

RESTORATION PLAN

HABITAT RESTORATION AND
RESOURCE MANAGEMENT PLAN FOR
GREGORY CANYON LANDFILL
PROPERTY

Prepared for

Gregory Canyon Ltd.
249 South Highway 101 #377
Solana Beach, CA 92075

URS Project No. 27654025.00020



Bill Magdych, Ph.D.



Sundeep Amin



Brian Lohstroh

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URS

1615 Murray Canyon Road, Suite 1000
San Diego, CA 92108-4314
619.294.9400 Fax: 619.293.7920

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List of Acronyms and Abbreviations

CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CNLM	Center for Natural Lands Management
Corps	U.S. Army Corps of Engineers
CPI	Consumer Price Index
CWA	County Water Authority
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
GCLF	Gregory Canyon Landfill
HRRMP	Habitat Restoration and Resource Management Plan
QAL	qualified applicator's license
RFEIR	Revised Final Environmental Impact Report
RWQCB	Regional Water Quality Control Board
SDG&E	San Diego Gas and Electric
SSC	Species of Special Concern
URS	URS Corporation
USFWS	U.S. Fish and Wildlife Service

SECTION 1 INTRODUCTION

This habitat restoration and resource management plan includes restoration and preservation requirements for the U.S. Army Corps of Engineers (Corps) 404 permit, Regional Water Quality Control Board (RWQCB) Section 401 Certification, California Department of Fish and Game (CDFG) Streambed Alteration Agreement, and the San Diego County Environmental Impact Report (EIR). This plan provides methods and success criteria for creating 166.0 acres of upland/transitional habitat [including mitigation for 70.4 acres of oak woodland with alluvial scrub and native grassland understory, 14.3 acres of chaparral, 2.0 acres of native grassland, and 79.3 acres of coastal sage scrub/coastal sage scrub (mesic alluvial scrub)], creating 6.5 acres of riparian habitat (including 2.3 acres of mitigation for riparian vegetative communities at the bridge crossing of the San Luis Rey River consisting of southern willow scrub habitat creation, and 4.2 acres of cottonwood riparian forest and cottonwood riparian forest/pond restoration), and enhancing 75.6 acres of riparian habitat (32.7 acres of which will apply specifically to least Bell's vireo and southwestern willow flycatcher mitigation requirements). These areas are referred to in this plan as the restoration area. These figures are an increase over the previous numbers provided in a conceptual plan included in the 2007 Revised Final Environmental Impact Report (San Diego County 2007) (RFEIR), and are a result of the maximization of land available for restoration outside of the landfill footprint. Utility and aqueduct easement acreage has been taken into account and is excluded from the above totals. This plan also addresses maintenance of the restoration area, as well as maintenance of other areas on the landfill property required to be preserved as open space by the land use entitlement for the project. In accordance with the land use entitlement, the combination of the restoration area and other open space areas must be at least 1,313 acres.

This plan updates and replaces the Draft Wetland Mitigation and Habitat Enhancement Plan prepared by Helix (2000). This plan addresses reductions in impacts on Corps jurisdictional wetlands and combines the restoration and preservation effort for upland habitat as well.

SECTION 2 PROJECT DESCRIPTION**2.1 RESPONSIBLE PARTY**

Gregory Canyon Ltd. LLC
Contact: Mr. Richard Chase
249 South Highway 101 #377
Solana Beach, CA 92075

2.2 PROJECT LOCATION

The 1,783 acre Gregory Canyon Landfill (GCLF) property is located approximately 3 miles east of I-15 along SR-76, as shown on Figure 1 (33° 20' 55" W Latitude, 117° 06' 59" N Longitude).

2.3 BRIEF SUMMARY OF OVERALL PROJECT

The GCLF property includes 308.6 acres that will be used for overall landfill activities (*e.g.*, stockpile areas, ancillary facilities, access road, and refuse disposal), of which 183 acres will be used specifically for refuse disposal. The proposed site will be permitted as a Class III landfill. The proposed project area will also include two designated soil stockpile/borrow areas. Borrow/Stockpile Area A will be located west of the proposed landfill footprint adjacent to the western property boundary, and Borrow/Stockpile Area B will be located immediately southwest and adjacent to the proposed landfill footprint. Other project components include the ancillary facilities area, access road and bridge from State Route 76 crossing San Luis Rey River, internal haul road, and installation of environmental monitoring and control systems.

The construction of a new bridge crossing of the San Luis Rey River to handle ingress to and egress from the Gregory Canyon Landfill will result in approximately 0.368 acres of proposed project impacts to Corps and CDFG jurisdictional wetlands (0.002 acre of which are permanent impacts). This bridge crossing will replace an existing crossing that is located downstream, but which will not be able to support the required equipment during operation of the project. The existing crossing will be abandoned after construction of the new bridge is completed.

Implementation of the proposed project will result in a total of 308.6 acres of impacts to various vegetation communities (Table 1). The RFEIR provides that these impacts will require a total of approximately 543.2 acres of mitigation that will be achieved through on-site habitat restoration (including habitat creation or enhancement) and off-site acquisition/preservation. Project phases are described in Appendix B.

Conceptual habitat restoration areas were provided in the RFEIR. This plan elaborates on the implementation of the habitat restoration. This restoration program will consist of the creation/enhancement of lost and/or disturbed habitat, enhancement of water quality effects caused by the long-term agricultural use of the property, and removal of invasive, exotic plant species. This plan will focus on avoiding take of State and federally listed species, with the overall goal of providing a net increase in suitable habitat for these species. Habitat restoration is only one part of the project's complete

biological resources mitigation package. A detailed discussion of the complete mitigation package can be found in the 2003 EIR (San Diego County 2003), and subsequent RFEIR.

2.4 JURISDICTIONAL AREAS IMPACTED

The project will result in the temporary impact of 0.366 acre of Federal/State wetlands/waters at the San Luis Rey River for construction of the bridge with an additional 0.002 acre of permanent fill for bridge piers, for a total impact of 0.368 acre. Total impacts on riparian vegetation, including this 0.368 acre of impact, are 0.4 acre of southern willow scrub, 0.2 acre of cotton-willow riparian forest, and 0.4 acre of disturbed southern willow scrub. This total impact of 1.0 acre of riparian habitats will be compensated for through the creation of 2.3 acres of riparian habitat (specifically southern willow scrub) at the bridge crossing on the north side of the San Luis Rey River, plus restored habitat within the temporary construction areas for the bridge. Additional riparian vegetation will be established as cottonwood riparian forest and cottonwood riparian forest/pond on 4.2 acres along the San Luis Rey River, while 75.6 acres of existing riparian vegetation will be enhanced through removal of exotic species within the existing riparian habitat in and along the San Luis Rey River.

The project will also result in impacts on various upland vegetation communities, and this plan also addresses the restoration of upland vegetation communities. Table 1 provides acreages of impacts by habitat type and the associated mitigation required in the RFEIR. This plan addresses the portion of the mitigation, in the form of restoration, which is proposed on-site. Additional mitigation for habitat impacts will also occur off-site. The project impact area and existing vegetation communities are shown in Figure 1. In addition to project mitigation requirements in the RFEIR, this plan also addresses maintenance of additional on-site open space areas as required by the land use entitlement for the project.

2.5 TYPE, FUNCTIONS, AND VALUES OF IMPACTED JURISDICTIONAL AREAS

The types of jurisdictional areas affected by the bridge construction include Federal wetlands, State wetlands, and other waters of the U.S. The proposed bridge location crosses through southern willow scrub, disturbed southern willow scrub, unvegetated open channel, and disturbed habitat in this portion of the San Luis Rey River, which supports populations of least Bell's vireo, southwestern willow flycatcher, and arroyo toad. The functions provided by the riparian habitat along this portion of the river include foraging and nesting sites for these and other wildlife species. Additionally, the riparian zone associated with the river functions as a wildlife corridor for various species of wildlife including large mammals and birds. This is important in allowing animals and plants to disperse throughout their historic range and maintain population diversity. The impacts on these functions and values for wetlands and waters will be minimal as they are temporary in nature, and they will not be lost as a result of this project. The mitigation for these impacts will result in the creation of 2.3 acres of high quality southern willow scrub habitat, as well as the creation and enhancement of other riparian habitats, which will result in a substantial net increase in these functions and values. These impacted areas, plus upland impact areas and their mitigation are discussed in more detail in the 2007 RFEIR and URS Corporation (URS) California Environmental Quality Act (CEQA) update (2007).

SECTION 3 GOALS OF PLAN**3.1 TYPES OF HABITAT TO BE RESTORED**

The goal of the restoration effort is to return the agricultural and developed areas within the property and outside the project impact areas to a state similar to the natural circumstance prior to such land use. Evidence of the natural circumstance can be seen in a 1928 aerial photo of the project site (Figure 2). Based on the photo, much of the area encompassing the project site is undeveloped, with the exception of a relatively small pasture found in what became the Verboom dairy pasture. Overall, the habitat in the valley bottom at the time appears to be subject to, and an artifact of, the occasional flood flows of the San Luis Rey River. Much of the native upland habitat in the area appears to be an open alluvial scrub, with oaks and possibly sycamores dispersed sparsely throughout. Closer to the San Luis Rey River, more mesic vegetation is apparent, possibly including cottonwoods, willows, sycamores, occasional oaks, and other mesic scrub/woodland vegetation.

The habitats to be restored as part of the required mitigation effort to offset impacts of the 308.6-acre landfill and related facilities are chosen in an effort to mimic the area's natural state as depicted in the 1928 aerial photo. Therefore, the following habitat categories are designated to be restored. Sloped and elevated areas in the uplands exhibiting relatively thin soils will be restored to coastal sage scrub, chaparral, and native grassland habitat as appropriate. Gradually sloped, lower areas in the uplands exhibiting thicker, alluvial soils will be restored to oak woodland with an alluvial scrub and native grassland understory. Closer to the San Luis Rey River, the habitat to be restored will transition into mesic alluvial scrub, which is a coastal sage scrub association. In addition, an area near the proposed bridge that was likely filled to support dairy facilities will be graded down in elevation, and 2.3 acre of southern willow scrub habitat will be created in its place. Finally, the entire San Luis Rey River riparian habitat corridor within the property boundaries will be enhanced in the form of exotic species management.

The habitat restoration areas are shown in Figure 3 and Plate 1. Approximate acreages of these areas include creation of 70.4 acres of oak woodland habitat with alluvial scrub and native grassland understory, 14.3 acres of chaparral habitat, 79.3 total acres of coastal sage scrub habitats (including mesic alluvial scrub), 2.0 acres of native grassland habitat, 2.3 acres of southern willow scrub, 4.2 acres of cottonwood riparian forest habitats, and enhancement of 75.6 acres of riverine riparian habitat (Table 2).

3.2 SPECIFIC FUNCTIONS AND VALUES OF HABITATS TO BE PRESERVED, CREATED, AND ENHANCED

The primary goal of the restoration effort is to provide a net benefit to the listed species present within the project area. A large net benefit will result from the creation/enhancement of habitat for arroyo toad, least Bell's vireo, and southwestern willow flycatcher in an area where all three species are already known to occur and can expand into. Least Bell's vireo and southwestern willow flycatcher will specifically benefit from the enhancement of 32.7 acres of existing riparian vegetation in the riverine riparian enhancement area, as well as 2.3 acres of on-site southern willow scrub habitat creation and the enhancement of the remaining 42.9 acres of the riverine riparian habitat enhancement area. The 32.7 acres of riparian area creation/enhancement is directly applicable to least Bell's vireo and southwestern willow flycatcher

mitigation, as the identified areas are both outside of the project facility footprint and cumulative 60 dBA L_{eq} noise contours, and are greater than the 20.0 acres as required in the RFEIR (Figure 4). Exotic invasive plants that have become established in the portions of the San Luis Rey that occur on-site will be cleared, allowing native riparian vegetation to re-colonize, creating improved habitat for both the least Bell's vireo and southwestern willow flycatcher, as well as other riparian species. Arroyo toad will not only benefit from the riparian habitat creation and enhancement, but also from the various upland habitat creation areas as well (specifically 149.7 acres of oak woodland and coastal sage scrub habitats). Currently, the upland areas on-site have ideal sandy alluvial soils for arroyo toad use. However, the dense cover of non-native grasses and annuals, and compaction from decades of agricultural use make these areas unsuitable. Once cleared, controlled for weeds, and planted with sparser native vegetation, these areas will provide excellent upland habitat that arroyo toads can use for foraging and aestivation.

Other species that may benefit from the habitat creation, enhancement, and preservation include various California Species of Special Concern (SSC), and species that do not currently occur on-site, such as California gnatcatcher (*Polioptila californica*).

3.3 TIME LAPSE BETWEEN IMPACTS AND RESTORATION SUCCESS

Implementation of the creation of southern willow scrub, cottonwood riparian forest and cottonwood riparian forest/pond, oak woodland with alluvial scrub and native grassland understory, coastal sage scrub and coastal sage scrub (mesic alluvial scrub), chaparral, and native grassland will be phased to match the phased construction of the landfill. However, all riverine riparian enhancement activities will take place at the initial implementation of the plan. The proximity of the water table to the finished grade of the creation areas will ensure the rapid establishment of the target vegetation. In addition to natural rain and groundwater, the use of temporary supplemental irrigation will quickly germinate native seed, and help rapidly establish the plants to ensure success as soon as possible. All container stock (native trees) will also receive temporary supplemental irrigation via an overhead system as described in Section 5.6, although other methods, such as drip irrigation or DriWater® may also be used, if appropriate. Under ideal conditions, three years of supplemental irrigation from a temporary above-ground system should be adequate to germinate seed and establish native vegetation. However, continued irrigation may be necessary beyond three years if sufficient progress is not being made, as noted from annual monitoring. If this is the case, the site/area will have to be self-reliant for two years without supplemental irrigation to be considered successful, which may then be longer than five years in total. This situation is not likely, and should not be an issue with proper site preparation and maintenance. After the sites have established themselves, the temporary irrigation system will be removed from the site. The entire habitat creation may not be completed until the landfill reaches full build-out in approximately 16 years because of the phased installation of each creation area (project phases are described in Appendix B). With that understanding, each of the above creation areas should be self-sustaining within 5-7 years after installation.

3.4 ESTIMATED TOTAL COST

The total cost of the Habitat Restoration and Resource Management Plan implementation is approximately \$18.6 million, and includes maintenance and monitoring of the restoration area for a period of five years after implementation of habitat creation/enhancement, maintenance of the restoration

area for a period of twenty five years thereafter, and maintenance of other open space areas on the property for thirty years. See Section 11 and Appendix A for more detail about the overall cost of implementation, monitoring, and maintenance.

3.5 OTHER HABITAT-RELATED ACTIVITIES

Habitat restoration is considered only part of the activities proposed by the applicant. Other portions of the landfill property will be preserved as open space, and approximately 377 acres of habitat will be preserved off-site (the exact acreage will be determined through consultation with the County, based on EIR mitigation requirements). A second option, as an alternative to acquiring off-site properties, would enable Gregory Canyon Ltd. LLC to pay San Diego County a fee that would be paid in lieu of acquiring the off-site acreage. In the event off-site properties are required, the applicant will submit a revised Habitat Restoration and Resource Management Plan.

SECTION 4 PROPOSED RESTORATION SITE

4.1 SELECTION PROCESS

Conceptual restoration areas were selected during the project's RFEIR process.

4.2 LOCATION AND SIZE OF RESTORATION SITE

The restoration areas are situated along the San Luis Rey River in formerly developed agricultural areas on-site (Figure 3 and Plate 1). The restoration plan includes creating approximately 166.0 acres of upland/transitional habitat and 6.5 acres of riparian habitat. Another 75.6 acres of riparian habitat will be enhanced through exotic plant species management.

4.3 OWNERSHIP STATUS

Gregory Canyon, Ltd. owns the project site, which includes the restoration areas. Easements for the County Water Authority (CWA) and San Diego Gas and Electric (SDG&E) exist on-site (Figure 1).

4.4 EXISTING FUNCTIONS AND VALUES OF RESTORATION SITE

4.4.1 Existing Vegetation Communities

The areas planned for restoration include developed areas, degraded and disturbed native habitat, and habitat supporting non-native species, such as non-native grassland. These areas are consistent with the agricultural/dairy operations that have occurred on-site for several decades. A map showing the current vegetation, and areas planned for creation and enhancement is provided in Figure 3 and Plate 1. The area planned for enhancement supports various riparian habitat communities, such as southern willow scrub and cottonwood riparian forest, along with disturbed versions of some of these habitats. The disturbed riparian habitats often support invasive, exotic species such as giant reed (*Arundo donax*) and tamarisk (*Tamarix* sp.).

4.4.2 Special Status Species

The property supports populations of least Bell's vireo (*Vireo bellii pusillus*, State listed as Endangered [SE], federally listed as Endangered [FE]), southwestern willow flycatcher (*Empidonax traillii extimus*, SE, FE), and arroyo toad (*Bufo californicus*, FE). These species breed in the riparian habitat associated with the San Luis Rey River, and the arroyo toad also uses the upland habitat adjacent to the river for foraging and aestivation. As mentioned in the previous section, creation/enhancement activities are aimed at a net increase of suitable habitat for the above-mentioned species. Specifically, the creation and enhancement of riparian habitat is aimed at increasing suitable habitat for least Bell's vireo and southwestern willow flycatcher and increasing arroyo toad breeding habitat, while replacing the developed/non-native grasslands with oak woodland and alluvial coastal sage scrub habitat will provide additional foraging and burrowing habitat for the arroyo toad.

4.5 JURISDICTIONAL DELINEATION

A jurisdictional delineation was completed by URS (2004), and is shown on Figure 5.

4.6 PRESENT AND PROPOSED USES

4.6.1 Restoration Site

Although much of the property currently supports native vegetation communities, the low-lying areas adjacent to the San Luis Rey River have been used for agricultural purposes since the early 1920s and currently contain the remnant fields and structures associated with that land use. Prior to acquisition by the project proponent, these areas were developed into two dairies, complete with large pastures. No longer grazed by cattle, these fallow pastures have transitioned to large non-native grasslands that will be one of the focal points of this restoration plan. The other areas slated for restoration include the developed areas associated with the dairy facilities. These areas will be restored to an upland/transitional habitat and remain undeveloped as dedicated open space.

The riparian habitat associated with the San Luis Rey River supports State and federally-listed species, however, there is a portion of this habitat within the property that supports invasive plant species such as giant reed and tamarisk. This area is slated for habitat enhancement, which will include removal of these invasive plant species. Once the invasive species are removed, native vegetation is expected to naturally re-colonize this area. This area will then remain undeveloped as dedicated open space.

4.6.2 Adjacent Areas

Several native vegetation communities occur on the property (Figure 1), including chaparral, coastal sage scrub, coast live oak woodland, native perennial grassland, southern willow scrub, mule fat scrub, and riparian forest. Other vegetation communities present on-site include agriculture, non-native grassland, ruderal habitat, disturbed habitat, and developed areas. A detailed discussion of these vegetation communities is provided in the 2003 EIR, RFEIR, and URS CEQA Update (2007).

4.7 REFERENCE SITES

A primary point of reference for tracking the progress of the restoration plan will be the 1928 aerial photograph (Figure 2). This photo provides evidence of the site prior to the widespread agricultural development that occurred on-site after this photo was taken. Based on the photograph, the areas currently occupied by development appear to have consisted of an oak woodland and alluvial scrub habitat in the floodplain areas, with sycamores and cottonwoods possibly occurring in the actual flood channel. Additionally, URS biologists used the Wilderness Gardens Regional Park upstream of the project as a reference site to determine the presence of similar habitat, and to come up with a plant palette representative of actual species that occur in the immediate area along a relatively undisturbed stretch of the San Luis Rey River. The specific habitats encountered at the reference site were oak woodland, upland scrub in the 100-year floodplain, and riparian alluvial scrub. Five point-intercept transects were sampled in each habitat community for a total of 15 transects (Figure 6). These communities closely mimic the proposed habitat creation communities and the data collected on the species diversity and composition were considered when creating site specific plant palettes for the project (Tables 3 through 5) (see Section 5.5.1.3).

SECTION 5 IMPLEMENTATION OF RESTORATION PLAN**5.1 RATIONALE FOR EXPECTING IMPLEMENTATION SUCCESS**

The restoration areas chosen for this effort support the appropriate hydrological regime and soils with minimal grade modification required. A soils investigation conducted by Geologic Associates (2000) reported that groundwater was present within 7.5-8.5 feet of the surface according to borings conducted at the dairies and within the Verboom pasture. In addition, very little organic content was found near the soil surface (1.17%-4.08%) at these boring locations, indicating that the current soil properties at the site are similar to the original native condition. This low organic content will favor native upland and riparian species, which are adapted to such conditions.

The goal of the restoration plan is to return the site to a condition similar to its native condition, prior to the agricultural development that has been present at the site since the early 1900s. The 1928 aerial photograph (County of San Diego) indicates that much of the uplands on-site were an open, alluvial scrubland with oaks and sycamores. This photograph will help ensure implementation success by guiding the restoration effort, ensuring that the various vegetation communities are planted in the proper areas on-site.

Once the restoration and enhancement efforts are complete, the overall goal of providing a net increase of suitable habitat for the listed species on-site will also be attained. Removing invasive plant species in the riparian habitat will provide more suitable habitat for least Bell's vireo and southwestern willow flycatcher, and replacing large areas of non-native grassland with open oak woodland and alluvial coastal sage scrub habitat associations will provide increased foraging and burrowing habitat for arroyo toad. Increasing the amount of suitable habitat for these species should allow for their populations to expand.

5.2 RESPONSIBLE PARTIES

The restoration team for the project will consist of a qualified biologist and landscape contractor. As necessary, a qualified biologist will work with the project landscape architect to develop landscape construction documents for the proposed habitat creation areas. A qualified biologist will supervise site preparation, plant and irrigation installation (where required), and habitat maintenance, and oversee the five-year maintenance and monitoring period. A qualified biologist and landscape contractor will be responsible for site preparation and exotic species removal, seeding/planting, and irrigation plans (where required) based on this plan. The landscape contractor should have revegetation experience and have successfully completed native habitat revegetation elsewhere in southern California. A qualified biologist will also oversee the habitat enhancement activities within the riparian habitat.

Habitat creation and enhancement activities will be coordinated with the U.S. Fish and Wildlife Service (USFWS) and CDFG within habitat potentially occupied by special status species such as arroyo toad, least Bell's vireo, and southwestern willow flycatcher. The restoration team, as well as other personnel involved with the restoration activities will be familiar with arroyo toad identification and behavior, or will complete a training session given by a qualified biologist detailing with these aspects prior to starting work on this project.

5.3 SCHEDULE

Restoration and enhancement activities in riparian habitat that would adversely affect least Bell's vireo, southwestern willow flycatcher, or arroyo toad will generally be limited to fall and winter months (specifically September 15 through March 15) to avoid disturbing the breeding activities of the special status species present within the project area.

5.3.1 Habitat Creation Schedule

Habitat creation activities will be implemented in phases prior to and/or concurrent with disturbance. The estimated timing and extent of each phase is described in the document entitled Phased Landfill Development Description, Design Features and Mitigations related to Biological Resources, which is included as Appendix B. Reasonable efforts will be made to initiate subsequent restoration phases as far as possible (up to five years) in advance of the disturbance, where practicable, considering ongoing construction and operation of the landfill. The phasing schedule may be altered depending on the volume of waste receipts. Seed application and container planting will be performed in the late summer through early spring, with fall months being preferable. The time of seeding may need to be adjusted by a qualified biologist in response to seasonal variability and weather conditions to help ensure the ultimate success of the restoration effort.

5.3.2 Habitat Enhancement Schedule

Habitat enhancement activities consist of exotic species removal in and around the San Luis Rey River, specifically the Riverine Riparian Management Enhancement Area and Southern Willow Scrub Creation Area. Exotic plant species removal within the entire 75.6 acre riverine riparian management area will take place upon the initial implementation of the restoration plan, and thereafter on an annual basis for a duration of five years, with dead exotic removal conducted on the sixth year, if necessary. If exotic species continue to persist beyond the allowable success criteria percentage, removal will continue until that component of the success criteria is achieved and agency approval is met (Section 9). Active removal activities will take place during the fall months to avoid the breeding season of special status species present within the area. Initial removal will take place in one phase, beginning upstream and moving downstream to minimize seed dispersal.

Habitat enhancement activities will be reported to the agencies as part of the reporting program for the habitat restoration. Reported items will include mapping of areas where specific exotic removal activities were conducted, methodology used (*e.g.*, hand tools vs. herbicide application), an evaluation of the success of the enhancement program, and photo-documentation.

5.4 SITE PREPARATION FOR HABITAT CREATION

5.4.1 Initial Preparation

Initial site preparation will involve removing fences, unnecessary power poles, structures, and concrete reinforced areas such as foundations and other dairy-related paved areas. The use of herbicide will be the most cost efficient and effective means of control because of the large concentration of non-native grasses

and other ruderal species in the fallow pastures, along with the equally large seed bank as a result of decades of agricultural use. Again, it is recommended that several (at least two if not more) “grow-and-kill” cycles be implemented to help reduce the exotic species seed bank in the restoration areas because of the large seed bank and ability to phase installation of the restoration areas. Other methods that may be used include hand removal, mowing, goat grazing, or similar methods. Removal of dead vegetation will be conducted by a combination of raking, mowing, or similar activities with a focus on minimizing seed dispersal.

As development begins, the soil seed bank of undisturbed, native habitat will be conserved where possible by stockpiling topsoil from areas that will be developed. Stockpiling and spreading the topsoil on areas that will be revegetated will conserve mycorrhizal fungi, bacteria, and other beneficial soil microorganisms that help promote plant establishment and growth.

Measures to minimize take of the listed species during the restoration activities will be evaluated and implemented by the restoration and monitoring biologists. Factors considered will include timing of exotic removal in the riparian habitat to avoid take of least Bell’s vireo, southwestern willow flycatcher, and other nesting birds; the minimization of the use of herbicides in riparian areas to avoid negative effects on aestivating arroyo toads; evaluating the need to use alternative means of vegetation clearing such as goat grazing; and evaluation of the need to install arroyo toad exclusionary fencing in areas that will require mechanical disturbance.

Arroyo toad exclusionary fence installation can be an effective means of safely excluding the species from areas that will be cleared of non-native plant species through mechanical means. The fence is comprised of a silt screen type barrier at least 24 inches high and partially buried to exclude toad access via burrowing. Surveys conducted by a biologist permitted to handle the species are conducted subsequent to fence installation to remove any toads that are found within the exclusion area. The fence will remain installed until after necessary mechanical disturbance is completed. Surveys will be conducted during appropriate climatic conditions and during the appropriate time of day or night to minimize the likelihood of encountering arroyo toads. If climatic conditions are not appropriate for arroyo toad movement during the surveys, a qualified biologist may attempt to illicit a response from the arroyo toads, during nights (*i.e.*, at least one hour after sunset) with temperatures above 50 degrees Fahrenheit, by spraying the project area with water to simulate a rain event.

Areas that have a higher potential to support arroyo toads, and therefore, may require exclusionary fencing include the riparian habitat creation areas, as well as the upland/transitional habitat creation areas on the south side of the San Luis Rey River. The Verboom and Lucio Dairy facilities on the north side of the river have lower potential to support arroyo toads given the developed nature of these areas. Exclusionary fences may be required along the riparian corridor, however, to keep arroyo toads out of these habitat creation areas during the mechanical clearing of the developed areas.

5.4.2 Weed Eradication

Competition from invasive, non-native plant species can hinder the re-establishment of native vegetation. Non-native species can out-compete native species, reduce diversity, and degrade the habitat for wildlife. Undesirable exotic plants will be eradicated either during initial site clearing or prior to site preparation. If clearing precedes planting by more than a few months, it will be necessary and advantageous to re-

eradicate undesirable exotic plants that have become re-established prior to planting and seeding of the revegetation areas. If deemed necessary by a qualified biologist, two or more "grow-and-kill" cycles will be established during that period. A "grow and kill" cycle is a cycle of applying water, germinating the non-native, invasive species, and spraying with the appropriate herbicide. This allows a large portion of the seed load currently present in the soil to be removed. Removing competition early in the life cycle of native plants helps to ensure more rapid growth and cover of the native species.

The initial eradication of pest plants will be performed by herbicide application, mechanical means, by hand, or by other methods as approved by a qualified biologist during the non-breeding season. If vegetation clearing by mechanical means or through the use of herbicide application is considered unfeasible, grazing by goats or similar livestock can be an effective means of vegetation removal, if managed correctly. Goats can be indiscriminant in their food choice, however, and eradicate desirable native species as well. Furthermore, positive results from grazing are often not achieved unless repeated over a few years, and can be difficult to achieve without the supplemental application of herbicides (Lym et al. 1997).

Weed control will be maintained throughout the monitoring period. It is important that weeds are controlled before they set seed. Ongoing weed control will be accomplished by use of tools to uproot the entire plant, mowers, weed whips, herbicide application, or other suitable methods.

The type, quantity, and method of herbicide application will be determined by a landscape contractor qualified to apply herbicide. To apply herbicides in California, the landscape contractor must have a qualified applicator's license (QAL). Herbicide recommendations include, but are not limited to, the herbicide to be used, rates of application, weather conditions during application, methods of application, and areas to which pesticides are to be applied. Herbicide recommendations will be submitted to a qualified biologist for approval.

A qualified biologist will direct the landscape contractor regarding the selection of target weed species, their location, and the timing and method of weed control operations to ensure that native plants and breeding wildlife are avoided to the greatest extent possible.

5.4.3 Soil Preparation

Depending on the degree of soil compaction and location (within arroyo toad excluded areas only), the soil should be lightly tilled or ripped to reduce soil compaction, increase aeration, and help facilitate healthy root growth. Except as described for container planting or if deemed appropriate by a qualified biologist, fertilization will not take place as part of this revegetation plan. Fertilization with nitrogen or phosphorous-based chemical fertilizers has been shown to favor exotic species over native plants in many sites throughout southern California (Grime and Hunt 1975; Grime 1978). Many species native to arid regions have evolved under low nutrient conditions and are adapted to non-fertilized soils.

5.4.4 Mycorrhizal Inoculum

The presence of intact soil that has developed under local site conditions will likely contain appropriate mycorrhizae without the need for supplemental mycorrhizal soil amendments. This will aid in the establishment of plants from seed and container plantings. Although not necessary, appropriate container-

grown plants, except those known to be non-host species, may be inoculated with mycorrhizal fungi prior to delivery to the job site.

