

**Revegetation Plan for Plot Plan 49672, 2400 Puerco Canyon in Puerco Canyon,  
Unincorporated Los Angeles County, California**

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## **INTRODUCTION**

This Revegetation Plan for Plot Plan 49672, 2400 Puerco Canyon property within the Puerco Canyon watershed details necessary vegetation restoration for impacts to jurisdictional streambeds and upland habitats resulting from driveway improvements and building pad grading for the construction of a single-family residence. These impacts include those to streambeds under California Department of Fish and Game (CDFG) jurisdiction, and land regulated by the California Coastal Commission (CCC) resulting from the implementation of approved Plot Plan 49672 and the replacement of a stream culvert with a driveway bridge.

## **SITE DESCRIPTION**

### **Project Location**

The subject property is located at the northern end of Puerco Canyon Road, approximately 1/4 mile north of the Malibu coastline and Pacific Coast Highway in the Santa Monica Mountains, County of Los Angeles. The project site is located in the Malibu Beach USGS 7.5 Minute topographic quadrangle. The property was used in the past as a ranch, various accessory structures remain, previously used in the ranching operation.

### **Existing Site Conditions**

The site comprises a variety of vegetation types identified by Envicom in 2001, including willow riparian scrub, disturbed southern coast live oak woodland, southern California walnut woodland, chaparral, coastal sage scrub, purple sage scrub, coyote brush scrub, and annual grassland. Much of the canyon bottom is disturbed by the existing ranch driveway and occupied by ruderal vegetation and remnant oak woodland and riparian habitats along the drainage course.

### ***Topography and Hydrology***

The topography of the site varies from gently sloping valleys to steep hillsides and canyons. Puerco Creek drainage traverses the property in a north-south direction. The property contains most of the Puerco Canyon watershed. B & E Engineers has prepared a hydrology study and a drainage concept for review and approval by the County of Los Angeles.

### ***Riparian Vegetation***

Riparian vegetation occurs within the Puerco Canyon drainage and a few of the tributaries. The dominant species are coast live oak (*Quercus agrifolia*) and arroyo willow (*Salix lasiolepis*). Additional species found within the riparian corridor are mule fat (*Baccharis salicifolia*), western sycamore (*Platanus occidentalis*) and California walnut (*Juglans californica*).

### ***Hillside Vegetation***

Hillside vegetation on the site is currently predominately a mix of chaparral and coastal sage scrub communities. Vegetation associations of purple sage scrub, coyote brush scrub, and mixed non-native weed species recorded from the property include black mustard (*Brassica nigra*), castor bean (*Ricinus communis*), fennel (*Foeniculum vulgare*), tocalote (*Centaurea melitensis*), Italian thistle (*Carduus pycnocephalus*), terracina spurge, (*Euphorbia terracina*), bur-clover (*Medicago polymorpha*) and tree tobacco (*Nicotiana glauca*).

### ***Jurisdictional Waters and Streambeds***

Based on the original approval-in-concept approved by the County of Los Angeles, a Streambed Alteration Agreement (SAA) was approved by the California Department of Fish and Game (CDFG R5-2003-0182) in December 2005. The SAA authorized impacts to CDFG jurisdictional riparian areas for

driveway improvements of approximately 7,800 sq ft (0.18 acre) of temporary impacts and 6,800 sq ft (0.16 acre) of permanent impacts to CDFG jurisdictional resources.

An updated jurisdictional delineation is being prepared by Rincon for processing a new streambed alteration agreement for the plot plan design with lesser impacts.

## PLANTING PLAN

The goal of the restoration plan is to satisfy mitigation requirements for impacts to riparian vegetation as authorized in an approved streambed alteration agreement by CDFG and to restore vegetation removed by driveway improvements and remedial grading activities in the construction of a single-family residence. Existing disturbances on the project site account for approximately 2.8 acres, half of which constitutes the existing unimproved driveway. The County originally approved disturbances of 349,974 sq ft caused by grading implementation of the plot plan including improvements to the driveway and building pad, along with remedial grading adjacent to the driveway. The current plot plan design proposes a reduced disturbance area of 338,322 sq ft.

