo Willow Riparian Scrub.

A dense shrubby cover of Coastal Scrub is found in some places on the steep sides of the canyons.

The land use immediately adjacent to the quarry is predominantly parks and recreation, with some agriculture to the northwest and also on both sides of the southern parcel. Beyond *the* park, agriculture is the dominant land use in this vicinity; row crops are extensively grown on the first coastal terrace, and to a lesser extent on the second terrace. The City of Santa Cruz' landfill at Dimeo Lane is located a short distance to the northwest of the quarry.

The surface soils of the site are mapped as loamy sand, loam, and sandy loam of varying depths (USDA Soil Conservation Service 1979). These soils overlie Zayante Sand of the Santa Margarita Formation, and the sand is the product sold by the quarry.

C. ADMINISTRATIVE BACKGROUND

All of the quarry property is within the Coastal Zone, Grassland in the Coastal Zone is a habitat protected by Santa Cruz County's Sensitive Habitat Protection Ordinance.

On May 2, 1967, Santa Cruz County issued Use Permit 2791-U to Granite Rock Company to remove, process, store, transport and sell natural materials, and to install and operate mining equipment on the site. By 1991, excavation had been completed in Sandy Flat Gulch and plant species commonly used for erosion control and for pasture had been seeded there. In the early 1990s excavation and processing were discontinued, although the permit allowed the storage and sale of natural material to continue.

The Habitat Restoration Group prepared a revegetation plan in 1992 that was approved by the County of Santa Cruz in 1996. The 1992 plan was based on a proposal to reclaim the mined areas as campground facilities to be operated in cooperation with the State of California Department of Parks and Recreation.

The 1992 revegetation plan had two goals:

1. To create associations of native plants and animals that are at least as diverse and self-sustaining as those the site supported before quarrying began; and

2. To comply with the provisions of both the Santa Cruz County Mining Ordinance (Chapter 16.54 of the Santa Cruz County Code) and the State of California Surface Mining and Reclamation Act (SMARA).

These goals were to be met by implementing five objectives:

1. Creating approximately 90 acres of grassland consisting of native perennial grasses and forbs;

2. Creating approximately 22 acres of coastal scrub on steeper portions of the site;

3. Creating approximately 15 acres of willow riparian habitat along the creeks;

4. Reducing erosion and improving water quality in the two streams;

5. Maximizing potential wildlife habitat values resulting from quarrying-induced alterations to the land.

These five objectives were to be implemented to the maximum extent feasible given the planned future development of the site for commercial recreational purposes. The campground plan was subsequently dropped.

California Red-legged Frog *(Rana aurora draytonii)* was listed by the U.S. Fish & Wildlife Service as Threatened under the Endangered Species Act in 1996, and a survey by Jones & Stokes Associates (JSA) identified California Red-legged Frog on the site in 1996. Discovery of the frog triggered development of a Habitat Conservation Plan (Graniterock [sic] Company 1998). Condition II. C. of Certificate of Compliance 92-0331 required Graniterock to submit a revised revegetation plan that incorporated the conditions of the Habirat Conservation Plan (HCP). A new revegetation plan was prepared to comply with the HCP, to address the changed post-mining land use, and to address visual screening of the quarry from recreational uses in the park (Biotic Resources Group 1998, revised again in 2001). The HCP plantings and the landscape screening plantings of that plan have been installed. The 2001 plan was submitted but has not been approved.

Like the 1992 plan, the 2001 plan focused on re-establishment of three pre-mining plant associations: grassland, coastal scrub and riparian. And like the earlier plan, the 2001 plan continued to regard the larger grassland area as comprising native perennial gasses and forbs

The 2001 plan called for "enhancement" of grassland in Sandy Flat Gulch. Qualitative observations during 2002 and 2003 indicated there might not be a substantial difference between the vegetation in Sandy Flat Gulch and other grasslands in the area, except for the presence of Orchard Grass in the mined area. Native perennial grasses and forbs were not abundant, but they were not abundant elsewhere either. It appeared that a number of smaller-statured grassland species may have disappeared from the site, and that Eurasian annual grasses were now more abundant than they had been eleven years before.

Accordingly, focused surveys were conducted during spring 2004 in order to quantify vegetative conditions in Sandy Flat Gulch in comparison to grasslands at un-mined locations in and around the quarry. To complete a reality check for the revegetation planning as a whole, similar sampling was conducted in coastal scrub sites and in Arroyo Willow Riparian Scrub. The results were presented in full in the 2004 Revegetation Report (Greening Associates 2004b) and are summarized here.

D. BASELINE AND REFERENCE AREA SURVEYS, 2004

1. GRASSLANDS

Grasslands were sampled in four areas: a) the former mining area in Sandy Flat Gulch, b) un-mined and un-managed grassland on the quarry property, c) un-mined and un-managed grassland on state park land adjacent to the quarry, and d) un-mined land that is managed by grazing at Swanton Pacific Ranch. Sampling was also conducted in the portion of ihe 5-year area planted in fall 2003, which at the time was less than a year old.

The 1992 and 2001 revegetation plans both contain a success criterion that grassland plantings shall attain 70% native cover. None of the un-mined sites had native cover close to this level. The only grassland site that met or exceeded 70% native cover was the young planting in the 5-year area. Mean native cover in the un-mined (or "natural") reference sites ranged from 2.7% to 26.0%, well below the success criterion. Mean native cover in Sandy Flat Gulch was 10.8%, which is also well below the success criterion but is within the range of cover in the reference sites.

No sites; including the un-mined sites or "natural" sites, met the 1992 criterion that 14 principal species and 16 incidental species be present. The 5-year area came closest, with 9 principal target species and 4 incidental target species present in the sampling areas. The enhancement site at Sandy Flat Gulch had the next highest number of target taxa: with 5 principal taxa but no incidental taxa. Among the three reference sites, the number of principal target species was 3 for all sites while the numbers of incidental target species were 2 at Wilder Ranch State Park, 1 along the quarry's eastern terrace, and none at the Swanton Pacific Ranch site. Principal and incidental species are not defined sufficiently in the 2001 plan to provide guidance or comparison.

2. COASTAL SCRUB

Coastal scrub was sampled at four sites on the quarry property and four sites elsewhere in the vicinity. Because of the physical constraints of access (steepness, impenetrability of the vegetation, abundance of poison oak), sampling consisted of ocular estimation.

Compared to the 1992 and 2001 success criteria of 40% native cover at year 5, the mature cover at the eight coastal scrub reference sites ranged from 90% to 100% (average 97.5%). In contrast, the 1992 criterion that 5 principal species and 12 incidental species be present was not met at anv of the reference sites. The number of principal species present ranged from 2 to 5 (average 3.125), and the number of incidental species ranged from 1 to 4 (average 2.5). The species composition criteria in the 2001 plan are too undefined to compare with reference site data.

3. *ARROYO* WILLOW RIPARIAN SCRUB

Arroyo Willow Riparian Scrub was sampled at eight locations on the quarry property. Non-destructive *in-situ* sampling was not possible because of the impenetrability of the habitat;

sampling was performed at locations where access was possible through the dense vegetation, by ocular estimation of the vegetation within the field of view.

Compared to the 1992 and 2001 success criteria that target 70% cover at year 5, all sites had a continuous closed (±100%) canopy. However, the species composition of the reference sites was much lower than the 6 principal species and 7 incidental species targeted in the 1992 plan, with only 1 to 3 principal species (average 1.5) and 0 to 2 (average 0.5) incidental species present. As in the grassland, a number of species listed as occurring in 1992 were not observed in 2004 in the riparian habitat.

4. CONCLUSIONS AND RECOMMENDATIONS

The spring 2004 sampling in all three of the reference habitats indicated that the vegetation that existed in 1991-92 does not currently provide appropriate guidance for revegetation, that an update of the success criteria is warranted, and that the revegetation plan should be revised.

This revegetation plan complies with SMARA by building on the findings of the baseline and reference surveys. It addresses the need for success criteria that are consistent with naturally occurring habitats in the area surrounding the quarry, and for a revegetation plan that will create vegetative cover similar to naturally occurring habitats in the area surrounding the quarry (SMARA §§ 3705[a] and [m]).

II. PLANTING PLAN

This planting plan is based on the mining plan and the Habitat Conservation Plan for the California Red-legged Frog at Wilder Sand Plant. It supersedes two previous revegetation plans (HRG 1992 and BRG 2001), and builds upon planting activities described in previous revegetation reports by Biotic Resources Group (BRG 1999 and BRG 2002).

This planting plan also follows up on two recent documents by Greening Associates. The revegetation report of March 2004 described the first planting installed in the five-year mining area in fall 2003 (Greening Associates 2004a). The revegetation report of December 2004 covered four topics. It described the results of revegetation monitoring in spring 2004, documented the second planting in the five-year mining area that was installed in fall 2004, described the findings of the baseline and reference surveys, and recommended that the success criteria for revegetation at the Wilder Sand Plant be amended (Greening Associates 2004b).

A. GOALS

Revegetation at Wilder Sand Plant has three goals:

1. To create assemblages of plants whose vegetative cover and composition are within the ranges found in the same plant assemblages in un-mined locations at the quarry and in the vicinity.

2. To provide habitat for the California Red-legged Frog in the Habitat Conservation Area and to provide habitat continuity for the frog in the other revegetation areas.

3. To comply with the provisions of the Santa Cruz County Mining Ordinance and the State of California Surface Mining and Reclamation Act (SMARA).

B. REVEGETATION PHASING

The Santa Cruz County Mining Ordinance and SMARA both require concurrent reclamation. This means that mining and revegetation both proceed in phases, with a phase of revegetation following each phase of mining, such that a minimum amount of area is un-vegetated at a given time.

Slightly more than an acre of permanent revegetation area became available for planting in 2003, and in 2004 another acre-plus area became available. A similar pattern of incremental revegetation is likely to continue for the duration of mining at the Wilder sand quarry

C. SITE PREPARATION

Most of the revegetation areas are former mine pits that have been filled with unmarketable fine sand and clay. The substrate will be tested for compaction before planting begins. If it is possible to sink an ordinary shovel to its full depth with a reasonable effort, it is possible for plant roots to penetrate the ground. If the site does not pass the shovel test, the planting area will be ripped and cross-ripped to a depth of three feet.

All areas where trucks, vehicles or heavy equipment have frequently traveled will also be ripped and cross-ripped to a depth of three feet to de-compact the soil for planting.

All ripping will be done when the soil is dry enough to shatter.

D. TOPSOIL

At some time in the past, topsoil was stockpiled but was not managed to retain its usefulness for revegetation. **A** heavy crop of undesirable weed species developed on it, creating a weedy seed bank. As a result, the best place to put the old topsoil was in the bottom of a pit being filled.

The absence of topsoil in revegetating this site may not be a fatal flaw. There are a few places on the quarry property where native perennial grasses have not been displaced by Eurasian annual grasses. These are all places where the topsoil has been removed, for example at the top of old mine faces where vegetation and topsoil were scalped to prevent contamination of the sand product being mined. It appears that richer soil promotes the more aggressive non-native grasses at the expense of the less aggressive natives,

The lack of topsoil does translate to a shortage of nutrients. The planting in fall 2003 required fertilizing during the winter when off-color foliage indicated nutrient deficiency, and the planting in fall 2004 was followed by a light application of fertilizer after the grass had germinated. It

remains to be seen whether plantings can become self-sustaining over time as inputs of fertilizer are tapered off. See "Maintenance" in section I below. Including legumes in the seed mix benefits the plantings by fixing nitrogen.

If nutrient levels in the soil do not trend toward becoming self-sustaining, then *in situ* topsoil should be inspected to determine whether the plant species growing in it (and therefore present in the seed bank) would be acceptable for revegetation. SMARA requires that removal of vegetation and topsoil shall not precede surface mining activities by more than one year (§ 3711[a]). This minimizes the area denuded at any time, and retains the microbial activity within the soil. It also allows for topsoil to be moved once, directly to the revegetation site; instead of being moved twice. **As** with the surface foot or more of sand and clay that forms the bulk of the fill, any topsoil placed on the planting sites will either be left un-compacted or will be ripped to de-compact it.

E. REVEGETATION APPROACH

Three plant associations will constitute the revegetation of the quarry, either created from scratch on the mine waste or by enhancing existing vegetation in earlier mining sites. Figure 1 illustrates the layout of the different plant associations, and this layout complies with the HCP. The riparian and wetland plantings in the HCA were installed in 1999.

The planting list on Table 1 identifies the species suitable for each association. All seeds or plants used in revegetation will be species native to the quarry or its surroundings.

To the greatest extent possible, revegetation will he accomplished by seed. Selected species may be contract-grown for planting as young plants, and others may be installed as field cuttings (especially willows) *or* as divisions made at the site on the same day they are planted out.