5.5 HABITAT CREATION PLANTING PLAN AND SPECIFICATIONS

5.5.1 Habitat Creation

Habitat creation within the designated areas on the property will entail the use of three different revegetation methods, including seeding, container plant installation, and planting of cuttings. Emphasis will be placed on the use of on-site plant materials, then local, then regional materials. Seed not procured on-site will be purchased from a qualified native plant nursery using material sourced from the local or regional Southern California area because of the lack of sufficient donor material on-site or because of the lack of similar existing on-site habitat in relation to the target habitat. To the extent practicable, plant material will be derived from the native species on-site before the site is graded, or from the dedicated open space area as available.

5.5.1.1 Container Plant Procurement

Container plantings will be used where appropriate for habitat creation. Container plantings for the project will consist mainly of tree species, and possibly willow and mulefat shrubs. Plant sources from the Southern California region will be used, with an emphasis on using material derived from the native species on-site where practicable. Container plants will be grown at a qualified native plant nursery into container stock for future planting on-site. All container plants will be inspected for pests and diseases prior to installation into any restoration area, preferably immediately after delivery. Plants that are found to be diseased or infested with pests will be immediately removed from the site. The density of plantings should follow the recommendations in Tables 6, 7, 8, and 10. Temporary supplemental irrigation will be installed in appropriate areas to help ensure the establishment and growth of the container stock. Irrigation soil supplements (*e.g.*, DriWater®) will be used with container plants in areas not irrigated.

The potential to transplant existing mature oak trees onsite from within the disturbance areas to habitat creation areas will be evaluated. Transplantation of large oak trees can be very difficult with limited success in optimal conditions. It is necessary that oak trees to be moved be located in deeper soils and that the trees not be too large to allow the use of a tree spade that can collect a suitable root ball. Most of the oak trees on-site in disturbance areas are within shallow, fractured rocky soils or bedrock on steep slopes, and most trees are very large such that transplantation may be difficult, especially successful transplantation.

5.5.1.2 Seed Sources and Procurement

Seed from native species within the restoration areas will be collected as practicable to promote establishment of desired species on-site. Seed not collected on-site will be purchased from a qualified native plant nursery or native seed supplier site using material sourced from the general Southern California area. Additional seed may be needed after the initial seeding/planting and can be sourced from outside the project site (within the Southern California area) for additional plant material that may be

needed during the five-year maintenance program. Seed will be used for direct seeding of designated areas and will also be germinated and grown in containers for use as container plantings on-site.

For on-site collection, seed would be collected by hand in the fall and placed in moisture resistant, breathable collection bags, labeled by species and collection date. Collections would be made from as many different individuals as possible within each species to help ensure genetic diversity in the collected sample. No more than 25% of the seed would be removed from any individual plant to help ensure the viability of the natural population, except in areas slated for development, in which case most of the seed would be harvested.

5.5.1.3 Revegetation Plant Palette

The plant palettes for the Gregory Canyon restoration effort were selected after extensive research, local reference site surveys, and site-specific native habitat composition observed on-site. The palettes (Tables 6 through 12) are organized by vegetation community within the restoration area and include native trees, grasses, forbs, subshrubs, and riparian species that occur locally. These palettes include container plantings and cuttings, and comprise a complete revegetation plan for the project. A qualified biologist may make substitutions to any palette as necessary, depending on availability of plant material and/or variability of site conditions.

5.5.1.4 Plant Distribution and Layout

Container plantings and cuttings should be distributed more or less evenly over the restoration areas, except as otherwise specified or directed by a qualified biologist. Crowding of plants must be avoided. The mature size of each species and their normal distribution and associations in nature should be considered before installation. Plant species should be located where favorable conditions are present, recognizing that this could have some impact on even distribution. A qualified biologist may follow the methods found most efficient, but one method is to begin with the species that are to be planted in the smallest quantities followed by the species to be planted in larger quantities.

5.5.1.5 Container Plant Installation Procedure

The planting hole will be of sufficient depth so that the top of the root ball is set one-inch above finish grade. The sides and bottom of the planting hole should be scarified as necessary to aid future root penetration. Plants should be removed from containers without damage. It may be necessary to wash some or the entire growing medium from the roots with some plants. Plants should not be left out of containers long enough to damage roots. If the root mass can be flattened along one plane without damage, the roots can be spread out on one (lower) side of the planting hole (which should be scarified as necessary to aid future root penetration) to mimic the normal pattern of the root system as if it were not grown in a container. The planting hole will be backfilled with native soil to proper planting depth, and compacted as necessary to firm the soil sufficiently to keep the plant erect.

A three-inch high, compacted earthen berm approximately 36 inches in diameter will then be constructed around each container plant. This watering basin will be maintained until the plants are no longer irrigated. Mulch may be applied as a top dressing 2 to 3 inches thick, but must not harm the stem of the plant.

Immediately upon planting, the container stock will be watered. If sufficient compaction has not been done, a muddy condition may result, in which case, additional soil and compaction may be necessary after the surplus free water has drained. Additional water should be applied upon completion to settle the disturbed soil in the planting area. The entire planting operation must be completed quickly and without interruption.

5.5.1.6 Cutting Installation Procedure

Cuttings of mulefat and willows will be planted in the riparian habitat creation areas. Source material will compose of mature shrubs and trees found close to the restoration site, as they are adapted to site conditions. Planting should take place at sites that have an appropriate amount of soil moisture to support either mulefat or willow, such as after winter rains have moistened the soils or if the water table is close to the ground surface. Mulefat can generally tolerate drier conditions than willows.

Specific stem cutting procedures include taking cuttings that are as straight as possible and at least 1½ feet long, and from ½ to 1-inch in diameter. If cuttings are substantially longer, they may be re-cut to smaller lengths. However, cuttings placed in or near the groundwater table should be sufficiently long enough to reach the water table. A few cuttings can be taken from an individual shrub or tree, however, over-pruning should be avoided. The stems should be cut so that the bottom end is at an angle, to help identify which end to put into the ground. Cuttings will be stripped of leaves to keep the cutting from drying out. If the cuttings will not be planted right away, they can be stored in a bucket of water for one to two weeks.

5.5.1.7 Seeding Specifications and Techniques

The seeding of native plants should take place in the fall, before the onset of the rainy season, immediately after site preparation. Once applied, the seed should be raked in by hand to conform to the existing ground surface. The seed should also be lightly compacted to provide continuity between soil and seed, and reduce erosion.

5.6 HABITAT CREATION IRRIGATION PLAN

With the slight contouring lowering appropriate restoration areas, there should be enough water present to sustain healthy plant establishment. As such, temporary supplemental irrigation will only be used to water the seeded areas and container plants until they are established. Excessive irrigation should be avoided to prevent disease, excessive growth and competing weeds. The landscape contractor will be responsible for the ongoing maintenance and repair of irrigation of components during the monitoring and plant establishment periods. The irrigation system will be installed above-ground so that it can be removed without damaging vegetation.

Certain areas slated for habitat creation/enhancement may not be suitable for irrigation because of the presence of special status species or physical site conditions. Non-irrigated areas will rely on seasonal rainfall and groundwater access. Other methods of watering could be considered for use to specifically target the container plantings if necessary, such as drip irrigation or DriWater®. A single quart of DriWater® will provide enough water to sustain a small shrub for up to three months, depending on the type of plant, extent of its root structure and specific existing soil and climatic conditions. The DriWater®

should be replaced as necessary depending on the condition and requirements of the individual plant. Determination of the use of this product or other means of watering will be made in the field by a qualified biologist.

5.6.1 Irrigation Water Volume and Frequency

The landscape contractor will be responsible for applying sufficient irrigation water to adequately establish new plant materials, and germinate and establish the applied seed. Irrigation water will be applied in such a way as to encourage deep root growth (periodic deep irrigation versus frequent light irrigation). The landscape contractor will allow soil to dry down to approximately 50- to 60-percent of field capacity (in the top six or 10 inches after germination and during seedling establishment) before the next irrigation cycle. Wetting of the full root zone and drying of the soil between irrigation events is essential to the maintenance of the plants and the promotion of a deep root zone that will support the vegetation in the years after establishment. A soil moisture probe or shovel will be used to examine soil moisture and rooting depth directly. During dry periods after plant installation, a qualified biologist and/or landscape contractor will regularly inspect soil moisture. Watering during the late growing season will occur as frequently as required to maintain soil moisture and prevent mortality of plants/seedlings. During dry conditions, the soil moisture level should not fall below 30 percent of field capacity.

5.7 HABITAT CREATION AS-BUILT CONDITIONS

Following the completion of all grading, preparation, and installation of the revegetation areas, an As-Built report will be completed by a qualified biologist and submitted to the appropriate agencies within 90 days. This report will include photographs, photo-documentation locations, sampling plot locations, a description of the baseline conditions for each area including species seeded/planted and densities if applicable. Additionally, deviations from this restoration plan will also be noted. Based on the phased nature of the installation of the restoration/landfill construction, there may be multiple reports as each restoration area is completed.

5.8 HABITAT ENHANCEMENT

Exotic, invasive plant species found within the riparian habitat associated with the San Luis Rey River include giant reed and tamarisk among others. If left unchecked, these species can out-compete native riparian plant species and take over large areas. Additionally, this shift in habitat type can be detrimental to native wildlife species, including the listed species present within the property.

A qualified biologist will oversee the habitat enhancement activities, and be responsible for hiring subcontractors capable of conducting proper exotic plant species removal and herbicide application. Prior to the removal activities, the management area will be surveyed with the aid of a GPS unit accurate to within five meters to locate and delineate areas requiring exotic plant species removal.

Exotic plant species removal within the riparian habitat associated with the San Luis Rey River will be conducted with hand tools when possible. No wheeled or tracked vehicles will enter the habitat during the removal activities. If necessary, plant-specific application of herbicides currently approved by the Environmental Protection Agency (EPA) for use in wetlands will be used. Specific techniques may

consist of application via a backpack or other sprayer, and/or the cut/paint technique (cutting of the plant, followed by immediate direct application of herbicide to the freshly cut stump). No herbicide will be applied to native riparian vegetation.

Removed and trimmed exotic vegetation, including stalks, roots, flowering structures, and seeds will be removed from the area and disposed of properly off site or in the landfill to avoid further exotic species dispersal within the riparian corridor. Dead exotic plant remnants that have undergone herbicide treatment will be removed by the following year, if they persist. This will facilitate recolonization of native riparian species while allowing for some erosion control in the meantime. If deemed necessary, native species cuttings will be planted in areas cleared of exotic species. Cuttings will not be planted in active flow zones, or in areas that may support arroyo toad breeding.

SECTION 6 INITIAL MAINTENANCE OF RESTORATION AREAS

The purpose of this maintenance program is to ensure the success of the habitat creation plantings. Maintenance will occur over the first five years after implementation of each restoration area or until success criteria/performance standards are met. A qualified biologist will monitor all aspects of the revegetation in an effort to detect problems at an early state. Potential problems could arise from irrigation failure, erosion, vandalism, competition from weeds and invasive species, and unacceptable levels of disease and predation.

These maintenance guidelines are specifically tailored for native plant establishment. The maintenance personnel will be fully informed regarding the habitat establishment program so they understand the goals of the effort and the maintenance requirements. A landscape contractor with experience and knowledge in native plant habitat restoration will supervise all maintenance personnel. Damage to plants, irrigation systems, and other facilities occurring as a result of unusual weather or vandalism will be repaired or replaced immediately.

6.1 MAINTENANCE ACTIVITIES AND RESPONSIBLE PARTIES**6.1.1 Irrigation System Maintenance**

The landscape contractor will be responsible for the regular maintenance and repair of all aspects of the irrigation system. Poorly functioning or non-functioning parts will be replaced immediately so as not to endanger the plantings.

General system checks will be conducted no less than weekly for the first month after installation to assure the system is functioning correctly and monthly thereafter, except during periods when the irrigation system is not in operation as recommended by a qualified biologist. The irrigation system will be removed at the conclusion of the initial maintenance period such that vegetation and soils are not damaged or substantially disturbed.

6.1.2 Weed Control

The restoration areas will be weeded continuously during the entire maintenance period. Weed eradication will minimize competition that could prevent the establishment of native species. All maintenance personnel will be trained to distinguish weed species from native vegetation to ensure only weedy species are removed or sprayed with herbicide.

As weeds become evident, they should be immediately removed by hand or controlled with an appropriate herbicide as determined by a properly licensed landscape contractor. A qualified biologist will be consulted and approve herbicide application in advance. Weed debris will be removed from the project area as it accumulates and disposed of as permitted by law.

Weeds should be manually removed or sprayed before they can attain a height of three-inches (3") at intervals of not more than 30 days for the first two years following planting. If manually removed, all portions of the plant will be removed, including the roots. A qualified biologist will direct the landscape

contractor regarding the selection of target weed species, their location, and the timing and method of weed control operations to ensure that native plants are avoided to the extent possible.

A cleared space should be maintained 18 inches from the base of each container plant to minimize competition from other plant species. Mulch, two-inches thick within the watering basin, may be applied throughout the maintenance period to achieve this. Leaf, branch drop, and organic debris of native species, will be left in place.

6.1.3 Plant Replacement

The landscape contractor will be responsible for replacing all container stock plants terminally diseased or dead for 120 days after plant installation as recommended by a qualified biologist. Replacement plants should conform to the species, size requirements, and spacing as specified for the plants being replaced, unless unavailable. The replacement plants will be purchased from inventory at the same native plant nursery as were the contract-grown plant stock. Furthermore, if sufficient density/cover values are not being met based on monitoring data, additional container plants may be replanted to compensate.

6.1.4 Erosion Control

The loss of soil or sediment to erosion should be minimized with the use of silt fencing, fiber rolls, jute matting and/or straw bales where necessary (*e.g.*, high velocity flow areas, steep slopes). The need for erosion control is expected to be limited given the relatively flat terrain in the habitat creation areas. Erosion control will focus on sloped areas and areas that potentially support water flow.

6.1.5 Horticultural Treatments

6.1.5.1 Pest Control

Young shrubs will be monitored for signs for disease, insect and/or herbivory damage, and treated as necessary. Badly damaged plants will be pruned to prevent spreading of the pestilence or replaced in kind if removed. Excessive foraging by herbivorous animals may necessitate protective screening around plants. A qualified biologist will be consulted on pest control measures to be implemented if this becomes an issue.

6.1.5.2 Fertilization

If nutrient deficiencies are observed during site monitoring, a qualified biologist may specify applications of slow-release pellet fertilizer or soil amendments to speed initial growth or as a remedial measure. These applications will occur at the onset of the rainy season following the manufacturer's recommendations. Fertilizer will not be applied other than under the explicit direction of a qualified biologist.

6.1.5.3 Pruning

No pruning is necessary unless otherwise specified by a qualified biologist. Dead wood will be left on shrubs or where it has fallen as it plays an important role in micro-habitat creation and soil biogeochemistry.

6.1.6 Site Protection

The site will be adequately protected from disturbance, such as trampling/trespassing/vandalism by humans. In some instances, this may be achieved with the installation of a fence or posting of signs around restoration areas.

6.1.6.1 Vandalism

The landscape contractor will deal with vandalism issues in coordination with a qualified biologist. Corrective and preventative actions could include additional fencing, placement of vehicle barriers, and posting of signs.

6.1.6.2 Trash and Debris Removal

The restoration areas will be well-maintained in order to deter vandalism and dumping of trash. The contractor is responsible for avoiding impacts to plantings during trash removal activities. The landscape contractor will, during routine maintenance, manually remove weeds, litter, trash, and debris from the restoration site and dispose of as permitted by law. Woody debris will be left in place in the revegetation areas.

6.2 MAINTENANCE SCHEDULE

After the initial non-native species eradication and associated planting effort has been completed, both habitat creation and enhancement areas within the restoration site will be monitored for non-native species and trash on a monthly basis. A proposed schedule of maintenance activities discussed above is provided in Table 13, covering the projected five-year duration of the initial maintenance.

SECTION 7 INITIAL MONITORING PLAN FOR RESTORATION AREAS**7.1 PERFORMANCE STANDARDS**

The success of habitat restoration is defined as the restoration of a functional ecosystem. Success is usually measured by percent coverage by target species. Natural habitats rarely exhibit 100-percent coverage; but rather, include a considerable proportion of open spaces. While this monitoring program uses percent coverage criteria, it is noted that determination of successful coverage is expected to be relative to other similar native habitats typical of the region. Existing on-site native habitat patches adjacent to restoration areas will be used to assess riparian habitat restoration success. Restoration success for habitats not adequately represented by adjacent areas on-site, such as alluvial coastal sage scrub, will be assessed using suitable off-site areas such as Wilderness Gardens County Park. Initial transects of relatively intact native habitat patches will be collected to verify the quantitative cover criteria proposed in this plan. Localized adjustments in the cover criteria can be made so that the restoration areas will blend in with the adjacent intact native habitat patches.

The means of determining successful restoration for this site will be through a series of measurements for species composition/diversity, exotic species cover, container plant survival, and cover by native species as described in Tables 14-16. All of these, except non-native species cover, should increase over time. Cover by non-native species should decrease with time, particularly because one of the primary goals of the project is to substantially reduce or eliminate non-native species from the restoration site.

Target cover values and community diversity requirements for each area are based on reference information gathered from the Wilderness Gardens County Park (Tables 3-5). Target cover values differ between areas to reflect the differing vegetation density associated with each distinct area and was corroborated with the data gathered at the reference site. Diversity requirements are also included to ensure ultimate success will reflect some measure of long term diversity after success criteria are met rather than allowing an area to be deemed successful if a monoculture of a native species met the cover success criteria. A monoculture of one native species might meet the cover success criteria, but not provide the functional benefits of a diversity of species and is to be avoided. Container plantings to be used on-site consist solely of tree species in order to speed up the establishment of these larger, slower growing plants. Because it is unreasonable to expect significant overall cover contributions from trees that have only had five years to grow, high container plant (tree) survival numbers will be required (Tables 14 and 15). This will help make certain that adequate numbers of trees are present after cover and diversity success criteria have been met to allow for areas such as the oak woodland and cottonwood riparian forest creation areas to progress from an initial scrub habitat to their long term woodland/forest habitat goals.

In the event that plantings should fail to meet the specified requirements, compliance will be ensured by the performance of either or both of the following remedial procedures by the contractor on an as-needed basis as directed by a qualified biologist: (1) replacing unsuccessful plantings with appropriate-sized stock or seed mixes to meet stated cover or survival requirements, and/or (2) performing maintenance procedures to ensure the site conditions are appropriate (*e.g.*, non-native species removal). Remedial actions in planting areas will be based on detailed investigations (such as soil tests and excavations of failed plantings to examine root development) to determine causes of failure.

The success of each restoration area will be assessed individually to accommodate the phased nature of the installation, the various times each area may take to reach success. In general, exotic species should not exceed 10 percent cover during the monitoring period. The highly invasive species, giant reed, tamarisk, pampas grass (*Cortaderia* species), castor bean (*Ricinus communis*), and tree tobacco (*Nicotiana glauca*) will be continuously monitored for and removed on a periodic basis. Replacement plantings and reseeded will be done by the landscape contractor each year as directed by a qualified biologist to achieve an acceptable survival rate for years 2-5 (Tables 14-16).

7.2 TARGET FUNCTIONS AND VALUES

The overall restoration goal is to create native habitat similar to that shown in the 1928 aerial photo, aside from the minimal agriculture that is visible (Figure 2). Attaining this goal will result in a net increase in suitable habitat for arroyo toad, least Bell's vireo, and southwestern willow flycatcher.

The restoration in the uplands will primarily provide additional suitable habitat for arroyo toad, but other species are expected to benefit as well. Arroyo toads have not been found in the dense non-native grasslands on-site (URS, 2007), and their replacement with an open, alluvial scrub is expected to create more arroyo toad upland habitat. Other special status species that would potentially benefit from the open alluvial scrub habitat creation include orange throated whiptail (*Cnemidophorus hyperythrus*) western spadefoot (*Spea hammondi*), and California Gnatcatcher (*Polioptila californica*).

Riparian habitat creation and enhancement will provide additional suitable habitat for many riparian bird species, including least Bell's vireo and southwestern willow flycatcher. Additional suitable habitat will be created from the on-site riparian habitat creation, as well as from the exotic plant species removal within the larger riverine riparian habitat management enhancement area. The exotic species that will be removed will be replaced with native species, and, in the short term, provide natural herbaceous openings, which is a habitat constituent element of the southwestern willow flycatcher (USFWS 2005).

7.3 TARGET HYDROLOGICAL REGIME

The hydrological regime will remain the same in the restoration and enhancement areas, with the exception of the 2.3 acre southern willow scrub creation area. This area will be graded down in elevation closer to the water table to promote the establishment and growth of riparian plant species. This graded area will likely be subject to occasional flooding consistent with the typical flood cycle of the San Luis Rey River. Upon completion, this area is expected to qualify as Corps jurisdictional wetlands.

7.4 TARGET ACREAGES TO BE PRESERVED, CREATED, AND ENHANCED

Target creation acreages include 70.4 acres of oak woodland with alluvial scrub and native grassland understory, 14.3 acres of chaparral, 2.0 acres of native grassland, and 79.3 acres of coastal sage scrub/coastal sage scrub (mesic alluvial scrub) habitats. In addition, 2.3 acres of southern willow scrub habitat and 4.2 acres of cottonwood riparian habitat will be created on-site, and 75.6 acres of riparian habitat will be enhanced.

7.5 MONITORING METHODS

Monitoring for purposes of documenting compliance with success criteria will be conducted by a qualified biologist. Continuity within the personnel and methodology of monitoring will be maintained as much as possible to ensure comparable assessments throughout the duration of the monitoring. Special management status species monitoring will begin pre-disturbance, continuing through landfill construction, mitigation implementation, and the five-year post-implementation monitoring period. Habitat monitoring will commence with mitigation implementation, continuing through the five-year post-installation monitoring period following the schedule outlined in Table 13. Long term habitat and special management status species monitoring after the five-year period is addressed in Section 10. There may be parts of the restoration that are staggered because of the phased nature of the construction of the landfill. However, each staggered phase will still go through a similar five-year monitoring period. The monitoring program will emphasize qualitative and quantitative assessments of the status of the restoration plan. Records of mortality and other problems will be kept, such as insect damage, herbivory, weed infestation, and soil loss, will be identified by a qualified biologist. Monitoring will assess the attainment of annual and final success criteria, and identify the need to implement adaptive measures to assure ultimate success, or contingency measures in the event of failure.

7.5.1 Qualitative Assessment

Qualitative assessments will be conducted to assess the overall condition of the restoration areas, and determine the effectiveness of irrigation, the weed eradication program, and general development of the habitat. Qualitative assessments will be conducted on a monthly basis for the first year, bimonthly for the second year, and quarterly thereafter for the remainder of the monitoring period. Qualitative surveys will be completed during each monitoring visit, and will consist of a site walkover and general habitat characterization. General observations, such as fitness and health of the planted species, pest problems, herbivory, weed establishment, mortality, and drought stress, will be noted during each site walkover. A qualified biologist will also note observations of wildlife use and native plant recruitment for the purpose of later discussion in the annual reports. Records will be kept of mortality and other problems such as insect damage, weed infestation, and soil loss. A qualified biologist will determine remedial measures necessary to facilitate compliance with performance standards. A qualified biologist will relay these findings to the landscape contractor after each visit, as necessary, to address and correct problems as soon as they are discovered. All remedial measures undertaken will be referenced in the annual monitoring report to the agencies. A sample of a qualitative evaluation monitoring sheet is provided in Appendix C.

7.5.2 Quantitative Special Management Status Species Monitoring

7.5.2.1 Observed Injury or Mortality

During the initial monitoring period, animals found injured or dead on-site will be reported to the project biologist immediately. The project biologist will determine whether or not the animal was a special management status species. If it is a listed species, it will be documented as potential take, and reported to the appropriate agencies. Efforts will be made to determine the cause of the mortality. Death resulting from events unrelated to the landfill will be reported, but will not be considered a take by the project.

7.5.2.2 Pre-Disturbance/Implementation Monitoring

Protocol special management status species surveys will be conducted by a qualified biologist in areas that will potentially affect such special management status species' habitat because of initial construction activities to determine presence/absence of species prior to disturbance.

7.5.2.2.1 Coastal California Gnatcatcher

A qualified biologist will conduct in-season presence/absence protocol surveys to detect individuals within the landfill footprint prior to disturbance. If individuals are found, monitoring will continue until it is determined whether the individual(s) is(are) migrating through or nesting. If the individual is migrating through the site, a biological monitor will be present and construction may continue. If the individual is nesting, then the appropriate resource agencies will be notified to re-open Section 7 consultation. Because development of the landfill footprint is phased, these surveys will occur at a frequency of every one to two years for approximately 16 years, based on the current phasing plan and anticipated waste receipts.

7.5.2.2.2 Arroyo Toad

Pre-disturbance mitigation measures for arroyo toad will occur exclusively at the time of initial landfill construction (bridge installation and access road construction to the facilities area), because this is the only time when suitable habitat as delineated through NRCS soil mapping would be disturbed. However, installation of some exclusion fencing will be permanent.

If temporally feasible, a qualified biologist will conduct protocol surveys in the wet season prior to disturbance to establish density and limits of arroyo toad occupation in the construction and mitigation areas. Prior to work in suitable arroyo toad habitat as established during the survey, temporary/permanent exclusion fencing will be erected and areas within the fence (demolition/construction/implementation areas) will be re-surveyed for arroyo toad. Arroyo toad found during these exclusion surveys will be moved to a suitable location outside of the excluded area. Areas that will need arroyo toad exclusion fencing include the northern bank of the river, to prevent arroyo toads from entering the demolition areas and eventual mitigation areas (the fencing will be removed once demo is complete and mitigation on this side of the river is installed); across the river channel up to the banks during bridge construction; along both sides of the landfill access road for its entire length except where the sides of the bridge act as a barrier (this fencing will be permanent to minimize the potential of arroyo toads being injured by landfill related vehicular traffic); along the northern edge of the landfill facilities area and east desiltation basin (this fencing will be permanent to keep arroyo toad out of active use areas); the south side of the river along the boundary of existing suitable habitat to allow implementation work on the mitigation areas here (this fencing will be removed once mitigation areas on this side of the river are installed); and along the northern side of the borrow/stockpile area A haul road (this fencing will be removed once use of borrow/stockpile area A ceases following initial construction, and then re-installed once use is re-initiated in approximately year 25). Temporary arroyo toad exclusion fencing will consist of a silt screen type barrier approximately 24 inches high and partially buried to exclude toad access via burrowing. Permanent arroyo toad exclusion fencing will be made from a suitable material or structure that will persist in the long term without the need for extensive maintenance (for instance, silt fencing would not be suitable for permanent fencing, however, some type of concrete curb structure might suffice).

A biological monitor will be present when digging the trenches required to properly install the exclusion fencing in case an arroyo toad is found or accidentally harmed during this process. Thereafter, a biological monitor will inspect temporary construction-related exclusion fencing three times a week and see that repairs are made in a timely manner as needed.

7.5.2.2.3 Least Bell's Vireo/Southwestern Willow Flycatcher

Pre-disturbance measures for least Bell's vireo and southwestern willow flycatcher will occur exclusively at the time of initial landfill construction (specifically the bridge construction) as this is the only time when suitable habitat within the San Luis Rey River channel would be disturbed. No surveys are necessary if work is done outside of the breeding season from September to March. Work done to grub the river channel for bridge construction will take place during this period. The biological monitor present for arroyo toad during this work will also monitor for these species at the same time. If work is done during the March to September breeding season, a qualified biologist will conduct presence/absence surveys, and monitoring will be performed until it is determined that these species are not present. Thereafter, daily noise monitoring will occur to assure that noise levels do not exceed 60 dBA L_{eq} , either before or after installation of noise barriers.

7.5.2.3 Five-Year Monitoring Period

This monitoring would occur within the habitat restoration area and consist of annual monitoring for arroyo toad, least Bell's vireo, and southwestern willow flycatcher during the five-year monitoring period. This monitoring would commence upon the completion of restoration activities, and continue for five years or until achieving restoration success criteria, whichever occurs later.

A qualified biologist will conduct annual protocol surveys for each of the above species. Relative numbers of species observed during monitoring will be evaluated to demonstrate whether or not the mitigation is attracting special management status species or not. For instance, numbers of arroyo toads and the locations observed, and nesting pairs and the locations of least Bell's vireo and southwestern willow flycatcher will be recorded for use in this relative assessment. These relative estimates will be used to assist in monitoring potential take of species. Directly monitored take will also be reported (e.g., potential sighting of a dead animal). Note also that extreme weather years or other factors out of the control of the project proponent will also cause numbers to be higher or lower than expected. Such factors include prolonged drought, fire, increased development in the surrounding area, flooding, and the like. It is important to take this information into account when determining whether the project is within take authorization, or if other conditions are decreasing the relative numbers of special management status species on-site.

7.5.3 Quantitative Habitat Monitoring Techniques

Quantitative habitat analysis will be conducted during the late spring or early summer of every year, ideally between April and June, to coincide with the blooming periods of the greatest number of plants. Measurements that will determine the total plant cover and species composition within each restoration area will be conducted along established transects. The means of these measurements will be evaluated against the criteria presented in Tables 14-16.

Quantitative sampling within the restoration site will be performed using approximate 60- to 900-foot point-intercept transects that will be placed throughout the site to ensure representative sampling. A

tentative placement of transects is shown in Figure 7 (Tentative Transect Location Map). Final placement will be noted in the as-built report. Five 60-foot transects will be placed in the Southern Willow Scrub Creation Area; three 60-foot transects will be placed in remnant native vegetation near the face of the landfill; six 300-foot transects in the Chaparral Creation Area; fifteen 300-foot transects in the Coastal Sage Scrub (Mesic Alluvial Scrub) Creation Area; five 300-foot transects in the Coastal Sage Scrub Creation Area; fifteen 300-foot transects in the Oak Woodland Creation Area; four 300-foot transects in the Native Grassland Creation Area; two 300-foot transects in the Cottonwood Riparian Forest Creation Area; two 300-foot transects in the Cottonwood Riparian Forest/Pond Creation Area; and eleven 900-foot transects throughout the non-restored open space in the northwestern and southwestern portions of the property. The extreme topography of the eastern portion of the site presents access challenges which will prevent the quantitative monitoring of the open space in this area. In lieu of quantitative monitoring here, qualitative monitoring will be sufficient as this area is remote and undisturbed. Vegetative cover will be estimated by species present at three- to thirty-foot intervals depending on transect length using the point-intercept method, and recorded on a data sheet. Species observed during the sampling that does not fall along the transect line will be recorded and included on the list of species observed at each transect location. Transects may also be altered by number, method, length, number of points taken, or both length and number of points taken if the results show that an adjustment will better describe actual species compositions found in the field. This determination will be made by a qualified biologist, and changes in methods will be documented in the annual monitoring report.