### Vegetation Restoration

The vegetation restoration plan constitutes the restoration of two vegetation associations, purple sage scrub and mixed greenbark/big-pod ceanothus chaparral, in addition to the riparian coast live oak and willow woodland. Hydroseeding is proposed for the purple sage scrub and mixed ceanothus chaparral restoration areas while container-grown plants will be used for the riparian mitigation plantings. The hydroseed process will incorporate the plant palette seed mix suspended in a slurry composed of fiber mulch and possible organic tackifying agent. The use of the fiber mulch, such as manufactured by Terra-Mulch®, or other material selected by the hydroseed company provides an environment that provides soil stability, germination establishment and non-native suppression. Plant palettes for the woodland and shrub habitats are listed below in Tables 1 through 3. The source materials for planting will be derived from parent stock originating within Ventura or Los Angeles County, and if available, from randomly selected native plants occurring locally within the Santa Monica Mountains. For any subsequent remedial adaptive management actions, an effort will be made to obtain seed from plants growing in in the general vicinity of the project site for rearing in a native plant nursery contracted. Irrigation may be provided for a period of up to two years from planting.

#### *Purple Sage Scrub*

The purple sage scrub plant palette (**Table 1**) specifies the native plant species to be included in the landscape restoration plan. This habitat exists along the driveway where remedial grading is proposed on the east side. Additional native species identified in this community include golden yarrow, chaparral mallow, deerweed, coyote brush, California sage brush and California buckwheat.

**Table 1**  
**Purple Sage Scrub Plant Palette**

Scientific Name	Common Name	Size
<i>Salvia leucophylla</i>	Purple sage	Seed
<i>Malacothamnus fasciculatus</i>	Chaparral mallow	Seed
<i>Eriophyllum confertiflorum</i>	Golden yarrow	Seed

<i>Eriogonum fasciculatum</i>	California buckwheat	Seed
<i>Acmispon glaber</i>	Deerweed	Seed
<i>Artemisia californica</i>	California sagebrush	Seed
<i>Baccharis pilularis</i> ssp. <i>consanguinea</i>	Coyote brush	Seed
<i>Melica imperfecta</i>	Little California melica	Seed
<i>Poa secunda</i>	One-sided blue grass	Seed
<i>Stipa pulchra</i>	Purple needlegrass	Seed
<i>Lupinus succulentus</i>	Succulent lupine	Seed
<i>Acmispon americanus</i>	American bird's foot trefoil	Seed
<i>Salvia columbariae</i>	Chia	Seed

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### ***Ceanothus Chaparral***

The *Ceanothus* chaparral plant palette (**Table 2**) specifies the native plant species to be included in this plant association of the restoration plan. This habitat exists in several locations on the project site, often on steep north-facing slopes, especially in the northwestern portion of the property. The primary dominant native species identified in this general community type are big-pod *ceanothus*, and greenbark *ceanothus*, with lemonade berry and bush monkey flower as understory plants within openings of dominant shrubs.

**Table 2**  
***Ceanothus Chaparral Plant Palette***

Scientific Name	Common Name	Size
<i>Ceanothus megacarpus</i>	Bigpod <i>ceanothus</i>	Seed
<i>Ceanothus spinosus</i>	Greenbark <i>ceanothus</i>	Seed
<i>Mimulus aurantiacus</i>	Bush monkey flower	Seed
<i>Rhus integrifolia</i>	Lemonade berry	Seed
<i>Melica imperfecta</i>	Little California melica	Seed
<i>Poa secunda</i>	One-sided blue grass	Seed
<i>Stipa pulchra</i>	Purple needlegrass	Seed
<i>Lupinus succulentus</i>	Succulent lupine	Seed
<i>Acmispon americanus</i>	American bird's foot trefoil	Seed
<i>Salvia columbariae</i>	Chia	Seed

## Riparian Vegetation

To improve the biological value of the Malibu Creek riparian corridor by planting the area with native riparian vegetation, sufficient hydrology must be present to support the supplemental plantings during establishment. Container stock of southern mixed riparian woodland species consistent with the planting palette below shall be planted in on-site mitigation areas.

The following plant palette (**Table 2**) specifies the native plant species to be included in the landscape plan. Any deviations from these palettes should be approved by the monitoring biologist and/or CDFG.