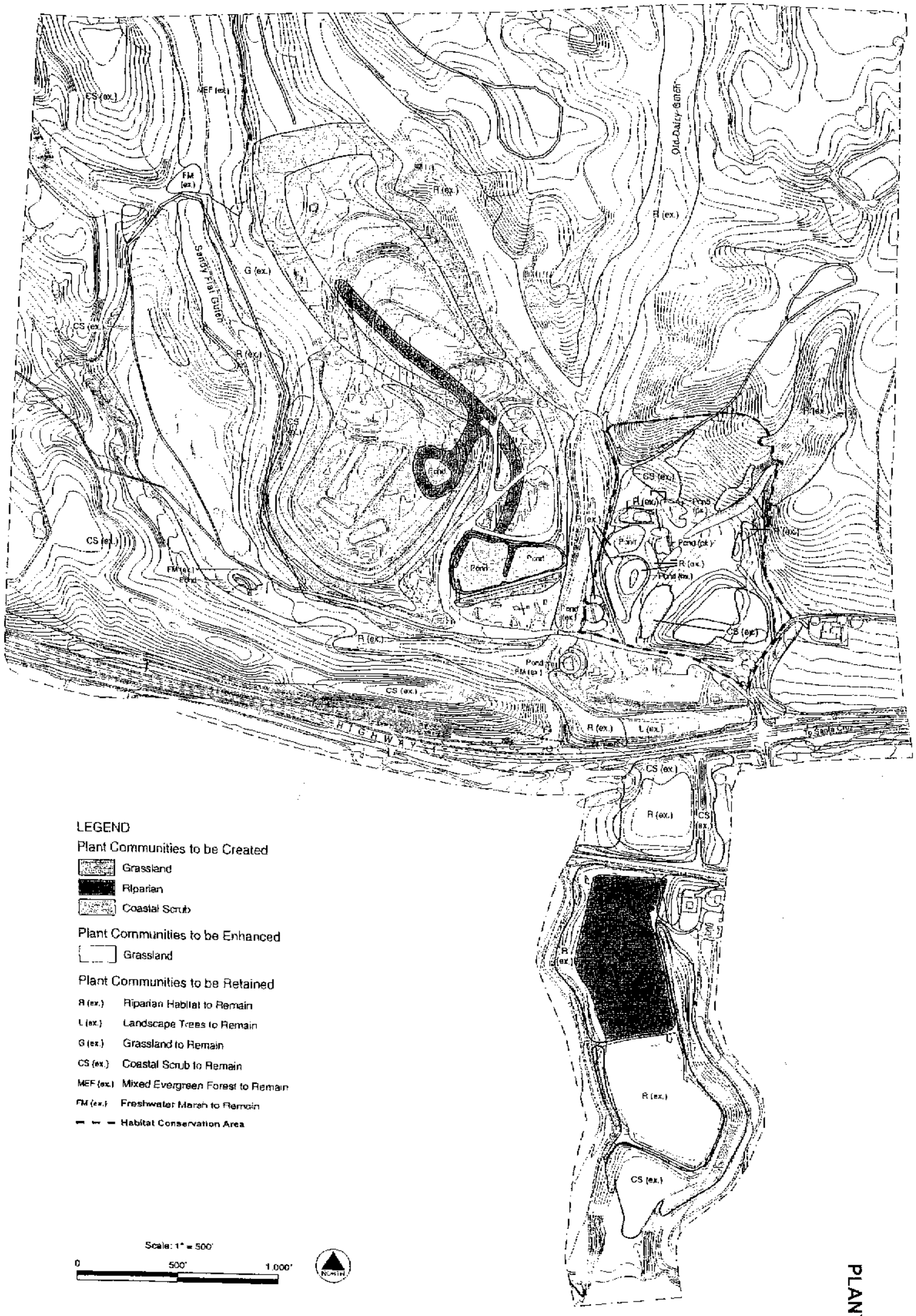


FIGURE 1
PLANTING PLAN

Modified from Biotic Resources Group 2001

8

EXHIBIT B

Table 1. **PLANTING LIST**

PLANT ASSOCIATIONS TO BE CREATED AND ENHANCED

WILDER SAND PLANT

BOTANICAL NAME	COMMON NAME	GRASSLAND	COASTAL SCRUB	RIPARIAN
Acaena pinnatifida var. *californica*	California Acaena	x		
Achillea millefolium	Yarrow	x		
Amsinckia menziesii var. *menziesii*	Menzies' Fiddleneck	x		
Anaphalis margaritacea	Pearly Everlasting	x		
Artemisia californica	California Sagebrush		X	
Artemisia douglasiana	Mugwort			X
Aster chilensis	Common California Aster			x
Baccharis pilularis	Coyote Brush		X	
Bromus carinatus var. *carinatus*	California Brome	x		
Bromus carinatus var. *maritimus*	Seaside Brome	X		
Calandrinia ciliata	Red Maids	x		
Calystegia sp.	Morning Glory	x	x	
Carex sp.	Sedge	x		
Castilleja sp.	Owl's Clover	x		
Chlorogalum pomeridianum	Soap Root	x		
Clarkia purpurea	Wine-cup Clarkia	x		
Danthonia californica	California Oatgrass	x		
Deschampsia danthonioides	Annual Hairgrass	x		
Dryopteris arguta	Wood Fern			x
Dudleya farinosa	Sea Lettuce		x	
Elymus glaucus	Blue Wildrye	X		
Epilobium canum ssp. *canum*	California Fuchsia	x		
Epilobium ciliatum ssp. *watsonii*	Farewell-to-spring	x		
Eriogonum latifolium	Coast Buckwheat		X	
Eriophyllum staechadifolium	Seaside Woolly Sunflower		X	
Eschscholzia californica var. *maritima*	Beach Poppy	x		
Heterotheca sessiliflora ssp. *bolanderi*	Bolander's Golden Aster	x		
Holodiscus discolor	Ocean Spray, Cream Bush		x	
Hordeum brachyantherum ssp. *calif.*	California Barley	X		
Horkelia cuneata	Wedge-leaved Horkelia	x		
Juncus bufonius	Toad Rush	x		x
Juncus patens	Common Rush	x		X
Juncus phaeocephalus	Brown-headed Rush	x		x
Lessingia filaginifolia	Common Corethrogyne	x		
Lotus micranthus	Small-flowered Trefoil	x		
Lotus purshianus	Pursh's Trefoil	X		
Lupinus bicolor	Miniature Lupine	x		
Lupinus nanus	Sky Lupine	X		
Lupinus variicolor	Lindley's Varied Lupine	X		
Madia gracilis	Slender Tarweed	x		
Marah fabaceus	Calif. Man-root		x	
Mimulus aurantiacus	Bush Monkeyflower		X	
Nassella pulchra	Purple Needlegrass	X		
Oenanthe sarmentosa	Pacific Oenanthe			X
Phacelia californica	California Phacelia	x		
Polystichum munitum	Western Sword Fern		x	x
Pteridium aquilinum var. *pubescens*	Bracken Fern	x		x
Quercus agrifolia	Coast Live Oak		x	
Rhamnus californica	California Coffeeberry		x	x
Ribes sp.	Gooseberry			x
Rosa californica	California Rose			X
Rubus ursinus	California Blackberry		x	X
Salix lasiolepis	Arroyo Willow			X
Salix lucida ssp. *lasiandra*	Yellow or Shining Willow			X
Sambucus racemosa var. *racemosa*	Coast Red Elderberry			x
Scrophularia californica	California Bee Plant		X	x
Solanum douglasii	Douglas' Nightshade		x	
Sisyrinchium bellum	Blue-eyed Grass	x		
Stachys ajugoides var. *rigida*	Rigid Hedge Nettle		x	x
Trifolium microcephalum	Small-headed Clover	x		
Urtica dioica	Stinging Nettle		x	x
Verbena lasiostachys	California Vervain	x		

NOTE: In addition to the listed species, any native species that occurs in these planting associations in the vicinity of the quarry will be acceptable to meet the success criteria. Upper case X identifies the most important species.

1. GRASSLAND PLANTING

The larger and flatter areas will be treated as grassland, following the model of the existing grasslands on the surrounding coastal terrace. The majority of the grassland planting will be accomplished by broadcasting seed and applying mulch. The most important native perennial grasses appear at this time to be Purple Needlegrass *(Nassella pulchra)*, Blue Wild Rye *(Elymus glaucus)*, the seaside and common forms of California Brome *(Bromus carinatus* var. *maritimus* and var. *carinatus)*, and possibly California Barley *(Hordeum brachyantherum* ssp. *californicum)*.

Seed of the native grasses will be purchased in bulk, and will originate at central coast sources. Seeds of native legumes such as Chile Trefoil *(Lotus purshianus)*, Tomcat Clover *(Trifolium willdenovii)* and Sky Lupine *(Lupinus nanus)*, also from central coast origins: will similarly be purchased in bulk.

Seed of Varied Lupine *(Lupinus variicolor)* was collected from the quarry property and is being increased in the 2003 and 2004 planting areas for use in revegetation, along with several species of native wildflowers (see December 2004 revegetation report). Non-native annual grasses will come in without active planting.

Some species may be installed as contract-grown plants. This is particularly appropriate when site-collected seed of a native perennial species is available in limited quantity; then the first planting initiates seed increase at the site.

Seed will be covered with ¼" to ½" of mulch. The preferred mulch is shredded redwood bark ("gorilla hair") which is locally available, though large quantities need to be ordered well in advance of the planting season. Mushroom compost produced vigorous growth in the fall 2003 planting, but is known to introduce weeds. Quarry sand can also be used as mulch; however its weight makes it more labor-intensive than the other mulches to apply at the appropriate depth.

Straw is not a suitable mulch for this site because of the windy conditions. It takes only a small amount of blown straw to shut down the sand processing operation. Straw that has been pelleted (e.g. "Strawnet") may be used for mulch.

If a drill seeder is used to plant the seeds, mulch may not be needed. To date, however, drilling has not been feasible because the mixture of seeds is not suitable for the agricultural equipment available locally. Besides retaining moisture for initial seed germination, the presence of a mulch of organic material is beneficial because it contributes to the process of building soil out of mine waste over time.

The feasibility of creating grassland on the mine waste generated at this site is not established. The fall 2003 planting of grassland species and test plots currently supports both grassland and coastal scrub species. If coastal scrub species become a strong component of the grassland plantings, the revegetation of particular sites will be evaluated and may be redirected toward coastal scrub instead of grassland.

In the grassland enhancement area in Sandy Flat Gulch, initiai enhancement will consist of herbiciding the non-native perennial Orchard Grass *(Dactylis glomerata)* in spring before it produces seed, with a follow-up later in summer. Then seed of native perennial grasses will be broadcast without mulch which would compromise the existing herbaceous vegetation.

2. COASTAL SCRUB PLANTING

Like the grassland plantings, coastal scrub plantings will be modeled on existing coastal scrub in the vicinity Coastal scrub species will be planted on the steeper sloping areas away from water courses, and will occupy a smaller total area than the grassland plantings. Coyote Brush *(Baccharis pilularis)* tends to come in on its o m , via wind-borne seeds. Other important species fer this plant association are California Sagebrush *(Artemisia californica)*, Coast Buckwheat *(Eriogonum latifolium)*, Seaside Woolly Sunflower *(Eriophyllum staechadifolium)*, Bush Monkeyflower *(Mimulus aurantiacus)* and California Bee Plant *(Scrophularia californica)*. Yellow Bush Lupine *(Lupinus arboreus)* is present on the quarry property, but is never found in undisturbed locations, and it is nor considered a true native of this site. It also hybridizes with Varied Lupine, to the detriment of both species. It will not be used in revegetation.

Installation methods for coastal scrub are similar to those used for the grassland plantings. California Sagebrush of central coast origin may be purchased as commercially available seed. The other native species are present on the quarry property in sufficient quantity to supply seed and cuttings, especially once seed is being increased on the site. The majority of planting will consist of broadcast seeding and mulching, with contract-grown plants occasionally providing a supplement.

The feasibility *of* creating coastal scrub on mine waste or on the excavated substrate is not established. On some cut slopes (in Sandy Flat Gulch and the HCA) where there is considerable cover of grasses and forbs, there has been little *or* no natural regeneration of coastal scrub in two decades or more, even in locations adjacent to existing coastal scrub. If experience with future coastal scrub planting indicates that a given site may be better suited to grassland, the revegetation work will be redirected toward grassland on a site-by-site basis.

3. RIPARIAN PLANTING

Arroyo Willow riparian scrub will be established along the planned drainageways and on pond edges, using the species found along the banks of the two streams and their tributaries. Where sites are seasonally dry, riparian vegetation will form a narrower band than where water is present all year.

The riparian planting areas are relatively small, and all planting sites available to date on the inland side of the highway have been planted. The pond closest to the ocean (Pond 105 or clay settling pond #2 per Figure 1-4 of the HCP) has been completely colonized by volunteer riparian and freshwater marsh vegetation. Natural regeneration is in progress at the next pond upstream (Pond 104 or clay settling pond #1).

The dominant species in the canopy will be Arroyo Willow *(Salix lasiolepis)*, with a fringe of Coyote Brush along the upland edges. California Blackberry *(Rubus ursinus)* will be the dominant understory species after shade develops, but other species such as California Rose *(Rosa californica)*, Pacific Oenanthe *(Oenanthe sarmentosa)* and Douglas' Mugwort *(Artemisia douglasiana)* may be important in the early stages of development of the riparian vegetation.

The riparian vegetation will be installed mostly by vegetative propagules – cuttings, contract-grown plants, divisions in the field or via the nursery – supplemented as feasible by site-collected seed. Willows are readily grown from cuttings (Figure 2); Coyote Brush might also be grown from cuttings, making sure to include both male and female plants.

4. HABITAT CONSERVATION AREA (HCA)

The work required in the HCA to provide habitat for the California Red-legged Frog was completed in the past, and the habitat is being used by the frog.

The ponds required in the Habitat Conservation Plan have been created and/or retained, and erosion control and riparian plantings were installed in 1999. As of December 2002, no additional riparian/wetland plantings were proposed around the ponds (BRG 2002). Current observations confirm that no further riparian plantings are needed in the Habitat Conservation Area.

5. TEMPORARY PLANTINGS

Areas where grading has not been completed will need temporary erosion control during the winter. Cereal Barley *(Hordeum vulgare)* provides inexpensive erosion control at some locations, but here its large nutritious seed is devoured by ravens from the nearby landfill. The California Department of Fish and Game has specified that both permanent and temporary plantings at this site will contain native grass (J. West, personal communication April 9, 2004). Small-seeded species should be used.

A temporary planting in fall 2004 that included small-seeded native grasses and legumes (Greening Associates 2004b) was not eaten by the ravens. No mulch was applied to this area; and germination was best in cleat marks of the dozer that had emplaced the fill.

F. PROPAGULES

Most planting will originate as seed, especially in the grassland areas. Some seed producers track the sources of their seed lots, and commercially produced seed will originate at central coast sources as near to the site as possible. Where central coast material is not available in commercial quantities, small quantities of site-collected seed will be increased on the site and/or by contract with a seed producer.

Seed that is to be collected at the site will be collected as close to peak ripeness as possible, in order to obtain good quantities with modest effort It will be air-dried and cleaned, and stored

away from seed-eating animals and from fluctuations of temperature and moisture. Collection dates, source locations, and condition and quantities of the seed used will be recorded.

There are plentiful sources of willow cuttings on the quarry property. Cuttings will be between 3/8" and 1" in diameter and a minimum of 18 inches long (Figure 2). Stems that are green or red have a higher success rate than steins that are brown or barked over. Cuttings will be installed at least 12 inches deep in a pilot hole, buds pointing up. They will be installed either immediately after cutting or following an overnight soak in water. When the cutting is placed in the pilot hole, the soil will be tamped in lifts to eliminate air pockets Each cutting will be watered when planted; watering after that may not be needed.