7.5.4 Photo-documentation

Photographs will be taken to document the progress of the restoration areas throughout the five-year monitoring period and geo-referenced when possible. Photo-documentation locations will be established prior to commencement of the habitat restoration. Photographs will be taken from similar angles and locations so that comparisons can be made through time. Formal photo-documentation will occur before the restoration activities, immediately following the restoration activities, and at least every six months for the remainder of the five-year monitoring period.

7.6 MONITORING SCHEDULE

A monitoring program spanning five years will be conducted by a qualified biologist in conjunction with the initial habitat maintenance program. The schedule for each type of monitoring is set forth in Sections 7.5.2 and 7.5.3 above (see also, Table 13). If the site does not meet the final success criteria after the fifth year, additional monitoring following the same schedule will be necessary until the site meets final success criteria and is signed off by the appropriate agencies (Sections 8 and 9). The monitoring program is intended to document the progress of the restoration effort as well as to fulfill the requirements of any permit conditions. The monitoring program is designed to gather information on the success of plant establishment and habitat development and to recommend remedial actions. Annual reports for submittal to the pertinent regulatory agencies will also be prepared.

7.7 ANNUAL MONITORING REPORTS

Quarterly progress reports and annual technical reports will be provided as part of the monitoring program. The quarterly progress reports will detail the results of the qualitative assessments and will be submitted to the client in the form of a brief letter report. These reports will include information on problems with irrigation, pests, vandalism, mortality, and weeds that have been identified during the

qualitative inspections. Proposed remedial actions will also be discussed as a part of these reports and will be summarized in memo format to be sent to the landscape contractor for implementation.

Annual technical reports describing the results of the quantitative sampling will be submitted to the agencies at the end of each monitoring year (December). Annual reports will include 1) a list of names, titles, and organizations of all persons who prepared the content of the annual report and participated in the monitoring activities for the year; 2) analyses of all quantitative monitoring data in relation to the success criteria (success, failure, and remedial action) and special management status species survey results; 3) monitoring photographs; and 4) maps identifying transect locations and locations of special management status species found during surveys. Details of necessary replacement plantings will also be included. Comments about the monitoring program or site conditions from the agencies should be submitted to a qualified biologist for review and appropriate remedial action, if required. The final annual report at the end of year five will summarize the results of the entire restoration effort, thereby providing the agencies with a basis for comprehensive evaluation of the restoration project.

The first annual report will be submitted after the first growing season following the initial weed eradication, seeding, and container planting.

Reporting of the enhancement activities will also be included as a separate section in the annual reports. Reported items will include mapping of areas where specific exotic removal activities were conducted, methodology used (*e.g.*, hand tools vs. herbicide application), an evaluation of the success of the enhancement program, and photo-documentation.

7.8 CONSERVATION EASEMENT

Prior to commencement of initial construction of those features of the landfill and ancillary facilities described in Table B-2, GCLF will execute and record a Conservation Easement in a form acceptable to the Corps, USFWS, CDFG and/or the County, and consistent with CEQA mitigation measures and Proposition C. A suitable land management agency, such as the Corps, CDFG, or the County would be the Grantee of the Conservation Easement. A copy of the most recent multi-agency (Corps/CDFG) mitigation bank Conservation Easement Deed Template is provided in Appendix D, to indicate the general format and typical terms and conditions for the Conservation Easement. The Conservation Easement will be subject to all pre-existing and known future encumbrances on the GCLF property, such as utility easements, subject to separate approval of those projects by all agencies with jurisdiction, and implementation of appropriate mitigation measures or compensation by the proponents of those projects. The specific language of the Conservation Easement shall be submitted to the appropriate governmental agencies for final approval prior to official recordation.

SECTION 8 COMPLETION OF HABITAT RESTORATION**8.1 NOTIFICATION OF COMPLETION**

The project proponent will notify the resource agencies upon completion of the restoration effort through the submittal of the final monitoring report. This report will include analysis of quantitative sampling data that will show that the success criteria have been met. After completion of the creation and enhancement effort, ongoing management activities such as those described in Sections 10.2 and 10.3 will continue.

8.2 AGENCY CONFIRMATION

The resource agencies may inspect the restoration areas after the final monitoring report has been submitted. Confirmation that the success criteria have been met will be provided by the resource agencies to the project proponent in writing.

SECTION 9 CONTINGENCY MEASURES

If an annual performance criterion is not met for all or a portion of the restoration areas in any year, or if the final success criteria are not met, the biologist will prepare an analysis of the cause(s) of failure and, propose remedial action for approval with the appropriate resource agencies. Remedial actions may include supplemental site grading/manipulation, planting, changes to the plant palette, or adjustments to the management of the areas. If the restoration area or portion thereof has not met the performance criterion, and remedial actions are necessary, the responsible party's initial maintenance and monitoring obligations as described in Sections 6 and 7 will continue beyond five years of monitoring and maintenance until final success criteria are achieved.

9.1 INITIATING PROCEDURES

If the Corps, USFWS, or CDFG determine upon receipt of an annual monitoring report that the restoration efforts are not meeting the success criteria, the respective agency will notify the project proponent in writing that the effort will require augmentation. The project proponent will have 30 days to respond to the notifying agency with a description of the measures enacted or to be enacted.

9.2 ALTERNATIVE LOCATIONS FOR MITIGATION

No alternative locations are proposed for this restoration effort. If setbacks occur because of unforeseen circumstances (*e.g.*, flooding washes away much of the plantings or fires wipe out the mitigation site), then the project proponent will work with the resource agencies to reformulate a new schedule or solution.

9.3 FUNDING MECHANISM

The project proponent will be responsible for funding the costs associated with implementation of restoration measures (Section 11).

9.4 RESPONSIBLE PARTIES

The project proponent will be the responsible party for the contingency measures.

**SECTION 10 LONG TERM MAINTENANCE OF RESTORATION AREAS
AND OTHER ON-SITE OPEN SPACE**

After completion of the restoration plan on the restoration area, and for other open space on the landfill property, long term maintenance and monitoring tasks will be put into action to ensure the maintenance of the entire site in perpetuity. Long term maintenance and management tasks will focus on maintaining the site in a natural state. The overall site open space can be split into two distinct areas where maintenance and management differ in complexity and effort, non-restored open space and restored open space. Some of the components of the maintenance and management are described below, but may be amended in the future to account for potential future conditions and costs that will be best determined when the site is transferred to a third party. The focus and scope of the long term management plan may also be revised every five to ten years if long term monitoring data show that site conditions are changing and require adaptive management.

10.1 NON-RESTORED OPEN SPACE

The non-restored open space area will be managed during the operating period of the landfill (estimated at 30 years) in the same manner it will thereafter be managed in perpetuity. The non-restored open space area makes up the majority (over 1,000 acres) of the overall open space on the project site. Although the size of the area is large, minimal maintenance activities will need to be undertaken to maintain this area, as it currently exists in a natural and self-sustaining state. Maintenance and management tasks for this area will primarily consist of monthly site inspections for access control, fence inspection, and recording of new infestations of invasive plant species. During inspections, the area will also be checked for human-related issues such as illegal dumping and illegal recreational use (i.e. creating new trails and/or use of all terrain vehicles such as quads or motorcycles). Weed control, wildlife control, fire management, general habitat monitoring, special management status species monitoring, and annual reporting requirements will also be addressed as part of the long term management plan. Each long term management issue is discussed in detail below.

10.2 RESTORED OPEN SPACE

The bulk of the maintenance and management effort will focus on the restored area as this area will need to be monitored more closely to ensure continued self-sustainability. Once the initial five-year maintenance and monitoring period is complete and a restoration area meets success criteria, the objective of the effort will shift from restoration to maintenance during the remainder of the operating period of the landfill. Maintenance and management tasks in this area will include at minimum, monthly site inspections to check for weed control, wildlife control, fire management, refuse removal, and human-related disturbance issues. The bulk of the habitat and special management status species monitoring will take place in the restored open space because of the presence of suitable special management status species habitat in this area. Each long term management issue is discussed below, along with the long term habitat and special management status species monitoring programs, and annual reporting requirements.

10.3 PERPETUAL MAINTENANCE

After the landfill ceases operation at the end of approximately 30 years, perpetual maintenance activities will be initiated through a qualified land manager selected by Gregory Canyon Ltd. LLC following consultation with the County, the USFWS, and CDFG. Maintenance activities during this period are expected to continue as it will when the open space areas enter the maintenance period as described above. These activities will consist of monthly site inspections to check access control, weed control measures, wildlife control, fire management, and refuse removal. Habitat monitoring and special management status species monitoring will also occur in perpetuity as described below.

10.4 LONG-TERM MANAGEMENT ISSUES**10.4.1 Annual Reporting**

Long term management issues will be summarized and reported to the USFWS on a yearly basis. The report will summarize the work done on the site for the year broken down by management issue, as well as the proposed work to be performed in the upcoming year. The locations of exotic plant infestations will be noted, methods used to remove exotic species will be described, and effectiveness of the results will be discussed. Remedial actions undertaken during the monitoring year, and/or recommended in the immediate future will be noted. Updates of remedial actions completed in the previous year will be analyzed to evaluate effectiveness for future use. A summary of the financial status of the management budget will also be provided. Specifically, the income generated by the endowment will be compared to actual expenses incurred while performing site management to ensure the long term funding will be sufficient. Additionally, site photos will be taken within six months of the submittal of the annual report to provide photo documentation of the site. Qualitative and quantitative data collected during the habitat and special management status species monitoring will also be included in each report as described in the respective monitoring plan sections below. Qualitative data will include plant and animal species lists observed on-site during the monthly inspections and monitoring events, if applicable. Because quantitative monitoring will only take place every three years for habitat, and every other year for special management status species, qualitative data will be reported in years where no quantitative data is collected. When quantitative data is collected, the locations of each special management status species will be described and mapped. Estimated numbers of individuals or pairs will be reported and territory locations will be mapped if applicable. The report will be due by February following the year for which the report is being written for to allow for remedial measures to be discussed, approved, and implemented in the spring following the monitoring year.

10.4.2 Observed Injury or Mortality

During the long term maintenance period and into perpetuity, animals found injured or dead on-site will be reported to the project biologist immediately. The project biologist will determine whether or not the animal was a special management status species. If it is a listed species, it will be documented as potential take, and reported to the appropriate agencies. Efforts will be made to determine the cause of the mortality. Death resulting from events unrelated to the landfill will be reported, but will not be considered a take by the project.

10.4.3 Special Management Status Species Monitoring

Special management status species monitoring will take place on all portions of the landfill property. Long-term monitoring for arroyo toad, least Bell's vireo, and southwestern willow flycatcher will commence after the completion of the five-year monitoring described in Section 7.5.2. Long-term monitoring for coastal California gnatcatcher and steelhead trout will commence upon the initiation of project operation. The purpose of long-term monitoring is to track the relative numbers of special management status species on-site and document take related to long-term maintenance of the project site in perpetuity.

10.4.3.1 Coastal California Gnatcatcher

A qualified biologist will conduct protocol surveys for coastal California gnatcatcher in areas of suitable habitat to determine presence/absence. If present, the number of nests or breeding pairs will be quantified and mapped. Results will be documented in the annual report. Surveys conducted every other year will provide adequate information to determine the rise or decline of the relative number of coastal California gnatcatcher on-site.

10.4.3.2 Arroyo Toad

A qualified biologist will conduct an appropriate number of nocturnal surveys (6-10) in suitable habitat during the active season to determine the number of toads in the uplands and river on-site. Ideally, surveys will take place during the breeding season (March to June), however, if the rainy season begins early, up to four surveys can take place between November and February, with the remainder occurring from March to June. If present, the number of individuals will be quantified and mapped. Results will be documented in the annual report. Surveys conducted every other year will provide adequate information to determine the rise or decline of the relative number of arroyo toad on-site.

10.4.3.3 Least Bell's Vireo/Southwestern Willow Flycatcher

A qualified biologist will conduct protocol surveys during breeding season to determine the number of breeding pairs in suitable habitat on-site. If present, territories of pairs found on-site will be quantified and mapped. Results will be documented in the annual report. Surveys conducted every other year will provide adequate information to determine the rise or decline of the relative number of least Bell's vireo and southwestern willow flycatcher on-site.

10.4.3.4 Steelhead Trout

Monitoring for steelhead trout will involve inspecting the river channel for un-natural obstructions that would prevent the trout from potentially moving upstream through the river channel on-site. Plant litter and debris normally found in a river system would not be removed. The focus of this monitoring is the removal of man-made obstructions, namely large items of trash or similar debris, should such obstructions originate on-site from project activities. This monitoring will occur annually in spring immediately after the rainy season, and can be done in conjunction with regular site inspections.

10.4.4 Habitat Monitoring

Habitat monitoring will take place on all portions of the landfill property subject to a conservation easement. Long-term monitoring of general site conditions and vegetation within the restored open space area will commence after the completion of the five-year monitoring described above. Long-term monitoring of general site conditions and vegetation within the non-restored open space area will commence upon the initiation of project operation. The purpose of long-term monitoring is to track the stability of vegetation communities on the project site in perpetuity.

General site condition monitoring will consist of compiling monthly weather data (temperature, wind, precipitation, etc.) for documentation in the annual report. Vegetation monitoring will consist of qualitative and quantitative monitoring. Qualitative monitoring will take place annually and consist of visual inspections of the various vegetation communities. Photo-documentation will also take place to provide a visual picture of the various communities over time. Photographs will be taken from the same locations each year to allow pictures to be compared year to year. Quantitative monitoring will take place every three years and be accomplished by conducting vegetation transects throughout the site (Figure 7, Tentative Transect Location Map). Point-intercept transects ranging in length from 60 to 900 feet will be sampled as described in Section 7.5.3. Information collected during the year will be presented in an annual monitoring report. Based on information collected during qualitative surveys and data in the annual report, the USFWS and land manager may increase the frequency of quantitative monitoring to every other year if necessary to properly monitor changes regarding the vegetation.

10.4.5 Weed Control

The complete elimination of all exotic species from the project area is not feasible and not the goal of long term weed control. The goals of long term weed control on-site are to keep weed cover in restored open space areas at similar levels to those observed at reference sites in Wilderness Gardens Park, to identify and control new weed infestations discovered in the non-restored open space area, and to pay special attention to the detection of invasive exotic species. The non-restored open space area will not be held to a minimum weed cover standard as this area is to be managed as is, in its current natural state. This area will be inspected as described in Section 10.4.4 and newly discovered infestations of exotic species will be removed within 30 days. Additionally, special attention will be given to invasive exotic weed species throughout the site. These species include, but are not limited to, giant reed, tamarisk, pampas grass, castor bean, and tree tobacco. To the extent practicable, these species should be completely removed from the site within 30 days of detection.

10.4.6 Wildlife Control

Nuisance wildlife species that have the potential to directly or indirectly impact the relative number of special management status species on-site will be inspected for and dealt with accordingly. Control measures will be implemented if nuisance species populations increase or if new nuisance species enter the area that would or are adversely affecting the relative number of listed species or desired habitats onsite relative to pre-project conditions.

10.4.7 Refuse Removal

To avoid the attraction of nuisance species which may also potentially prey upon or otherwise indirectly affect special management status species on-site, trash and other man-made debris will be inspected for and removed on a monthly basis. Dead limbs, tree fall, and other organic debris originating from native vegetation on-site will be left in place. Weed debris will be removed from the project area and disposed of legally.

10.4.8 Access Control

In order to control unauthorized access of the site, a wildlife compatible barbwire fence will be installed around areas where the public has easy access to the site. Additionally, signs will be posted to identify the site as an open space reserve. Dirt roads leading to the site will be gated, otherwise obstructed, or removed to control unauthorized vehicle use. Fencing will be inspected monthly to ensure it is intact and will be repaired as needed. It is anticipated that on-going monthly inspections of the site will also serve to deter trespassing.

10.4.9 Fire Management

Fire management tasks chiefly involve the removal of potentially hazardous accumulations of non-native vegetation to reduce the likelihood of brush fires from starting and propagating on-site. Native vegetation is accustomed to routine fires that occur on a semi-regular basis. These fires typically move quickly through the vegetation as there is normally little to no dry understory vegetation. By moving through the vegetation quickly, the plants are damaged less and are able to recover quicker. When there is a prevalence of dried understory vegetation (usually associated with non-native annuals and/or grasses), fires typically burn longer and hotter, increasing the damage to native shrubs, and delaying recovery if the native vegetation is not completely killed. Areas that have a prevalence of dried non-native vegetation will be noted during monthly site inspections and cleared before the onset of the fire season (late summer through early fall). Weeding of these areas in the spring will also reduce the amount of dry fuel in the summer.

SECTION 11 FINANCIAL ASSURANCES

Gregory Canyon Ltd. LLC will fund all activities related to implementation of the Habitat Restoration and Resource Management Plan and management of both on-site and off-site (to the extent applicable) open space. During the period of landfill operation, which is anticipated to last approximately 30 years, these activities will be budgeted and funded as part of the cost of operating and maintaining the landfill, and funding assurances will be provided in the form of a Performance Bond. Because of the jurisdictions and subsequent enforcement ability of different public agencies over different mitigation areas, the Performance Bond will be split into two bonds. One bond, in the amount of \$300,000 will be held by the Corps and will cover impacts to Federal wetlands/waters of the U.S. caused by the construction of the access bridge, which is mitigated by the 2.3 acre Southern Willow Scrub creation area. The second bond, in the amount of \$18.3 million will be held by a public agency to be determined in cooperation with the County, USFWS, and CDFG, and will cover the mitigation proposed for remainder of the impacts on-site. The total face-value of the Performance Bonds at the time of initial habitat disturbance will be approximately \$18.6 million. This amount is the estimated cost of the Habitat Restoration and Resource Management Plan implementation; maintenance and monitoring until the restoration areas attain success (five years), along with follow up management of restoration areas for an additional 25 years; and management of other non-restored open space areas for 30 years. This includes activities that will not commence for many years because of the phased nature of the Habitat Resource Management Plan. The face amount of the Performance Bonds would be adjusted every three years to account for inflation and the completion of on-site activities, as more fully discussed below, and on an ongoing basis to account for anticipated maintenance costs of any off-site open space acquired.

When Gregory Canyon Ltd. LLC leaves the site at the conclusion of the landfill operating period, the bonds will expire and funding for ongoing management of all open space portions of the landfill property (including both the restoration areas and other non-restored open space areas, approximately 1,300 acres total) will be provided through a \$7.3 million endowment established by Gregory Canyon Ltd. LLC to be held in an independent trust account. The endowment will be initiated at the time of initial habitat disturbance, with deposits by Gregory Canyon Ltd. LLC at the end of the landfill operating period adequate to generate full funding of the endowment (Section 11.3).

11.1 INITIAL PERFORMANCE BOND ESTIMATES

To determine the appropriate initial amount of the Performance Bonds, Gregory Canyon Ltd. LLC estimated the cost of implementing all of the anticipated plan activities to take place on the landfill property during the landfill operating period, assuming immediate implementation of all plan elements.

This approach is conservative, because implementation of the Habitat Resource Management Plan will proceed in phases over a period of years.

Based on the projected costs of the identified tasks, the total amount of both Performance Bonds were estimated at approximately \$18.6 million. This estimate includes approximately \$9.3 million for implementation of the Habitat Resource Management Plan and \$9.3 million for habitat management.

11.1.1 Restoration Plan Implementation

The total cost of restoration and initial monitoring and maintenance is approximately \$11.6 million. This total includes:

- \$260,000 for creation of 6.5 acres of riparian vegetative communities such as southern willow scrub and cottonwood riparian forest;
- \$6.3 million for creation of 166.0 acres of oak woodland, coastal sage scrub, chaparral, and native grassland communities;
- \$440,000 for enhancement of 75.6 acres of existing riparian vegetative communities; and
- \$2.3 million for maintenance and monitoring of restoration areas for five years.

This total does NOT include costs associated with removing existing structures, utilities, or major grading. Enhancement/creation costs reflect direct implementation costs and do not reflect costs associated with supporting tasks and administration/contingency costs. A detailed cost breakdown is provided in Appendix A.

11.1.2 Long-Term Habitat Management Costs

Total management costs on the landfill property during the landfill operating period are estimated at approximately \$6.9 million for 25 years of post-restoration management of the restoration areas and 30 years of maintenance of non-restored open space outside of the restoration area. The cost of implementing long-term habitat management activities on the landfill property were estimated as follows:

- Reports prepared by the Center for Natural Lands Management (CNLM) for comparable management programs were reviewed to determine the number of hours per task and/or total expenditure per year for management tasks.
- For tasks involving qualitative evaluations and biological surveys, labor costs were estimated using a rate of \$100/hour. Manual labor costs were estimated at \$50/hour.
- An additional 10% was allocated for annual work program contingencies.
- The amount of the changed circumstances reserve is 25% of the cost of the land management tasks (*i.e.*, only tasks involving resource protection and management).

A detailed cost breakdown is provided in Appendix A.

11.2 ADJUSTMENTS TO PERFORMANCE BOND DURING LANDFILL OPERATING PERIOD

11.2.1 Periodic Review of On-Site Costs Estimates and Fund Allocations

Gregory Canyon Ltd. LLC will review the cost estimates and allocations for on-site activities every three years, commencing on the date of initial disturbance. Where appropriate, the estimates and allocations will be adjusted as necessary to ensure implementation of and adequate funding for on-site activities. All

such adjustments will require the approval of San Diego County as part of the administration of the Habitat Restoration and Resource Management Plan.

11.2.2 Cost Estimates and Fund Allocation for Off-Site Open Space

Whenever Gregory Canyon Ltd. LLC proposes to acquire off-site open space, its submittal of a revised Habitat Restoration and Resource Management Plan to San Diego County will include an estimate for habitat management costs during the operating period of the landfill, based on the same criteria used to establish estimates for management of on-site non-restored open space. The cost estimates will require the approval of San Diego County as part of the administration of the Habitat Restoration and Resource Management Plan. Upon approval, the amount of the Performance Bond will be adjusted to account for these management costs. As a second option, with approval from the County, an agreed-upon fee may be paid to the County by Gregory Canyon Ltd. LLC in lieu of acquiring off-site properties.

11.2.3 Reduction of the Performance Bond

Gregory Canyon Ltd. LLC will have the option of reducing the face value of the Performance Bond every three years, on the same cycle as the cost estimates and fund allocations review, in accordance with the following procedures:

- Gregory Canyon Ltd. LLC's actual expenditures for implementation activities will be deducted from the face-value of the bond; and
- To account for inflation, the remaining face value of the bond will be increased by changes in the Consumer Price Index (CPI) since the initial date of disturbance or the most recent adjustment in bond amount, as the case may be.

This adjusted amount will become the required face value of the Performance Bond for the next succeeding three-year period, or until Gregory Canyon Ltd. LLC proposes to acquire additional off-site open space, whichever occurs first. To ensure adequate funding at all times, including management in perpetuity, the minimum face value of the Performance Bond shall be \$1,000,000 plus the difference between \$7.3 million and the principal of the endowment trust as of the date of bond adjustment. This adjustment also will ensure that the Performance Bond is maintained at a level adequate to fund the endowment if Gregory Canyon Ltd. LLC should leave the site prior to the end of the operating period.

11.3 MANAGEMENT ENDOWMENT

To determine the amount required to fund perpetual management of on-site (restoration area and open space outside of restoration area) and off-site open space after Gregory Canyon, Ltd. LLC leaves the site, Gregory Canyon Ltd. LLC:

- Identified the habitat management tasks (including remedial measures and responses to changed circumstances) that would be necessary after the impacts of the Landfill Project ceased;
- Calculated the annual costs of those tasks in 2008 dollars; and

- Projected the annual cost of those measures at the end of the landfill operating based on an assumed CPI of 3% per annum.

The identified ongoing management tasks include access control, weed control measures, wildlife control, fire management, refuse removal, habitat monitoring, species monitoring, administrative costs, and an additional 10% for remedial measures/contingencies. Annual ongoing management costs were estimated at approximately \$146,000 in 2008 dollars (per year total, Section 3.9 of Appendix A). With CPI (3% per year) factored into the costs over the 30-year operating period, there would need to be approximately \$7.3 million in an interest-bearing account (5% for this calculation) at the end of the 30-year operating period to create enough interest income to provide for annual management and contingencies. Because the costs will be covered by interest alone, without utilization of the principal, the endowment will be non-wasting.

To fund the management endowment, Gregory Canyon Ltd. LLC will establish the interest-bearing account at the time of initial habitat disturbance and make deposits sufficient to provide full funding by the end of the 30-year landfill operating period. If, at the end of the landfill operating period, the endowment account does not contain \$7.3 million, Gregory Canyon Ltd. LLC will fund the difference. If Gregory Canyon Ltd. LLC is unable to fully fund the endowment at the time full funding is needed for long-term management of on-site or off-site open space, the Performance Bond shall be used to complete funding of the endowment.

The amount of the endowment will be adjusted every three years commencing on the date of initial habitat disturbance to account for management costs related to any off-site open space that is acquired, and differences in actual inflation from the assumed 3%.

The intended use of the endowment funds is the perpetual management of all on-site and off-site open space after Gregory Canyon Ltd. LLC leaves the site. If Gregory Canyon Ltd. LLC leaves the site prior to the end of the landfill operating period, adequate funding for long-term management (including full funding of the endowment) will be provided through enforcement of the Performance Bond.

The amount of funds in the account will be reported to San Diego County annually as part of the administration of the Habitat Restoration and Resource Management Plan. In addition, every three years Gregory Canyon Ltd. LLC will report to San Diego County on inflation levels, interest levels and yield over the previous three years. The purpose of this report will be to determine whether the account would likely grow to the required amount. Gregory Canyon Ltd. LLC will designate an entity to administer the funds for implementation after Gregory Canyon Ltd. LLC leaves the site. San Diego County will approve the entity designated to administer the funds and will oversee use of the funds as part of the administration of the Habitat Resource Management Plan.

SECTION 12 REFERENCES

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**Table 1
Vegetation Impacts and Mitigation Requirements
Identified during CEQA Compliance**

Vegetation Type	Acreage of Impacts	Mitigation Ratio	Mitigation Acreage
Agricultural Land	9.9	-	0.0
Agriculture/Developed	2.5	-	0.0
Chaparral	27.4	0.5	13.7
Rock Outcrop/Chaparral	1.6	-	0.0
Coastal Sage Scrub/Chaparral	51.5	2	103.0
Coastal Sage Scrub	170.8	2	341.6
Burned Coastal Sage Scrub	0.0	2	0.0
Disturbed Coastal Sage Scrub	1.7	2	3.4
Coast Live Oak Woodland	22.6	3	67.8
Southern Willow Scrub*	0.4	4	1.6
Cottonwood-willow Riparian Forest	0.2	4	0.8
Disturbed Southern Willow Scrub*	0.4	4	1.6
Open Channel* **	0.2	-	0.0
Native Perennial Grassland	0.6	3	1.8
Non-Native Grassland	15.8	0.5	7.9
Olives	0.3	-	0.0
Ornamental	0.4	-	0.0
Disturbed Habitat	2.3	-	0.0
Total	308.6	NA	543.2

*Impact and mitigation areas have been updated from the 2007 RFEIR.

**Note that "Open Channel" does not indicate jurisdictional water of the U.S. Open Channel in this sense is the same as open sand.

Table 2
RFEIR Mitigation Compared to HRRMP Mitigation Acreage

Habitat Resource Management Plan Habitat Classification	EIR Vegetation Type	EIR Required Mitigation Acreage	Proposed On-Site Creation/Enhancement Acreage (HRRMP)	Off-Site Acquisition Acreage (HRRMP)	Total Creation or Acquisition Acreage (HRRMP)
Chaparral Creation Area	Chaparral	13.7	14.3	-	14.3
Coastal Sage Scrub (Mesic Alluvial Scrub) and Coastal Sage Scrub Creation Areas	Coastal Sage Scrub/Chaparral	103.0	79.3 ¹ (70.8 Coastal Sage Scrub [Mesic Alluvial Scrub] + 8.5 Coastal Sage Scrub)	368.7	448.0
	Coastal Sage Scrub	341.6			
	Disturbed Coastal Sage Scrub	3.4			
Oak Woodland with Alluvial Scrub/Native Grassland Understory Creation Area	Coast Live Oak Woodland	67.8	70.4	-	70.4
Native Grassland Creation Area	Non-Native Grassland	7.9	-	7.9	7.9
	Native Perennial Grassland	1.8	2.0 ²	-	2.0
Southern Willow Scrub Creation Area	Southern Willow Scrub	1.6	2.3 ³	-	2.3
	Disturbed Southern Willow Scrub	1.6		-	
Cottonwood Riparian Forest Creation Area and Cottonwood Riparian Forest Creation Area/Pond	Cottonwood-Willow Riparian Forest	0.8	4.2 (1.3 Cottonwood Riparian Forest + 2.9 Cottonwood Riparian Forest/Pond)	-	4.2
	Total	543.2	172.5⁴	376.6	549.1
Riverine Riparian Management Enhancement Area (including LBV/SWWF area) ⁵	Restoration of riparian habitat within the San Luis Rey River floodplain	57.1	75.6		75.6
Upland and riparian habitat creation ⁶	Direct mitigation creation obligations for vegetation community impacts	155.5	172.5		172.5
	Total	212.6	248.1		248.1⁷

**Table 2
RFEIR Mitigation Compared to HRRMP Mitigation Acreage
(Continued)**

Species Specific Mitigation	EIR Required Mitigation Acreage	Proposed On-Site Mitigation Acreage	Off-Site Mitigation Acreage	Total Mitigation Acreage (HEP)
Arroyo Toad	88.0	149.7 ⁸	-	149.7
Least Bell's Vireo/Southwestern Willow Flycatcher	20.0	32.7 ⁹	-	32.7

Notes:

- ¹ The on-site mitigation shown for coastal sage scrub (mesic alluvial scrub) and coastal sage scrub creation areas does not include alluvial scrub understory in oak woodland with alluvial scrub/native grassland understory creation area, which is treated as part of the oak woodland habitat.
- ² The on-site mitigation shown for native perennial grassland does not include native grassland understory in oak woodland with alluvial scrub/native grassland understory creation area, which is treated as part of the oak woodland habitat.
- ³ On-site mitigation includes dedicated southern willow scrub creation area only; this area does not include southern willow scrub in the riverine riparian enhancement area, cottonwood riparian forest creation area, or cottonwood riparian forest creation area/pond areas. However, southern willow scrub and cottonwood willow vegetation communities are made up of many of the same species, and serve virtually the same habitat functions.
- ⁴ No riverine riparian management (restoration) activities are proposed to satisfy this RFEIR mitigation obligation, per RFEIR MM 4.9-18.
- ⁵ See RFEIR page 4.9-17 for breakdown between habitat creation and habitat enhancement.
- ⁶ See RFEIR page 4.9-17 for breakdown between habitat creation and habitat enhancement. This category includes habitat creation activities.
- ⁷ Total combined upland habitat creation/restoration is 172.5 acres (creation – 172.5 ac.), RFEIR requirement in MM 4.9-18 is 131.4 acres. Total combined riparian habitat creation/restoration is 82.1 acres (creation – 2.3 ac. + 4.2 ac.; restoration – 75.6 ac.), RFEIR requirement in MM 4.9-18 is 81.2 acres. Per MM 4.9-18, the restoration (management/enhancement) activities on 75.6 acres are above and beyond mitigation (creation or acquisition) for direct project impacts on vegetation communities.
- ⁸ On-site mitigation includes coastal sage scrub creation, coastal sage scrub (mesic alluvial scrub), and oak woodland creation areas, which all provide suitable habitat for arroyo toad.
- ⁹ Includes habitat creation and enhancement areas outside of both cumulative 60 dBA L_{eq} noise contours and facility operational 60 dBA L_{eq} noise contour. This area also excludes acreage occupied by the SDCWA right-of-way.