**Table 3**  
**Willow and Oak Riparian Woodland Plant Palette**

Scientific Name	Common Name	Size
<i>Quercus agrifolia</i>	Coast live oak	1- to 5-gallon
<i>Platanus racemosa</i>	California sycamore	1- to 5-gallon
<i>Juglans californica</i>	Black walnut	1- to 5-gallon
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	Blue elderberry	1-gallon
<i>Salix lasiolepis</i>	Arroyo willow	Cuttings
<i>Baccharis salicifolia</i>	Mule fat	Cuttings
<i>Artemisia douglasiana</i>	Mugwort	Container-grown
<i>Elymus condensatus</i>	Giant wild rye	Container-grown
<i>Melica imperfecta</i>	Little California melica	Seed
<i>Poa secunda</i>	One-sided blue grass	Seed
<i>Stipa pulchra</i>	Purple needlegrass	Seed
<i>Lupinus succulentus</i>	Succulent lupine	Seed
<i>Acmispon americanus</i>	American bird's foot trefoil	Seed
<i>Salvia columbariae</i>	Chia	Seed

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## Project Implementation - Timing

The vegetation restoration work will occur between August 15 and November 15 (late summer and fall) to avoid or minimize potential disturbance or impacts to breeding bird activities, which may continue through the end of September. Most plant species recommended for this revegetation plan are dormant during the late summer and fall. Late summer to fall maximizes the percent germinations success and seedling establishment. Water flow is lowest prior to the onset of the fall-winter rainy season so any

sediment entering the Puerco Canyon has a high probability of quickly settling to the bottom close to the point of entry.

### **Inspection upon Delivery**

Any container-grown plant materials, such as for riparian plantings, will be inspected by the project biologist at the time of delivery and during weeding activities. All plants used in this restoration plan will be certified as free of Argentine ants.

### **Irrigation**

Irrigation is necessary for the success of the vegetation enhancement. Transplanted or newly planted plants generally need a supply of water after installation to recover from the stress of transplanting. The irrigation system shall be a temporary system designed to supply water to the newly installed plants for a period of two years. After two years, the plants should be sufficiently established to survive without supplemental watering. An irrigation system shall be field-designed and installed by the project's landscape architect, engineer, or contractor, concurrent or prior to the installation of the plant materials. Monitoring shall include ensuring that the irrigation is working properly.

## **PRE-CONSTRUCTION MITIGATION**

### **Pre-Construction Surveys for Common and Special-Status Bird Nests**

The applicant will not allow any vegetation removal or other construction activity within the site from March 1<sup>st</sup> to September 1<sup>st</sup> (February 1<sup>st</sup> to September 1<sup>st</sup> for raptors) the recognized breeding, nesting and fledging season for most bird species. If project activities cannot avoid the breeding bird season, the applicant will (beginning 30 days prior to project construction activities) arrange for weekly bird surveys to detect any protected native birds in the habitat to be removed and any other such habitat within 200 feet of the construction work area (within 500 feet for raptors) as access to adjacent areas allows. The surveys should be conducted by a qualified biologist with experience in conducting breeding bird surveys. The surveys should continue on a weekly basis with the last survey being conducted no more than 3 days prior to the initiation of clearance/construction work. If a protected native bird is found, the project proponent should delay all clearance/construction disturbance activities in suitable nesting habitat or within 200 feet of nesting habitat (within 500 feet for raptor nesting habitat) until September 1<sup>st</sup> continue the surveys in order to locate any nests. If an active nest is located, clearing and construction within 200 feet of the nest (within 500 feet for raptor nests) shall be postponed until the nest is vacated and juveniles have fledged and when there is no evidence of a second attempt at nesting. Limits of construction to avoid a nest will be established in the field with flagging and stakes or construction fencing. Construction personnel shall be instructed on the sensitivity of the area. The project proponent will record the results of the recommended protective measures described above to document compliance with applicable State and Federal laws pertaining to the protection of native birds.

## **PERFORMANCE STANDARDS**

To ensure that the goals and objectives of the mitigation plan have been met, the following performance standards are used to evaluate the success of the mitigation of the project site. Performance standards are also used to evaluate progress and success of mitigation projects, and express the objectives of the mitigation plan in a quantifiable and objective format. Field measurements falling below these standards signal that the goals of the plan are not being reached. Measurements surpassing the standards signal that the program is successfully attaining the long-term goals. Data collected during monitoring may warrant adjustments to the mitigation plan so performance standards are met. If the performance standards are met prior to the five-year monitoring period and it appears that the mitigation will be successful in the long term, the permitting agencies shall be notified to determine if the mitigation monitoring remains necessary.