Other riparian species may be grown from divisions made in the field and planted within 24 hours, or from contract-grown plants. Planting holes will be drilled deeply for divisions and contract-grown plants. Individual plants will have ½ tablespoon of slow release complete fertilizer incorporated into the soil below *the* plant roots. It is not anticipated that individual plants will need cages or other protective devices,

All species used will be native either to the quarry property; or to grassland, coastal scrub or riparian habitats in the vicinity

G. TIMING OF SEEDING/PLANTING

Broadcast seeding and mulching will be performed between October 1 and Thanksgiving. Willow cuttings are installed in December to January, when the leaves have fallen. Plants can be installed any time between October 1 and December 31 when the ground is moist from rain and more rain is anticipated during the winter season.

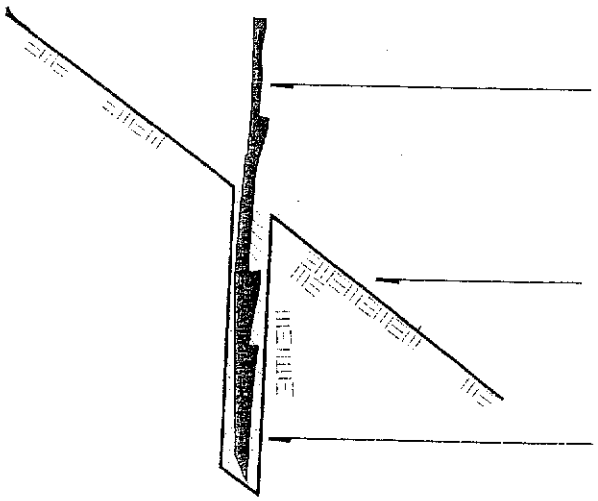
Installation of seed and plants early in the rainy season translates to a maximum establishment period during the balance of the winter, and therefore to greater success of the planting.

H. RECORD-KEEPING

Records will be kept to evaluate the results of plantings against the effort, techniques and cost involved in each planting. These records will include, at a minimum, quantities of seed broadcast, by treatment area and by species. They will also include numbers of cuttings and divisions, numbers of plants installed; and observations made of field conditions during planting and maintenance.

Photographs will be made periodically to visually document the progress of plantings. Permanent photo points will be established to provide overviews of large planted areas, and other relevant subjects will be photographed as well.

FIGURE 2



18' willow cutting 3/8" or greater diam. Square cut top, slant cut bottom, install with buds pointing up. Collect in winter after leaf fall. **Keep** moist & cool until planted.

Install cutting in lead hole 12" to 14", tamp in place

SECTION

NTS

WILLOW CUTTING DETAIL

ON **A** SLOPE

I. MAINTENANCE

1. FERTILIZER

On the nutrient-poor planting substrate (mining waste), the grassland plantings of fall 2003 and fall 2004 both needed fertilizing. In order to minimize weed growth, fertilizing will not be done until the plant condition indicates nutrient deficiency, and even then the application rate will be kept at a minimum level needed for plant health. The fertilizer will combine certain characteristics: it will be low in phosphorus so as to not interfere with mycorrhizal inoculation of plant roots; it will include a balanced array of micro-nurrients; and it will be slow-release to sustain plants over the full growing season.

Fertilizer will be applied when the seeded grasses are approximately 3 inches tall. A booster application may be desirable again in February to sustain growth through the spring. For installed plants or divisions, fertilizer will be installed at the time of planting and mixed into the soil under the plant roots.

Fertilizer will be applied to the grassland plantings annually during winter and early spring for the first two to five years. The application will be decreased each year in the expectation that a gradual buildup of vegetation residues will accumulate sufficient nutrients in the mining waste to sustain native vegetation.

Soil samples from each planting site will be analyzed before planting occurs, to document the baseline nutrient condition of the soil. Throughout the ten-year monitoring period for each planted site, soil samples will be analyzed periodically to determine whether there is a trend of nutrients accumulating in the soil. Nutrient levels may need to be evaluated against annual rainfall, given the high percolation rate of the substrate which could leach nutrients.

2. INVASIVE SPECIES

The least desirable species for revegetation are indicated on Table 2. Most of them respond well to pulling, by grubbing out the roots, or by cutting below the soil surface. Bermuda Buttercup, extensive populations of Orchard Grass, and large specimens of Pampas Grass are more effectively dealt with by herbiciding.

The site will be visited periodically during the year to qualitatively evaluate the degree to which selected species may be jeopardizing the revegetation outcome, and to cut/pull/grub selected species. Quarry personnel have expressed a welcome interest in assisting with weed control.

Table 2. INVASIVE SPECIES **TO BE** CONTROLLED
Wilder Sand Plant

Brassica sp.	Mustard
Carduus pycnocephalus	Italian Thistle
Carpobrotus chilensis	Iceplant
Centaurea *melitensis*	*Tocalote*, Yellow Star Thistle
Cirsium sp.	Thistle
Conium *maculatum*	Poison Hemlock
Cortaderia jubata	Pampas Grass (= Jubata Grass)
Dactylis glomerata	Orchard Grass
Erechtites glomerata	Cut-leaved Coast Fireweed
Genista monspessulane	French Broom
Lathyrus latifolius	Everlasting Pea
Melilotus indica	Sourclover
Oxaiis pes-caprae	Bermuda Buttercup
Raphanus sativus	Wild Radish
Rumex *conglomeratus*	Green Dock
Senecio *sylvaticus*	Wood Groundsel
Silybum marianum	Milk Thistle

1

Erosion control will conform to the Erosion Control plan prepared by Robert DeWitt and Associates, Inc., which is shown on sheets 12 and 13 of the Wilder Sand Plant Application #98-0809 for Amendment to Santa Cruz County Certificate of Compliance #92-0331 Mining Approval and Reclamation Plan (DeWitt *et al.* 2004). In most locations, erosion control will consist of installing the permanent revegetation plantings. In locations where grading has not been completed, temporary seeding will control erosion caused by rain or wind.

Graniterock will install and maintain the non-vegetative erosion controls such as silt fences and sediment traps.

4. FENCING

The revegetation areas are not anticipated to need fencing

5. IRRIGATION

Plantings installed during fall and early winter normally do not require irrigation. In the event of unseasonable or prolonged drought, water will be pumped from one or more quarry ponds to any planting that is not yet sufficiently established to survive drought. An inexpensive and highly effective temporary sprinkler system can be constructed using Floppy Sprinklers, installed according to the specifications. These are distributed by

Zig Enterprises, Inc.
232 West 19'' Street
North Vancouver, BC
V7MIX5
attn: Mark Gunter
tel. 604/924-4008, fax. 604/924-4012
http:liwM''N.iloppvsprinkler,coin

6. MOWING

Areas planted as grassland may need to be mowed to maintain grassland function and to minimize seed production by exotic annual grasses. Mowing will be timed to interfere as little as possible with seed production of the native grassland species; therefore, most mowing will be done early in the growing season. Grassland plantings will be mowed no shorter than five inches.

If areas planted as grassland show a persistent tendency to convert to coastal scrub, mowing will be discontinued.

III. MONITORING PLAN

Monitoring will be conducted by the revegetation team on an ongoing basis. General observations that are made while planting or conducting maintenance activities will be recorded. and important points will be summarized in the annual revegetation reports.

In addition, systematic monitoring will take stock of the revegetation progress at particular stages in the development of vegetation at a given site. Monitoring in some years will be qualitative, consisting of a visual evaluation of a site, accompanied by photographs as appropriate. Quantitative monitoring, on the other hand, will be performed as described in Section F. below. The results of quantitative monitoring will be compared to the success criteria. In some cases, qualitative monitoring may include transects to spot-check particular sites.

A. OBJECTIVES OF THE MONITORING PROGRAM

The overall objectives of the monitoring program are to assess whether the revegetation program is accomplishing its stated goals and to evaluate progress toward meeting the success criteria. The monitoring program focuses on four main elements of the revegetation program: establishment of plant assemblages (vegetative cover and species richness), survival of planted species, invasion by non-native species, and erosion control.

B. MONITORING SCHEDULE

The monitoring program will extend for a period of 10 years after installation of seed/plants/cuttings at a given site. Survival of species installed as plants (or cuttings or divisions) rather than from seed will be monitored qualitatively in late summer/fall following planting. Cover and species richness will be monitored in spring in grassland sites and the test plots, and during summer in coastal scrub and riparian plantings. Erosion control monitoring will be performed each year during the rainy season, during or immediately after significant rain events. Invasive species will be monitored during spring though late summer at times when they can most readily be identified.

Table 3. MONITORING **SCHEDULE**
WILDER SAND PLANT REVEGETATION

YEAR	QUALITITATIVE OR QUANTATIVE	MONITORING TIME	FOCUS OF MONITORING
		GRASSLAND	
1	qualitative	spring	cover, species richness
2	**quantitative**	spring	cover, species richness
3	**quantitative**	spring	cover, species richness
5	**quantitative**	spring	cover, species richness
8	qualitative	spring	cover, species richness
10	**quantitative**	spring	cover, species richness
		COASTAL SCRUB	
1	qualitative	summer	survival, germination
2	qualitative	summer	survival, species richness
3	qualitative	summer	cover, species richness
5	**quantitative**	late summer or fall	cover, species richness
8	**quantitative**	late summer or fall	cover, species richness
10	**quantitative**	late summer or fall	cover, species richness
		RIPARIAN	
1	qualitative	late summer or fall	survival, germination
2	qualitative	summer	cover, species richness
3	**quantitative**	summer	cover, species richness
5	**quantitative**	summer	cover, species richness
8	qualitative	summer	cover, species richness
10	**quantitative**	summer	cover, species richness
		TEST PLOTS	
1 (2004)	**quantitative**	spring	cover, species richness
2	**quantitative**	spring	cover, species richness
3	**quantitative**	spring	cover, species richness
5	**quantitative**	spring	cover, species richness
8	**quantitative**	spring	cover, species richness
10	**quantitative**	spring	cover, species richness

NOTES:
1. All sites will be evaluated annually at a reconnaissance level during the life of the monitoring program.
2. Erosion control and invasive species will be evaluated against the success criteria every year.
3. Qualitative monitoring may include some transects to spot-check particular sites.
4. For any site that achieves the success criteria ahead of schedule, subsequent monitoring may be qualitative instead of quantitative.

C. MONITORING SITES

The phased nature of the mining and subsequent revegetation requires a phased monitoring program, wherein sites will be monitored sequentially as revegetation efforts commence. This will result in staggered monitoring programs specific to each revegetation site, such that sites will follow a consistent monitoring schedule but each site will have its own start date.

D. EROSION CONTROL

The revegetation areas will be monitored each rainy season to identify whether erosion problems (rills, gullies) are developing. Monitoring will be perfonned on an as-needed basis following major storm events that could create possible runoff problems.

E. SURVIVAL

In some area plants, cuttings and/or divisions will be planted instead of or in addition to seed. In these areas, the survival of individual plants will be monitored for the first three years after planting. Monitoring will include an inventory of all planted individuals within the revegetation area. If a planting area is larger than one quarter of an acre, survival may be sampled rather than inventoried. Survival will be field monitored in late summer and reported in the current monitoring report.

Survival monitoring will be used to evaluate planting strategies for future sites. If the survival or growth of plants installed from vegetative propagules appears deficient, future sites will be planted at higher density or with an adjusted plant palette to more closely achieve the success criteria for cover and species richness.

F. ESTABLISHMENT OF PLANT ASSEMBLAGES

Sites will be quantitatively monitored to assess the establishment of plant assemblages at intervals beginning at Year 2 in grassland locations, and beginning at Year 3 in coastal scrub and riparian plantings. This will be accomplished by sampling the following parameters:

- percent cover of bare ground, vegetative litter, and individual plant taxa;
- species richness (number of taxa).

Sampling design, methodology, and data analysis for each parameter have been developed based on established vegetative sampling techniques (Bonham 1989; Floyd and Anderson 1987; Greig-Smith 1983; Kennedy and Addison 1987; Moore and Chapman 1986; Snedecor and Cochran 1980; Willoughby and Knox 1997) and are described briefly below. In anticipation of the vegetation being patchy and heterogeneous within the revegetation areas, the sampling program is built around the use of line transects to encompass the most habitat variability within a sampling unit. Ocular estimation will be used when access for *in situ* sampling becomes infeasible or destructive.

Species identifications will be based on *The Jepson Manual: Higher Plants of California* (Hickman 1993). Unknown species will be identified by examining voucher specimens collected from outside the plot or, if necessary, from judicious sampling of key morphological portions of specimens within the plot.

1. PERCENT COVER

In the grassland plantings, point-intercept line transects will be used to estimate percent cover of substrate and vegetation. This method samples cover by recording the substrate or taxon that is intercepted at defined points along a line transect. Due to layering of vegetation, more than one taxon may occur at a given point such that a transect may have total percent cover greater than 100. Net percent cover for the transect (amount of ground covered by vegetation, discounting layering) is calculated by counting multiple species hits as one. Substrate type (bare ground, litter) is recorded only if no vegetative cover is present. Percent cover of a substrate type/taxon is calculated by dividing the number of intercepts by the total number of points. Net cover is calculated by dividing the number of points at which vegetation was encountered by the total number of points.

The transects will be randomly located within the defined revegetation area. To maximize sampling effectiveness within a particular area, several 'transects will be used, with the length of the transect determined by the size and shape of the sampling area. Points along the transect will be systematically positioned at equal intervals. The number of transects (replicates) at each site will vary depending on the size of the revegetation area.

Data for reference sites with plant assemblages similar to that being revegetated will be analyzed to estimate the number of transects required to achieve an 80-percent confidence level for that particular plant assemblage; this estimate and practical constraints of size of area, level of effort, and cost will then be used to determine the actual number of samples for each site. After actual monitoring data have been collected, the number of samples may be modified in the future if necessary.