Table 3
Wilderness Gardens Regional Park Reference Site - Riparian/Alluvial Scrub Transect Data

Layer	Species	Average % Coverage
Herb	native herbs	25
	non-native grasses	25
	bare ground	6
	<i>Phacelia distans</i>	3
	Moss	2
	<i>Cryptantha sp.</i>	1
	<i>Plagiobothrys collinus var. gracilis</i>	1
Shrub	<i>Eriogonum fasciculatum</i>	10
	<i>Pellaea mucronata</i>	2
	<i>Lepidospartum squamatum</i>	1
	<i>Dudleya edulis</i>	1
	<i>Adolphia californica</i>	1
	<i>Dudleya lanceolata</i>	1
	<i>Croton californica</i>	1
	<i>Marah macrocarpus</i>	1

Table 4
Wilderness Gardens Regional Park Reference Site - Oak Woodland Transect Data

Layer	Species	Average % Coverage
Herb	non-native grasses	93
	Moss	6
	<i>Sonchus oleraceus</i>	2
	<i>Lupinus truncatus</i>	1
	<i>Raphanus sativus</i>	1
	<i>Ambrosia acanthicarpa</i>	1
Shrub	<i>Isocoma menziesii</i>	4
	<i>Opuntia littoralis</i>	3
	<i>Toxicodendron diversilobum</i>	3
	<i>Marah macrocarpus</i>	2
	<i>Eriogonum fasciculatum</i>	2
	<i>Lepidospartum squamatum</i>	1
Tree	<i>Quercus agrifolia</i>	65

Table 5
Wilderness Gardens Regional Park Reference Site - 100-year Floodplain Transect Data

Layer	Species	Average % Coverage
Herb	non-native grasses	14
	<i>Lupinus truncates</i>	1
	Lichens	1
	Moss	1
	native herbs	1
Shrub	<i>Isocoma menziesii</i>	26
	<i>Adenostoma fasciculatum</i>	17
	<i>Quercus dumosa</i>	6
	<i>Eriogonum fasciculatum</i>	3
	<i>Marah macrocarpus</i>	3
	<i>Artemisia californica</i>	2

Table 6
Plant Palette for Southern Willow Scrub Creation Area

Scientific Name	Common Name	Number Per Acre
<i>Baccharis salicifolia</i>	Mulefat	150 cuttings
<i>Populus fremontii</i>	Fremont's Cottonwood	40 one-gallon containers
<i>Salix exigua</i>	Narrow-leaved Willow	100 cuttings
<i>Salix gooddingii</i>	Black Willow	150 cuttings
<i>Salix laevigata</i>	Red Willow	150 cuttings
<i>Salix lasiolepis</i>	Arroyo Willow	150 cuttings
<i>Salix lucida ssp. lasiandra</i>	Lance-leaved Willow	75 cuttings
Total		815 plants per acre
Scientific Name	Common Name	Lbs. Per Acre
<i>Ambrosia psilostachya</i>	Western Ragweed	2
<i>Amsinckia menziesii var. intermedia</i>	Common Fiddleneck	1
<i>Artemisia douglasiana</i>	Mugwort	2
<i>Eriogonum fasciculatum</i>	California buckwheat	6
<i>Lasthenia californica</i>	Goldfields	1
<i>Mimulus aurantiacus</i>	Red-bush Monkeyflower	1
<i>Plantago erecta</i>	Dot-seed Plantain	4
<i>Sisyrinchium bellum</i>	Blue-eyed Grass	3
Totals		20
Optional Alternate Species		
<i>Baccharis pilularis</i>	Coyotebrush	
<i>Baccharis sarothroides</i>	Broom Baccharis	
<i>Croton californica</i>	California Croton	
<i>Dichelostemma capitatum</i>	Wild Hyacinth	
<i>Encelia californica</i>	California Sunflower	
<i>Phacelia distans</i>	Distant Phacelia	
<i>Scrophularia californica</i>	California Bee Plant	

Table 7
Plant Palette for Cottonwood Riparian Forest Creation Area
and Cottonwood Riparian Creation Area/Pond

Scientific Name	Common Name	Number Per Acre
<i>Baccharis salicifolia</i>	Mulefat	75 cuttings
<i>Populus fremontii</i>	Fremont's Cottonwood	30 one-gallon containers
<i>Platanus racemosa</i>	Western Sycamore	10 one-gallon containers
<i>Salix exigua</i>	Narrow-leaved Willow	50 cuttings
<i>Salix gooddingii</i> ¹	Black Willow	75 cuttings
<i>Salix laevigata</i>	Red Willow	75 cuttings
<i>Salix lasiolepis</i>	Arroyo Willow	75 cuttings
<i>Salix lucida ssp. lasiandra</i>	Lance-leaved Willow	40 cuttings
Total		430 plants per acre
Scientific Name	Common Name	Lbs. Per Acre
<i>Ambrosia psilostachya</i>	Western Ragweed	2
<i>Amsinckia menziesii var. intermedia</i>	Common Fiddleneck	1
<i>Artemisia douglasiana</i>	Mugwort	2
<i>Eriogonum fasciculatum</i>	California buckwheat	6
<i>Lasthenia californica</i>	Goldfields	1
<i>Marah macrocarpus</i>	Wild Cucumber	2
<i>Mimulus aurantiacus</i>	Red-bush Monkeyflower	1
<i>Phacelia distans</i>	Distant Phacelia	1
<i>Plantago erecta</i>	Dot-seed Plantain	4
Totals		20
Optional Alternate Species		
<i>Baccharis pilularis</i>	Coyotebrush	
<i>Baccharis sarothroides</i>	Broom Baccharis	
<i>Croton californica</i>	California Croton	
<i>Dichelostemma capitatum</i>	Wild Hyacinth	
<i>Lotus scoparius</i>	Deerweed	
<i>Lupinus truncatus</i>	Collar Lupine	
<i>Sisyrinchium bellum</i>	Blue-eyed Grass	

¹ Use salix gooddingii only at the edge of ponds or near water table.

Table 8
Plant Palette for Oak Woodland with Alluvial Scrub/Native Grassland Understory Creation Area

Scientific Name	Common Name	Number Per Acre
<i>Platanus racemosa</i>	Western Sycamore	30 one-gallon
<i>Quercus agrifolia</i>	Coast Live Oak	45 one-gallon
<i>Quercus engelmannii</i>	Engelmann Oak	75 one-gallon
Total		150 plants per acre
Scientific Name	Common Name	Lbs. Per Acre
<i>Ambrosia psilostachya</i>	Western Ragweed	2
<i>Amsinckia menziesii</i> var. <i>intermedia</i>	Common Fiddleneck	1
<i>Artemisia californica</i>	California sagebrush	3
<i>Artemisia douglasiana</i>	Mugwort	2
<i>Eriogonum fasciculatum</i>	California buckwheat	6
<i>Encelia californica</i>	California Sunflower	2
<i>Isocoma menziesii</i>	Goldenbush	3
<i>Lupinus truncatus</i>	Collar Lupine	3
<i>Mimulus aurantiacus</i>	Red-bush Monkeyflower	1
<i>Nassella lepida</i>	Foothill Needlegrass	4
<i>Nassella pulchra</i>	Purple Needlegrass	6
<i>Phacelia distans</i>	Distant Phacelia	1
<i>Plantago erecta</i>	Dot-seed Plantain	4
Totals		38
Optional Alternate Species		
<i>Adenostoma fasciculatum</i>	Chamise	
<i>Baccharis pilularis</i>	Coyotebrush	
<i>Baccharis sarothroides</i>	Broom Baccharis	
<i>Croton californica</i>	California Croton	
<i>Dichelostemma capitatum</i>	Wild Hyacinth	
<i>Lotus scoparius</i>	Deerweed	
<i>Malosma laurina</i>	Laurel Sumac	
<i>Opuntia littoralis</i>	Coast prickly pear	
<i>Rhus integrifolia</i>	Lemonadeberry	
<i>Sisyrinchium bellum</i>	Blue-eyed Grass	
<i>Toxicodendron diversilobum</i>	Poison Oak	

Table 9
Plant Palette for Coastal Sage Scrub Creation Area

Scientific Name	Common Name	Lbs. Per Acre
<i>Ambrosia psilostachya</i>	Western Ragweed	2
<i>Artemisia californica</i>	California sagebrush	3
<i>Artemisia douglasiana</i>	Mugwort	2
<i>Croton californica</i>	California Croton	2
<i>Encelia californica</i>	California Sunflower	2
<i>Eriogonum fasciculatum</i>	California buckwheat	6
<i>Heteromeles arbutifolia</i>	Toyon	4
<i>Isocoma menziesii</i>	Goldenbush	3
<i>Lotus scoparius</i>	Deerweed	3
<i>Nassella pulchra</i>	Purple Needlegrass	6
<i>Plantago erecta</i>	Dot-seed Plantain	4
<i>Salvia apiana</i>	White Sage	2
Totals		39
Optional Alternate Species		
<i>Baccharis pilularis</i>	Coyotebrush	
<i>Dichelostemma capitatum</i>	Wild Hyacinth	
<i>Leymus condensatus</i>	Giant Wild Rye	
<i>Malcothamnus fasciculatus</i>	Bushmallow	
<i>Malosma laurina</i>	Laurel Sumac	
<i>Mirabilis californica</i>	Wishbone Bush	
<i>Opuntia littoralis</i>	Coast prickly pear	
<i>Rhus integrifolia</i>	Lemonadeberry	
<i>Solanum xanti</i>	Chaparral Nightshade	

Table 10
Plant Palette for Coastal Sage Scrub (Mesic Alluvial Scrub) Creation Area

Scientific Name	Common Name	Number Per Acre
<i>Platanus racemosa</i>	Western Sycamore	15 one-gallon
Total		15 plants per acre
Scientific Name	Common Name	Lbs. Per Acre
<i>Ambrosia psilostachya</i>	Western Ragweed	2
<i>Artemisia californica</i>	California sagebrush	3
<i>Artemisia douglasiana</i>	Mugwort	2
<i>Baccharis sarothroides</i>	Broom Baccharis	2
<i>Encelia californica</i>	California Sunflower	2
<i>Eriogonum fasciculatum</i>	California buckwheat	6
<i>Heteromeles arbutifolia</i>	Toyon	4
<i>Isocoma menziesii</i>	Goldenbush	3
<i>Lotus scoparius</i>	Deerweed	3
<i>Nassella pulchra</i>	Purple Needlegrass	6
<i>Plantago erecta</i>	Dot-seed Plantain	4
<i>Salvia apiana</i>	White Sage	2
Totals		39
Optional Alternate Species		
<i>Baccharis pilularis</i>	Coyotebrush	
<i>Dichelostemma capitatum</i>	Wild Hyacinth	
<i>Leymus condensatus</i>	Giant Wild Rye	
<i>Malcothamnus fasciculatus</i>	Bushmallow	
<i>Malosma laurina</i>	Laurel Sumac	
<i>Mirabilis californica</i>	Wishbone Bush	
<i>Opuntia littoralis</i>	Coast prickly pear	
<i>Rhus integrifolia</i>	Lemonadeberry	
<i>Solanum xanti</i>	Chaparral Nightshade	

Table 11
Plant Palette for Chaparral Creation Area

Scientific Name	Common Name	Lbs. Per Acre
<i>Ambrosia psilostachya</i>	Western Ragweed	2
<i>Adenostoma fasciculatum</i>	Chamise	1
<i>Cercarpus betuloides</i>	Mountain Mahogany	6
<i>Eriogonum fasciculatum</i>	California buckwheat	6
<i>Heteromeles arbutifolia</i>	Toyon	4
<i>Lotus scoparius</i>	Deerweed	3
<i>Malcothamnus fasciculatus</i>	Bushmallow	4
<i>Malosma laurina</i>	Laurel Sumac	2
<i>Nassella pulchra</i>	Purple Needlegrass	6
<i>Plantago erecta</i>	Dot-seed Plantain	4
Totals		38
Optional Alternate Species		
<i>Croton californica</i>	California Croton	
<i>Dichelostemma capitatum</i>	Wild Hyacinth	
<i>Isocoma menziesii</i>	Goldenbush	
<i>Isomeris arborea</i>	Bladderpod	
<i>Leymus condensatus</i>	Giant Wild Rye	
<i>Mirabilis californica</i>	Wishbone Bush	
<i>Opuntia littoralis</i>	Coast prickly pear	
<i>Rhus integrifolia</i>	Lemonadeberry	
<i>Solanum xanti</i>	Chaparral Nightshade	

Table 12
Plant Palette for Native Grassland Creation Area

Scientific Name	Common Name	Lbs. Per Acre
<i>Amsinckia menziesii</i> var. <i>intermedia</i>	Common Fiddleneck	1
<i>Bromus carinatus</i>	California Brome	6
<i>Calandrinia ciliata</i>	Red Maids	1
<i>Dichelostemma capitatum</i>	Wild Hyacinth	1
<i>Elymus glaucus</i>	Blue Wild Rye	6
<i>Lasthenia californica</i>	Goldfields	1
<i>Leymus condensatus</i>	Giant Wild Rye	4
<i>Lupinus truncatus</i>	Collar Lupine	3
<i>Nassella cernua</i>	Nodding Needlegrass	3
<i>Nassella lepida</i>	Foothill Needlegrass	4
<i>Nassella pulchra</i>	Purple Needlegrass	6
<i>Phacelia distans</i>	Distant Phacelia	1
<i>Plantago erecta</i>	Dot-seed Plantain	4
<i>Sisyrinchium bellum</i>	Blue-eyed Grass	3
Totals		44

Table 13
Maintenance/Monitoring Schedule

Task	Year				
	1	2	3	4	5
Biological Monitoring	Monthly	Bimonthly	Quarterly	Quarterly	Quarterly
Plant Inspection	Monthly first 12 months	Monthly through 18th month; quarterly thereafter	Quarterly	Quarterly	Quarterly
Irrigation System Inspection	Monthly, or more frequently if required	Monthly	As Required	N/A	N/A
Trash and Debris Removal	Monthly	Monthly	Monthly	Monthly	Monthly
Weed Control	Minimum of Monthly	Monthly	Monthly	Monthly	Monthly
Pest Control	Monthly	Bi-monthly	Quarterly	Quarterly	Quarterly
Plant Replacement	Annually	Annually	Annually	Annually	Annually
Fertilization (if necessary)	Annually	Annually	N/A	N/A	N/A

Table 14
Southern Willow Scrub, Cottonwood Riparian Forest, and Cottonwood Riparian Forest/Pond
Creation Area Performance Standards

Milestone	Assessment Criteria	Maintenance Action
Year 1	Native plants (seeds, container plantings, cuttings) to achieve 30% absolute cover and 90% survivorship of container stock (cuttings not included). Weed cover less than 10%.	If target plant materials experience mortality and do not meet first year success criteria, plants will be replaced to bring densities up to 100% of the original planting density.
Year 2	Native plants (seeds, container plantings, cuttings) to achieve 40% absolute cover and 85% survivorship of container stock (cuttings not included). Weed cover less than 10%.	If plants do not meet coverage criteria, additional seeding and planting will be done. If necessary, container plantings will be replaced to bring numbers up to survivorship percentage requirements.
Year 3	Native plants (seeds, container plantings, cuttings) to achieve 50% absolute cover, with at least two dominant native species at 15-20% cover each, and at least two subdominant native species at 5-10% cover each, and 80% survivorship of container stock (cuttings not included). Weed cover less than 10%.	If plants do not meet coverage criteria, additional seeding and planting will be done. If necessary, container plantings will be replaced to bring numbers up to survivorship percentage requirements.
Year 4	Native plants (seeds, container plantings, cuttings) to achieve 60% absolute cover, with at least two dominant native species at 15-20% cover each, and at least two subdominant native species at 5-10% cover each, and 75% survivorship of container stock (cuttings not included). Weed cover less than 10%. Supplemental irrigation is discontinued at the beginning of the 4th year.	If plants do not meet coverage criteria, additional seeding and planting will be done. If necessary, container plantings will be replaced to bring numbers up to survivorship percentage requirements.
Year 5	Native plants (seeds, container plantings, cuttings) to achieve 75% absolute cover, with at least two dominant native species at 15-20% cover each, and at least two subdominant native species at 5-10% cover each, and 70% survivorship of container stock (cuttings not included). Weed cover less than 10%.	If plants do not meet coverage criteria, additional seeding and planting will be done. If necessary, container plantings will be replaced to bring numbers up to survivorship percentage requirements.

Table 15
Oak Woodland with Alluvial Scurb/Native Grassland Understory and Coastal Sage Scrub (Mesic Alluvial Scrub) Creation Area Performance Standards

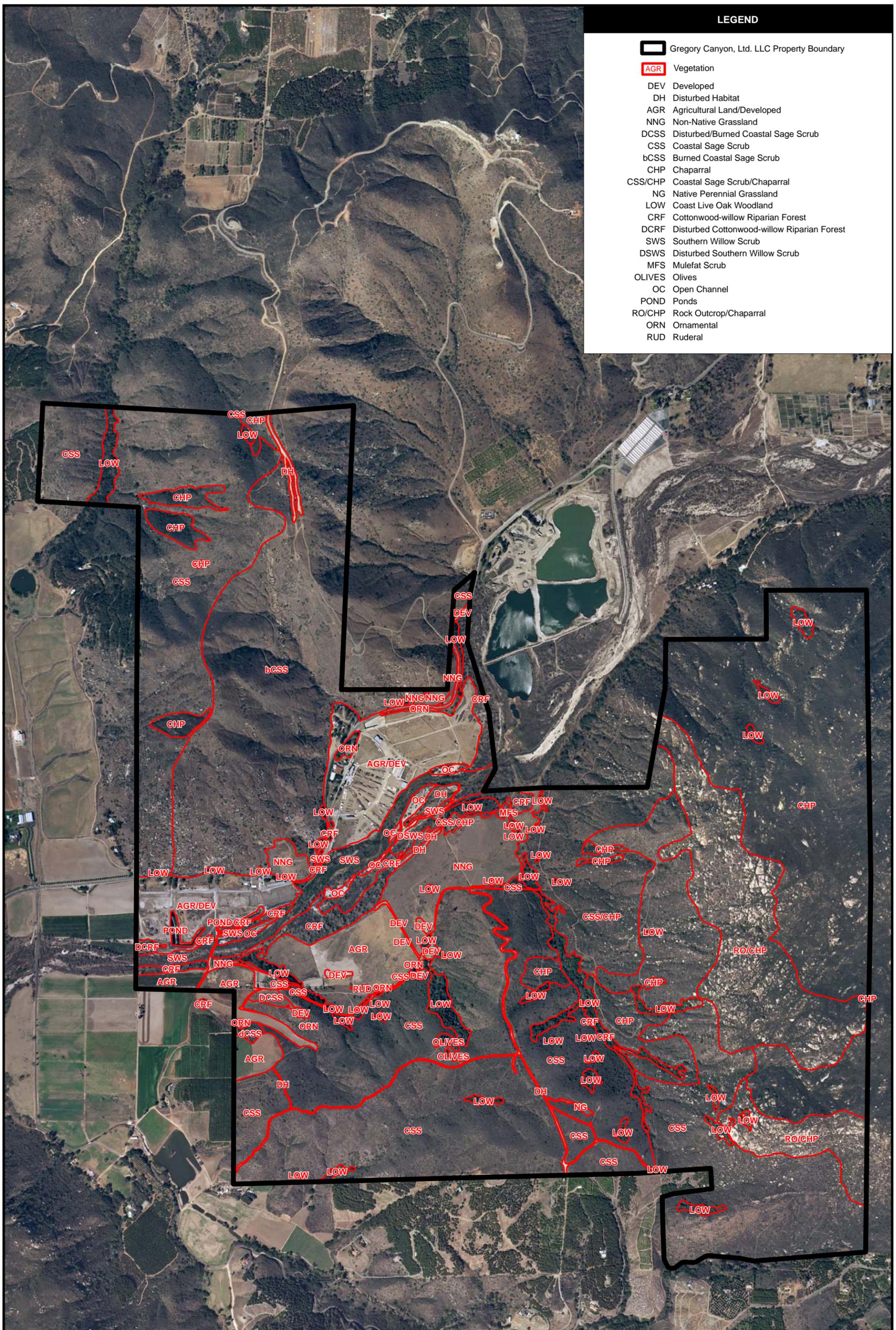
Milestone	Assessment Criteria	Maintenance Action
Year 1	Native plants (seeds, container plantings, cuttings) to achieve 25% absolute cover and 90% survivorship of container stock. Weed cover less than 10%.	If target plant materials experience mortality and do not meet first year success criteria, plants will be replaced to bring densities up to 100% of the original planting density.
Year 2	Native plants (seeds, container plantings, cuttings) to achieve 35% absolute cover and 90% survivorship of container stock. Weed cover less than 10%.	If plants do not meet coverage criteria, additional seeding and planting will be done. If necessary, container plantings will be replaced to bring numbers up to survivorship percentage requirements.
Year 3	Native plants (seeds, container plantings, cuttings) to achieve 50% absolute cover, with at least two dominant native species at 15-20% cover each, and at least two subdominant native species at 5-10% cover each, and 85% survivorship of container stock. Weed cover less than 10%.	If plants do not meet coverage criteria, additional seeding and planting will be done. If necessary, container plantings will be replaced to bring numbers up to survivorship percentage requirements.
Year 4	Native plants (seeds, container plantings, cuttings) to achieve 60% absolute cover, with at least two dominant native species at 15-20% cover each, and at least two subdominant native species at 5-10% cover each, and 80% survivorship of container stock. Weed cover less than 10%. Supplemental irrigation is discontinued at the beginning of the 4th year.	If plants do not meet coverage criteria, additional seeding and planting will be done. If necessary, container plantings will be replaced to bring numbers up to survivorship percentage requirements.
Year 5	Native plants (seeds, container plantings, cuttings) to achieve 65% absolute cover, with at least two dominant native species at 15-20% cover each, and at least two subdominant native species at 5-10% cover each, and 75% survivorship of container stock. Weed cover less than 10%.	If plants do not meet coverage criteria, additional seeding and planting will be done. If necessary, container plantings will be replaced to bring numbers up to survivorship percentage requirements.

Table 16
Coastal Sage Scrub, Chaparral, and Native Grassland Performance Standards

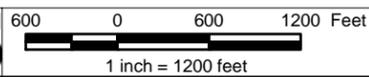
Milestone	Assessment Criteria	Maintenance Action
Year 1	Native plants (seeds) to achieve 30% absolute cover. Weed cover less than 10%.	If target plant materials do not meet first year success criteria, supplemental seeding will be done.
Year 2	Native plants to achieve 40% absolute cover. Weed cover less than 10%.	If plants do not meet coverage criteria, additional seeding will be done.
Year 3	Native plants to achieve 50% absolute cover, with at least two dominant native species at 15-20% cover each, and at least two subdominant native species at 5-10% cover each. Weed cover less than 10%.	If plants do not meet coverage criteria, additional seeding will be done.
Year 4	Native plants to achieve 60% absolute cover, with at least two dominant native species at 15-20% cover each, and at least two subdominant native species at 5-10% cover each. Weed cover less than 10%. Supplemental irrigation is discontinued at the beginning of the 4th year.	If plants do not meet coverage criteria, additional seeding will be done.
Year 5	Native plants to achieve 70% absolute cover, with at least two dominant native species at 15-20% cover each, and at least two subdominant native species at 5-10% cover each. Weed cover less than 10%.	If plants do not meet coverage criteria, additional seeding will be done.

LEGEND

-  Gregory Canyon, Ltd. LLC Property Boundary
-  Vegetation
- DEV Developed
- DH Disturbed Habitat
- AGR Agricultural Land/Developed
- NNG Non-Native Grassland
- DCSS Disturbed/Burned Coastal Sage Scrub
- CSS Coastal Sage Scrub
- bCSS Burned Coastal Sage Scrub
- CHP Chaparral
- CSS/CHP Coastal Sage Scrub/Chaparral
- NG Native Perennial Grassland
- LOW Coast Live Oak Woodland
- CRF Cottonwood-willow Riparian Forest
- DCRF Disturbed Cottonwood-willow Riparian Forest
- SWS Southern Willow Scrub
- DSWS Disturbed Southern Willow Scrub
- MFS Mulefat Scrub
- OLIVES Olives
- OC Open Channel
- POND Ponds
- RO/CHP Rock Outcrop/Chaparral
- ORN Ornamental
- RUD Ruderal



SOURCES: HELIX (1999 Vegetation, landfill boundary); URS (2005 Vegetation update, Hydrology Features 2007); Herzog (2004 Bridge design).



PROJECT AREA AND EXISTING VEGETATION COMMUNITIES GREGORY CANYON, LTD. LLC SITE

CHECKED BY: MS	DATE: 5-06-08	FIG. NO:
PM: WM	PROJ. NO: 27654025.00030	1

Source = San Diego County 1928 Aerial Photo

San Luis Rey River

Location of Future Dairy Yard

Approximate Location of Proposed Bridge Crossing

Gregory Canyon



SOURCES:
San Diego County (aerial 1928).

1928 AERIAL PHOTOGRAPH
GREGORY CANYON LTD. LLC



NOT TO SCALE

CHECKED BY: MS
PM: WM

DATE: 12-12-07
PROJ. NO: 27654025.00030

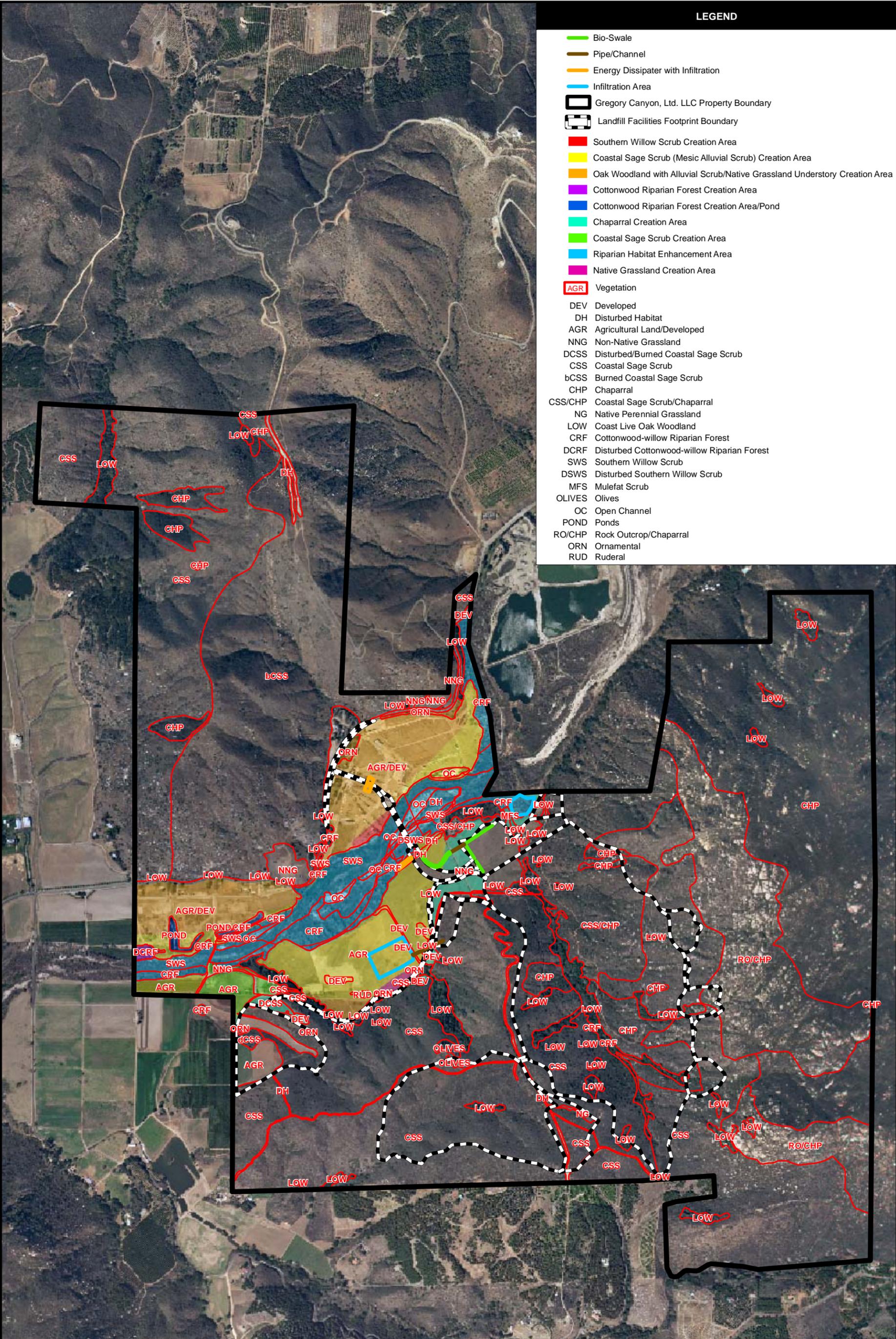
FIG. NO:
2

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LEGEND

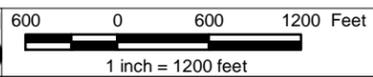
- Bio-Swale
- Pipe/Channel
- Energy Dissipater with Infiltration
- Infiltration Area
- Gregory Canyon, Ltd. LLC Property Boundary
- Landfill Facilities Footprint Boundary
- Southern Willow Scrub Creation Area
- Coastal Sage Scrub (Mesic Alluvial Scrub) Creation Area
- Oak Woodland with Alluvial Scrub/Native Grassland Understory Creation Area
- Cottonwood Riparian Forest Creation Area
- Cottonwood Riparian Forest Creation Area/Pond
- Chaparral Creation Area
- Coastal Sage Scrub Creation Area
- Riparian Habitat Enhancement Area
- Native Grassland Creation Area

- AGR Vegetation
- DEV Developed
- DH Disturbed Habitat
- AGR Agricultural Land/Developed
- NNG Non-Native Grassland
- DCSS Disturbed/Burned Coastal Sage Scrub
- CSS Coastal Sage Scrub
- bCSS Burned Coastal Sage Scrub
- CHP Chaparral
- CSS/CHP Coastal Sage Scrub/Chaparral
- NG Native Perennial Grassland
- LOW Coast Live Oak Woodland
- CRF Cottonwood-willow Riparian Forest
- DCRF Disturbed Cottonwood-willow Riparian Forest
- SWS Southern Willow Scrub
- DSWS Disturbed Southern Willow Scrub
- MFS Mulefat Scrub
- OLIVES Olives
- OC Open Channel
- POND Ponds
- RO/CHP Rock Outcrop/Chaparral
- ORN Ornamental
- RUD Ruderal



SOURCES: HELIX (1999 Vegetation, landfill boundary); URS (2005 Vegetation update, Hydrology Features 2007); Herzog (2004 Bridge design).