### **Survivorship Percentage Performance Standard**

- All plantings will have a minimum of 60 percent survival the first year and approaching 80 percent survival, for the number of plants specified in the plant palette, at the end of the five-year monitoring period.
- The restoration sites will attain 75 percent cover after 3 years and 90 percent cover after five years.
- Replacement plants shall be monitored with the same survival and growth requirements for five years after planting.

### **Plant Spacing Performance Standard**

All plants will be planted in randomly spaced, naturally clumped patterns. Coast live oak container-grown specimens will be planted at a minimum of 20 feet on center. Black walnut container-grown specimens will be planted at a minimum distance of 20 feet on center. Western sycamore container-grown specimens will be planted at a minimum distance of 20 feet on center. Blue elderberry container-grown specimens will be planted at a minimum distance of 10 feet on center. Arroyo willow cuttings will be planted at a minimum distance of 8 feet on center.

Replacement stock will be obtained from a native plant nursery. Any replacement tree/shrub stock, which cannot be grown from cuttings or seeds, will be derived from parent stock originating within Ventura or Los Angeles County, and if available, from randomly selected native plants occurring locally within the Santa Monica Mountains. Plants will be certified to be free of Argentine ants or other invasive plant or animal species.

## **GENERAL MAINTENANCE and MANAGEMENT PRACTICES**

Maintenance is the ongoing process of ensuring that the mitigation has the means to reach the performance standards in the prescribed timeframe. Maintenance visits shall be performed weekly during the first month after the initial vegetation installation, monthly for the remainder of the first year, and quarterly for the remainder of the mitigation monitoring period. During each maintenance visit, the mitigation areas shall be inspected for trash, vandalism, disease, and pest infestation that may threaten the long-term health of the riparian community. Trash will be removed, vandalism will be repaired, and approved methods of pest/weed control will be employed as necessary. Any signs of distress or mortality will be noted and rectified (i.e., dead plants will need to be replaced) if the cause is apparent. If there are recurring or persistent indicators of distress or mortality and/or the cause of these problems is not apparent, Los Angeles County will be consulted regarding appropriate remedial actions.

### **Initial Maintenance of Plant Materials**

Like all nursery stock, container-grown California native plants need careful attention for the first two years during their establishment period in the landscape. It is important that the root ball does not dry out during the first two or three months. Irrigate about once each week, trying not to over soak the surrounding soil. After two months, be sure to water deeply every two or three weeks during the summer and fall of the first year. Less frequent irrigation is required in the spring. During the winter, rainfall alone should be adequate for most plantings. Avoid overhead watering during the hot part of the day in the warm season.

### **Non-Native Plant Eradication**

Invasion of non-native, exotic plants is a threat to the success of most mitigation projects. Exotic species may quickly colonize riparian areas, particularly after manmade or natural disturbances have occurred, and may dominate the vegetation by out-competing native plant species. Once established, the competitive nature of many exotic plants makes it difficult for native species to become re-established and grow. In addition to eliminating the habitat for existing exotic plants to become established, a comprehensive weed eradication program shall be implemented to minimize the adverse effects of weed invasion. Mechanical, chemical, and/or biological control measures will be used, as appropriate, to control weed infestation of the site.

Control of the non-native species is important in the short-term until the habitat on the site is altered by the shade provided by the planted trees and shrubs. Mowing and/or hand clearing must be performed selectively so as not to damage desirable native species, especially those planted.

Some of the most prevalent non-native plant species known to occur in the area that will be removed if present on the site are listed below in **Table 4**. This table may not include all non-native plant species found in the mitigation area. The monitoring biologist shall determine weed species to be targeted and native plants to remain.

## Methods of Control for Non-Native Species

Removal of all non-native species will be timed such that removal efforts are completed before fruits or seeds are produced. Whenever possible, invasive species shall be removed by hand or by hand-operated power tools rather than by chemical means. Where control of non-native vegetation is required within the riparian corridor, only chemicals approved for aquatic use may be used. Rodeo (glyphosate) is an effective herbicide on many non-native species. Surfactants shall not be used. Herbicides shall not be used when wind velocities are greater than 5 mph. Herbicides may not be used where Threatened or Endangered species occur.