In the coastal scrub and riparian plant assemblages, monitoring in the first two years will consist of' qualitatively assessing the gemination of seed and the survival of installed plants, cuttings andor divisions. Thereafter, cover and species richness will be quantitatively monitored by use of transects until the vegetation becomes so dense that it renders *in situ* sampling infeasible or destructive. At that point, for consistency with the 2004 reference site monitoring, cover will be assessed by ocular estimation from a single vantage point per sampling site.

Raw data will be summarized for each revegetation treatment area. Initially, only descriptive summary statistics (mean, variation, range) will be calculated but as data from multiple years become available, statistical analysis of changes over time will be performed as appropriate and necessary Data will be tested for homogeneity of variances and appropriate parametric or non-parametric tests will be employed to assess differences among means. The results of the percent cover sampling will be compared to the success criteria defined in this revegetation plan.

2. SPECIES RICHNESS

Species richness (total number of species present) for each revegetation area will be sampled at the time that percent cover is measured. Each grassland transect will form the center line of a sampling plot 4 meters wide. All the species present within 2 meters on each side of the transect line will be identified and the total number of species per plot will be noted.

In coastal scrub and riparian sites, species richness will be sampled by ocular estimations made from individual vantage points within, and as the vegetation fills in, along the edges of the plantings.

Data analysis will be similar to that for percent cover sampling. Results will be compared to the success criteria defined in this revegetation plan.

G. MONITORING IN THE HABITAT CONSERVATION AREA

While the HCA is not dominated by native species, riparian vegetation is present on the margins of the ponds and the HCA is providing functional habitat for the California Red-legged Frog (D. Bland; personal communication December 3, 2004). There is internal inconsistency in the HCP as *to* what the target condition of riparian vegetation in the HCA should be. Section 3.5 of the HCP specifies that "no more than 50% of the pond perimeter should support woody plant species (e.g., willows); and at least 5% of the shoreline should be maintained as open habitat that is free of emergent vegetation." The section also states that "The minimum performance standards for riparian habitats are 70% total cover after 5 years and 85% total cover after 10 years."

In the HCA, quantitative monitoring of the plant associations will continue to be superseded by monitoring of the California Red-legged Frog population. Vegetation ***per se*** in the HCA will be monitored qualitatively on an annual basis. The wildlife biologist will be consulted periodically to evaluate whether changes to the vegetation of the HCA are warranted to benefit the frog. If the biologist recommends vegetative changes, quantitative vegetation monitoring will be initiated to generate baseline data and to document progress.

Aside from a light population of Pampas Grass, invasive exotic species are not presenting significant problems at this time in the HCA. French Broom was present in the past in the HCA (BRG 1999) and patrols should be continued for it because the viability of its seed bank in the soil persists for decades.

H. INVASIVE NON-NATIVE SPECIES

Monitoring of non-native species will be perfonned in association with the percent cover and species richness monitoring of the establishment of plant assemblages. At the same time, qualitative observations of the presence; abundance, and degree of threat of non-native species throughout the entire revegetation areas will be made, and these observations will be compared to the success criteria for the revegetation program. Remedial measures will be undertaken as necessary to keep invasive non-native plants from producing seed and spreading.

California native species dominate the existing coastal scrub and riparian plant associations on and near the quarry, but a conspicuous amount of the cover in the surrounding grasslands consists of non-native Eurasian species. SMARA specifies that post-mining vegetative cover "shall be similar to naturally occurring habitats in the surrounding area" (SMARA § 3705[a]). This means that a high number of non-native species that are expected to show up spontaneously in the revegetation areas are acceptable to meet the success criteria. Some non-native species, however, may be sufficiently aggressive to reduce species richness and jeopardize meeting the success criteria. Currently, the species that need to be controlled andor that are capable of being controlled with a reasonable input of effort are those shown in Table 2.

If additional species that *are* equally invasive appear in the future, they will also be controlled. For example, Bermuda Buttercup *(Oxalis pes-caprae)* has only recently been discovered above the old highwall at the upper end of Sandy Flat Gulch; controlling it at that location promptly will prevent it becoming a widespread problem in Sandy Flat Gulch. The 1992 revegetation plan lists Bermuda Buttercup as occurring in Eucalyptus Grove. Figure 1 of the 2001 revegetation plan maps Eucalyptus Grove at several places near Old Dairy Gulch and Highway One; these groves should be checked in early spring before the plant goes dormant to identify which groves contain Bermuda Buttercup so that it can be controlled.

Some California native species will be watched to detennine whether they become overly aggressive, particularly in the grassland assemblage, and whether they may need to be controlled in revegetation areas. Examples include Canada Fleabane *(Conyza canadensis)* and Telegraph Weed *(Heterothecu grandiflora)*.

Conversely, not all of the species listed on Table 2 are equally important to control. At particular sites, some species may not spread aggressively, but need only to be watched to confirm that they are staying in place.

I. PHOTODOCUMENTATION

Color photographs will be used to visually document the condition of the revegetation areas prior to and during the revegetation process. Permanent photographic monitoring points will be established for each revegetation phase during its first monitoring cycle. Thereafter, photographs will be taken each spring on an annual basis to illustrate progress over time. Photographs may be used to help evaluate erosion control, survival of planted species, establishment of plant assemblages, presence of non-native species, and other characteristics of the revegetation sites.

J. REPORTING

Annual revegetation reports will document the planting and maintenance activities conducted during the previous the year, including (by species and location) numbers of plants planted and quantities of seeds collected/purchased and sown. Annual reports will describe monitoring activities for the past year, with an account of the sampling design and methodology. For each active revegetation phase the reports will discuss the findings regarding erosion control, percent survival, establishment of plant assemblages, and presence of invasive non-native species.

The results will be presented and evaluated in terms of the success criteria. Photographs from the permanent photographic monitoring points will be included. Recommendations will be developed to address any problems that have been identified or to identify successful measures that should be applied more widely. The reports will also give a brief outline of revegetation activities planned for the corning year.

The quarry's annual report to Santa Cruz County is due on January 1 of each year. However, the revegetation report will be submitted during late summer or early fall of each year so that it can be reviewed by the appropriate agencies in time for recommendations to be implemented in the coming fall's planting cycle.

K. SUCCESS CRITERIA

The success criteria for revegetation at Wilder Sand Plant are derived from data collected during spring 2004 on reference sites in and near the quarry, and are shown on the following table.

Table 4. **SUCCESS** CRITERIA
WILDER SAND PLANT

ASSOCIATION	YEAR 5 CRITERION	YEAR 10 CRITERION
GRASSLAND		
treatment area)		
Species richness	species per treatment area	species per treatment area
COASTAL SCRUB		
Net cover by all species	minimum 35%	minimum 70%
Net cover by native low-to-medium shrubs	minimum 25%	minimum 60%
Number of native species present	minimum 3	minimum 3
RIPARIAN: ARROYO WILLOW SCRUB		
Net cover by woody native species	minimum 40%	minimum 80%
Number of native species present	minimum 3	minimum 3
ALL SITES		
Erosion	no erosion occurring at a rate that undermines vegetation AND no concentrated runoff outside of planned drainageways that lead to sediment control structures	no erosion occurring at a rate that undermines vegetation AND no concentrated runoff outside of planned drainageways that lead to sediment control structures
Invasive species (Table 2)	none present in reproductive condition	none present in reproductive condition

If the success criterion for both cover and species richness at any treatment area is met ahead of schedule, subsequent monitoring of that parameter at that site may be qualitative instead of quantitative.

There are no success criteria for the test plots located in the center portion of the five-year area. Using the releve monitoring protocol that was used in 2004, they will be monitored in spring for at least the three years 2005-2007 to provide trend information

IV. REMEDIAL MEASURES

If the success criteria are not met in a quantitative monitoring cycle within a treatment area (Table 3), several steps will be taken. First, the cause of the shortcoming will he identified. Second, potential corrective action(s) will be evaluated, And third, changes will he recommended and implemented to bring the results into line with the success criteria. If the success criteria are not met at 10 years, the three steps above will be followed and the maintenance and monitoring period will be extended until the criteria are met.

Remedial action is not anticipated for the test plots, but may be recommended based on the outcome of monitoring during the next three years.

A. EROSION

The revegetation sites will be visited during or immediately after storm events that are likely to cause damage. Any erosion problems encountered within the planted areas will be remedied promptly so that erosion is not accelerated. .Remedial measures for erosion in the revegetation sites may include spreading or staking rice straw in rills or smaller gullies, installation of straw wattles, planting of willow cuttings, and or other measures that will arrest the erosion problem and stabilize the planting site.

B. REVEGETATION

If any vegetative performance criterion (species richness, percent cover) is not met for any revegetation site for any year, the monitor will investigate the cause of the deficiency and will make recommendations as appropriate to remedy the deficiency. The recommended remedial action will be initiated within one calendar year to bring the deficient component up to or above the success criterion. Typical remedial action will include additional seeding and/or planting, with emphasis on species that have been most successful to date in the revegetation plantings.

Remedial action may also be accomplished by a change of planting method or plant protection methods, revising mulching procedures, or changes in other procedures in order to more effectively accomplish the goals of this Revegetation Plan.

C. WEEDS

Any species found on the revegetation sites or within the quarry operation area that is deemed to be detrimental to the revegetation plantings or to the adjacent sensitive habirat will be addressed in a timely fashion. While a first step is to prevent seed production of the species identified as detrimental, the real objective is *to* eliminate them entirely. Manual, mechanical and/or chemical

methods will be employed as appropriate to the species, the population size, and the condition of the plants.

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Changes to Conditions of Approval

Certificate of Compliance and Reclamation Plan Approval, #92-0331

1. Delete Conditions I.B through I.J., which reference the old mining plans and revegetation plan and replace with new conditions I.B and I.C referencing the new mining plans and revegetation plan.

2. Insert a reference to an amended HCP in Conditions II.C, III.A.I, III.D.4, III.D.6 and III.D.8.

3. Add new Conditions II.R and II.S regarding an application for an amended HCP and a Major Mining Approval Amendment.

4. Add a new condition II.T requiring the operator shall immediately notify the Planning Director of any change in any significant environmental condition or mining operation which has not been anticipated in the Mining Approval, Certificate of Compliance, or Reclamation Plan Approval.

5. Add a new condition II.U regarding an additional semi-annual report shall be prepared and submitted by the mining operator to the Planning Director by October 1 of each year.

6. Add a new condition II.V regarding monthly meetings between the operator and Planning Department staff to review and discuss relevant permit compliance and operations issues.

7. Delete Conditions III.A.6 and III.A.8 regarding geologic monitoring of slopes. The conditions in this subsection are renumbered accordingly.

8. Modify Condition 111.B.6 to require the installation of devices to continuously monitor water quality in Sandy Flat Gulch and Old Dairy Gulch immediately upstream and downstream of the mine. The operator shall submit a plan for the continuous monitoring prepared by a qualified hydrological consultant within 30-days of Planning Commission approval of this condition and install the monitoring system and implement monitoring within 30-days of Planning Department approval of the plan. The results of the monitoring shall be submitted to the Planning Department every 30-days and in the annual report.

9. Add a new condition 111.B.7 requiring the operator to follow the recommendation of the memo dated August 25, 2005 from the County Geologist and the Planning Department Senior Civil Engineer and reconstruct the fill as engineered fill meeting all URS recommendations and Code requirements and submit the required technical report for the Pond 106 embankments.

Exhibit C

10. Amend Condition 11113 to add Saturday maintenance hours.

11. Amend Condition III.J.l to add language allowing staff approval of gaps in fencing.

Conditions of Approval

Certificate of Compliance and Reclamation Plan Approval 92-0331 Permit Review & Minor Mining Approval Amendment 98-0809 Adopted by the Plannina Commission October 12,2005

I. EXHIBITS

All mining operations shall conform to the following exhibits, which are incorporated as conditions of this Certificate of Compliance, except as modified by specific conditions set forth below. The following Exhibits are on file with the Planning Department:

A. Mitigation Monitoring Program, dated October 1996, prepared by the Santa Cruz Planning Department.

~~B.Sand Plant Access Road, Robert L. DeWitt and Associates, Inc., Revised 9/26/96 (three sheets).~~

~~C.Five Year Interval Mining Plan, Robert L. DeWitt and Associates, Inc. Revised 9/27/96, Sheet 1 of 4.~~

~~D.Ten Year Interval Mining Plan, Robert L. DeWitt and Associates. Inc., Revised 9/27/96, Sheet 2 of 4.~~

~~E.Fifteen Year Interval Mining Plan, Robert L. DeWitt and Associates, Inc., Revised 9/27/96, Sheet 3 of 4.~~

~~F.Cross Sections and Five Year Interval Profile, Robert L. DeWitt and Associates, Inc., Revised 9/27/96, Sheet 4 of 4.~~

~~G.Operational Mining Plan, Robert L. DeWitt and Associates, Inc., Revised 9/27/96, Sheet 1 of 1.~~

~~H.Final Grading and Drainage Plan, Robert L. DeWitt and Associates, Inc., Revised 9/27/96, Sheet 1 of 1.~~

~~I.Erosion Control Plan, Robert L. DeWitt and Associates, Inc., Revised 9/27/96, Sheet 1 of 1.~~

~~J.Wilder Sand Plant Revegetation Plan, Habitat Restoration Group, Revised April 1996 (50 pages, Appendix, and Sheet 1: "Existing Vegetation (August, 1992)," Sheet 2: "Plant Associations to be Created (April, 1996, to be amended per requirements of approved Habitat Conservation Plan/Section 10a permit through the U.S. Fish and Wildlife Service).~~

B. Amended Mining and Reclamation Plans, dated June 2005, by Robert L. DeWitt and Associates, consisting of 14 sheets.

C. Wilder Sand Plant Amended Revegetation Plan, dated February 2005. by Greening Associates.

II. GENERAL PROVISIONS

A. All provisions of Use Permit 2791-U shall remain in effect. This Certificate of Compliance shall augment, and supersede where in conflict with, the provisions of Use Permit NO. 2791-U.

B. This Approval is limited to portion of the following County assessor parcel numbers: 059-141-04, -05, -09, 059-041-30, -26, -27, and –31. For specific areas of mining and reclamation within the boundaries of these parcel numbers please refer to above listed Exhibits. Prior to resumption of mining, applicant shall provide lease agreement with California Department of Parks and Recreation for parcels 059-041-26, -27, and -31, to be kept on file at the Planning Department.