**RESTORATION AND ENHANCEMENT AREAS
GREGORY CANYON, LTD. LLC SITE**



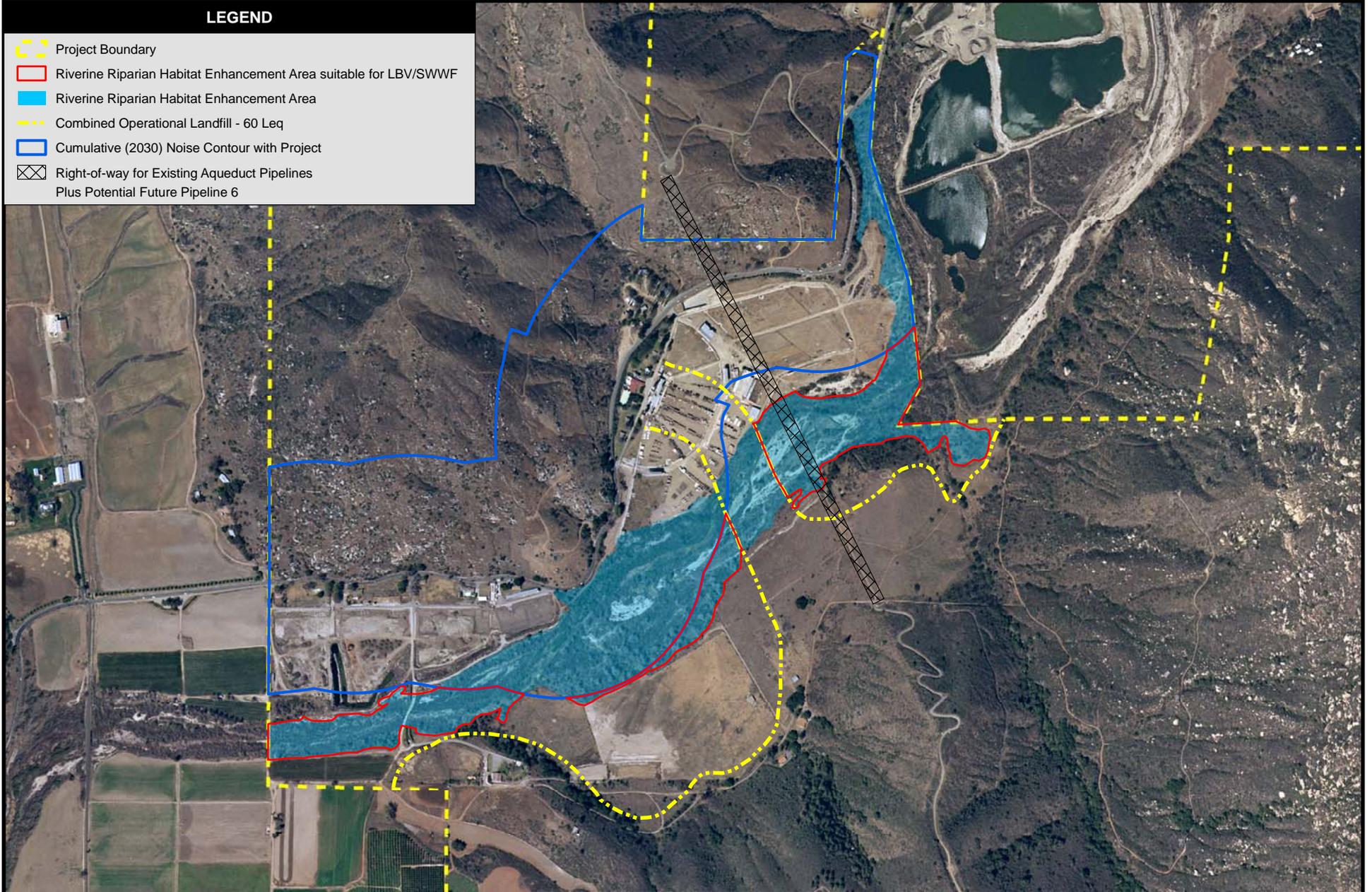
CHECKED BY: CM	DATE: 5-06-08	FIG. NO:
PM: WM	PROJ. NO: 27654025.00030	3

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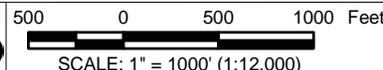
LEGEND

-  Project Boundary
-  Riverine Riparian Habitat Enhancement Area suitable for LBV/SWWF
-  Riverine Riparian Habitat Enhancement Area
-  Combined Operational Landfill - 60 Leq
-  Cumulative (2030) Noise Contour with Project
-  Right-of-way for Existing Aqueduct Pipelines Plus Potential Future Pipeline 6

Path: C:\gis\projects\1577\27654025\mxd\restoration_areas_noise.mxd, 05/08/08, colin_mattison



SOURCES: SOURCES: AirPhoto USA (aerial, 2002), Nolte & Associates (Riparian Habitat Creation Area, 2005, SDCWA ROW alignment).

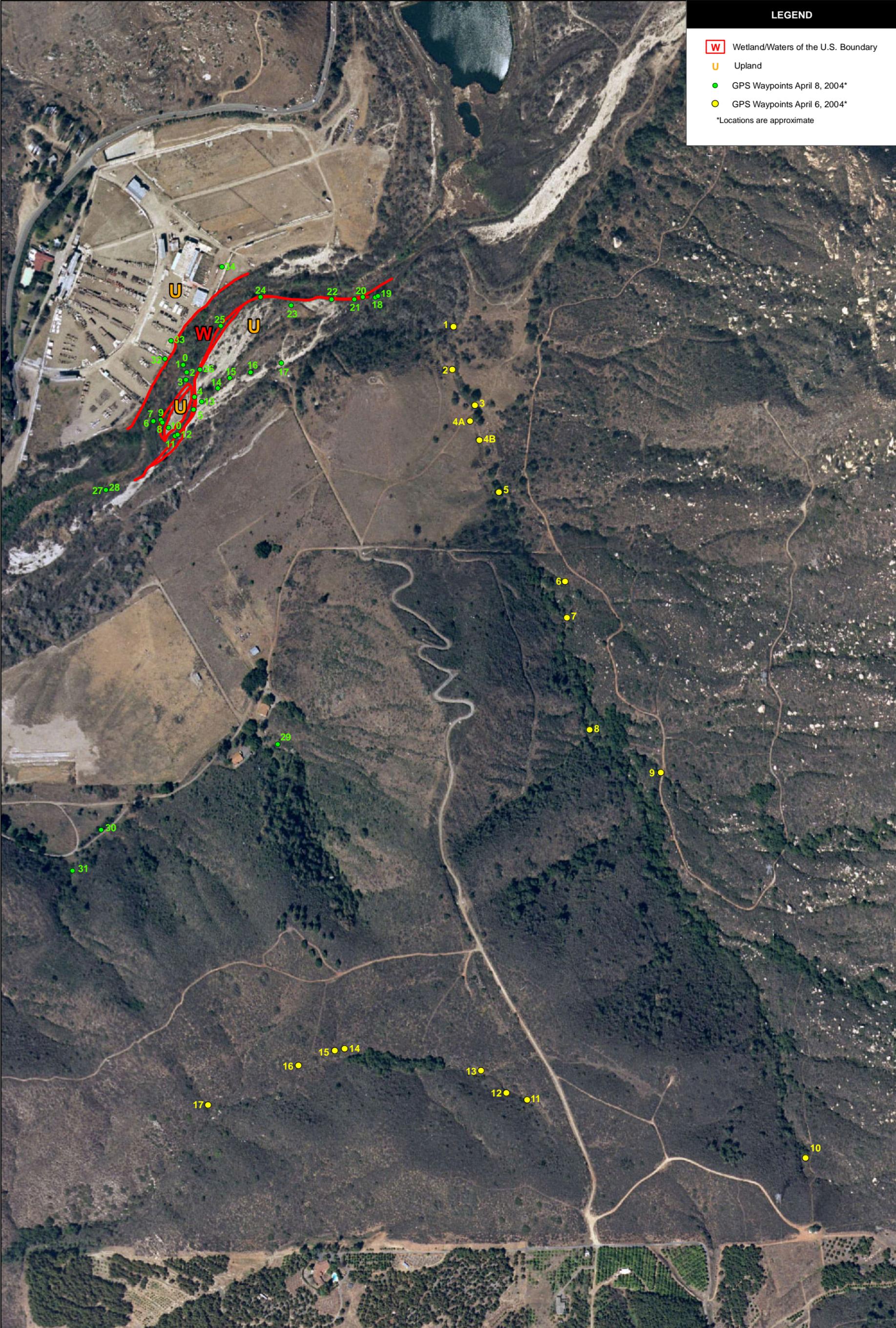


LEAST BELL'S VIREO/SOUTHWESTERN WILLOW FLYCATCHER MITIGATION AREAS GREGORY CANYON, LTD. LLC SITE

CREATED BY: CM	DATE: 05-06-08	FIG. NO:
PM: BM	PROJ. NO: 27654025.00020	4

LEGEND

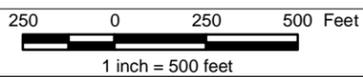
- W Wetland/Waters of the U.S. Boundary
 - U Upland
 - GPS Waypoints April 8, 2004*
 - GPS Waypoints April 6, 2004*
- *Locations are approximate



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SOURCES:
AirphotoUSA (March 2002 Aerial).



**JURISDICTIONAL DELINEATION OF THE
GREGORY CANYON LANDFILL SITE
GREGORY CANYON, LTD. LLC SITE**

CHECKED BY: MS	DATE: 3-14-08	FIG. NO:
PM: WM	PROJ. NO: 27654025.00030	5

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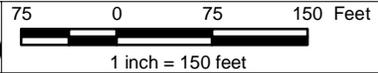


LEGEND

— Transect Locations



SOURCES:
 AerialExpress (aerial March 2007);
 URS (transects).



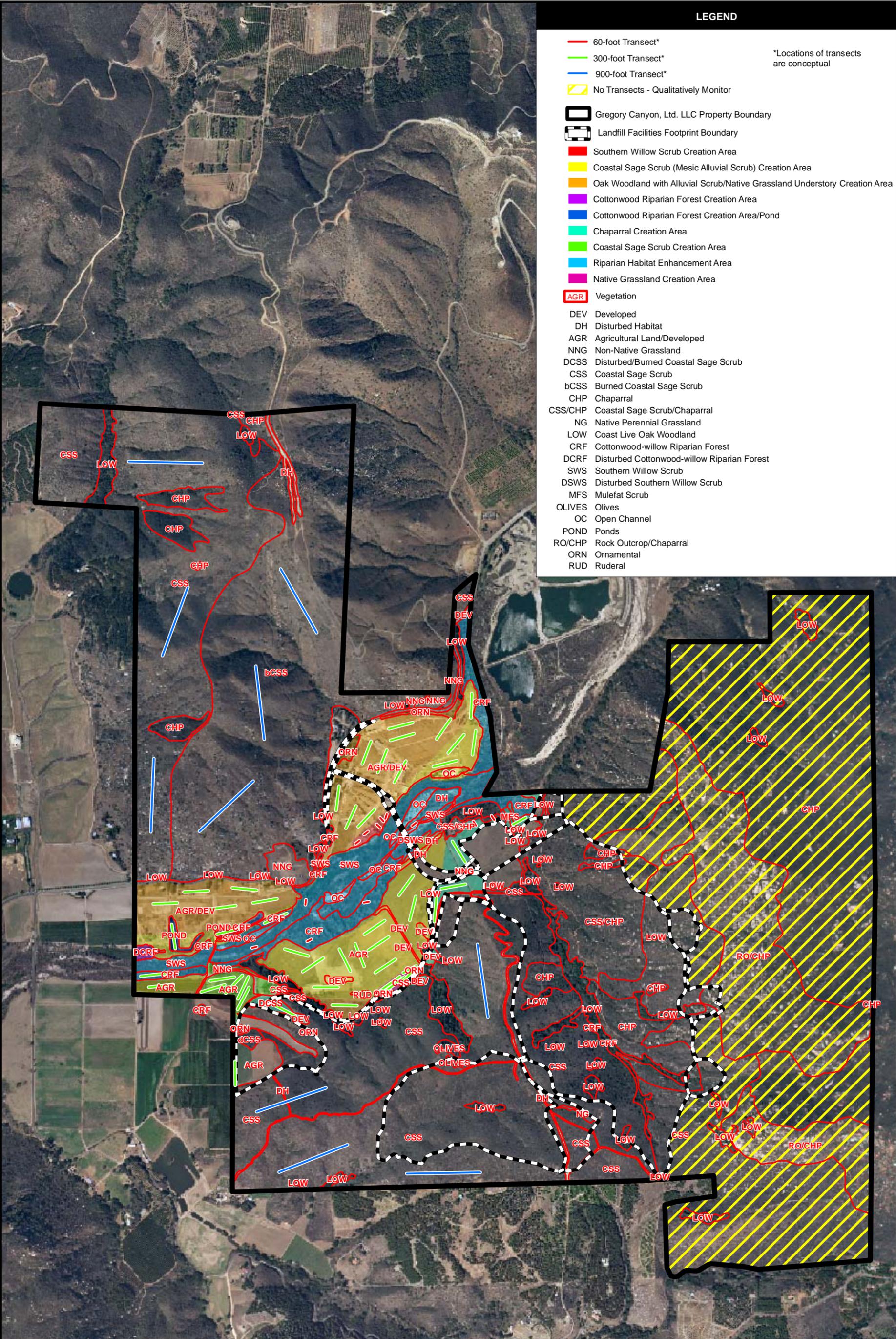
**WILDERNESS GARDENS REGIONAL PARK
 REFERENCE SITE TRANSECT LOCATIONS
 GREGORY CANYON, LTD. LLC SITE**

CHECKED BY: MS	DATE: 5-06-08	FIG. NO:
PM: WM	PROJ. NO: 27654025.00030	6

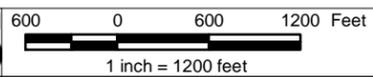
LEGEND

- 60-foot Transect*
- 300-foot Transect*
- 900-foot Transect*
- No Transects - Qualitatively Monitor
- Gregory Canyon, Ltd. LLC Property Boundary
- Landfill Facilities Footprint Boundary
- Southern Willow Scrub Creation Area
- Coastal Sage Scrub (Mesic Alluvial Scrub) Creation Area
- Oak Woodland with Alluvial Scrub/Native Grassland Understory Creation Area
- Cottonwood Riparian Forest Creation Area
- Cottonwood Riparian Forest Creation Area/Pond
- Chaparral Creation Area
- Coastal Sage Scrub Creation Area
- Riparian Habitat Enhancement Area
- Native Grassland Creation Area
- AGR Vegetation
 - DEV Developed
 - DH Disturbed Habitat
 - AGR Agricultural Land/Developed
 - NNG Non-Native Grassland
 - DCSS Disturbed/Burned Coastal Sage Scrub
 - CSS Coastal Sage Scrub
 - bCSS Burned Coastal Sage Scrub
 - CHP Chaparral
 - CSS/CHP Coastal Sage Scrub/Chaparral
 - NG Native Perennial Grassland
 - LOW Coast Live Oak Woodland
 - CRF Cottonwood-willow Riparian Forest
 - DCRF Disturbed Cottonwood-willow Riparian Forest
 - SWS Southern Willow Scrub
 - DSWS Disturbed Southern Willow Scrub
 - MFS Mulefat Scrub
 - OLIVES Olives
 - OC Open Channel
 - POND Ponds
 - RO/CHP Rock Outcrop/Chaparral
 - ORN Ornamental
 - RUD Ruderal

*Locations of transects are conceptual

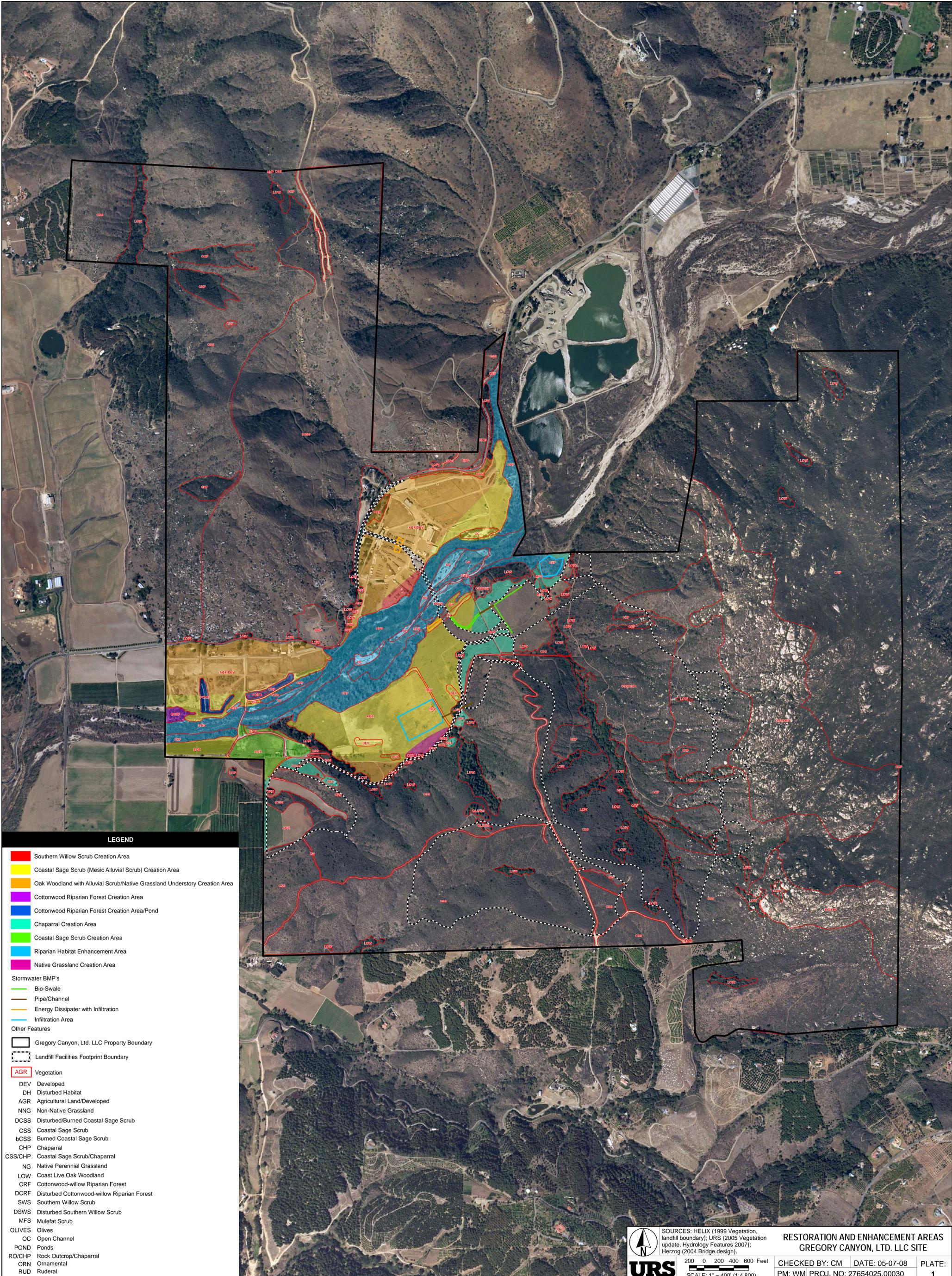


SOURCES: HELIX (1999 Vegetation, landfill boundary); URS (2005 Vegetation update, Hydrology Features 2007); Herzog (2004 Bridge design).



**TENTATIVE TRANSECT LOCATION MAP
GREGORY CANYON, LTD. LLC SITE**

CHECKED BY: CM	DATE: 9-15-08	FIG. NO:
PM: WM	PROJ. NO: 27654025.00020	7



LEGEND

- Southern Willow Scrub Creation Area
 - Coastal Sage Scrub (Mesic Alluvial Scrub) Creation Area
 - Oak Woodland with Alluvial Scrub/Native Grassland Understory Creation Area
 - Cottonwood Riparian Forest Creation Area
 - Cottonwood Riparian Forest Creation Area/Pond
 - Chaparral Creation Area
 - Coastal Sage Scrub Creation Area
 - Riparian Habitat Enhancement Area
 - Native Grassland Creation Area
- Stormwater BMP's**
- Bio-Swale
 - Pipe/Channel
 - Energy Dissipater with Infiltration
 - Infiltration Area
- Other Features**
- Gregory Canyon, Ltd. LLC Property Boundary
 - Landfill Facilities Footprint Boundary
- Vegetation**
- DEV Developed
 - DH Disturbed Habitat
 - AGR Agricultural Land/Developed
 - NNG Non-Native Grassland
 - DCSS Disturbed/Burned Coastal Sage Scrub
 - CSS Coastal Sage Scrub
 - tCSS Burned Coastal Sage Scrub
 - CHP Chaparral
 - CSS/CHP Coastal Sage Scrub/Chaparral
 - NG Native Perennial Grassland
 - LOW Coast Live Oak Woodland
 - CRF Cottonwood-willow Riparian Forest
 - DCRF Disturbed Cottonwood-willow Riparian Forest
 - SWS Southern Willow Scrub
 - DSWS Disturbed Southern Willow Scrub
 - MFS Mulefat Scrub
 - OLIVES Olives
 - OC Open Channel
 - POND Ponds
 - RO/CHP Rock Outcrop/Chaparral
 - ORN Ornamental
 - RUD Ruderal

SOURCES: HELIX (1999 Vegetation, landfill boundary); URS (2005 Vegetation update, Hydrology Features 2007); Herzog (2004 Bridge design).

URS

200 0 200 400 600 Feet
SCALE: 1" = 400' (1:4,800)

**RESTORATION AND ENHANCEMENT AREAS
GREGORY CANYON, LTD. LLC SITE**

CHECKED BY: CM DATE: 05-07-08 PLATE:
PM: WM PROJ. NO: 27654025.00030 1

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APPENDIX A

Property Analysis Record (PAR) Table

1.0 Initial and Capital Tasks and Costs (section 8 of PAR)

Task List	Specifications	unit	number	cost/unit	interval	Total
1.1 SITE CONSTRUCTION/MAINTENANCE						
Fence, installed	Hi-vis and t-posts	Feet	10000	\$ 2.00	1	\$ 20,000.00
Subtotal						\$ 20,000.00
1.2 BIOTIC SURVEYS						
Restoration Biologist	Project management, supervise implementation	Hours	200	\$ 100.00	1	\$ 20,000.00
Restoration Biologist	Baseline field survey to delineate sensitive areas	Hours	160	\$ 100.00	1	\$ 16,000.00
Wildlife Biologist	Baseline wildlife survey to delineate sensitive areas	Hours	160	\$ 100.00	1	\$ 16,000.00
Monitor Climate	Local resource	Hours	25	\$ 100.00	1	\$ 2,500.00
Subtotal						\$ 54,500.00
1.3 HABITAT RESTORATION						
SOUTHERN WILLOW SCRUB CREATION AREA (2.3 acres)*						
Organic Debris Removal	Remove weeds to landfill	Hours	16	\$ 50.00	1	\$ 800.00
Non-organic Debris Removal	Remove garbage to landfill	Hours	16	\$ 50.00	1	\$ 800.00
Seed Procurement	native seed	Acre	1	\$ 842.00	1	\$ 842.00
Plant Procurement	Native trees, gallon size	Acre	1	\$ 120.00	1	\$ 120.00
Plant Procurement	Cuttings	Hours	14	\$ 50.00	1	\$ 700.00
Revegetation	flag plant locations	Hours	8	\$ 50.00	1	\$ 400.00
Revegetation	plant installation	Hours	40	\$ 50.00	1	\$ 2,000.00
Revegetation	Hand seeding, raking, and tamping	Hours	40	\$ 50.00	1	\$ 2,000.00
Plant Protection Device, installed	plastic mesh or wire	Item	40	\$ 1.45	1	\$ 58.00
Irrigation System, temp	Overhead system	Acre	1	\$ 26,000.00	1	\$ 26,000.00
Irrigation System	Maintenance, labor	Hours	16	\$ 70.25	1	\$ 1,124.00
Exotic Plant Control	Hand removal	Hours	80	\$ 50.00	1	\$ 4,000.00
Exotic Plant Control	Herbicide (such as Rodeo, Roundup Pro or Fusilade)	Acre	1	\$ 1,458.00	1	\$ 1,458.00

APPENDIX A

Property Analysis Record (PAR) Table

1.0 Initial and Capital Tasks and Costs (section 8 of PAR)

Task List	Specifications	unit	number	cost/unit	interval	Total
Exotic Plant Control	Herbicide application (such as tractor or backpack)	Hours	16	\$ 50.00	1	\$ 800.00
Other	misc. supplies	Item	1	\$ 250.00	1	\$ 250.00
Subtotal per acre						\$ 41,352.00
Overall area subtotal						\$ 95,109.60

* Does not include cost of grading. Grading will be included with bridge construction.