## Periodic Weeding

The property owner will be responsible for removal of non-native species on a regular basis. This may be achieved through the contracting with a landscape maintenance firm. Weeding will be monitored by the project biologist to ensure only non-native species are removed and the removal methodology is appropriate and does not encourage the recolonization of non-native species. Weeding is best performed just before, or at the onset of flowering, but before seeds are produced. If seeds are already present on the species to be removed, additional care is required to remove the plants with the seeds attached, or the seeds should be removed from the plants prior to the plant removal.

Weed control activities will occur monthly for the first three months following planting, as determined to be necessary by the project biologist. If there is a high incidence of weed infestation during the initial three months, weed control will occur every four weeks for the remainder of the first year following planting (along with other maintenance activities). If there is a moderate to low incidence of weed infestation during the initial three months, weed control may occur every six to eight weeks. Following the first year of monitoring, the frequency of weed control activities will decrease incrementally based on the magnitude of any infestation. After the first year, weed removal may be required three times annually (March, May, and September) during the growing season. Soil disturbance will be limited by hand weeding, where possible, and weeds shall be disposed of off-site to avoid any re-infestation through reseeding or from plant propagules. If hand weeding is not possible, the project biologist shall be consulted regarding the appropriate method of weed removal.

**Table 4**  
**Non-Native Plant Species to be Controlled if Present**  
(See reference list at the end of the table)

<b><i>Scientific Name</i></b>	<b>Common Name</b>
<i>Aptenia cordifolia</i>	Baby sun rose
<i>Arctotheca calendula</i>	Cape weed
<i>Arundo donax</i>	Giant reed
<i>Asphodelus fistulosus</i>	Asphodelus
<i>Atriplex semibaccata</i>	Australian saltbush
<i>Avena barbata</i>	Slender wild oat

<b>Scientific Name</b>	<b>Common Name</b>
<i>Avena fatua</i>	Wild oat
<i>Bromus hordeaceus</i>	Soft chess
<i>Bromus madritensis</i>	Foxtail chess
<i>Carduus pycnocephalus</i>	Italian thistle
<i>Carpobrotus edulis</i>	Ice plant
<i>Centaurea melitensis</i>	Tocalote
<i>Chenopodium album</i>	Lamb's quarters, Pigweed
<i>Chenopodium murale</i>	Nettle-leaved goosefoot
<i>Chrysanthemum coronarium</i>	Garland or crown daisy
<i>Conium maculatum</i>	Poison hemlock
<i>Cortaderia jubata</i>	Jubata grass
<i>Cortaderia selloana</i>	Pampas grass
<i>Cynodon dactylon</i>	Bermuda grass
<i>Delairea odorata</i>	Cape ivy (German ivy)
<i>Descurainia sophia</i>	Tansy mustard
<i>Ehrharta calycina</i> ; <i>E. erecta</i> ; <i>E. longiflora</i>	Veldt grass
<i>Eucalyptus</i> spp.	All Eucalyptus species
<i>Euphorbia terracina</i>	Terracina spurge
<i>Festuca myuros</i>	Rattail fescue
<i>Festuca perennis</i>	Perennial ryegrass
<i>Foeniculum vulgare</i>	Fennel
<i>Helminthotheca echioides</i>	Bristly ox-tongue
<i>Hordeum jubatum</i>	Foxtail barley
<i>Lactuca serriola</i>	Prickly lettuce
<i>Lepidium latifolium</i>	Perennial pepperweed
<i>Lobularia maritima</i>	Sweet alyssum
<i>Malva parviflora</i>	Cheeseweed, Little mallow
<i>Marrubium vulgare</i>	Horehound
<i>Melilotus alba</i> , <i>M. officinale</i> , <i>M. indicus</i>	All sweetclover species
<i>Myoporum laetum</i>	Myoporum
<i>Nerium oleander</i>	Oleander
<i>Nicotiana glauca</i>	Tree tobacco
<i>Oxalis pes-caprae</i>	Bermuda buttercup
<i>Pennisetum setaceum</i>	Fountain grass
<i>Phalaris aquatica</i>	Harding grass
<i>Raphanus sativus</i>	Radish
<i>Ricinus communis</i>	Castor bean
<i>Rumex conglomeratus</i>	Whorled dock
<i>Rumex crispus</i>	Curly dock
<i>Salsola tragus</i>	Russian thistle, Tumbleweed