C. This Certificate of Compliance is for the extraction, processing, storage, shipping of sand resources obtained from the quarry site in accordance with the conditions of Use Permit 2791-U and the conditions herein and for reclamation of existing, proposed, and previously mined lands as shown in the approved Revegetation Plan as revised, and in accordance with the conditions of an approved Habitat Conservation Plan/Section 10a Permit prepared for the protection of the California Red-legged frog (Jones and Stokes Associates, 1996), adopted herein by reference. Upon approval of said Habitat Conservation Plan/Section 10a Permit, or any amendment thereof, the Applicant shall amend the above stated Reclamation Pian as needed to incorporate the requirements of U.S. Fish and Wildlife Service approved Habitat Conservation Plan/Section 10a permit.

D. Prior to approval by U.S. Fish and Wildlife Service of said Habitat Conservation Plan/Section 10a Permit, any activity on the above referenced Assessor Parcel Numbers, shall be in conformance with the Endangered Species Act of 1973, as amended. Applicant shall notify the U.S. Fish and Wildlife Service and the Planning Director and receive approval in writing, prior to commencing work. All biotic monitoring reports submitted to U.S. Fish and Wildlife shall concurrently be submitted to the Planning Director.

E. Minor variations to this Approval meeting the standards of County Code Section 18.10.134 and requested by the mining operator or staff which do not change the general concept of use and operation, and which do not adversely affect the environment, may be approved in writing by the Planning Director following review and recommendation by the County's Environmental Coordinator, pursuant to the requirements of Section 16.54.032, which states that: "A Minor variation to any condition required by this Chapter may be made by the Planning

Director pursuant to the authority contained in Section 18.10.134, and shall be forwarded as a written correspondence item on the next Planning Commission Agenda. In reviewing the minor variation the Planning Commission may require the minor variation to be processed as a Minor or Major amendment or any add, delete, or revise any condition of the minor variation."

F. If, at any time, the Planning Director determines that there is a substantial noncompliance with any of these conditions, and/or Exhibits, the Planning Director shall forward a recommendation to the Planning Commission to set a hearing to consider revocation of the Certificate of Compliance in accordance with the provisions of County Code Section 18.10.136, Section 16.54.090 through 16.54.098.

G. Within 90 days of project approval, each Property owner of the mining site, the applicant and the operator shall execute, date and return to the Planning Director two copies of a Declaration of Restrictions binding each to comply with each and every term and condition of the Certificate of Compliance and Amendment pursuant to the requirements of Section 16.54.050. Failure to sign the approval or record the Declaration as described above shall render this Certificate of Compliance null and void and all mining operations shall cease at the Quarry site except reclamation and revegetation work in accordance with the above listed Exhibits and requirements. Prior to signing and recording the document, ail Exhibits for the Mining Plan shall be "wet stamped" and signed by a Registered Civil Engineer.

H. Mitigation measures included in approvals from the Department of Fish and Game, U.S. Fish and Wildlife and/or agreements from the Regional Water Quality Control Board are incorporated by reference as conditions of this Certificate of Compliance. All mining and reclamation activities shall conform with the Conditions of Approval and with the regulations of the following agencies as they apply to the mining operations.

1. Central Coast Regional Water Quality Control Board
2. Monterey Bay Unified Air Pollution Control District
3. California Department of Fish and Game
4. State Coastal Commission
5. U.S. Fish and Wildlife Service

The mining operator shall provide the County with copies of any permits, orders, or agreements issued by these agencies and any permit amendments, within 30 days of receipt.

I. This Certificate of Compliance shall be reviewed by the Planning Commission within five years from the date of issuance. In connection with such review, the Planning Commission shall take public testimony and shall otherwise investigate the permittee's compliance with the conditions of this Certificate of Compliance,

and shall be empowered to amend the conditions of the COC if necessary to eliminate nuisance conditions or to mitigate problems resulting from a change of circumstances pursuant to Section 16.54.031(b).

J. In conjunction with the annual report to the State Geologist required by SMARA, an annual report to the Planning Director shall be prepared by a professional determined by the Planning Director as qualified to prepare such report. The report shall be submitted by the mining operator to the Planning Director by April 1 of each year. If the Planning Director determines the need for an independent consultant with specialized expertise, the mining operator shall obtain such consultant. All costs of such report and its review shall be paid by the mining operator. The report shall include the requirements of Section 16.54.073 of the County Code and monitoring logs for all wells, piezometers, and springs (if any) for the entire year, and analysis thereof, as described in Conditions lll.C.7 through lll.C.10.

K. All costs for the County's inspections and review of Annual Reports and other reports submitted by the Quarry shall be paid by the Quarry within 30 days after billing.

L. All mining operations shall be in compliance with the State's Surface Mining and Reclamation Act (SMARA) and Chapter 16.54 of the County Code.

M. In the event that future County inspections of the subject property disclose non-compliance with any Conditions of this Approval or any violation of the County Code, the operator shall pay to the County the full cost of such County inspections, including any follow-up inspections and/or necessary enforcement actions, up to and including Certificate of Compliance revocation pursuant to Sections 16.54.090 through 16.54.098 of the County Code.

N. Within 30 days of approval of the Habitat Conservation Plan/Section 10a permit from the U.S. Fish and Wildlife Service, the Quarry shall submit a revised financial assurance in conformance with the requirements of Sections 16.54.060 and 061.

O. AMENDING CONDITION 4, USE PERMIT 2791-U: Coincident with the initial installation of the processing plant, applicant shall construct, maintain and operate rail loading facilities capable of handling ten carloads of materials per day. Transport of materials from quarry site to rail loading facilities shall be by covered conveyor system developed under State Highway 1, in accordance with requirements of the State Division of Highways.

Maintenance and Operation of Rail Loading Facility: Condition #4 requires that Graniterock Company, throughout the life of its mining operations, maintain the integrity of the major components of its rail loading facilities: the tunnel under the State Highway and the rail siding tracks. However, Graniterock shall be allowed,

during periods when the cost of shipping sand by rail is not competitive with the cost of shipping sand by truck, to reduce the level of maintenance on the minor components of its rail loading facilities: including but not limited to conveyor belts, rollers, chutes, and other material handling paraphernalia.

To determine periods when the cost of shipping sand by rail is not competitive with the cost of shipping sand by truck, Graniterock shall submit a Rail Haul Feasibility Study to the County. The scope and methodology of that Study beyond those listed below shall be established by agreement between Graniterock and the County. In determining rail haul costs, Graniterocks Rail Haul Feasibility Study shall not include any expenditures by the Graniterock to reinstall or upgrade the components of its rail loading facilities. The Rail Haul Feasibility Study shall be required to include:

1. A comparison of the cost of using Union Pacific Lines' (or other possible carriers') quoted price per ton for hauling sand from the Quarry to markets in downtown San Jose, which price shall be based on using both Union Pacific's (or other carrier's) rail cars as compared to using Graniterocks owned and maintained rail cars. Also included shall be the variable costs (labor) for both loading and unloading rail cars.

2. The feasibility of connecting cars to other trains utilizing the rail line adjacent to Wilder Quarry.

3. A comparison of the cost of rail hauling to the cost of truck hauling. The study shall use established truck haul rates for both bottom dump and transfer trucks.

Prior to the completion of CALTRANS planned improvements to the Mission Street corridor, an updated Rail Haul Feasibility Study may be required if the City of Santa Cruz Traffic Engineer determines that a reduction in intersection Level of Service (LOS) has occurred on Mission Street.

Additional Rail Haul Feasibility Studies shall be prepared at such times as the County believes economic conditions may have occurred – such as a significant change in either rail or truck haul rates. In no event, shall a Rail Haul Feasibility Study be required more frequently than annually or less frequently than every 5 years.

P. AMENDING CONDITION 11, USE PERMIT 2791-U: At such time as the property owner or any other entity (including a public agency) seeks to implement a specific post-reclamation use of the site, the owner shall obtain a development permit and coastal zone permit from the County of Santa Cruz. Such permits shall be obtained regardless of whether the post-reclamation use is carried out solely by a private entity or under the auspices of a public agency including, without limitation, the California Department of Parks and Recreation. The terms

and conditions of such permits shall be fully enforceable by the County of Santa Cruz to the extent permitted by law. This condition shall run with the land and any sale or transfer of any interest in the property to any person or entity (including without limitation, a public entity) shall be subject to the seller/transferor requiring the buyer/transferee to enter into a written agreement to comply with the terms of this condition.

Q. If at any time, the applicant proposes to increase the production limit of 250,000 tons per year as described in Condition III.A.13 of this COC, the following condition shall apply: Prior to approval of any production increase, the applicant shall submit to the Planning Director engineered drawings for reconstruction of rail loading facilities, including an outline of work required to bring on line the major components such as the tunnel under Highway One and reconstruction of rail spur. The drawings shall also include conveyor belts, rollers, chutes and other material handling paraphernalia. The costs for reconstruction of these facilities shall be included in the Financial Assurances estimates submitted for State and Planning Commission approval. Percentage of product shipped by rail may be reviewed by the Planning Commission at that time.

R. An amended HCP shall be submitted to the U. S. Fish and Wildlife Service no later than October 31, 2005.

S. An application for a Maior Mining Approval Amendment shall be submitted to the County Plannina Department no later than October 31, 2005.

T. The operator shall immediately notify the Planninq Director of any change in any significant environmental condition or mininq operation which has not been anticipated in the Mining Approval, Certificate of Compliance, or Reclamation Plan Approval.

U. In addition to the annual report to the Planninq Director a semi-annual report shall be prepared and submitted by the mininq operator to the Planninq Director by October 1 of each year. All costs of such report and its review shall be paid by the mining operator. The semi-annual report shall include the requirements of Section 16.54.073(a) and (b) of the County Code.

V. The operator (including a member each from senior executive staff and site operations staff) shall participate in monthly meetings with Planninq Department staff to review and discuss relevant permit compliance and operations issues. The goal of the meetings is to ensure timely communication and discussion regarding any changes in the operation or any other issues that may affect permit compliance.

III. OPERATING REQUIREMENTS

A. Mining

Exhibit D

1. ~~Prior to resumption of mining, t~~The mining plan shall be revised to incorporate any changes theretofore unanticipated by the approval of the Habitat Conservation Plan/Section 10a approval, or any amendment thereof, by the U.S. Fish and Wildlife Service including a proposal for compliance with the conditions of approval as defined in the April 24, 1968 letter of approval for Dam site 2.

2. All mining activities, including clearing, excavation or other disturbances shall be done in conformance with the above Exhibits as revised. Setbacks shall be measured from the property boundary lines on a horizontal plane.

3. A benchmark shall be established in the Quarry floor during the first five-year interval of mining as described in the above Exhibits in a visible area not proposed for disturbance.

4. Prior to issuance of any building permit, new on-site structures shall incorporate appropriate Uniform Building Code requirements and shall be designed by a registered civil engineer.

5. A Geotechnical Evaluation of liquefaction potential for areas where new foundations are proposed shall be conducted prior to building within areas of known liquefaction potential. Plans shall be designed in conformance with recommendations that study and shall be reviewed for approval by the Planning Department. (MM G-2)

6. ~~The Quarry's engineering geologist shall examine the workface on a monthly basis and conduct a Confirmatory Slope Stability Analysis during mining operations and submit a report of site slope conditions with an updated geologic map annually as part of the required annual report. (MM G-3)~~

7. The Quarry work face shall be excavated in compliance with the benching standards set forth by Use Permit 2791-U, the Santa Cruz County Mining Ordinance, OSHA, MSHA, and in accordance with the above Exhibits.

8. ~~Annual inspections of the Quarry face shall be conducted by a State Certified Engineering Geologist to address the conformance with the phased Mining and Drainage Plans and to evaluate unexpected potentially adverse geological constraints that may be encountered during future excavation.~~

9. A slope-specific geotechnical investigation shall be completed by a registered professional that demonstrates the stability of the oversteep northeastern quarry slope exceeds a factor of safety of 1.2 for the permanent slope. A permanent buffer setback of 100' shall be established through a Declaration of Restriction if a 1.2 factor of safety cannot be established for this slope (MM-G-4)

10. Prior to excavating, clearing, or otherwise disturbing the land within 200 feet of the mining lease boundary, the mining operator shall provide survey markers at 200-foot intervals to indicate the location of the maximum mining limit. The markers shall be maintained until a clear work face has been established and in compliance with Condition III.A.12 below.

11. Silt fences shall be installed and hydro mulching required up-slope of riparian areas and shall be implemented prior to and during all mining activities within the active mining area pursuant to the requirements of Mitigation Measure G-5a of the EIR prepared for this project. (MM G-5a)

12. Prior to mining, the approved mining area shall be surveyed and staked in the field. Protective fencing shall be installed as required by the Planning Director, and in compliance with the requirements of the HCP/Section 10a permit, to prevent any additional disturbance to the adjacent riparian areas.

13. The rate of mining and trucking shall not exceed 250,000 tons per year, except as provided in Condition II.Q. above.

B. Surface Drainage

1. Drainage improvements shall be designed by a qualified professional, and provide for the effective dispersal of runoff. Within 120 days of approval of the HCP/Section 10a permit, or financial assurance approval by the Planning Commission and prior to any disturbance, whichever is sooner as provided in these Conditions of Approval, the Quarry shall provide downstream erosion control at all culverts that could experience flow velocities above 3.5 cfs, or reduce flow velocities to a rate below 3.5 cfs, New designs shall be submitted to County Planning staff for review and approval prior to implementation. Best Management Practices to control sediment in culvert construction areas, including installing culverts during the dry season (April 15-October 15) and revegetation of disturbed areas immediately after installation shall be included on the plans or as approved in the Habitat Conservation Plan/Section 10a permit approved by U S. Fish and Wildlife Service. (MM H-4 and H-6)

2. Prior to any disturbance the Final Drainage Plan shall be amended to conform to the requirements of the approved HCP/Section 10a permit as necessary. Plans and calculations shall be submitted to County Planning for review and approval. **(MM** V-2)

3. The ponds and basins shall be dredged as needed to maintain adequate storage capacity as shown on the drainage plan.

4. Prior to reuse of Settling Basin 3 for additional settling capacity, engineered plans for levee design and stability including potential for liquefaction shall be submitted to County Planning for review and approval.