1.4 HABITAT RESTORATION COTTONWOOD RIPARIAN FOREST CREATION AREA AND COTTONWOOD RIPARIAN FOREST CREATION AREA/POND (4.2 acres)*

Organic Debris Removal	Remove weeds to landfill	Hours	16	\$ 50.00	1	\$ 800.00
Non-organic Debris Removal	Remove garbage to landfill	Hours	16	\$ 50.00	1	\$ 800.00
Seed Procurement	native seed	Acre	1	\$ 899.00	1	\$ 899.00
Plant Procurement	Native trees, gallon size	Acre	1	\$ 120.00	1	\$ 120.00
Plant Procurement	Cuttings	Hours	8	\$ 50.00	1	\$ 400.00
Revegetation	flag plant locations	Hours	4	\$ 50.00	1	\$ 200.00
Revegetation	plant installation	Hours	20	\$ 50.00	1	\$ 1,000.00
Revegetation	Hand seeding, raking, and tamping	Hours	40	\$ 50.00	1	\$ 2,000.00
Plant Protection Device, installed	plastic mesh or wire	Item	40	\$ 1.45	1	\$ 58.00
Irrigation System, temp	Overhead system	Acre	1	\$ 26,000.00	1	\$ 26,000.00
Irrigation System	Maintenance, labor	Hours	16	\$ 70.25	1	\$ 1,124.00
Exotic Plant Control	Hand removal	Hours	80	\$ 50.00	1	\$ 4,000.00
Exotic Plant Control	Herbicide (such as Rodeo, Roundup Pro or Fusilade)	Acre	1	\$ 1,458.00	1	\$ 1,458.00
Exotic Plant Control	Herbicide application (such as tractor or backpack)	Hours	16	\$ 50.00	1	\$ 800.00
Other	misc. supplies	Item	1	\$ 250.00	1	\$ 250.00
Subtotal per acre						\$ 39,909.00
Overall area subtotal						\$ 167,617.80

APPENDIX A

Property Analysis Record (PAR) Table

1.0 Initial and Capital Tasks and Costs (section 8 of PAR)

Task List	Specifications	unit	number	cost/unit	interval	Total
1.5 HABITAT RESTORATION	OAK WOODLAND WITH ALLUVIAL SCRUB/NATIVE GRASSLAND UNDERSTORY CREATION AREA (70.4 acres)					
Soil Preparation	Rip or till soil as directed	Hours	4	\$ 50.00	1	\$ 200.00
Organic Debris Removal	Remove weeds to landfill	Hours	10	\$ 50.00	1	\$ 500.00
Non-organic Debris Removal	Remove garbage to landfill	Hours	10	\$ 50.00	1	\$ 500.00
Seed Procurement	native seed	Acre	1	\$ 1,652.00	1	\$ 1,652.00
Plant Procurement	Native trees, gallon size	Acre	1	\$ 585.00	1	\$ 585.00
Revegetation	flag plant locations	Hours	2	\$ 50.00	1	\$ 100.00
Revegetation	plant installation	Hours	8	\$ 50.00	1	\$ 400.00
Revegetation	Hand seeding, raking, and tamping	Hours	40	\$ 50.00	1	\$ 2,000.00
Plant Protection Device, installed	plastic mesh or wire	Item	150	\$ 1.45	1	\$ 217.50
Irrigation System, temp	Overhead system	Acre	1	\$ 26,000.00	1	\$ 26,000.00
Irrigation System	Maintenance, labor	Hours	16	\$ 70.25	1	\$ 1,124.00
Exotic Plant Control	Hand removal	Hours	52	\$ 50.00	1	\$ 2,600.00
Exotic Plant Control	Herbicide (such as Rodeo, Roundup Pro or Fusilade)	Acre	1	\$ 1,458.00	1	\$ 1,458.00
Exotic Plant Control	Herbicide application (such as tractor or backpack)	Hours	16	\$ 50.00	1	\$ 800.00
Other	misc. supplies	Item	1	\$ 250.00	1	\$ 250.00
Subtotal per acre						\$ 38,386.50
Overall area subtotal						\$ 2,702,409.60
1.6 HABITAT RESTORATION	CHAPARRAL CREATION AREA (14.3 acres)					
Soil Preparation	Rip or till soil as directed	Hours	4	\$ 50.00	1	\$ 200.00
Organic Debris Removal	Remove weeds to landfill	Hours	10	\$ 50.00	1	\$ 500.00
Non-organic Debris Removal	Remove garbage to landfill	Hours	10	\$ 50.00	1	\$ 500.00
Seed Procurement	native seed	Acre	1	\$ 1,288.00	1	\$ 1,288.00
Revegetation	Hand seeding, raking, and tamping	Hours	40	\$ 50.00	1	\$ 2,000.00

APPENDIX A

Property Analysis Record (PAR) Table

1.0 Initial and Capital Tasks and Costs (section 8 of PAR)

Task List	Specifications	unit	number	cost/unit	interval	Total
Irrigation System, temp	Overhead system	Acre	1	\$ 26,000.00	1	\$ 26,000.00
Irrigation System	Maintenance, labor	Hours	16	\$ 70.25	1	\$ 1,124.00
Exotic Plant Control	Hand removal	Hours	52	\$ 50.00	1	\$ 2,600.00
Exotic Plant Control	Herbicide (such as Rodeo, Roundup Pro or Fusilade)	Acre	1	\$ 1,458.00	1	\$ 1,458.00
Exotic Plant Control	Herbicide application (such as tractor or backpack)	Hours	16	\$ 50.00	1	\$ 800.00
Other	misc. supplies	Item	1	\$ 250.00	1	\$ 250.00
Subtotal per acre						\$ 36,720.00
Overall area subtotal						\$ 525,096.00

1.7 HABITAT RESTORATION

COASTAL SAGE SCRUB (MESIC ALLUVIAL SCRUB) AND COASTAL SAGE SCRUB CREATION AREAS (79.3 acres)

Soil Preparation	Rip or till soil as directed	Hours	4	\$ 50.00	1	\$ 200.00
Organic Debris Removal	Remove weeds to landfill	Hours	10	\$ 50.00	1	\$ 500.00
Non-organic Debris Removal	Remove garbage to landfill	Hours	10	\$ 50.00	1	\$ 500.00
Seed Procurement	native seed	Acre	1	\$ 2,676.00	1	\$ 2,676.00
Plant Procurement	Native trees, gallon size	Acre	1	\$ 45.00	1	\$ 45.00
Revegetation	flag plant locations	Hours	1	\$ 50.00	1	\$ 50.00
Revegetation	plant installation	Hours	2	\$ 50.00	1	\$ 100.00
Revegetation	Hand seeding, raking, and tamping	Hours	40	\$ 50.00	1	\$ 2,000.00
Plant Protection Device, installed	plastic mesh or wire	Item	15	\$ 1.45	1	\$ 21.75
Irrigation System, temp	Overhead system	Acre	1	\$ 26,000.00	1	\$ 26,000.00
Irrigation System	Maintenance, labor	Hours	16	\$ 70.25	1	\$ 1,124.00
Exotic Plant Control	Hand removal	Hours	52	\$ 50.00	1	\$ 2,600.00
Exotic Plant Control	Herbicide (such as Rodeo, Roundup Pro or Fusilade)	Acre	1	\$ 1,458.00	1	\$ 1,458.00
Exotic Plant Control	Herbicide application (such as tractor or backpack)	Hours	16	\$ 50.00	1	\$ 800.00
Other	misc. supplies	Item	1	\$ 250.00	1	\$ 250.00

APPENDIX A

Property Analysis Record (PAR) Table

1.0 Initial and Capital Tasks and Costs (section 8 of PAR)

Task List	Specifications	unit	number	cost/unit	interval	Total
Subtotal per acre						\$ 38,324.75
Overall area subtotal						\$ 3,039,152.68

1.8 HABITAT RESTORATION NATIVE GRASSLAND CREATION AREA (2.0 acres)

Soil Preparation	Rip or till soil as directed	Hours	4	\$ 50.00	1	\$ 200.00
Organic Debris Removal	Remove weeds to landfill	Hours	10	\$ 50.00	1	\$ 500.00
Non-organic Debris Removal	Remove garbage to landfill	Hours	10	\$ 50.00	1	\$ 500.00
Seed Procurement	native seed	Acre	1	\$ 1,754.00	1	\$ 1,754.00
Revegetation	Hand seeding, raking, and tamping	Hours	40	\$ 50.00	1	\$ 2,000.00
Irrigation System, temp	Overhead system	Acre	1	\$ 26,000.00	1	\$ 26,000.00
Irrigation System	Maintenance, labor	Hours	16	\$ 70.25	1	\$ 1,124.00
Exotic Plant Control	Hand removal	Hours	52	\$ 50.00	1	\$ 2,600.00
Exotic Plant Control	Herbicide (such as Rodeo, Roundup Pro or Fusilade)	Acre	1	\$ 1,458.00	1	\$ 1,458.00
Exotic Plant Control	Herbicide application (such as tractor or backpack)	Hours	16	\$ 50.00	1	\$ 800.00
Other	misc. supplies	Item	1	\$ 250.00	1	\$ 250.00
Subtotal per acre						\$ 37,186.00
Overall area subtotal						\$ 74,372.00

1.9 HABITAT RESTORATION RIVERINE RIPARIAN MANAGEMENT ENHANCEMENT AREA (75.6 acres)

Organic Debris Removal	Remove weeds to landfill	Hours	10	\$ 50.00	1	\$ 500.00
Non-organic Debris Removal	Remove garbage to landfill	Hours	10	\$ 50.00	1	\$ 500.00
Exotic Plant Control	Hand removal	Hours	52	\$ 50.00	1	\$ 2,600.00
Exotic Plant Control	Herbicide (such as Rodeo, Roundup Pro or Fusilade)	Acre	1	\$ 1,458.00	1	\$ 1,458.00
Exotic Plant Control	Herbicide application (such as tractor or backpack)	Hours	14	\$ 50.00	1	\$ 700.00
Other	misc. supplies	Item	1	\$ 100.00	1	\$ 100.00

APPENDIX A

Property Analysis Record (PAR) Table

1.0 Initial and Capital Tasks and Costs (section 8 of PAR)

Task List	Specifications	unit	number	cost/unit	interval	Total
Subtotal per acre						\$ 5,858.00
Overall area subtotal						\$ 442,864.80

1.10 REPORTING

Database Management	data input	Hours	160	\$ 100.00	1	\$ 16,000.00
GIS/CAD Management	data management	Hours	40	\$ 100.00	1	\$ 4,000.00
Photodocumentation	field survey	Hours	160	\$ 100.00	1	\$ 16,000.00
Aerial photos	flight	Item	1	\$ 1,000.00	1	\$ 1,000.00
Agency Report	As-Built report	Hours	60	\$ 100.00	1	\$ 6,000.00
Report Production	labor	Hours	20	\$ 100.00	1	\$ 2,000.00
Subtotal						\$ 45,000.00

OFFICE MAINTENANCE Part of Landfill operation costs

FIELD EQUIPMENT Part of Landfill operation costs

OPERATIONS Part of Landfill operation costs

SUBTOTAL (using the Overall Area Subtotal values where applicable) \$ 7,166,122.48

APPENDIX A

Property Analysis Record (PAR) Table

1.0 Initial and Capital Tasks and Costs (section 8 of PAR)

Task List	Specifications	unit	number	cost/unit	interval	Total
1.11 CONTINGENCY & ADMINISTRATION						
Contingency	10% of total					\$ 716,612.25
Administration	20% of total					\$ 1,433,224.50
Subtotal						\$ 2,149,836.74
SECTION 1.0 GRAND TOTAL						\$ 9,315,959.22

2.0 Ongoing Tasks and Costs (section 9 of PAR) for FIVE YEAR MONITORING/MAINTENANCE PERIOD (for restoration area, ~248.1 acres)*

Task List	Specifications	unit	number	cost/unit	interval	Total
2.1 SITE CONSTRUCTION/MAINTENANCE						
Fence, maintenance	Check and repair fencing as needed	Hours	160	\$ 50.00	1	\$ 8,000.00
Subtotal						\$ 8,000.00
2.2 BIOTIC SURVEYS						
Restoration Biologist	Project Management	Hours	100	\$ 100.00	1	\$ 10,000.00
Restoration Biologist	Annual monitoring	Hours	140	\$ 100.00	1	\$ 14,000.00
Wildlife Biologist	Annual monitoring	Hours	140	\$ 100.00	1	\$ 14,000.00
Restoration Biologist	Field survey	Hours	120	\$ 100.00	1	\$ 12,000.00
Wildlife Biologist	Field survey	Hours	120	\$ 100.00	1	\$ 12,000.00
Botanist	Outside expert	Hours	40	\$ 100.00	1	\$ 4,000.00
Monitor Climate	Local resource	Hours	8	\$ 100.00	1	\$ 800.00
Subtotal						\$ 66,800.00

* Costs are calculated per year, total by year and cumulative total appears at the end of this section.

APPENDIX A

Property Analysis Record (PAR) Table

2.0 Ongoing Tasks and Costs (section 9 of PAR) for FIVE YEAR MONITORING/MAINTENANCE PERIOD (for restoration area, ~248.1 acres)*

Task List	Specifications	unit	number	cost/unit	interval	Total
2.3 HABITAT RESTORATION						
Supplemental Planting	Replacement planting if needed	Hours	80	\$ 50.00	1	\$ 4,000.00
Seed Procurement	native seed	Acre	172.5	\$ 75.00	1	\$ 12,937.50
Plant Procurement	Native trees, gallon size	Item	600	\$ 3.00	1	\$ 1,800.00
Plant Procurement	Cuttings	Hours	12	\$ 50.00	1	\$ 600.00
Plant Protection Device	collar & screen or wire, or tube	Item	600	\$ 1.50	1	\$ 900.00
Other	misc. supplies	Item	1	\$ 2,500.00	1	\$ 2,500.00
Subtotal						\$ 22,737.50
2.4 HABITAT MAINTENANCE						
Organic Debris Removal	Remove weeds to landfill	Hours	100	\$ 50.00	1	\$ 5,000.00
Non-organic Debris Removal	Remove garbage to landfill	Hours	100	\$ 50.00	1	\$ 5,000.00
Erosion Control	Check for erosion control problems	Hours	100	\$ 50.00	1	\$ 5,000.00
Irrigation System	Maintenance, labor	Hours	100	\$ 50.00	1	\$ 5,000.00
Exotic Plant Control	Hand removal	Hours	1400	\$ 50.00	1	\$ 70,000.00
Exotic Plant Control	Herbicide (such as Rodeo, Roundup Pro or Fusilade)	Acre	20	\$ 1,458.00	1	\$ 29,160.00
Exotic Plant Control	Herbicide application (such as tractor or backpack)	Hours	200	\$ 50.00	1	\$ 10,000.00
Exotic Plant Control	weed whip	Hours	200	\$ 50.00	1	\$ 10,000.00
Pest Control	Check for insect and animal pest/damage	Hours	100	\$ 50.00	1	\$ 5,000.00
Other	misc supplies	item	1	\$ 2,500.00	1	\$ 2,500.00
Subtotal						\$ 146,660.00

APPENDIX A

Property Analysis Record (PAR) Table

2.0 Ongoing Tasks and Costs (section 9 of PAR) for FIVE YEAR MONITORING/MAINTENANCE PERIOD (for restoration area, ~248.1 acres)*

Task List	Specifications	unit	number	cost/unit	interval	Total
2.5 REPORTING						
Database Management	data input	Hours	60	\$ 100.00	1	\$ 6,000.00
GIS/CAD Management	data management	Hours	60	\$ 100.00	1	\$ 6,000.00
Photodocumentation	field survey	Hours	80	\$ 100.00	1	\$ 8,000.00
Agency Report	annual report	Hours	80	\$ 100.00	1	\$ 8,000.00
Monitoring Reports	monitoring documentation	Hours	80	\$ 100.00	1	\$ 8,000.00
Report Production	labor	Hours	20	\$ 100.00	1	\$ 2,000.00
Subtotal						\$ 38,000.00
SUBTOTAL						\$ 282,197.50
2.6 CONTINGENCY & ADMINISTRATION						
Contingency	10% of total					\$ 28,219.75
Administration	20% of total					\$ 56,439.50
Changed Circumstances Reserve	25% of total					\$ 70,549.38
Subtotal						\$ 155,208.63
TOTAL						
	Year 1					\$ 437,406.13
	Year 2					\$ 450,528.31
	Year 3					\$ 464,044.16
	Year 4					\$ 477,965.48
	Year 5					\$ 492,304.45
SECTION 2.0 GRAND TOTAL						\$ 2,322,248.52

APPENDIX A

Property Analysis Record (PAR) Table

3.0 Ongoing Tasks and Costs (section 9 of PAR) for THIRTY YEAR LANDFILL OPERATING PERIOD (for all open space, ~1,300 acres)

Task List	Specifications	unit	number	cost/unit	interval	Total
3.1 SITE CONSTRUCTION/MAINTENANCE						
Fence, maintenance	Check and repair fencing as needed	Hours	192	\$ 50.00	1	\$ 9,600.00
Subtotal						\$ 9,600.00
3.2 BIOTIC SURVEYS						
Restoration Biologist	Project Management	Hours	20	\$ 100.00	1	\$ 2,000.00
Restoration Biologist	Habitat monitoring	Hours	80	\$ 100.00	1	\$ 8,000.00
Wildlife Biologist	Species monitoring	Hours	80	\$ 100.00	1	\$ 8,000.00
Botanist	Outside expert	Hours	40	\$ 100.00	1	\$ 4,000.00
Monitor Climate	Local resource	Hours	10	\$ 100.00	1	\$ 1,000.00
Subtotal						\$ 23,000.00
3.3 HABITAT MAINTENANCE						
Organic Debris Removal	Remove weeds to landfill	Hours	10	\$ 50.00	1	\$ 500.00
Non-organic Debris Removal	Remove garbage to landfill	Hours	10	\$ 50.00	1	\$ 500.00
Erosion Control	Check for erosion control problems	Hours	10	\$ 50.00	1	\$ 500.00
Exotic Plant Control	Hand removal	Hours	320	\$ 50.00	1	\$ 16,000.00
Exotic Plant Control	Herbicide (such as Rodeo, Roundup Pro or Fusilade)	Acre	5	\$ 1,458.00	1	\$ 7,290.00
Exotic Plant Control	Herbicide application (such as tractor or backpack)	Hours	50	\$ 50.00	1	\$ 2,500.00
Exotic Plant Control	weed whip	Hours	40	\$ 50.00	1	\$ 2,000.00
Wildlife Control	Check for insect and animal pest/damage	Hours	10	\$ 50.00	1	\$ 500.00
Brush Management	fuel modification zones	Hours	40	\$ 50.00	1	\$ 2,000.00
Brush Hog Tractor Mower	mowing	week	2	\$ 750.00	1	\$ 1,500.00
Other	misc supplies	item	1	\$ 2,000.00	1	\$ 2,000.00
Subtotal						\$ 35,290.00

APPENDIX A

Property Analysis Record (PAR) Table

3.0 Ongoing Tasks and Costs (section 9 of PAR) for THIRTY YEAR LANDFILL OPERATING PERIOD (for all open space, ~1,300 acres)

Task List	Specifications	unit	number	cost/unit	interval	Total
3.4 PUBLIC SERVICES						
Patrolling	patrol	Hours	240	\$ 50.00	1	\$ 12,000.00
Other	misc. supplies	Item	1	\$ 1,000.00	1	\$ 1,000.00
Subtotal						\$ 13,000.00
3.5 REPORTING						
Database Management	data input	Hours	15	\$ 100.00	1	\$ 1,500.00
GIS/CAD Management	data management	Hours	10	\$ 100.00	1	\$ 1,000.00
Photodocumentation	field survey	Hours	30	\$ 100.00	1	\$ 3,000.00
Aerial photos	flight	Item	1	\$ 1,000.00	0.2	\$ 200.00
Agency Report	annual report	Hours	40	\$ 100.00	1	\$ 4,000.00
Fire Management Plan	report	Hours	20	\$ 100.00	1	\$ 2,000.00
Report Production	labor	Hours	10	\$ 100.00	1	\$ 1,000.00
Subtotal						\$ 12,700.00
3.6 OFFICE MAINTENANCE						
Administrative	operations	Hours	40	\$ 100.00	1	\$ 4,000.00
Telephone Charges, Annual	phone charges	Month	0.5	\$ 2,520.00	0.5	\$ 630.00
Office Supplies, Year	supplies	Month	0.5	\$ 1,140.00	1	\$ 570.00
Other	misc supplies	Item	1	\$ 500.00	1	\$ 500.00
Subtotal						\$ 5,700.00
3.7 FIELD EQUIPMENT						
GPS, Rover & Base Unit	gps w. mapping capability	item	1	\$ 400.00	0.2	\$ 80.00
Vehicle	pickup truck	item	1	\$ 20,000.00	0.1	\$ 2,000.00

APPENDIX A

Property Analysis Record (PAR) Table

3.0 Ongoing Tasks and Costs (section 9 of PAR) for THIRTY YEAR LANDFILL OPERATING PERIOD (for all open space, ~1,300 acres)

Task List	Specifications	unit	number	cost/unit	interval	Total
Vehicle	mileage	mile	5000	\$ 0.59	1	\$ 2,925.00
Vehicle Insurance	insurance	year	1	\$ 2,000.00	1	\$ 2,000.00
Camera 35mm lens	digital	item	1	\$ 300.00	0.2	\$ 60.00
Other	misc. supplies	item	1	\$ 500.00	1	\$ 500.00
Subtotal						\$ 7,565.00

3.8 OPERATIONS

Audit	CPA audit	Hours	20	\$ 50.00	1	\$ 1,000.00
Contracts	produce contracts	Hours	20	\$ 100.00	1	\$ 2,000.00
Endowment	process endowment	Hours	20	\$ 100.00	1	\$ 2,000.00
Other	misc items	Item	1	\$ 500.00	1	\$ 500.00
Subtotal						\$ 5,500.00

SUBTOTAL \$ 112,355.00

3.9 CONTINGENCY & ADMINISTRATION

Contingency	10% of total					\$ 11,235.50
Administration	20% of total					\$ 22,471.00
Subtotal						\$ 33,706.50

TOTAL Per year \$ 146,061.50

SECTION 3.0 GRAND TOTAL 30 years, with 3% inflation \$ 6,948,912.79

OVERALL GRAND TOTAL for Entire Restoration Plan, PAR Sections 1.0, 2.0, and 3.0 \$18,587,120.53

GREGORY CANYON LANDFILL

PHASED LANDFILL DEVELOPMENT DESCRIPTION, DESIGN FEATURES AND MITIGATIONS RELATED TO BIOLOGICAL RESOURCES

1. Description of Landfill Development

The Gregory Canyon Landfill will provide landfill capacity to meet a portion of the total disposal needs of San Diego County. The landfill development is located along SR 76 approximately 3½ miles east of I-15. The landfill development is located on approximately 1,783 acres owned by or optioned to Gregory Canyon Ltd. LLC. The landfill facilities will comprise approximately 308 acres, including the landfill footprint, ancillary facilities, storm water management facilities, two borrow-stockpile areas, a landfill access road and bridge, and internal access roads. The landfill development includes the construction of new transmission tower pads and relocation of the current SDG&E power transmission lines. The landfill development could have both direct and indirect impacts to threatened or endangered species, both on the landfill property and along certain transportation corridors. To prevent jeopardy, the landfill development includes the permanent preservation of at least 1,313 acres of open space within the landfill property, and implementation of habitat creation and habitat enhancement on approximately 216 acres within the 1,313 acres, including long-term management. The landfill development also includes acquisition of between approximately 410 to 651 acres of off-site property for habitat preservation, or contribution to a mitigation bank, including long-term management.

An overlay of the three stages of phase one on an aerial photo showing vegetation communities is presented in Figure B-1 of this appendix. An overlay of the remaining landfill phases on a topographic map are presented in Figures B-2 to B-4. Impacts on vegetation communities from Phase 1 of the landfill footprint development are shown in Table B-1 table below. Phase 1, Stage 1 is part of initial landfill construction, with development of Phase 1, Stages 2 and 3 estimated to occur in Operating Years 1-6. Impacts associated with landfill startup, which include the Phase 1, Stage 1 landfill footprint and all other landfill features that would be part of initial construction, are shown in Table B-2 below.

**Table B-1
Phase 1 Vegetation Impacts by Vegetation Community and Stage**

Vegetation Communities Impacted	Stage 1	Stage 2	Stage 3	Total Impacted Acreage by Habitat
Chaparral	1.9	0	0.7	2.6
Coastal Sage Scrub ¹	33.1	11.5	28.8	73.4
Coast Live Oak Woodland	2.8	0.1	3.6	6.5
Disturbed Habitat	0.2	0	0	0.2
Non-native Grassland	3.3	0	0	3.3
Total Impacted Acreage by Stage	41.3	11.6	33.1	86

¹ Includes Coastal Sage Scrub/Chaparral community also.

**Table B-2
Initial Landfill Operation Construction Impacts by Vegetation Community and Construction Activity**

Vegetation Communities Impacted	Phase 1 Stage 1	Stockpile Area A	Facilities Area	Sediment Basins (incl. access road)	Access Road (incl. bridge)	Haul Road to Stockpile Area A	Highway 76 Re-alignment	Total Impact Acreage by Vegetation Community
Agricultural Land	0	9.9	0	0	0	0.1	0	10
Agricultural/Developed	0	0.1	0	0	1.1	0.6	1.3	3.1
Chaparral	1.9	0	0	0	0	0	0	1.9
Coastal Sage Scrub ¹	33.1	10.4	2.6	5.4	0	0.5	< 0.05	52.0
Coast Live Oak Woodland	2.8	0	0.3	0.3	0	0.2	< 0.05	3.6
Developed	0	0	0	0	0	< 0.05	0	< 0.05
Disturbed Habitat	0.2	< 0.05	0	< 0.05	0.3	0	0	0.5
Non-Native Grassland	3.3	0	9.1	0.6	2.3	0.7	0	16.0
Open Channel	0	0	0	0	0.1	0	0	0.1
Ornamental	0	0.2	0	0	0	0.1	0.1	0.4
Southern Willow Scrub ²	0	0	0	0	0.5	0	0	0.5
Total Impact Acreage by Construction Activity	41.3	20.6	12	6.3	4.3	2.2	1.4	88.1

¹ Includes Coastal Sage Scrub/Chaparral, Disturbed Coastal Sage Scrub, Burned Coastal Sage Scrub vegetation communities as well.

² Includes Disturbed Southern Willow Scrub vegetation community also.

Implementation of mitigation may be phased in proportion to impact areas per each phase. Enhancement within the San Luis Rey River riparian zone will be initiated at the beginning of the on-site mitigation. Implementation of mitigation south of the river will also occur upfront. Implementation of mitigation north of the river may be phased.

A. Overview of landfill facilities.

Landfill Footprint: 183 acres

Relocated Power Pads: 13 acres

Ancillary Facilities/Desilting Basins: 17 acres

Landfill Access Road/Borrow-Stockpile Area A Road/Borrow-Stockpile Area B Road: 8 acres

Borrow/Stockpile Areas: 87 acres

Total: 308 acres

Projected operating life: 30-32 years

2. Initial Construction – Year 0 (1)

A. Extent of disturbed area (approx.):

See Table B-2

(1) Initial construction is within a portion of the Phase I development area.

(2) Landfill footprint area includes both lined disposal area and stormwater management facilities.

B. Design Features and Mitigation Measures to protect biological resources applicable to initial construction period.

Design Feature (DF) or Mitigation	EIR Mitigation Measure/ DF
Include removal of dairies as part of initial construction.	DF
Approved Wetland Mitigation and Habitat Enhancement Plan for on-site mitigation areas; approved Habitat Resource Management Plan for on-site areas; funding for long-term management.	MM 4.9-1a; 4.9-1b; 4.9-1d; 4.9-1e; 4.9-1f; 4.9-2; 4.9-4; 4.9-14; 4.9-18
Approved Habitat Resource Management Plan for off-site mitigation areas; funding for long-term management.	MM 4.9-1a; 4.9-1c; 4.9-1g; 4.9-2; 4.9-14
Implement on-site habitat creation or enhancement, acquire off-site mitigation parcels, or contribute to mitigation bank, as needed to mitigate acreage impacts to vegetation and endangered species from initial construction.	MM 4.9-1a through 4.9-1g; 4.9-2; 4.9-3a; 4.9-4; 4.9-11b; 4.9-14; 4.9-18
Mitigation activities limited to September 15 to March 15, unless operational changes or noise barriers document noise levels less than 60 dBA L_{eq} .	MM 4.9-13

Design Feature (DF) or Mitigation	EIR Mitigation Measure/ DF
Pre-construction meeting with biologist and construction personnel to explain restrictions, emphasize importance of staying within construction areas, and consequences of violating restrictions.	MM 4.9a
Construction hours limited to 7 am – 6 pm Monday through Friday, 8 am – 5 pm on Saturday.	MM 4.6-1b
Access road and bridge construction limited to daylight hours.	DF
Install temporary fencing where construction areas interface with open space, install permanent fencing marked with signs around open space.	MM 4.9-1h
Remove arroyo toad riparian breeding habitat between October and December.	MM 4.9-3b; 4.9-11a
Riparian vegetation removal for bridge construction limited to 50 foot width underneath and along east side of structure.	DF
Arroyo toad exclusion fencing around bridge construction zone; daily monitoring by biologist and daily repair by construction personnel, as needed.	MM 4.9-5a
Arroyo toad surveys pre- and post- installation of exclusion fencing in bridge construction area, relocation of toads within exclusion area.	MM4.9-5b
Bridge construction limited to September 15 to March 15, unless operational changes or noise barriers document noise levels less than 60 dBA L_{eq} .	MM 4.9-12c
Arroyo toad exclusion fencing along both sides of landfill access road; and at designated locations around ancillary facilities area and desilting basin.	MM 4.9-5c
Arroyo toad surveys following installation of exclusion fencing along landfill access road, relocation of toads within exclusion area.	MM 4.9-5d
Arroyo toad surveys following installation of exclusion fencing around ancillary facilities area and desilting basin, relocation of toads within exclusion area.	MM 4.9-5e
Borrow-Stockpile Area A will only be used during initial construction and for landfill closure, revegetated with native species between use periods.	DF
Arroyo toad exclusion fencing along north side of Borrow-Stockpile Area A road; remove and reinstall as needed.	MM 4.9-5g
Arroyo toad surveys following installation or re-installation of exclusion fencing along north side of Borrow-Stockpile Area A road, relocation of toads within exclusion area.	MM 4.9-5h
Construct temporary noise barrier along north side of Borrow-Stockpile Area A prior to use, between September 15 and March 15, remove upon determination that noise levels during breeding season are reduced to 60 dBA L_{eq} .	MM 4.9-15a
Arroyo toad exclusion fencing along both sides of low-flow crossing, remove when use completed. Arroyo toad surveys following installation of exclusion fencing including daily surveys when low-flow crossing in to be used, relocation of toads within exclusion area.	MM 4.9-5i
Use low-flow crossing only between September 15 and March 15 unless surveys or operational changes to reduce noise.	MM 4.9-12b
Daily or weekly noise monitoring between September 15 and March 15 in vireo and flycatcher habitat, and operational changes to reduce noise levels.	MM 4.9-12a
Any gaps in bridge abutment riprap will be filled with concrete.	MM 4.9-7

Design Feature (DF) or Mitigation	EIR Mitigation Measure/ DF
At least one landfill access road undercrossing for arroyo toad on both the north and south sides of river.	MM 4.9-5f
Bridge abutments to be drilled in place, rather than driven.	DF
Bridge deck will be 17.5 feet above river bed.	DF
Install reflective strips along inside structure of bridge, no lighting on bridge.	DF
Pre-construction survey for golden eagle, follow up weekly monitoring between December and May for one year following construction activity.	MM 4.9-9b
Construction activity within 2,000 feet of eagle's nest to be scheduled as close as possible to June.	MM 4.9-9c
Access to eagle's nests restricted to eagle specialists and researchers.	MM 4.9-9a
Limit construction of recycled water facilities at OMWD to February 15 through August 31, or noise reduction.	MM 4.9-20

3. Prior to Initial Operation – Year 0

- A. Design Features and Mitigation Measures to protect biological resources required prior to initial operation.

Mitigation	EIR Mitigation Measure
Dedicate or create open-space easement for at least 1,313 acres on-site, funding for long-term management.	MM 4.1-2
Plant large riparian trees and associated understory along access road to shield landfill development, consistent with habitat creation and enhancement activities.	MM 4.13-5
Plant mature tree groupings adjacent to ancillary facilities area; place any rock outcrops removed from the landfill footprint around the ancillary facilities area.	MM 4-13-6a; 4.13-6b
Revegetate Borrow-Stockpile Area A following initial use with native plant species.	MM 4.13-8c

4. Operation – Years 1 to 30-32

- A. Extent of Disturbed Area (est.)

Borrow-Stockpile Area B: 65 acres (3)
 Borrow-Stockpile Area B road: 1 acre

Total: 66 acres

(3) Use of Borrow-Stockpile Area B will be phased over the operating life of the landfill.