<b>Scientific Name</b>	<b>Common Name</b>
<i>Schismus arabicus</i> ; <i>S. barbatus</i>	Mediterranean grass
<i>Silybum marianum</i>	Milk thistle
<i>Sisymbrium irio</i>	London rocket
<i>Sisymbrium officinale</i>	Hedge mustard
<i>Sisymbrium orientale</i>	Oriental mustard
<i>Stipa miliacea</i>	Smilo grass
<i>Spartium junceum</i>	Spanish broom
<i>Tamarix aphylla</i>	Athel
<i>Tamarix ramosissima</i> , <i>T. gallica</i> , <i>T. parviflora</i>	Salt cedar, tamarisk
<i>Tropaeolum majus</i>	Garden nasturtium
<i>Veronica anagallis-aquatica</i>	Speedwell, brooklime
<i>Vinca major</i>	Greater periwinkle

Sources: California Native Plant Society. 1992. *Non-Native Invasive Plants in the Santa Monica Mountains*; Dudley, T. 1998. *Exotic Plant Invasions in California Riparian Areas and Wetlands. Fremontia* 26(4): 24–29; California Exotic Pest Plant Council. 1996. *List of Exotic Pest Plants of Greatest Ecological Concern in California*; Bossard, et al. 2000. *Invasive Plants of California's Wildlands. Univ. of California Press.*

### **Management Practices**

Installation of bridges, culverts, or other structures will be such that water flow (velocity and low flow channel width) is not impaired.

Staging/storage areas for equipment and materials will be located outside of the drainage. Spoil storage sites will not be located within the drainage, where spoil can be washed back into channel, or where it will cover aquatic or riparian vegetation.

Any soil obtained from off-site sources must be weed free to discourage the spread of invasive exotic weed species onto the site.

Areas of disturbed soils with slopes toward the drainage will be stabilized by seeding or mulching to reduce erosion potential. Where suitable vegetation cannot reasonably be expected to become established, non-erodible materials, such as coconut fiber matting, will be used for such stabilization.

No equipment will be operated within the dripline of oaks. Protective fencing will be placed around the dripline of oaks to prevent compaction of the root zone.

No equipment maintenance will be done within or near any stream channel where petroleum products or other pollutants from the equipment may enter the drainage under any flow.

The applicant's activities will be limited to the dry period of the year from May 1 to October 1 or when there is no actively flow in stream and no measurable rain is forecasted within 72 hours.

Preparation will be made so that runoff from steep, erodible surfaces will be diverted into stable areas with little erosion potential. Frequent water checks will be placed on dirt driveways, cat tracks, or other work trails to control erosion.

## **MONITORING**

A monitoring program will be implemented to document performance of the mitigation areas relative to the ultimate success criteria, and to identify any shortcomings or problems in the mitigation areas. Early detection of problems or other unforeseen issues allows for adaptive management and mid-course adjustments to the mitigation program that will maximize the likelihood of success.

A monitor shall oversee the physical and biological aspects of the mitigation area, as both are indicative of the functional condition of the riparian corridor. The routine monitoring will include evaluations of site hydrology, plant establishment and vigor, indicators of use by wildlife, indicators of functional processes, site photographs, and any problems associated with the mitigation including trash disposal, herbivory, erosion caused by factors other than normal geophysical processes, or vandalism.

Once the mitigation is completed, a qualitative assessment of the natural structure and functions shall be made to ascertain whether the mitigation has achieved the anticipated effects.

### ***Monitoring Reports***

Monitoring reports will show the results of the monitoring; an assessment of the progress made toward achievement of the success criteria; maintenance performed, and further recommendations of any remedial or adaptive management measures that should be initiated. The specific contents of the monitoring reports will include:

- results of field data collection for the physical state of the site, evidence of hydrology, plant establishment, vigor, survival, and recruitment;
- performance of site restoration relative to success criteria;
- problems with the mitigation area and any recommended remedial actions;
- maintenance activities performed during the previous monitoring cycle; and
- photographs from established photo stations.

Annual reports summarizing monitoring results shall be submitted on or before December 1, beginning the year after completion of mitigation implementation and continuing throughout the monitoring period.

If substantial corrective or remedial actions are required, supplemental monitoring and reports will be prepared. These supplemental reports will describe the problem and cause, recommended corrective measures, schedule for remedial actions, and any modification of the mitigation maintenance. Supplemental reports will be submitted within 60 days of the date when the corrective action was taken.