5. Measures provided in the "Revised Drainage Study," Robert DeWitt and Associates, Revised May 1996, "Erosion Control Plan," Robert L. DeWitt and Associates, Inc., Revised 9/27/96, and the "Revegetation Plan, Wilder Sand Plant, Habitat Restoration Group, Revised April 22, 1996, shall be implemented, as amended per the requirements of the HCP/Section 10a permit approval. All erosion control work shall be completed before October 15 of each year. Quarry shall implement Best Management Practices to control erosion from unpaved surfaces. (MM H-6, H-1, H-3)

6. ~~Monitoring of runoff discharge into all natural drainage courses by an independent laboratory and/or the installation of a continuous monitoring device shall be required. The results of the monitoring shall be submitted to the Planning Department at the quarterly mining inspections and included in~~ The operator shall install devices to continuously monitor water quality in Sandy Flat Gulch and Old Dairy Gulch immediately upstream and downstream of the mine. The operator shall submit a plan for the continuous monitoring prepared by a qualified hydrological consultant within 30-days of Planning Commission approval of this condition and install the monitoring system and implement monitoring within 30-days of Planning Department approval of the plan. The results of the monitorina shall be submitted to the Planning Department every 30-days and in the annual report.

7. The operator shall submit the required technical report for the Pond 106 embankments, as required in the memo dated August 25, 2005 from the County Geoloaist and the Planning Department Senior Civil Engineer and, depending upon the outcome *of* the analysis and the County's review of the analysis, make recommendations to stabilize the embankments, if necessary, to assure lona term stability.

C. Groundwater Protection

1. Channels which are designed to concentrate and direct Quarry runoff into the sediment pond detention system shall be armored with erosion resistant materials (such as rip-rap) at points of potential gullying. The areas to be protected shall be decided by the Quarry's consulting civil engineer and detailing included in the annual report to the County.

2. The surface area of the Quarry which is stripped, mined or otherwise disturbed at any given time shall be minimized to the greatest extent compatible with reasonable mining and marketing requirements.

3. Reclamation and revegetation of each Quarry bench shall be done as soon as possible, upon completion of mining operations on that bench, in accordance with the revegetation plan.

4. Quarry storm water runoff control facilities into natural channels shall be in compliance with the approved Storm Water Prevention Plan and/or limits as set forth in the Regional Water Quality Control Board NPDES (discharge) Order. An updated copy of the NPDES Order, and/or Stormwater Prevention Plan shall be on file at County Planning prior to commencement of mining activities. All water quality monitoring and reporting requirements specified in the RWQCB Orders shall be complied with, and are included as conditions of this permit by reference.

5. The 1996 Drainage Plan by Robert L. DeWitt Engineering and the Erosion Control Plan (as amended) shall be implemented to offset potential erosion and sedimentation. The erosion control measures are to remain in effect from October 15 through April 15 of each year.

6. Prior to resumption of mining, a plan implementing Best Management Practices to control Fuel, Oil and Solvents on the property, and a Spill Prevention Plan, in compliance with County and State regulations, including double containment at all fuel storage and handling areas, shall be submitted to County Planning and County Environmental Health Services for review and approval. All approved measures of the Spill Prevention Plan shall be implemented prior to commencement of mining activities. (MM H-7)

7. Future pumping rates for Wilder Well #1 shall be limited to 175 gpm. Monthly monitoring of pumping rates shall be included in the required annual report. (MM H-8a)

8. Prior to resumption of mining, a Constant-Discharge pumping test of 72 hours minimum duration to determine transmissivity of the aquifer and how it responds to pumping conditions shall be performed by a professional qualified to perform such tests. The test shall be followed by a recovery test and the monitoring of at least 3 nearby wells to determine area groundwater impacts. The test results shall be submitted to the County Planning hydrologist. Test results may require modification of pumping at Well #1 to ensure production of this well will not contribute to groundwater overdraft in the area. (MM H-8b)

9. A baseline Groundwater Monitoring Program including groundwater levels and quality shall be implemented. The first round of monitoring shall be completed prior to resumption of mining. This program must include a continuous 7-day groundwater level monitoring period in Wilder Wells #1 and 21E01. The results of this continuous daily monitoring shall be submitted to the County Planning hydrologist to verify the potential for seawater intrusion.

If this constant monitoring shows tidal influence on groundwater, the applicant shall remedy the problem by submitting a hydrologic report with a list of recommendations including a proposal for barrier extraction wells installed seaward of Wilder Well #1, which address the seawater intrusion issue for review and approval by County Planning. Aquifer storage and retrieval concepts should be evaluated including storage of surface water in the underground aquifer using percolating ponds or injection wells, and a retrieval system. Groundwater monitoring shall also include installation **of** a new monitoring well located on the first emergent terrace near the shoreline. This well shall be screened within the Santa Margarita Sandstone formation at shallow and deep intervals. (MM H-9 and H-11b)

10. Prior to resumption of mining, a dedicated Piezometer shall be installed in the vicinity of detention pond #3. The piezometer shall be installed by a California licensed C-57 drilling contractor in accordance with California Department of Water Resources specifications. It shall be designed to screen any potential perched groundwater within the 50-70 foot elevation range. The bottom of the unconfined water table surface shall be within the 25-40 foot elevation range. The bottom of the piezometer shall be no less than 50 feet below sea level. Periodic measurements shall be taken on a quarterly basis for the first 5 years of mining to document the absence of a water table shallower than 20 feet below the maximum quarry depth of the 55 –foot elevation. The quarry shall notify County Planning if piezometer measurements of water table levels show 20 feet separation between mining and the groundwater table. Monthly piezometer level readings shall be incorporated into the required annual report. Piezometer measurements of water tables shallower than 20 feet below the maximum mining floor depth shall necessitate one or both of the following actions, as determined by the County Planning Director exercising reasonable discretion:

(a) Cessation of mining within the 5 year quarry area and increase the maximum allowed depth within the 10-year and 15-year areas to compensate for the loss of production in the 5-year area: or
(b) Implementation of a groundwater protection plane in the 5-year quarry area using a barrier created by extraction wells down gradient of detention pond #3. (MM H-IO)

D. Reclamation/Revegetation

1. The Quarry reclamation plans shall conform to the Santa Cruz County Mining Ordinance Reclamation Standards (County Code Sections 16.54.050 and .055, SMARA, and the Exhibits of this permit.

2. Reclamation activities requiring major earth moving activities shall be conducted during the dry season (April 15 – October 15) to prevent potential increase in sediment loading to watercourses. (H-12 and V-12)

3. Riparian habitat impacts shall be minimized by implementation of the following requirements:

   (a) All road construction and mining activities shall be kept a minimum of 50 feet away from the outward edge of riparian vegetation along Old Dairy and Sandy Flat Gulches. (MM V-1a)

   (b) Areas disturbed by new culvert installation shall be revegetated immediately with willow cuttings according to the success criteria and remedial measures in the Revegetation Plan, approved for this project. (MM V-1b)

4. Ponds used as settlement basins shall be maintained after mining to provide habitat for the red-legged frog consistent with the requirements of the Habitat Conservation Plan/Section 10a permit approval, or any amendment thereof, by U.S. Fish and Wildlife Service. (MM V-17)

5. The Reclamation Plan shall be revised to address habitat requirements for the red-legged frogs. (MM V-18)

6. To ensure that non-native fish or bullfrogs are not inadvertently introduced into the quarry drainage system, bullfrogs and predatory fish shall be controlled annually by measures consistent with the Habitat Conservation Plan/Section 10a permit approval, or any amendment thereof, by U.S. Fish and Wildlife Service. (MM V-19).

7. Graniterock shall implement a worker education program for quarry personnel and other persons who may be working in or near red-legged frog habitats. All workers who could come into contact with red-legged frogs shall be required to attend at least one instructional meeting. (MM V-20)

8. A qualified biologist shall conduct pre-construction surveys in pond or creek sites scheduled for vegetation or sediment removal. If red-legged frogs are present and would not restrict mining operations, disturbance shall be restricted to between September 15 to January 15 (non-breeding season) as approved by the U.S. Fish and Wildlife Service. Frog relocation activities shall occur only as approved by the U.S. Fish and Wildlife Service through the approved Habitat Conservation Plan/Section 10a permit, or any amendment thereof. Surveys shall be included in the Quarry's annual report to the County. (MM V-21)

9. Excess sediment and vegetation required for removal shall be conducted in a manner consistent with the approved Habitat Conservation Plan/Section 10a permit. Removed sediment shall be disposed of in a manner that does not result in erosion, and revegetated pursuant to the requirements of the

Revegetation Plan. To reduce loss of red-legged frog habitat, the number of points of access for sediment excavation/removal and the area of disturbance shall be minimized. (MMV-22)

10. The use of chemical weed control in aquatic habitats, including riparian streamside vegetation is prohibited. (MM V-23)

E. Traffic/Circulation

1. The quarry shall maintain an active information program for the shippers and drivers regarding speed limits, and maintaining truck routing through the City of Santa Cruz.

F. Air Quality

1. Unpaved Quarry roads shall be watered or sprayed with lignin sulfonate or other environmentally approved dust retardant to reduce fugitive dust. (MM H-5, G-6 and G-5b)

2. All equipment and processing facilities shall be maintained in accordance with APCD standards for stationary sources.

3. Revegetation in accordance with the approved Reclamation and Vegetation Plan shall be initiated as soon as practical in order to minimize fugitive dust.

4. The quarry shall install and use water sprays during all dry screening operations and at all dry material transfer points. (MM AQ-5a and 5b)

5. Prior to reactivation of mining activities, the Quarry access road shall be paved to a width necessary to ensure that all sand trucks remain on a paved surface from the time they leave the truck scale area until they enter Highway One.

G. Aesthetics

1. The Quarry shall permanently retain the existing grove of Eucalyptus, Monterey Cypress and Monterey pine trees to screen views of mining activities from Highway One. If any part of the grove is removed (i.e. fire, disease) a new screening shall be implemented immediately using a combination of earth berms, fencing and planting that is designed to be harmonious with the aesthetics of Wilder Ranch State Park and the surrounding area. (MM A-I)

2. Aesthetic buffers of native vegetation shall be planted to screen views of site facilities including fencing of mining areas. The Quarry shall use appropriate

colors for equipment and facilities (i.e., non-reflective and non-bright colors and materials). (MM **A-2)**

H. Protection of Paleontological Resources

1. In the event that potentially significant paleontological resources (i.e. significant skeletal remains that might substantially contribute to knowledge of prehistory) are found during mining operations, all work shall be halted within 200 feet of the find and the Planning Director shall be notified immediately. **A** qualified paleontologist, as approved by the Planning Director, shall be retained to assess the significance of the find and implement mitigations measures recommended as a result of such assessment, consistent with the County's Paleontological Resource Protection ordinance.

I. Operating and Shipping Hours

1. Hours of Quarry operation shall be 5:00 a.m. to 3:30 p.m., Monday through Friday.

2. Shipping operations shall be confined to between the hours of 5:00 a.m. to 7:00 a.m., with reduced shipping at the rate of two trucks per hour allowed during 7:00 a.m. to 9:00 a.m., resuming normal shipping at 9:00 a.m. to 3:00 p.m. for shipments through the Mission Street corridor Monday through Friday. Shipments northward may occur during 5:00 a.m. to 3:30 p.m. Monday through Friday.

3. Maintenance operations shall be conducted from 5:00 a.m. to 8:00 p.m. Monday through Friday and Saturday between 7:00 a.m. and 3:00 p.m.

J. Fence/Public Safety

1. The entire mining site shall be fenced for safety and maintained by the owner or operator, to protect public safety in conformance with County Code Section 16.54.050(c)11. Gaps in the fencing may be approved based on field conditions (topography and vegetation) and approved by Planning Department staff.

2. The Quarry shall implement and maintain a Fire Protection and Evacuation Plan for persons employed in the mining operation. The plan shall implement Best Management Practices for reducing fire hazards from mining activities. (MM F-3, F-5b and 5c)

K. Posting of Signs

1. Within 90 days after this Certificate of Compliance has been granted and continuously thereafter, the outer boundaries of the mining lease area shall

be continuously posted with signs in such a manner as will reasonably give notice to the public of matters contained in such notice, stating in letters not less than four inches in height: "MINING APPROVALS and stating in letters not less than one inch in height: "THIS PROPERTY MAY BE USED AT ANY TIME FOR THE MINING AND PROCESSING OF ROCK, SAND, GRAVEL OR MINERALS." Said signs shall be maintained in legible condition at all times.

IV. MITIGATION MONITORING PROGRAM

The mitigation measures contained in Exhibit "A" of this permit have been incorporated into the conditions of approval for this project in order to mitigate or avoid significant effects on the environment. Exhibit "A" of this permit specifies which mitigation measures are the responsibility of the applicant. As required by Section 21081.6 of the California Public Resources Code, the monitoring and reporting program contained in Exhibit "A" is hereby adopted as a Condition of Approval for this project. The purpose of this monitoring is to ensure compliance with the environmental mitigations during project implementation and operation. Failure to comply the conditions of approval, including the terms of the adopted monitoring program, may result in permit revocation pursuant to Section 18.10.462 and 16.54.090 through .098 of the County Code.

Conditions of Approval

Certificate of Compliance and Reclamation Plan Approval 92-0331 Permit Review & Minor Mining Approval Amendment 98-0809 Adopted by the Planning Commission October 12,2005

I. EXHIBITS

All mining operations shall conform to the following exhibits, which are incorporated as conditions of this Certificate of Compliance, except as modified by specific conditions set forth below. The following Exhibits are on file with the Planning Department:

A. Mitigation Monitoring Program, dated October 1996, prepared by the Santa Cruz Planning Department.

B. Amended Mining and Reclamation Plans, dated June 2005, by Robert L. DeWitt and Associates, consisting of 14 sheets.

C. Wilder Sand Plant Amended Revegetation Plan, dated February 2005, by Greening Associates.

II. GENERAL PROVISIONS

A. All provisions of Use Permit 2791-U shall remain in effect. This Certificate of Compliance shall augment, and supersede where in conflict with, the provisions of Use Permit NO. 2791-U.