B. Design Features and Mitigation Measures to protect biological resources applicable to landfill operations.

Design Feature (DF) or Mitigation	EIR Mitigation Measure/DF
Maintain arroyo toad exclusion fencing along landfill access road, ancillary facilities area and desilting basin.	MM 4.9-5c
Approved Habitat Resource Management Plan for off-site mitigation areas; funding for long-term management.	MM 4.9-1a; 4.9-1c; 4.9-1g; 4.9-2; 4.9-14
Implement on-site habitat creation or enhancement, acquire off-site mitigation parcels, or contribute to mitigation bank, as needed to mitigate acreage impacts to vegetation and endangered species from initial construction.	MM 4.9-1a through 4.9-1g, 4.9-2; 4.9-4
If needed, treat and dispose of any contaminated water detected in monitoring wells, treat contaminated groundwater to background levels	MM 4.3-1b
Tire shredding and rock crushing will not occur at the same time.	MM 4.6-2a
Noise monitoring at initiation of tire shredding operations, noise reduction measures if needed.	MM 4.6-2b
Rock crushing and tire shredding to occur on landfill footprint at least 1,500 feet from LBV and SWF habitat.	DF
Noise monitoring and verification at flare station prior to operation.	MM 4.6-3
Weekly noise monitoring of landfill operations for one month, construction of permanent noise barrier and operational changes if needed.	MM 4.9-15b
Restrict access routes to existing roads, restrict access to non-impact open space areas, post signs, public education program.	MM 4.9-16
Provide funding for cowbird trapping along San Luis Rey River for 5 years following commencement of initial landfill operation.	MM 4.9-11c
Inspect for and clean up litter and illegally dumped materials along landfill access road and SR 76.	MM 4.9.C5C; 4.16.C5C
Establish native vegetation cover on disturbed areas, including landfill footprint and borrow-stockpile areas.	DF
Revegetate temporary and permanent slopes with native seed mix and container stock around the edges.	MM 4.9-17b; 4.13-2c
Plant native or indigenous trees or shrub species along south side of SR 76 to shield views.	MM 4.13-2a
Revegetate areas within public view within 2 years of commencement of operation with oak woodlands or riparian plantings, consistent with habitat creation and enhancement activities.	MM 4.13-4
Excavation and filling of landfill will be phased to minimize ground disturbance and will only occur during operational hours	DF
Landfill perimeter fencing will allow for wildlife movement where topography is a barrier to human access.	DF
Block of open space between borrow-stockpile areas will be maintained.	DF

Design Feature (DF) or Mitigation	EIR Mitigation Measure/DF
Require slow traffic speeds (15 mph) on access road.	DF
Use low-impact, focused lighting in facilities area.	DF
Implement vector control measures to minimize nuisance species.	DF
Prevent any sources of standing or flowing water on landfill facilities.	DF
Diversion structure placement to prevent debris flows will not occur during eagle breeding season.	DF
Maintain 100-foot buffer between landfill operations and river habitat, except where landfill access road/bridge crosses the river.	DF

5. Completion of Phase I (Stages 2 and 3) Construction – Years 1-6

A. Extent of Disturbed Area (approx.)

Landfill Footprint/ North Power Pad: 49 acres (4)

(4) Landfill footprint area includes both lined disposal area and stormwater management facilities. Exact timing of construction activities depends on volume of waste receipts.

B. Design Features and Mitigation Measures to protect biological resources applicable to completion of Phase I construction.

Mitigation	EIR Mitigation Measure/DF
Approved Habitat Resource Management Plan for off-site mitigation areas; funding for long-term management.	MM 4.9-1a; 4.9-1c; 4.9-1g; 4.9-2; 4.9-14
Implement on-site habitat creation or enhancement; or acquire off-site mitigation parcels; as needed to mitigate acreage impacts to vegetation and endangered species from disturbance.	MM 4.9-1a through 4.9-1g; 4.9-2; 4.9-4
Construction hours limited to 7 am – 6 pm Monday through Friday, 8 am – 5 pm on Saturday.	MM 4.6-1b
Install temporary fencing where construction areas interface with open space, install permanent fencing marked with signs around open space.	MM 4.9-1h
Pre-construction survey for golden eagle, follow up weekly monitoring between December and May for one year following construction activity.	MM 4.9-9b
Access to eagle’s nests restricted to eagle specialists and researchers.	MM 4.9-9a
Daily or weekly noise monitoring between September 15 and March 15 in vireo and flycatcher habitat, and operational changes to reduce noise levels.	MM 4.9-12a

6. Phase II Construction – Years 6-13

A. Extent of Disturbed Area (approx.):

Landfill Footprint/ Central and South Power Pads: 79 acres (4)

(4) Landfill footprint area includes both lined disposal area and stormwater management facilities. Exact timing of construction activities depends on volume of waste receipts.

B. Design Features and Mitigation Measures to protect biological resources applicable to Phase II construction.

Mitigation	EIR Mitigation Measure/DF
Approved Habitat Resource Management Plan for off-site mitigation areas; funding for long-term management.	MM 4.9-1a; 4.9-1c; 4.9-1g; 4.9-2; 4.9-14
Implement on-site habitat creation or enhancement, acquire off-site mitigation parcels, or contribute to mitigation bank, as needed to mitigate acreage impacts to vegetation and endangered species from initial construction.	MM 4.9-1a through 4.9-1g, 4.9-2; 4.9-4
Construction hours limited to 7 am – 6 pm Monday through Friday, 8 am – 5 pm on Saturday.	MM 4.6-1b
Install temporary fencing where construction areas interface with open space, install permanent fencing marked with signs around open space.	MM 4.9-1h
Pre-construction survey for golden eagle, follow up weekly monitoring between December and May for one year following construction activity.	MM 4.9-9b
Access to eagle’s nests restricted to eagle specialists and researchers.	MM 4.9-9a
Daily or weekly noise monitoring between September 15 and March 15 in vireo and flycatcher habitat, and operational changes to reduce noise levels.	MM 4.9-12a

7. Relocation of SDG&E Power Line ROW – Years 8-10

A. Extent of disturbed area: NONE (5)

(5) Exact timing of relocation depends on volume of waste receipts.

B. Design Features and Mitigation Measures to protect biological resources applicable to relocation of SDG&E power line ROW.

Design Feature (DF) or Mitigation	EIR Mitigation Measure/DF
Relocated transmission lines will be parallel to topography of Gregory County to avoid indirect impacts to eagles and other raptors.	DF
Northern power line tower will be replaced between July through October.	MM 4.9-8
Southern power line tower will be replaced between June through November, or when any red-tailed hawk or raptor nests are inactive.	MM 4.9-10

8. Phase III and IV Construction – Years 14-25

A. Extent of Disturbed Area (approx.):

Landfill Footprint: 29 acres (6)

(6) Landfill footprint area includes both lined disposal area and stormwater management facilities. Exact timing of construction activities depends on volume of waste receipts.

B. Design Features and Mitigation Measures to protect biological resources applicable to Phase III and IV construction.

Mitigation	EIR Mitigation Measure/DF
Approved Habitat Resource Management Plan for off-site mitigation areas; funding for long-term management.	MM 4.9-1a; 4.9-1c; 4.9-1g; 4.9-2; 4.9-14
Implement on-site habitat creation or enhancement, acquire off-site mitigation parcels, or contribute to mitigation bank, as needed to mitigate acreage impacts to vegetation and endangered species from initial construction.	MM 4.9-1a through 4.9-1g; 4.9-2; 4.9-4
Construction hours limited to 7 am – 6 pm Monday through Friday, 8 am – 5 pm on Saturday.	MM 4.6-1b
Install temporary fencing where construction areas interface with open space, install permanent fencing marked with signs around open space.	MM 4.9-1h
Pre-construction survey for golden eagle, follow up weekly monitoring between December and May for one year following construction activity.	MM 4.9-9b

Mitigation	EIR Mitigation Measure/DF
Access to eagle's nests restricted to eagle specialists and researchers.	MM 4.9-9a
Daily or weekly noise monitoring between September 15 and March 15 in vireo and flycatcher habitat, and operational changes to reduce noise levels.	MM 4.9-12a

9. Landfill Closure – Years 30-32 (closure), and 30 additional years for post-closure maintenance.

A. Extent of Disturbed Area (approx.): (7)

Borrow-stockpile Area A re-opened: 22 acres

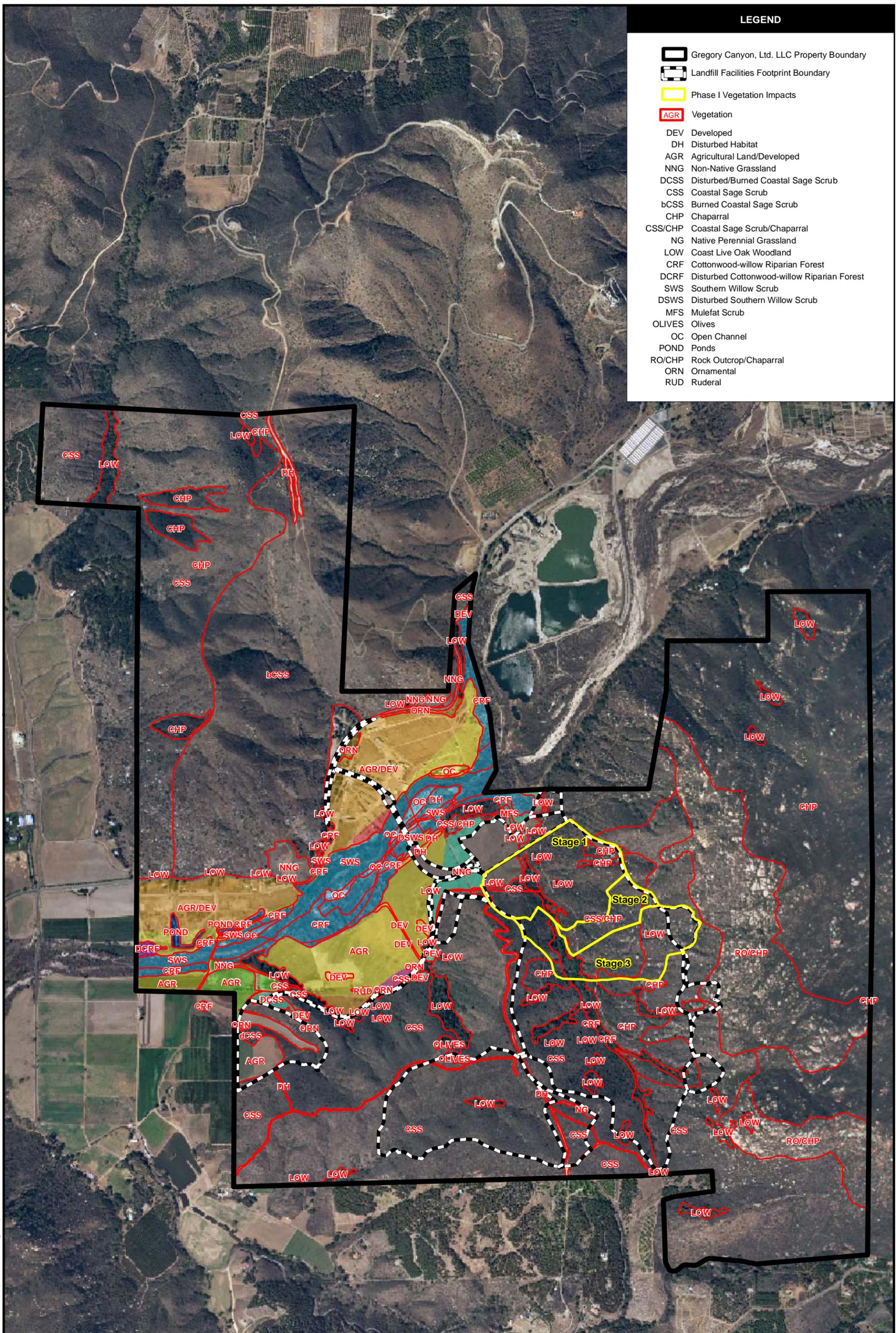
(7) Exact timing of landfill closure depends on volume of waste receipts.

B. Design Features and Mitigation Measures to protect biological resources applicable to landfill closure.

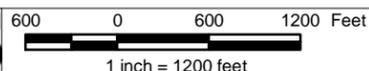
Design Feature (DF) or Mitigation	EIR Mitigation Measure/DF
Borrow-Stockpile Area A road will only be used during initial construction and for landfill closure.	DF
Reinstall arroyo toad exclusion fencing along north side of Borrow-Stockpile Area A road.	MM 4.9-5g
Arroyo toad surveys following re-installation of exclusion fencing along north side of Borrow-Stockpile Area A road, relocation of toads within exclusion area.	MM 4.9-5h
Construct temporary noise barrier along north side of Borrow-Stockpile Area A prior to use, between September 15 and March 15, remove upon determination that noise levels during breeding season are reduced to 60 dBA L_{eq} .	MM 4.9-15a
Revegetate Borrow-Stockpile Area A following initial use with native plant species.	MM 4.13-8c
Establish native vegetation cover on disturbed areas, including slopes, landfill footprint and borrow-stockpile Areas A and B.	DF; MM 4.9-17b; 4.13-2c
Establish native vegetation on any areas on final landfill cover requiring repair.	MM 4.13-11

LEGEND

-  Gregory Canyon, Ltd. LLC Property Boundary
-  Landfill Facilities Footprint Boundary
-  Phase I Vegetation Impacts
-  Vegetation
- DEV Developed
- DH Disturbed Habitat
- AGR Agricultural Land/Developed
- NNG Non-Native Grassland
- DCSS Disturbed/Burned Coastal Sage Scrub
- CSS Coastal Sage Scrub
- bCSS Burned Coastal Sage Scrub
- CHP Chaparral
- CSS/CHP Coastal Sage Scrub/Chaparral
- NG Native Perennial Grassland
- LOW Coast Live Oak Woodland
- CRF Cottonwood-willow Riparian Forest
- DCRF Disturbed Cottonwood-willow Riparian Forest
- SWS Southern Willow Scrub
- DSWS Disturbed Southern Willow Scrub
- MFS Mulefat Scrub
- OLIVES Olives
- OC Open Channel
- POND Ponds
- RO/CHP Rock Outcrop/Chaparral
- ORN Ornamental
- RUD Ruderal



SOURCES: HELIX (1999 Vegetation, landfill boundary); URS (2005 Vegetation update, Hydrology Features 2007); Herzog (2004 Bridge design).



**PHASE I VEGETATION IMPACTS
GREGORY CANYON, LTD. LLC SITE**

CHECKED BY: CM

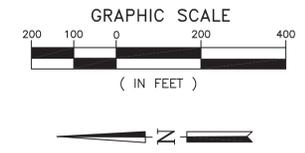
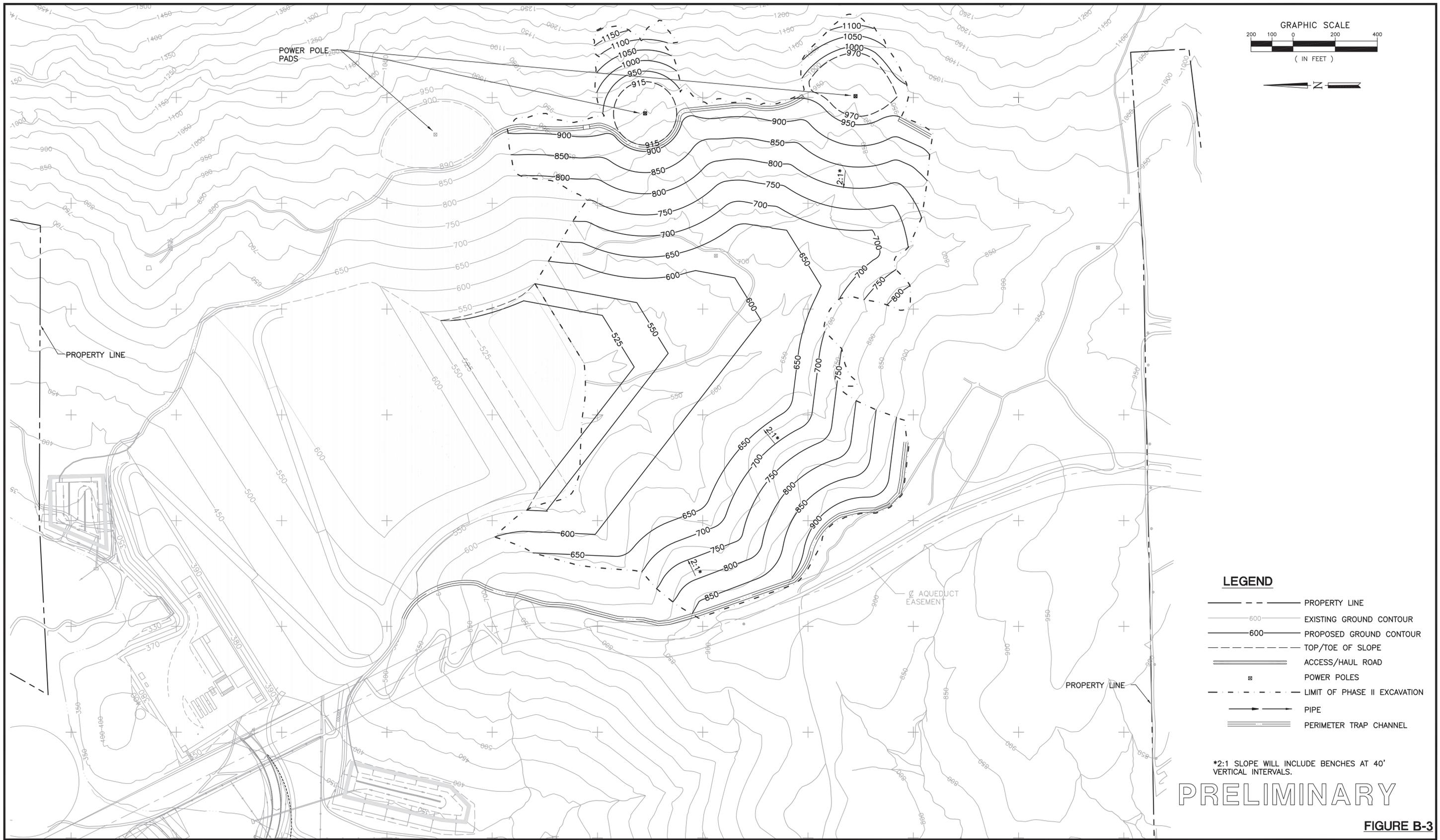
DATE: 9-04-08

FIG. NO:

PM: WM

PROJ. NO: 27654025.00030

B-1



LEGEND

- PROPERTY LINE
- 600 EXISTING GROUND CONTOUR
- 600 PROPOSED GROUND CONTOUR
- - - TOP/TOE OF SLOPE
- == ACCESS/HAUL ROAD
- ⊠ POWER POLES
- - - - - LIMIT OF PHASE II EXCAVATION
- PIPE
- === PERIMETER TRAP CHANNEL

*2:1 SLOPE WILL INCLUDE BENCHES AT 40' VERTICAL INTERVALS.

PRELIMINARY

FIGURE B-3

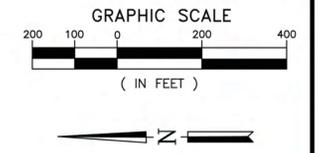
NO.	REVISION DESCRIPTION	BY:

BAS
 BRYAN A. STIRRAT & ASSOCIATES
 CONSULTING CIVIL & ENVIRONMENTAL ENGINEERS
 1360 E. VALLEY VISTA DRIVE
 DIAMOND BAR, CALIFORNIA 91765
 (909) 860-7777

**GREGORY CANYON LANDFILL
 PHASE II EXCAVATION PLAN**

DESIGNED BY : T.W.	SCALE : AS SHOWN
DRAWN BY : J.P.J.	DATE : 6-2001 FILE NO. 171048DB.DWG
CHECKED BY :	DATE :
APPROVED BY :	DATE :

DRAWING 12



LEGEND

- PROPERTY LINE
- - - LIMIT OF REFUSE
- 900— FINAL CONTOUR
- 900— EXISTING CONTOUR
- - - LIMIT OF PHASE III EXCAVATION
- R - RIDGE

*2:1 SLOPE WILL INCLUDE BENCHES AT 40' INTERVALS

PRELIMINARY

FIGURE B-4

NO.	REVISION DESCRIPTION	BY:

BAS
 BRYAN A. STIRRAT & ASSOCIATES
 CONSULTING CIVIL & ENVIRONMENTAL ENGINEERS
 1360 E. VALLEY VISTA DRIVE
 DIAMOND BAR, CALIFORNIA 91765
 (909) 860-7777

**GREGORY CANYON LANDFILL
 PHASE III EXCAVATION**

DESIGNED BY : E.L.S.	SCALE : AS SHOWN
DRAWN BY : M.T.B.	DATE : 8-2000 FILE NO.: 28038DB.DWG
CHECKED BY :	DATE :
APPROVED BY :	DATE :

DRAWING 14

MONITORING SHEET - QUALITATIVE EVALUATION

Project Name: _____

Date: _____

Recorders: _____

Plant Health - General

Are there visible signs of nutrient/water deficiencies? If yes, then describe:

Are there signs of regeneration/reseeding?

Is vandalism harming plant health or project success?

Are there any signs of herbivory?:

Other:

Container Stock

Provide visual estimation percent survival of container stock:

Are watering basins intact?:

Is mulch from original installation still present? Is there litter development?:

Seeded Species

Are all intended native species present? If not, then what is missing?:

Are there any occurrences of volunteer native species?:

Are there any unvegetated areas? Should these be remediated?:

Weeds

Is excessive competition from weeds affecting desired species?:

Is there adequate maintenance/weed clearing?:

Other:

Soils

Are there any signs of soil development?:

Are there any signs of erosion or other potential adverse soil disturbance?:

Other:

Irrigation System

Are irrigation heads functioning properly?:

Are there any signs of rodent damage to irrigation system?:

Are there any signs of vandalism to the irrigation system/controller box?:

Are there any signs of excessive runoff?:

Does irrigation frequency and volume require adjustment?

Other:

Is there any indication that wildlife is using the site?

What species were specifically noted?:

Recommendations for Remediation:

PLEASE NOTE:

**The following Conservation Easement Deed is provided by the multi-agency Project Delivery Team as a standardized template document for Mitigation and Conservation Banks in California. Any modifications to this template shall be identified using tracked changes or other electronic comparison and explained in a memorandum.
(Template Version Date: May 2008)**

**RECORDING REQUESTED BY AND
WHEN RECORDED MAIL TO:**

[Fill in Grantee Name/Address]

Grantee Name

Grantee Address

City, State ZIP

Attn: _____

Space Above Line for Recorder's Use Only

CONSERVATION EASEMENT DEED

[Insert Bank Name]

THIS CONSERVATION EASEMENT DEED ("Conservation Easement") is made as of the _____ day of _____, 20____, by [insert full legal name(s) of Grantor: _____] ("Grantor"), in favor of [insert Grantee's full legal name: _____] [if CDFG is Grantee insert: the State of California] ("Grantee"), with reference to the following facts:

RECITALS

A. Grantor is the sole owner in fee simple of certain real property containing approximately _____ acres, located in the City of [insert City name], County of [insert County name], State of California, and designated Assessor's Parcel Number(s) [insert Assessor's Parcel Number(s)] (the "Bank Property"). The Bank Property is legally described and depicted in **Exhibit A** attached to this Conservation Easement and incorporated in it by this reference.

B. The Bank Property possesses wildlife and habitat values of great importance to Grantee, the people of the State of California and the people of the United States. The Bank Property will provide high quality natural, restored and/or enhanced habitat for [specify listed and sensitive plant and/or animal species] and contain [list habitats; native and/or non-native], [include the following phrase only if there are jurisdictional wetlands: and restored, created, enhanced and/or preserved jurisdictional waters of the United States]. Individually and collectively, these wildlife and habitat values comprise the "Conservation Values" of the Bank

Property.

C. The California Department of Fish and Game ("CDFG") has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants and the habitat necessary for biologically sustainable populations of these species pursuant to California Fish and Game Code Section 1802. CDFG is authorized to hold easements for these purposes pursuant to California Civil Code Section 815.3, Fish and Game Code Section 1348, and other provisions of California law.

D. The United States Fish and Wildlife Service (the "USFWS"), an agency within the United States Department of the Interior, has jurisdiction over the conservation, protection, restoration and management of fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of these species within the United States pursuant to the federal Endangered Species Act, 16 U.S.C. Section 1531, *et seq.*, the Fish and Wildlife Coordination Act, 16 U.S.C. Sections 661-666c, the Fish and Wildlife Act of 1956, 16 U.S.C. Section 742(f), *et seq.*, and other provisions of federal law.

E. ***[Remove/modify this recital as appropriate when USEPA or USACE is not a signatory to the BEI or CBA.]*** The U.S. Environmental Protection Agency ("USEPA") and U.S. Army Corps of Engineers ("USACE") have jurisdiction over waters of the United States pursuant to the federal Clean Water Act, 33 U.S.C. Section 1251, *et seq.*

F. ***[Use this version of Recital F when qualified nonprofit organization is Grantee.]*** Grantee is authorized to hold this conservation easement pursuant to California Civil Code Section 815.3 and Government Code Section 65965. Specifically, Grantee is (i) a tax-exempt nonprofit organization qualified under section 501(c) (3) of the Internal Revenue Code of 1986, as amended, and qualified to do business in California; (ii) a "qualified organization" as defined in section 170(h) (3) of the Internal Revenue Code; and (iii) an organization which has as its primary and principal purpose and activity the protection and preservation of natural lands or resources in its natural, scenic, agricultural, forested, or open space condition or use.

[Use this version of Recital F when governmental entity is Grantee.] Grantee is authorized to hold this conservation easement pursuant to California Civil Code Section 815.3. Specifically, Grantee is a governmental entity identified in Civil Code Section 815.3 (b) and otherwise authorized to acquire and hold title to real property.

G. ***[Modify this recital as appropriate when CDFG, USFWS, USEPA or USACE is not a signatory to the BEI or CBA.]*** This Conservation Easement is granted pursuant to the ***[insert the appropriate term: Mitigation Bank Enabling Instrument (the "BEI") or Conservation Bank Agreement (the "CBA")]***, by and between ***[insert Bank Sponsor name(s)]***, ***[insert Bank Property Owner name(s)]***, and ***[insert Region name]*** CDFG, CDFG Tracking No. ***[insert number]***, the ***[insert Field Office name]*** of the USFWS, USFWS File No. ***[insert number]***, the ***[insert District name]*** District of USACE, USACE File No. ***[insert number]***, and Region IX of the USEPA, entered into concurrently with this Conservation Easement, and the Bank Development Plan (the "Development Plan"), and the Interim Management Plan and Long-Term

Management Plan (as applicable, the "Management Plan") created under the [*insert: BEI or CBA*]. [*Remove reference to any agency that is not a party to the BEI or CBA*] CDFG, USFWS, USACE, and USEPA are together referred to in this Conservation Easement as the "Signatory Agencies".

A final, approved copy of the [*insert: BEI or CBA*], the Development Plan and the Management Plan, and any amendments thereto approved by the Signatory Agencies, shall be kept on file at the respective offices of the Signatory Agencies. If Grantor, or any successor or assign, requires an official copy of the [*insert: BEI or CBA*], the Development Plan or the Management Plan, it should request a copy from one of the Signatory Agencies at its address for notices listed in Section 12 of this Conservation Easement.

The [*insert: BEI or CBA*], the Development Plan and the Management Plan are incorporated by this reference into this Conservation Easement as if fully set forth herein.

H. All section numbers referred to in this Conservation Easement are references to sections within this Conservation Easement, unless otherwise indicated.

COVENANTS, TERMS, CONDITIONS AND RESTRICTIONS

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and pursuant to the laws of the United States and the State of California, including California Civil Code Section 815, *et seq.*, Grantor hereby voluntarily grants and conveys to Grantee a conservation easement in perpetuity over the Bank Property.

1. Purposes.

The purposes of this Conservation Easement are to ensure that the Bank Property will be retained forever in its natural, restored, or enhanced condition as contemplated by the [*insert: BEI or CBA*], the Development Plan, and the Management Plan, and to prevent any use of the Bank Property that will impair or interfere with the Conservation Values of the Bank Property. Grantor intends that this Conservation Easement will confine the use of the Bank Property to activities that are consistent with such purposes, including, without limitation, those involving the preservation, restoration and enhancement of native species and their habitats implemented in accordance with the [*insert: BEI or CBA*], the Development Plan and the Management Plan.

2. Grantee's Rights.

To accomplish the purposes of this Conservation Easement, Grantor hereby grants and conveys the following rights to Grantee:

(a) To preserve and protect the Conservation Values of the Bank Property.

(b) To enter the Bank Property at reasonable times, in order to monitor compliance with and otherwise enforce the terms of this Conservation Easement, the [*insert: BEI or CBA*], the Development Plan and the Management Plan and to implement at Grantee's sole

discretion Development Plan and Management Plan activities that have not been implemented, provided that Grantee shall not unreasonably interfere with Grantor's authorized use and quiet enjoyment of the Bank Property.

(c) To prevent any activity on or use of the Bank Property that is inconsistent with the purposes of this Conservation Easement and to require the restoration of such areas or features of the Bank Property that may be damaged by any act, failure to act, or any use or activity that is inconsistent with the purposes of this Conservation Easement.

(d) To require that all mineral, air and water rights as Grantee deems necessary to preserve and protect the biological resources and Conservation Values of the Bank Property shall remain a part of and be put to beneficial use upon the Bank Property, consistent with the purposes of this Conservation Easement.

(e) All present and future development rights appurtenant to, allocated, implied, reserved or inherent in the Bank Property; such rights are hereby terminated and extinguished, and may not be used on or transferred to any portion of the Bank Property, nor any other property adjacent or otherwise.

3. Prohibited Uses.

Any activity on or use of the Bank Property that is inconsistent with the purposes of this Conservation Easement is prohibited. Without limiting the generality of the foregoing, the following uses and activities by Grantor, Grantor's agents, and third parties are expressly prohibited:

(a) Unseasonable watering; use of fertilizers, pesticides, biocides, herbicides or other agricultural chemicals; weed abatement activities; incompatible fire protection activities; and any and all other activities and uses which may impair or interfere with the purposes of this Conservation Easement [*include the following language only if the Development Plan or Management Plan, including any adaptive management measures, specifies such an exception:*], except for [*insert specific exception(s)*] as specifically provided in the [*specify:* Development Plan *or* Management Plan].