B. This Approval is limited to portion of the following County assessor parcel numbers: 059-141-04, -05, -09, 059-041-30, -26, -27, and –31. For specific areas of mining and reclamation within the boundaries of these parcel numbers please refer to above listed Exhibits. Prior to resumption of mining, applicant shall provide lease agreement with California Department of Parks and Recreation for parcels 059-041-26, -27, and -31, to be kept on file at the Planning Department.

C. This Certificate of Compliance is for the extraction, processing, storage, shipping of sand resources obtained from the quarry site in accordance with the conditions of Use Permit 2791-U and the conditions herein and for reclamation of existing, proposed, and previously mined lands as shown in the approved Revegetation Plan as revised, and in accordance with the conditions of an approved Habitat Conservation Plan/Section 10a Permit prepared for the protection of the California Red-legged frog (Jones and Stokes Associates, 1996), adopted herein by reference. Upon approval of said Habitat Conservation Plan/Section 10a Permit, or any amendment thereof, the Applicant shall amend the above stated Reclamation Plan as needed to incorporate the requirements of U.S. Fish and Wildlife Service approved Habitat Conservation Plan/Section 10a permit.

D. Prior to approval by U.S. Fish and Wildlife Service of said Habitat Conservation Plan/Section 10a Permit, any activity on the above referenced Assessor Parcel Numbers, shall be in conformance with the Endangered Species Act of 1973, as amended. Applicant shall notify the U.S. Fish and Wildlife Service and the Planning Director and receive approval in writing, prior to commencing work. All biotic monitoring reports submitted to U S. Fish and Wildlife shall concurrently be submitted to the Planning Director.

E. Minor variations to this Approval meeting the standards of County Code Section 18.10.134 and requested by the mining operator or staff which do not change the general concept of use and operation, and which do not adversely affect the environment, may be approved in writing by the Planning Director following review and recommendation by the County's Environmental Coordinator, pursuant to the requirements of Section 16.54.032, which states that: "A Minor variation to any condition required by this Chapter may be made by the Planning Director pursuant to the authority contained in Section 18.10.134, and shall be forwarded as a written correspondence item on the next Planning Commission Agenda. In reviewing the minor variation the Planning Commission may require the minor variation to be processed as a Minor or Major amendment or any add, delete, or revise any condition of the minor variation."

F. If, at any time, the Planning Director determines that there is a substantial noncompliance with any of these conditions, and/or Exhibits, the Planning Director shall forward a recommendation to the Planning Commission to set a hearing to consider revocation of the Certificate of Compliance in accordance with the provisions of County Code Section 18.10.136, Section 16.54.090 through 16.54.098.

G. Within 90 days of project approval, each Property owner of the mining site, the applicant and the operator shall execute, date and return to the Planning Director two copies of a Declaration of Restrictions binding each to comply with each and every term and condition of the Certificate of Compliance and Amendment pursuant to the requirements of Section 16.54.050. Failure to sign the approval or record the Declaration as described above shall render this Certificate of Compliance null and void and all mining operations shall cease at the Quarry site except reclamation and revegetation work in accordance with the above listed Exhibits and requirements. Prior to signing and recording the document, all Exhibits for the Mining Plan shalt be "wet stamped" and signed by a Registered Civil Engineer.

H. Mitigation measures included in approvals from the Department of Fish and Game, US. Fish and Wildlife and/or agreements from the Regional Water Quality Control Board are incorporated by reference as conditions *of* this Certificate of Compliance. All mining and reclamation activities shall conform with

the Conditions of Approval and with the regulations of the following agencies as they apply to the mining operations.

1. Central Coast Regional Water Quality Control Board
2. Monterey Bay Unified Air Pollution Control District
3. California Department of Fish and Game
4. State Coastal Commission
5. U.S. Fish and Wildlife Service

The mining operator shall provide the County with copies of any permits, orders, or agreements issued by these agencies and any permit amendments, within 30 days of receipt.

I. This Certificate of Compliance shall be reviewed by the Planning Commission within five years from the date of issuance. In connection with such review, the Planning Commission shall take public testimony and shall otherwise investigate the permittee's compliance with the conditions of this Certificate of Compliance, and shall be empowered to amend the conditions of the COC if necessary to eliminate nuisance conditions or to mitigate problems resulting from a change of circumstances pursuant to Section 16.54.031(b).

J. In conjunction with the annual report to the State Geologist required by SMARA, an annual report to the Planning Director shall be prepared by a professional determined by the Planning Director as qualified to prepare such report. The report shall be submitted by the mining operator to the Planning Director by April 1 of each year. If the Planning Director determines the need for an independent consultant with specialized expertise, the mining operator shall obtain such consultant. All costs of such report and its review shall be paid by the mining operator. The report shall include the requirements of Section 16.54.073 of the County Code and monitoring logs for all wells, piezometers, and springs (if any) for the entire year, and analysis thereof, as described in Conditions lll.C.7 through lll.C.10.

K. All costs for the County's inspections and review of Annual Reports and other reports submitted by the Quarry shall be paid by the Quarry within 30 days after billing.

L. All mining operations shall be in compliance with the State's Surface Mining and Reclamation Act (SMARA) and Chapter 16.54 of the County Code.

M. In the event that future County inspections of the subject property disclose non-compliance with any Conditions of this Approval or any violation of the County Code, the operator shall pay to the County the full cost of such County inspections, including any follow-up inspections and/or necessary enforcement actions, up to and including Certificate of Compliance revocation pursuant to Sections 16.54.090 through 16.54.098 of the County Code.

N. Within 30 days of approval of the Habitat Conservation Plan/Section 10a permit from the U.S. Fish and Wildlife Service, the Quarry shall submit a revised financial assurance in conformance with the requirements of Sections 16.54.060 and 061.

O. AMENDING CONDITION 4, USE PERMIT 2791-U: Coincident with the initial installation of the processing plant, applicant shall construct, maintain and operate rail loading facilities capable of handling ten carloads of materials per day. Transport of materials from quarry site *to* rail loading facilities shall be by covered conveyor system developed under State Highway 1, in accordance with requirements of the State Division of Highways.

Maintenance and Operation of Rail Loading Facility: Condition #4 requires that Graniterock Company, throughout the life of its mining operations, maintain the integrity of the major components of its rail loading facilities: the tunnel under the State Highway and the rail siding tracks. However, Graniterock shall be allowed, during periods when the cost of shipping sand by rail is not competitive with the cost of shipping sand by truck, to reduce the level of maintenance on the minor components of its rail loading facilities: including but not limited to conveyor belts, rollers, chutes, and other material handling paraphernalia.

To determine periods when the cost of shipping sand by rail is not competitive with the cost of shipping sand by truck, Graniterock shall submit a Rail Haul Feasibility Study to the County. The scope and methodology of that Study beyond those listed below shall be established by agreement between Graniterock and the County. In determining rail haul costs, Graniterocks Rail Haul Feasibility Study shall not include any expenditures by the Graniterock to reinstall or upgrade the components of its rail loading facilities. The Rail Haul Feasibility Study shall be required to include:

1. A comparison of the cost of using Union Pacific Lines' (or other possible carriers') quoted price per ton for hauling sand from the Quarry to markets in downtown San Jose, which price shall be based on using both Union Pacific's (or other carrier's) rail cars as compared to using Graniterocks owned and maintained rail cars. Also included shall be the variable costs (labor) for both loading and unloading rail cars.

2. The feasibility of connecting cars to other trains utilizing the rail line adjacent to Wilder Quarry.

3. A comparison of the cost of rail hauling to the cost of truck hauling. The study shall use established truck haul rates for both bottom dump and transfer trucks.

Prior to the completion of CALTRANS planned improvements to the Mission Street corridor, an updated Rail Haul Feasibility Study may be required if the City of Santa Cruz Traffic Engineer determines that a reduction in intersection Level of Service (LOS) has occurred on Mission Street.

Additional Rail Haul Feasibility Studies shall be prepared at such times as the County believes economic conditions may have occurred – such as a significant change in either rail or truck haul rates. In no event, shall a Rail Haul Feasibility Study be required more frequently than annually or less frequently than every 5 years.

P. AMENDING CONDITION 11, USE PERMIT 2791-U: At such time as the property owner or any other entity (including a public agency) seeks to implement a specific post-reclamation use of the site, the owner shall obtain a development permit and coastal zone permit from the County of Santa Cruz. Such permits shall be obtained regardless of whether the post-reclamation use is carried out solely by a private entity or under the auspices of a public agency including, without limitation, the California Department of Parks and Recreation. The terms and conditions of such permits shall be fully enforceable by the County of Santa Cruz to the extent permitted by law. This condition shall run with the land and any sale or transfer of any interest in the property to any person or entity (including without limitation, a public entity) shall be subject to the seller/transferor requiring the buyer/transferee to enter into a written agreement to comply with the terms of this condition.

Q. If at any time, the applicant proposes to increase the production limit of 250,000 tons per year as described in Condition III.A.13 of this COC, the following condition shall apply: Prior to approval of any production increase, the applicant shall submit to the Planning Director engineered drawings for reconstruction of rail loading facilities, including an outline of work required to bring on line the major components such as the tunnel under Highway One and reconstruction of rail spur. The drawings shall also include conveyor belts, rollers, chutes and other material handling paraphernalia. The costs for reconstruction of these facilities shall be included in the Financial Assurances estimates submitted for State and Planning Commission approval. Percentage of product shipped by rail may be reviewed by the Planning Commission at that time.

R. An amended HCP shall be submitted to the U. S. Fish and Wildlife Service no later than October 31,2005.

S. An application for a Major Mining Approval Amendment shall be submitted to the County Planning Department no later than October 31,2005.

T. The operator shall immediately notify the Planning Director of any change in any significant environmental condition or mining operation which has not been

anticipated in the Mining Approval, Certificate of Compliance, or Reclamation Plan Approval.

U. In addition to the annual report to the Planning Director a semi-annual report shall be prepared and submitted by the mining operator to the Planning Director by October **1** of each year. All costs of such report and its review shall be paid by the mining operator. The semi-annual report shall include the requirements of Section 16.54.073(a) and (b) of the County Code.

V. The operator (including a member each from senior executive staff and site operations staff) shall participate in monthly meetings with Planning Department staff *to* review and discuss relevant permit compliance and operations issues. The goal of the meetings is to ensure timely communication and discussion regarding any changes in the operation or any other issues that may affect permit compliance.

III. OPERATING REQUIREMENTS

A. Mining

1. The mining plan shall be revised to incorporate any changes theretofore unanticipated by the approval of the Habitat Conservation Plan/Section 10a approval, or any amendment thereof, by the U.S. Fish and Wildlife Service including a proposal for compliance with the conditions of approval as defined in the April 24, 1968 letter of approval for Dam site 2.

2. All mining activities, including clearing, excavation or other disturbances shall be done in conformance with the above Exhibits as revised. Setbacks shall be measured from the property boundary lines on a horizontal plane.

3. A benchmark shall be established in the Quarry floor during the first five-year interval of mining as described in the above Exhibits in a visible area not proposed for disturbance.

4. Prior to issuance of any building permit, new on-site structures shall incorporate appropriate Uniform Building Code requirements and shall be designed by a registered civil engineer.

5. **A** Geotechnical Evaluation of liquefaction potential for areas where new foundations are proposed shall be conducted prior to building within areas of known liquefaction potential. Plans shall be designed in conformance with recommendations that study and shall be reviewed for approval by the Planning Department. (MM G-2)

6. The Quarry work face shall be excavated in compliance with the benching standards set forth by Use Permit 2791-U, the Santa Cruz County Mining Ordinance, OSHA, MSHA, and in accordance with the above Exhibits.

7. A slope-specific geotechnical investigation shall be completed by a registered professional that demonstrates the stability of the oversteep northeastern quarry slope exceeds a factor of safety of 1.2 for the permanent slope. A permanent buffer setback of 100' shall be established through a Declaration of Restriction if a 1.2 factor of safety cannot be established for this slope (MM-G-4)

8. Prior to excavating, clearing, or otherwise disturbing the land within 200 feet of the mining lease boundary, the mining operator shall provide survey markers at 200-foot intervals to indicate the location of the maximum mining limit. The markers shall be maintained until a clear work face has been established and in compliance with Condition III.A.12 below.

9. Silt fences shall be installed and hydro mulching required up-slope of riparian areas and shall be implemented prior to and during all mining activities within the active mining area pursuant to the requirements of Mitigation Measure G-5a of the EIR prepared for this project. (MM G-5a)

10. Prior to mining, the approved mining area shall be surveyed and staked in the field. Protective fencing shall be installed as required by the Planning Director, and in compliance with the requirements of the HCP/Section 10a permit, to prevent any additional disturbance to the adjacent riparian areas.

11. The rate of mining and trucking shall not exceed 250,000 tons per year, except as provided in Condition II.Q. above.

B. Surface Drainage

1. Drainage improvements shall be designed by a qualified professional, and provide for the effective dispersal of runoff. Within 120 days of approval of the HCP/Section 10a permit, or financial assurance approval by the Planning Commission and prior to any disturbance, whichever is sooner as provided in these Conditions of Approval, the Quarry shall provide downstream erosion control at all culverts that could experience flow velocities above 3.5 cfs, or reduce flow velocities to a rate below 3.5 cfs, New designs shall be submitted to County Planning staff for review and approval prior to implementation. Best Management Practices to control sediment in culvert construction areas, including installing culverts during the dry season (April 15-October 15) and revegetation of disturbed areas immediately after installation shall be included on the plans or as approved in the Habitat Conservation Plan/Section 10a permit approved by U.S. Fish and Wildlife Service. (MM H-4 and H-6)

2. Prior to any disturbance the Final Drainage Plan shall be amended to conform to the requirements of the approved HCP/Section 10a permit as necessary. Plans and calculations shall be submitted to County Planning for review and approval. (MM V-2)

3. The ponds and basins shall be dredged as needed to maintain adequate storage capacity as shown on the drainage plan.

4. Prior to reuse of Settling Basin 3 for additional settling capacity, engineered plans *for* levee design and stability including potential for liquefaction shall be submitted to County Planning for review and approval.