(b) Use of off-road vehicles and use of any other motorized vehicles except on existing roadways [*include the following language only if the Development Plan or Management Plan, including any adaptive management measures, specifies such an exception:*], except for [*insert specific exception(s)*] as specifically provided in the [*specify:* Development Plan *or* Management Plan].

(c) Agricultural activity of any kind [*include the following language only if the Development Plan or Management Plan, including any adaptive management measures, specifies such an exception:*] except grazing for vegetation management as specifically provided in the [*specify:* Development Plan *or* Management Plan].

(d) Recreational activities, including, but not limited to, horseback riding,

biking, hunting or fishing except for personal, non-commercial, recreational activities of the Grantor, so long as such activities are consistent with the purposes of this Conservation Easement and specifically provided for in the Management Plan.

(e) Commercial, industrial, residential, or institutional uses.

(f) Any legal or de facto division, subdivision or partitioning of the Bank Property.

(g) Construction, reconstruction, erecting or placement of any building, billboard or sign, or any other structure or improvement of any kind [***include the following language only if the Development Plan or Management Plan specifies such an exception:***], except for [***insert specific exception(s)***] as specifically provided in the [***specify:*** Development Plan ***or*** Management Plan].

(h) Depositing or accumulation of soil, trash, ashes, refuse, waste, bio-solids or any other materials.

(i) Planting, introduction or dispersal of non-native or exotic plant or animal species.

(j) Filling, dumping, excavating, draining, dredging, mining, drilling, removing or exploring for or extracting minerals, loam, soil, sand, gravel, rock or other material on or below the surface of the Bank Property, or granting or authorizing surface entry for any of these purposes.

(k) Altering the surface or general topography of the Bank Property, including but not limited to any alterations to habitat, building roads or trails, paving or otherwise covering the Bank Property with concrete, asphalt or any other impervious material except for those habitat management activities specified in the Development Plan or Management Plan.

(l) Removing, destroying, or cutting of trees, shrubs or other vegetation, except as required by law for (i) fire breaks, (ii) maintenance of existing foot trails or roads, or (iii) prevention or treatment of disease [***include the following language only if the Development Plan or Management Plan specifies such an exception:***]; and except for [***insert specific exception(s)***] as specifically provided in the [***specify:*** Development Plan ***or*** Management Plan].

(m) Manipulating, impounding or altering any natural water course, body of water or water circulation on the Bank Property, and any activities or uses detrimental to water quality, including but not limited to degradation or pollution of any surface or sub-surface waters [***include the following language only if the Development Plan or Management Plan specifies such an exception:***], except for [***insert specific exception(s)***] as specifically provided in the [***specify:*** Development Plan ***or*** Management Plan].

(n) Without the prior written consent of Grantee, which Grantee may

withhold, transferring, encumbering, selling, leasing, or otherwise separating the mineral, air or water rights for the Bank Property; changing the place or purpose of use of the water rights; abandoning or allowing the abandonment of, by action or inaction, any water or water rights, ditch or ditch rights, spring rights, reservoir or storage rights, wells, ground water rights, or other rights in and to the use of water historically used on or otherwise appurtenant to the Bank Property, including but not limited to: (i) riparian water rights; (ii) appropriative water rights; (iii) rights to waters which are secured under contract with any irrigation or water district, to the extent such waters are customarily applied to the Bank Property; and (iv) any water from wells that are in existence or may be constructed in the future on the Bank Property.

(o) Engaging in any use or activity that may violate, or may fail to comply with, relevant federal, state, or local laws, regulations, or policies applicable to Grantor, the Bank Property, or the use or activity in question.

4. Grantee's Duties.

(a) To ensure that the purposes of this Conservation Easement as described in Section 1 are being accomplished, Grantee and its successors and assigns shall:

(1) Perform, at a minimum on an annual basis, compliance monitoring inspections of the Bank Property; and

(2) Prepare reports on the results of the compliance monitoring inspections, and provide these reports to the Signatory Agencies on an annual basis.

(b) In the event that the Grantee's interest in this easement is held by, reverts to, or is transferred to the State of California, Section 4(a) shall not apply.

5. Grantor's Duties.

Grantor shall undertake all reasonable actions to prevent the unlawful entry and trespass by persons whose activities may degrade or harm the Conservation Values of the Bank Property or that are otherwise inconsistent with this Conservation Easement. In addition, Grantor shall undertake all necessary actions to perfect and defend Grantee's rights under Section 2 of this Conservation Easement, and to observe and carry out the obligations of Grantor under the [*insert: BEI or CBA*], the Development Plan and the Management Plan.

6. Reserved Rights.

Grantor reserves to itself, and to its personal representatives, heirs, successors, and assigns, all rights accruing from Grantor's ownership of the Bank Property, including the right to engage in or permit or invite others to engage in all uses of the Bank Property that are not prohibited or limited by, and are consistent with the purposes of, this Conservation Easement.

7. Grantee's Remedies.

If Grantee determines that a violation of this Conservation Easement has occurred or is threatened, Grantee shall give written notice to Grantor of such violation and demand in writing the cure of such violation (“Notice of Violation”). If Grantor fails to cure the violation within thirty (30) days after receipt of a Notice of Violation, or if the cure reasonably requires more than thirty (30) days to complete and Grantor fails to begin the cure within the thirty (30)-day period or fails to continue diligently to complete the cure, Grantee may bring an action at law or in equity in a court of competent jurisdiction for any or all of the following: to recover any damages to which Grantee may be entitled for violation of the terms of this Conservation Easement or for any injury to the Conservation Values of the Bank Property; to enjoin the violation, *ex parte* as necessary, by temporary or permanent injunction without the necessity of proving either actual damages or the inadequacy of otherwise available legal remedies; to pursue any other legal or equitable relief, including but not limited to, the restoration of the Bank Property to the condition in which it existed prior to any violation or injury; or to otherwise enforce this Conservation Easement. Without limiting the liability of Grantor, Grantee may apply any damages recovered to the cost of undertaking any corrective action on the Bank Property.

If Grantee, in its sole discretion, determines that circumstances require immediate action to prevent or mitigate injury to the Conservation Values of the Bank Property, Grantee may pursue its remedies under this Conservation Easement without prior notice to Grantor or without waiting for the period provided for cure to expire. Grantee’s rights under this section apply equally to actual or threatened violations of this Conservation Easement.

Grantor agrees that Grantee’s remedies at law for any violation of this Conservation Easement are inadequate and that Grantee shall be entitled to the injunctive relief described in this section, both prohibitive and mandatory, in addition to such other relief to which Grantee may be entitled, including specific performance of this Conservation Easement, without the necessity of proving either actual damages or the inadequacy of otherwise available legal remedies. Grantee’s remedies described in this section shall be cumulative and shall be in addition to all remedies now or hereafter existing at law or in equity, including but not limited to the remedies set forth in California Civil Code Section 815, *et seq.* The failure of Grantee to discover a violation or to take immediate legal action shall not bar Grantee from taking such action at a later time.

(a) Costs of Enforcement.

All costs incurred by Grantee, where Grantee is the prevailing party, in enforcing the terms of this Conservation Easement against Grantor, including, but not limited to, costs of suit and attorneys' and experts' fees, and any costs of restoration necessitated by negligence or breach of this Conservation Easement, shall be borne by Grantor.

(b) Grantee's Discretion.

Enforcement of the terms of this Conservation Easement by Grantee shall be at the discretion of Grantee, and any forbearance by Grantee to exercise its rights under this Conservation Easement in the event of any breach of any term of this Conservation Easement shall not be deemed or construed to be a waiver of such term or of any subsequent breach of the

same or any other term of this Conservation Easement or of any rights of Grantee under this Conservation Easement. No delay or omission by Grantee in the exercise of any right or remedy shall impair such right or remedy or be construed as a waiver.

(c) Acts Beyond Grantor's Control.

Nothing contained in this Conservation Easement shall be construed to entitle Grantee to bring any action against Grantor for any injury to or change in the Bank Property resulting from (i) any natural cause beyond Grantor's control, including, without limitation, fire not caused by Grantor, flood, storm, and earth movement, or any prudent action taken by Grantor under emergency conditions to prevent, abate, or mitigate significant injury to the Bank Property resulting from such causes; or (ii) acts by Grantee or its employees.

(d) Enforcement; Standing.

All rights and remedies conveyed to Grantee under this Conservation Easement shall extend to and are enforceable by [*insert if State of California is Grantee:* CDFG and] the Third-Party Beneficiaries (as defined in Section 14(m)). These enforcement rights are in addition to, and do not limit, the rights of enforcement under the [*insert:* BEI *or* CBA], the Development Plan or the Management Plan. If at any time in the future Grantor uses, allows the use, or threatens to use or allow use of, the Bank Property for any purpose that is inconsistent with or in violation of this Conservation Easement then, despite the provisions of California Civil Code Section 815.7, the California Attorney General and the Third-Party Beneficiaries each has standing as an interested party in any proceeding affecting this Conservation Easement.

(e) Notice of Conflict.

If Grantor receives a Notice of Violation from Grantee or a Third-Party Beneficiary with which it is impossible for Grantor to comply consistent with any prior uncured Notice(s) of Violation, Grantor shall give written notice of the conflict (hereinafter "Notice of Conflict") to the Grantee and Third-Party Beneficiaries. In order to be a valid, a Notice of Conflict shall be given within fifteen (15) days of the date Grantor receives a conflicting Notice of Violation, shall include copies of the conflicting Notices of Violation, and shall describe the conflict with specificity, including how the conflict makes compliance with the uncured Notice(s) of Violation impossible. Upon issuing a valid Notice of Conflict, Grantor shall not be required to comply with the conflicting Notices of Violation until such time as the entity or entities issuing said conflicting Notices of Violation issue(s) revised Notice(s) of Violation that resolve the conflict. Upon receipt of a revised Notice of Violation, Grantor shall comply with such notice within the time period(s) described in the first grammatical paragraph of this Section. The failure of Grantor to issue a valid Notice of Conflict within fifteen (15) days of receipt of a conflicting Notice of Violation shall constitute a waiver of Grantor's ability to claim a conflict.

(f) [*Add if nonprofit organization is Grantee*] Reversion.

If the Signatory Agencies determine that Grantee is not holding, monitoring or managing this Conservation Easement for conservation purposes in the manner specified in this Conservation Easement or in the [*insert:* BEI *or* CBA], the Development Plan or the Management Plan then, pursuant to California Government Code Section 65965(c), this Conservation Easement shall revert to the State of California, or to another public agency or

nonprofit organization qualified pursuant to Civil Code Section 815.3 and Government Code Section 65965 (and any successor or other provision(s) then applicable) and approved by the Signatory Agencies.

8. Access.

This Conservation Easement does not convey a general right of access to the public.

9. Costs and Liabilities.

Grantor retains all responsibilities and shall bear all costs and liabilities of any kind related to the ownership, operation, upkeep, and maintenance of the Bank Property. Grantor agrees that neither Grantee nor Third-Party Beneficiaries shall have any duty or responsibility for the operation, upkeep or maintenance of the Bank Property, the monitoring of hazardous conditions on it, or the protection of Grantor, the public or any third parties from risks relating to conditions on the Bank Property. Grantor remains solely responsible for obtaining any applicable governmental permits and approvals required for any activity or use permitted by this Conservation Easement [*insert if CDFG or another government entity is Grantee:* , including permits and approvals required from Grantee acting in its regulatory capacity], and any activity or use shall be undertaken in accordance with all applicable federal, state, local and administrative agency laws, statutes, ordinances, rules, regulations, orders and requirements.

(a) Taxes; No Liens.

Grantor shall pay before delinquency all taxes, assessments (general and special), fees, and charges of whatever description levied on or assessed against the Bank Property by competent authority (collectively "Taxes"), including any Taxes imposed upon, or incurred as a result of, this Conservation Easement, and shall furnish Grantee with satisfactory evidence of payment upon request. Grantor shall keep the Bank Property free from any liens (other than a security interest that is expressly subordinated to this Conservation Easement, as provided in Section 14(k)), including those arising out of any obligations incurred by Grantor for any labor or materials furnished or alleged to have been furnished to or for Grantor at or for use on the Bank Property.

(b) Hold Harmless.

(1) Grantor shall hold harmless, protect and indemnify Grantee and its directors, officers, employees, agents, contractors, and representatives and the heirs, personal representatives, successors and assigns of each of them (each a "Grantee Indemnified Party" and collectively, "Grantee's Indemnified Parties") from and against any and all liabilities, penalties, costs, losses, damages, expenses (including, without limitation reasonable attorneys' fees and experts' fees), causes of action, claims, demands, orders, liens or judgments (each a "Claim" and, collectively, "Claims"), arising from or in any way connected with: (i) injury to or the death of any person, or physical damage to any property, resulting from any act, omission, condition, or other matter related to or occurring on or about the Bank Property, regardless of cause, except that this indemnification shall be inapplicable to any Claim due solely to the negligence of Grantee or any of its employees; (ii) the obligations specified in Sections 5, 9 and 9(a); and (iii) the existence or administration of this Conservation Easement. If any action or proceeding is

brought against any of the Grantee's Indemnified Parties by reason of any such Claim, Grantor shall, at the election of and upon written notice from Grantee, defend such action or proceeding by counsel reasonably acceptable to the Grantee's Indemnified Party [*insert if CDFG is grantee:* or reimburse Grantee for all charges incurred for services of the California Attorney General in defending the action or proceeding].

(2) Grantor shall hold harmless, protect and indemnify Third-Party Beneficiaries and their respective directors, officers, employees, agents, contractors, and representatives and the heirs, personal representatives, successors and assigns of each of them (each a "Third-Party Beneficiary Indemnified Party" and collectively, "Third-Party Beneficiary Indemnified Parties") from and against any and all Claims arising from or in any way connected with: (i) injury to or the death of any person, or physical damage to any property, resulting from any act, omission, condition, or other matter related to or occurring on or about the Bank Property, regardless of cause and (ii) the existence or administration of this Conservation Easement. *Provided, however,* that the indemnification in this Section 9 (b) (2) shall be inapplicable to a Third-Party Beneficiary Indemnified Party with respect to any Claim due solely to the negligence of that Third-Party Beneficiary Indemnified Party or any of its employees. If any action or proceeding is brought against any of the Third-Party Beneficiary Indemnified Parties by reason of any Claim to which the indemnification in this Section 9 (b) (2) applies, then at the election of and upon written notice from the Third-Party Beneficiary Indemnified Party, Grantor shall defend such action or proceeding by counsel reasonably acceptable to the applicable Third-Party Beneficiary Indemnified Party or reimburse the Third-Party Beneficiary Indemnified Party for all charges incurred for services of the California Attorney General or the U.S. Department of Justice in defending the action or proceeding.

(c) Extinguishment.

If circumstances arise in the future that render the preservation of Conservation Values, [*include this phrase only if there are jurisdictional wetlands:* including wetland functions and values,] or other purposes of this Conservation Easement impossible to accomplish, this Conservation Easement can only be terminated or extinguished, in whole or in part, by judicial proceedings in a court of competent jurisdiction.

(d) Condemnation.

[*Use the appropriate paragraph:*]

[*If CDFG or other state agency is Grantee:*] Condemnation. This Conservation Easement is a "wildlife conservation easement" acquired by a State agency, the condemnation of which is prohibited except as provided in California Fish and Game Code Section 1348.3.

[*All other Grantees:*] Condemnation. The purposes of this Conservation Easement are presumed to be the best and most necessary public use as defined at California Code of Civil Procedure Section 1240.680 notwithstanding Code of Civil Procedure Sections 1240.690 and 1240.700.

10. Transfer of Conservation Easement or Bank Property.

(a) Conservation Easement.

This Conservation Easement may be assigned or transferred by Grantee upon written approval of the Signatory Agencies, which approval shall not be unreasonably withheld or delayed, but Grantee shall give Grantor and the Signatory Agencies at least sixty (60) days prior written notice of the proposed assignment or transfer. Grantee may assign or transfer its rights under this Conservation Easement only to an entity or organization: (i) authorized to acquire and hold conservation easements pursuant to California Civil Code Section 815.3 and Government Code Section 65965 (and any successor or other provision(s) then applicable), or the laws of the United States; and (ii) otherwise reasonably acceptable to the Signatory Agencies. Grantee shall require the assignee to record the assignment in the county where the Bank Property is located. The failure of Grantee to perform any act provided in this section shall not impair the validity of this Conservation Easement or limit its enforcement in any way. Any transfer under this section is subject to the requirements of Section 11.

(b) Bank Property.

Grantor agrees to incorporate the terms of this Conservation Easement by reference in any deed or other legal instrument by which Grantor divests itself of any interest in all or any portion of the Bank Property, including, without limitation, a leasehold interest. Grantor agrees that the deed or other legal instrument shall also incorporate by reference the [*insert: BEI or CBA*], the Development Plan, the Management Plan, and any amendment(s) to those documents. Grantor further agrees to give written notice to Grantee and the Signatory Agencies of the intent to transfer any interest at least sixty (60) days prior to the date of such transfer. Grantee or the Signatory Agencies shall have the right to prevent any transfers in which prospective subsequent claimants or transferees are not given notice of the terms, covenants, conditions and restrictions of this Conservation Easement (including the exhibits and documents incorporated by reference in it). The failure of Grantor to perform any act provided in this section shall not impair the validity of this Conservation Easement or limit its enforceability in any way. Any transfer under this section is subject to the requirements of Section 11.

11. Merger.

The doctrine of merger shall not operate to extinguish this Conservation Easement if the Conservation Easement and the Bank Property become vested in the same party. If, despite this intent, the doctrine of merger applies to extinguish the Conservation Easement then, unless Grantor, Grantee, and the Signatory Agencies otherwise agree in writing, a replacement conservation easement or restrictive covenant containing the same protections embodied in this Conservation Easement shall be recorded against the Bank Property.

12. Notices.

Any notice, demand, request, consent, approval, or other communication that Grantor or Grantee desires or is required to give to the other shall be in writing, with a copy to each of the Signatory Agencies, and served personally or sent by recognized overnight courier that guarantees next-day delivery or by first class United States mail, postage fully prepaid, addressed as follows:

To Grantor: [Grantee name]
[Grantee address]
Attn: _____

To Grantee: *[insert the appropriate Grantee information:]*

[Department of Fish and Game]
[Region name] Region
[REGION ADDRESS]
[Attn: Regional Manager]

OR

[Grantee name]
[Grantee address]

[Remove/modify the following blocks as appropriate when CDFG or the USFWS are not signatories to the BEI or CBA or third-party beneficiaries to the CE.]

To CDFG: [Department of Fish and Game]
[Region name] Region
[REGION ADDRESS]
[Attn: Regional Manager]

With a copy to: Department of Fish and Game
Office of General Counsel
1416 Ninth Street, 12th Floor
Sacramento, CA 95814-2090
Attn: General Counsel

To USFWS: United States Fish and Wildlife Service
[Field Office name] Field Office
[FIELD OFFICE ADDRESS]
Attn: Field Supervisor

[Remove/modify these blocks as appropriate when USEPA or USACE are not signatories to the BEI or CBA or third-party beneficiaries to the CE.]

To USACE: U.S. Army Corps of Engineers
[District name] District
[DISTRICT ADDRESS]
Attn: Chief, Regulatory Branch

To USEPA: U.S. Environmental Protection Agency, Region IX

75 Hawthorne Street
San Francisco, CA 94105
Attn: Director, Water Division

or to such other address a party or a Signatory Agency shall designate by written notice to Grantor, Grantee and the Signatory Agencies. Notice shall be deemed effective upon delivery in the case of personal delivery or delivery by overnight courier or, in the case of delivery by first class mail, three (3) days after deposit into the United States mail.

13. Amendment.

This Conservation Easement may be amended only by mutual written agreement of Grantor and Grantee and written approval of the Signatory Agencies, which approval shall not be unreasonably withheld or delayed. Any such amendment shall be consistent with the purposes of this Conservation Easement and California law governing conservation easements, and shall not affect its perpetual duration. Any such amendment shall be recorded in the official records of the county in which the Bank Property is located, and Grantee shall promptly provide a conformed copy of the recorded amendment to the Grantor and the Signatory Agencies.

14. Additional Provisions.

(a) Controlling Law.

The interpretation and performance of this Conservation Easement shall be governed by the laws of the United States and the State of California, disregarding the conflicts of law principles of such state.

(b) Liberal Construction.

Despite any general rule of construction to the contrary, this Conservation Easement shall be liberally construed to effect the purposes of this Conservation Easement and the policy and purpose of California Civil Code Section 815, *et seq.* [***add if Grantee is nonprofit organization:*** and Government Code Section 65965]. If any provision in this instrument is found to be ambiguous, an interpretation consistent with the purposes of this Conservation Easement that would render the provision valid shall be favored over any interpretation that would render it invalid.

(c) Severability.

If a court of competent jurisdiction voids or invalidates on its face any provision of this Conservation Easement, such action shall not affect the remainder of this Conservation Easement. If a court of competent jurisdiction voids or invalidates the application of any provision of this Conservation Easement to a person or circumstance, such action shall not affect the application of the provision to any other persons or circumstances.

(d) Entire Agreement.

This document (including its exhibits and the [***insert:*** BEI ***or*** CBA], the Development Plan, and the Management Plan incorporated by reference in this document) sets forth the entire agreement of the parties and the Signatory Agencies with respect to the

Conservation Easement and supersedes all prior discussions, negotiations, understandings, or agreements of the parties relating to the Conservation Easement. No alteration or variation of this Conservation Easement shall be valid or binding unless contained in an amendment in accordance with Section 13.

(e) No Forfeiture.

Nothing contained in this Conservation Easement will result in a forfeiture or reversion of Grantor's title in any respect.

(f) Successors.

The covenants, terms, conditions, and restrictions of this Conservation Easement shall be binding upon, and inure to the benefit of, the parties and their respective personal representatives, heirs, successors, and assigns, and shall constitute a servitude running in perpetuity with the Bank Property.

(g) Termination of Rights and Obligations.

A party's rights and obligations under this Conservation Easement terminate upon transfer of the party's interest in the Conservation Easement or Bank Property, except that liability for acts, omissions or breaches occurring prior to transfer shall survive transfer.

(h) Captions.

The captions in this instrument have been inserted solely for convenience of reference and are not a part of this instrument and shall have no effect upon its construction or interpretation.

(i) No Hazardous Materials Liability.

(1) Grantor represents and warrants that it has no knowledge or notice of any Hazardous Materials (defined below) or underground storage tanks existing, generated, treated, stored, used, released, disposed of, deposited or abandoned in, on, under, or from the Bank Property, or transported to or from or affecting the Bank Property.

(2) Without limiting the obligations of Grantor under Section 9 (b), Grantor hereby releases and agrees to indemnify, protect and hold harmless the Grantee's Indemnified Parties (defined in Section 9 (b) (1)) from and against any and all Claims (defined in Section 9 (b)(1)) arising from or connected with any Hazardous Materials or underground storage tanks present, alleged to be present, released in, from or about, or otherwise associated with the Bank Property at any time, except any Hazardous Materials placed, disposed or released by Grantee or any of its employees. This release and indemnification includes, without limitation, Claims for (A) injury to or death of any person or physical damage to any property; and (B) the violation or alleged violation of, or other failure to comply with, any Environmental Laws (defined below). If any action or proceeding is brought against any of the Grantee's Indemnified Parties by reason of any such Claim, Grantor shall, at the election of and upon written notice from the applicable Grantee Indemnified Party, defend such action or proceeding

by counsel reasonably acceptable to the Grantee Indemnified Party [*add if CDFG is Grantee:* or reimburse Grantee for all charges incurred for services of the California Attorney General in defending the action or proceeding].

(3) Without limiting the obligations of Grantor under Section 9 (b), Grantor hereby releases and agrees to indemnify, protect and hold harmless the Third-Party Beneficiary Indemnified Parties (defined in Section 9 (b)(2)) from and against any and all Claims arising from or connected with any Hazardous Materials or underground storage tanks present, alleged to be present, released in, from or about, or otherwise associated with the Bank Property at any time, except that this release and indemnification shall be inapplicable to a Third-Party Beneficiary Indemnified Party with respect to any Hazardous Materials placed, disposed or released by that Third-Party Beneficiary Indemnified Party or any of its employees. This release and indemnification includes, without limitation, Claims for (A) injury to or death of any person or physical damage to any property; and (B) the violation of alleged violation of, or other failure to comply with, any Environmental Laws. If any action or proceeding is brought against any of the Third-Party Beneficiary Indemnified Parties by reason of any such Claim, Grantor shall, at the election or and upon written notice from the applicable Third-Party Beneficiary Indemnified Party, defend such action or proceeding by counsel reasonably acceptable to the Third-Party Beneficiary Indemnified Party for all charges incurred for services of the California Attorney General or the U.S. Department of Justice in defending the action or proceeding.

(4) Despite any contrary provision of this Conservation Easement, the parties do not intend this Conservation Easement to be, and this Conservation Easement shall not be, construed such that it creates in or gives to Grantee or any Third-Party Beneficiaries any of the following:

(A) The obligations or liability of an "owner" or "operator," as those terms are defined and used in Environmental Laws (defined below), including, without limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. § 9601, *et seq.*; hereinafter, "CERCLA"); or

(B) The obligations or liabilities of a person described in 42 U.S.C. § 9607(a)(3) or (4); or

(C) The obligations of a responsible person under any applicable Environmental Laws; or

(D) The right to investigate and remediate any Hazardous Materials associated with the Bank Property; or

(E) Any control over Grantor's ability to investigate, remove, remediate or otherwise clean up any Hazardous Materials associated with the Bank Property.

(5) The term "Hazardous Materials" includes, without limitation, (a) material that is flammable, explosive or radioactive; (b) petroleum products, including by-

products and fractions thereof; and (c) hazardous materials, hazardous wastes, hazardous or toxic substances, or related materials defined in CERCLA, the Resource Conservation and Recovery Act of 1976 (42 U.S.C. § 6901, *et seq.*; hereinafter, "RCRA"); the Hazardous Materials Transportation Act (49 U.S.C. §5101, *et seq.*; hereinafter, "HTA"); the Hazardous Waste Control Law (California Health & Safety Code § 25100, *et seq.*; hereinafter, "HCL"); the Carpenter-Presley-Tanner Hazardous Substance Account Act (California Health & Safety Code § 25300, *et seq.*; hereinafter "HSA"), and in the regulations adopted and publications promulgated pursuant to them, or any other applicable Environmental Laws now in effect or enacted after the date of this Conservation Easement.

(6) The term "Environmental Laws" includes, without limitation, CERCLA, RCRA, HTA, HCL, HSA, and any other federal, state, local or administrative agency statute, ordinance, rule, regulation, order or requirement relating to pollution, protection of human health or safety, the environment or Hazardous Materials. Grantor represents, warrants and covenants to Grantee and Third-Party Beneficiaries that activities upon and use of the Bank Property by Grantor, its agents, employees, invitees and contractors will comply with all Environmental Laws.

(j) Warranty.

Grantor represents and warrants that Grantor is the sole owner of the Bank Property. Grantor also represents and warrants that, except as specifically disclosed to and approved by the Signatory Agencies pursuant to the Bank Property Assessment and Warranty signed by Grantee and attached as an exhibit to the [*insert: BEI or CBA*], [*choose applicable statement: there are no outstanding mortgages, liens, encumbrances or other interests in the Bank Property (including, without limitation, mineral interests) which may conflict or are inconsistent with this Conservation Easement or the holder of any outstanding mortgage, lien, encumbrance or other interest in the Bank Property (including, without limitation, mineral interest) which conflicts or is inconsistent with this Conservation Easement has expressly subordinated such interest to this Conservation Easement by a recorded Subordination Agreement approved by Grantee and the Signatory Agencies*].

(k) Additional Interests.

Grantor shall not grant any additional easements, rights of way or other interests in the Bank Property (other than a security interest that is expressly subordinated to this Conservation Easement), nor shall Grantor grant, transfer, abandon or relinquish (each a "Transfer") any mineral, air, or water right or any water associated with the Bank Property, without first obtaining the written consent of Grantee and the Signatory Agencies. Such consent may be withheld if Grantee or the Signatory Agencies determine(s) that the proposed interest or Transfer is inconsistent with the purposes of this Conservation Easement or will impair or interfere with the Conservation Values of the Bank Property. This Section 14(k) shall not limit the provisions of Section 2(d) or 3(n), nor prohibit transfer of a fee or leasehold interest in the Bank Property that is subject to this Conservation Easement and complies with Section 10. Grantor shall provide a copy of any recorded or unrecorded grant or Transfer document to the Grantee and Signatory Agencies.

(l) Recording.

Grantee shall record this Conservation Easement in the Official Records of the County in which the Bank Property is located, and may re-record it at any time as Grantee deems necessary to preserve its rights in this Conservation Easement.

(m) Third-Party Beneficiary.

Grantor and Grantee acknowledge that the [*include the agencies that will be third-party beneficiaries*: CDFG, USFWS, USACE, and USEPA] (the “Third-Party Beneficiaries”) are third party beneficiaries of this Conservation Easement with the right of access to the Bank Property and the right to enforce all of the obligations of Grantor including, but not limited to, Grantor’s obligations under Section 14, and all other rights and remedies of the Grantee under this Conservation Easement.

(n) Funding.

Endowment funding for the perpetual management, maintenance and monitoring of the Bank Property is specified in and governed by the [*insert: BEI or CBA*] and the Management Plan.

IN WITNESS WHEREOF Grantor has executed this Conservation Easement Deed the day and year first above written.

GRANTOR:

Approved as to form:

[Remove or modify the approval block as appropriate, i.e., Grantee’s legal counsel if CDFG is not Grantee.]

BY: _____

General Counsel
State of California
Department of Fish and Game

NAME: _____

TITLE: _____

BY: _____
Ann S. Malcolm
General Counsel

DATE: _____

[Delete this page if CDFG will not be Grantee. If the Grantee will be a government agency, that agency must include its own Certificate of Acceptance.]

CERTIFICATE OF ACCEPTANCE

This is to certify that the interest in real property conveyed by the Conservation Easement Deed by _____, dated _____, 20____, to the State of California, Grantee, acting by and through its Department of Fish and Game, a governmental agency (under Government Code § 27281), is hereby accepted by the undersigned officer on behalf of the Grantee pursuant to the Fish and Game Code.

GRANTEE:

[Remove or modify the approval block as appropriate if CDFG is not Grantee.]

STATE OF CALIFORNIA, by and through its
DEPARTMENT OF FISH AND GAME

By: _____

Title: _____
Authorized Representative

Date: _____