5. Measures provided in the "Revised Drainage Study," Robert DeWitt and Associates, Revised May 1996, "Erosion Control Plan," Robert L. DeWitt and Associates, Inc., Revised 9/27/96, and the "Revegetation Plan, Wilder Sand Plant, Habitat Restoration Group, Revised April 22, 1996, shall be implemented, as amended per the requirements of the HCP/Section 10a permit approval. All erosion control work shall be completed before October 15 of each year. Quarry shall implement Best Management Practices to control erosion from unpaved surfaces. (MM H-6, H-I, H-3)

6. The operator shall install devices to continuously monitor water quality in Sandy Flat Gulch and Old Dairy Gulch immediately upstream and downstream of the mine. The operator shall submit a plan for the continuous monitoring prepared by a qualified hydrological consultant within 30-days of Planning Commission approval of this condition and install the monitoring system and implement monitoring within 30-days of Planning Department approval of the plan. The results of the monitoring shall be submitted to the Planning Department every 30-days and in the annual report.

7. The operator shall submit the required technical report for the Pond 106 embankments, as required in the memo dated August 25, 2005 from the County Geologist and the Planning Department Senior Civil Engineer and, depending upon the outcome of the analysis and the County's review of the analysis, make recommendations to stabilize the embankments, if necessary, to assure long term stability.

C. Groundwater Protection

1. Channels which are designed to concentrate and direct Quarry runoff into the sediment pond detention system shall be armored with erosion resistant materials (such as rip-rap) at points of potential gullying. The areas to be protected shall be decided by the Quarry's consulting civil engineer and detailing included in the annual report to the County.

2. The surface area of the Quarry which is stripped, mined or otherwise disturbed at any given time shall be minimized to the greatest extent compatible with reasonable mining and marketing requirements.

3. Reclamation and revegetation of each Quarry bench shall be done as soon as possible, upon completion of mining operations on that bench, in accordance with the revegetation plan.

4. Quarry storm water runoff control facilities into natural channels shall be in compliance with the approved Storm Water Prevention Plan and/or limits as set forth in the Regional Water Quality Control Board NPDES (discharge) Order. An updated copy of the NPDES Order, and/or Stormwater Prevention Plan shall be on file at County Planning prior *to* commencement *of* mining activities. All water quality monitoring and reporting requirements specified in the RWQCB Orders shall be complied with, and are included as conditions of this permit by reference.

5. The 1996 Drainage Plan by Robert **L.** DeWitt Engineering and the Erosion Control Plan (as amended) shall be implemented to offset potential erosion and sedimentation. The erosion control measures are to remain in effect from October 15 through April 15 of each year.

6. Prior to resumption of mining, a plan implementing Best Management Practices to control Fuel, Oil and Solvents on the property, and a Spill Prevention Plan, in compliance with County and State regulations, including double containment at all fuel storage and handling areas, shall be submitted to County Planning and County Environmental Health Services for review and approval. All approved measures of the Spill Prevention Plan shall be implemented prior to commencement of mining activities. **(MM** H-7)

7. Future pumping rates for Wilder Well #1 shall be limited to 175 gpm. Monthly monitoring of pumping rates shall be included in the required annual report. (MM H-8a)

8. Prior to resumption of mining, a Constant-Discharge pumping test of 72 hours minimum duration to determine transmissivity *of* the aquifer and how it responds to pumping conditions shall be performed by a professional qualified to perform such tests. The test shall be followed by a recovery test and the monitoring of at least 3 nearby wells *to* determine area groundwater impacts. The test results shall be submitted to the County Planning hydrologist. Test results may require modification of pumping at Well #1 to ensure production *of* this well will not contribute to groundwater overdraft in the area. (MM H-8b)

9. A baseline Groundwater Monitoring Program including groundwater levels and quality shall be implemented. The first round of monitoring shall be

completed prior to resumption of mining. This program must include a continuous 7-day groundwater level monitoring period in Wilder Wells #1 and 21E01. The results of this continuous daily monitoring shall be submitted to the County Planning hydrologist to verify the potential for seawater intrusion. If this constant monitoring shows tidal influence on groundwater, the applicant shall remedy the problem by submitting a hydrologic report with a list of recommendations including a proposal for barrier extraction wells installed seaward of Wilder Well #1, which address the seawater intrusion issue for review and approval by County Planning. Aquifer storage and retrieval concepts should be evaluated including storage of surface water in the underground aquifer using percolating ponds or injection wells, and a retrieval system. Groundwater monitoring shall also include installation of a new monitoring well located on the first emergent terrace near the shoreline. This well shall be screened within the Santa Margarita Sandstone formation at shallow and deep intervals. (MM H-9 and H-11b)

10. Prior to resumption of mining, a dedicated Piezometer shall be installed in the vicinity of detention pond #3. The piezometer shall be installed by a California licensed C-57 drilling contractor in accordance with California Department of Water Resources specifications. It shall be designed to screen any potential perched groundwater within the 50-70 foot elevation range. The bottom of the unconfined water table surface shall be within the 25-40 foot elevation range. The bottom of the piezometer shall be no less than 50 feet below sea level. Periodic measurements shall be taken on a quarterly basis for the first 5 years of mining to document the absence of a water table shallower than 20 feet below the maximum quarry depth of the 55 –foot elevation. The quarry shall notify County Planning if piezometer measurements of water table levels show 20 feet separation between mining and the groundwater table. Monthly piezometer level readings shall be incorporated into the required annual report. Piezometer measurements of water tables shallower than 20 fee! below the maximum mining floor depth shall necessitate one or both of the following actions, as determined by the County Planning Director exercising reasonable discretion:

(a) Cessation of mining within the 5 year quarry area and increase the maximum allowed depth within the IO-year and 15-year areas to compensate for the loss of production in the 5-year area: or
(b) Implementation of a groundwater protection plane in the 5-year quarry area using a barrier created by extraction wells down gradient of detention pond #3. **(MM** H-IO)

D. Reclamation/Revegetation

1. The Quarry reclamation plans shall conform to the Santa Cruz County Mining Ordinance Reclamation Standards (County Code Sections 16.54.050 and .055, SMARA, and the Exhibits of this permit.

2. Reclamation activities requiring major earth moving activities shall be conducted during the dry season (April 15 – October 15) to prevent potential increase in sediment loading to watercourses. (H-12 and V-12)

3. Riparian habitat impacts shall be minimized by implementation of the following requirements:

   (a) All road construction and mining activities shall be kept a minimum of 50 feet away from the outward edge of riparian vegetation along Old Dairy and Sandy Flat Gulches. (MM V-1a)

   (b) Areas disturbed by new culvert installation shall be revegetated immediately with willow cuttings according to the success criteria and remedial measures in the Revegetation Plan, approved for this project. (MM V-1b)

4. Ponds used as settlement basins shall be maintained after mining to provide habitat for the red-legged frog consistent with the requirements of the Habitat Conservation Plan/Section 10a permit approval, or any amendment thereof, by U.S. Fish and Wildlife Service. (MM V-17)

5. The Reclamation Plan shall be revised to address habitat requirements for the red-legged frogs. (MM V-18)

6. To ensure that non-native fish or bullfrogs are not inadvertently introduced into the quarry drainage system, bullfrogs and predatory fish shall be controlled annually by measures consistent with the Habitat Conservation Plan/Section 10a permit approval, or any amendment thereof, by U.S. Fish and Wildlife Service. (MM V-19).

7. Graniterock shall implement a worker education program for quarry personnel and other persons who may be working in or near red-legged frog habitats. All workers who could come into contact with red-legged frogs shall be required to attend at least one instructional meeting. (MM V-20)

8. A qualified biologist shall conduct pre-construction surveys in pond or creek sites scheduled for vegetation or sediment removal. If red-legged frogs are present and would not restrict mining operations, disturbance shall be restricted to between September 15 to January 15 (non-breeding season) as approved by the U.S. Fish and Wildlife Service. Frog relocation activities shall occur only as approved by the U.S. Fish and Wildlife Service through the approved Habitat Conservation Plan/Section 10a permit, or any amendment thereof. Surveys shall be included in the Quarry's annual report to the County. (MM V-21)

9. Excess sediment and vegetation required for removal shall be conducted in a manner consistent with the approved Habitat Conservation Plan/Section 10a permit. Removed sediment shall be disposed of in a manner that does not result in erosion, and revegetated pursuant to the requirements of the Revegetation Plan. To reduce loss of red-legged frog habitat, the number of points of access for sediment excavation/removal and the area of disturbance shall be minimized. (MMV-22)

10. The use of chemical weed control in aquatic habitats, including riparian streamside vegetation is prohibited. (MM V-23)

E. Traffic/Circulation

1. The quarry shall maintain an active information program for the shippers and drivers regarding speed limits, and maintaining truck routing through the City of Santa Cruz.

F. Air Quality

1. Unpaved Quarry roads shall be watered or sprayed with lignin sulfonate or other environmentally approved dust retardant to reduce fugitive dust. (MM H-5, G-6 and G-5b)

2. All equipment and processing facilities shall be maintained in accordance with APCD standards for stationary sources.

3. Revegetation in accordance with the approved Reclamation and Vegetation Plan shall be initiated as soon as practical in order to minimize fugitive dust.

4. The quarry shall install and use water sprays during all dry screening operations and at all dry material transfer points. (MM AQ-5a and 5b)

5. Prior to reactivation of mining activities, the Quarry access road shall be paved to a width necessary to ensure that all sand trucks remain on a paved surface from the time they leave the truck scale area until they enter Highway One.

G. Aesthetics

1. The Quarry shall permanently retain the existing grove of Eucalyptus, Monterey Cypress and Monterey pine trees to screen views of mining activities from Highway One. If any part of the grove is removed (i.e. fire, disease) a new screening shall be implemented immediately using a combination of earth berms, fencing and planting that is designed to be harmonious with the aesthetics of Wilder Ranch State Park and the surrounding area. (MM A-I)

2. Aesthetic buffers of native vegetation shall be planted to screen views of site facilities including fencing of mining areas. The Quarry shall use appropriate colors for equipment and facilities (i.e., non-reflective and non-bright colors and materials). (MM A-2)

H. Protection of Paleontological Resources

1. In the event that potentially significant paleontological resources (i.e. significant skeletal remains that might substantially contribute to knowledge of prehistory) are found during mining operations, all work shall be halted within 200 feet of the find and the Planning Director shall be notified immediately. A qualified paleontologist, as approved by the Planning Director, shall be retained to assess the significance of the find and implement mitigations measures recommended as a result of such assessment, consistent with the County's Paleontological Resource Protection ordinance.

I. Operating and Shipping Hours

1. Hours of Quarry operation shall be 5:00 a.m. to 3:30 p.m., Monday through Friday.

2. Shipping operations shall be confined to between the hours of 5:00 a.m. to 7:00 a.m., with reduced shipping at the rate of two trucks per hour allowed during 7:00 a.m. to 9:00 a.m., resuming normal shipping at 9:00 a.m. to 3:00 p.m. for shipments through the Mission Street corridor Monday through Friday. Shipments northward may occur during 5:00 a.m. to 3:30 p.m. Monday through Friday.

3. Maintenance operations shall be conducted from 5:00 a.m. to 8:00 p.m. Monday through Friday and Saturday between 7:00 a.m. and 3:00 p.m.

J. Fence/Public Safety

1. The entire mining site shall be fenced for safety and maintained by the owner or operator, to protect public safety in conformance with County Code Section 16.54.050(c)11. Gaps in the fencing may be approved based on field conditions (topography and vegetation) and approved by Planning Department staff.

2. The Quarry shall implement and maintain a Fire Protection and Evacuation Plan for persons employed in the mining operation. The plan shall implement Best Management Practices for reducing fire hazards from mining activities. **(MM** F-3, F-5b and 5c)

K. Posting of Signs

1. Within 90 days afler this Certificate of Compliance has been granted and continuously thereafter, the outer boundaries of the mining lease area shall be continuously posted with signs in such a manner as will reasonably give notice to the public of matters contained in such notice, stating in letters not less than four inches in height: "MINING APPROVALS" and stating in letters not less than one inch in height: "THIS PROPERTY MAY BE USED AT ANY TIME FOR THE MINING AND PROCESSING OF ROCK, SAND, GRAVEL OR MINERALS." Said signs shall be maintained in legible condition at all times.

IV. MITIGATION MONITORING PROGRAM

The mitigation measures contained in Exhibit " A of this permit have been incorporated into the conditions of approval for this project in order to mitigate or avoid significant effects on the environment. Exhibit "A" of this permit specifies which mitigation measures are the responsibility of the applicant. As required by Section 21081.6 of the California Public Resources Code, the monitoring and reporting program contained in Exhibit " A is hereby adopted as a Condition of Approval for this project. The purpose of this monitoring is to ensure compliance with the environmental mitigations during project implementation and operation. Failure to comply the conditions of approval, including the terms of the adopted monitoring program, may result in permit revocation pursuant to Section 18.10.462 and 16.54.090 through .098 of the County Code.

CALIFORNIA ENVIRONMENTAL QUALITY ACT
NOTICE OF EXEMPTION

The Santa Cruz County Planning Department has reviewed the project described below and has determined that it is exempt from the provisions of CEQA as specified in Sections 15061 - 15332 of CEQA for the reason(s) which have been specified in this document.

Application Number: 98-0809
Assessor Parcel Number: 059-041-26, -27, -30, -31 & 059-141-04, -05, -09
Project Location: 1800 Coast Road

Project Description: Minor Mining Approval Amendment to include: eliminate geologic monitoring of slopes, additional hours of operation for maintenance, reduce fencing requirement, revise the process water system and backfill the mining pit; includes amended mining plans and revegetation plan.

Person or Agency Proposing Project: Graniterock

Contact Phone Number: Jim West 768-2071

A. _____ The proposed activity is not a project under CEQA Guidelines Section 15378.

B. _____ The proposed activity is not subject to CEQA as specified under CEQA Guidelines Section 15060 (c).

C. _____ Ministerial Project involving only the use of fixed standards or objective measurements without personal judgment.

D. _____ Statutory Exemption other than a Ministerial Project (CEQA Guidelines Section 15260 *to* 15285).

Specify type:

E. __X__ Categorical Exemption

Specify type: Class 1 - Existing Facilities (Section 15301)

F. Reasons why the project is exempt:

Minor alteration of existing facility involving no expansion of use.

_____ Date:_____
David Carlson, Project Planner

Exhibit F