

# THE PRIMA DESHECHA LANDFILL SUPPLEMENTAL OPEN SPACE (SOS) MANAGEMENT PLAN

## OVERVIEW OF PRIMA DESHECHA LANDFILL SOS MANAGEMENT PLAN

The County's participation in the South NCCP program involves the inclusion of approximately 11,950 acres of regional park land into the 32,818-acre Habitat Reserve and the designation of approximately 530 acres of Supplemental Open Space (SOS) within the Prima Deshecha Landfill to be permanently protected under the provisions of a conservation easement dedicated to the RMVLC or non-profit entity approved by the Agencies. Although the SOS area is located outside of the Habitat Reserve, the SOS area with Prima is intended to compliment the Reserve system by preserving and enhancing the net long-term habitat values within the subregion and providing additional connectivity to the Habitat Reserve. In addition, approximately 200 acres of the 530-acre SOS area will undergo habitat restoration (i.e., acres of CSS, 19 acres of native grassland, and 6 acres of willow riparian scrub habitats) though the implementation of a Pre-Mitigation Plan to address impacts resulting from the ultimate build-out of Prima Deshecha Landfill and La Pata Avenue from Ortega Highway to Calle Saluda. The County will also make a one-time, lump sum payment of \$850,000 to the RMVLC for invasive plant species eradication and management over an approximately 24-acre area within the San Juan Creek portion of Caspers Wilderness Park within the Habitat Reserve.

### PRE-MITIGATION IMPLEMENTATION PLAN:

The Pre-mitigation Plan involves onsite and offsite mitigation to be completed in advance of the impacts to habitats affected by these projects. The onsite Pre-mitigation Plan includes the creation of 174 acres of CSS, 19 acres of native grassland, and 6 acres of willow riparian scrub habitats to be completed in three phases as follows:

| <b>Prima Deshecha Landfill and La Pata Avenue Pre-Mitigation Plan</b> |                |                |                |                      |
|---|----------------|----------------|----------------|----------------------|
| <b>Habitat Type</b>   | <b>Phase 1</b> | <b>Phase 2</b> | <b>Phase 3</b> | <b>Total Acreage</b> |
| Coastal Sage Scrub <sup>1</sup>                                       | 14.20          | 81.4           | 78.4           | 174.0                |
| Native Grassland  | 2.92           | 15.8           |                | 18.7                 |
| Willow Riparian   | 3.00           | 3.0            |                | 6.0                  |
| <b>Total</b>  |                |                |                | <b>198.7</b>         |

**Note:** <sup>1</sup> The mitigation ratio will be 2:1 for La Pata if impacts occur prior to the establishment of adequate CSS or an additional 52 acres of CSS raising the total amount of CSS to 226 acres.

The offsite portion of the mitigation program involves a one-time lump sum payment of \$850,000 to the RMVLC for the eradication of approximately 24 acres of *Arundo donax* (giant reed) and other invasive plant species within the San Juan Creek portion of Caspers Wilderness Park. In addition, approval to trans-locate a small population of thread-leaved brodiaea (*Brodiaea filifolia*) to the Pre-Mitigation area within the SOS area of Prima Deshecha Landfill is being pursued. This mitigation program represents the total mitigation program for the Prima Deshecha Landfill and La Pata Avenue Extension projects.

## PRE-MITIGATION AND MITIGATION REPORTING:

Habitat restoration components of the SOS areas will be monitored and reported on a quarterly and annual basis through establishment estimated to occur within five years from the date of installation for each phase. The quarterly reports which are qualitative and annual reports which are quantitative will be prepared by a Restoration Ecologist, in consultation with the Site Manager and Biological Monitor and submitted to the USFWS and CDFG. The reports will include a description of the mitigation program, performance goals, and recommended remedial measures to achieve the established performance goals and long-term management objectives for each habitat type. In 2006, the County prepared and submitted the first annual monitoring report for the Phase B Landslide Remediation restoration mitigation program including the Phase 1 Pre-Mitigation component included in the Pre-Mitigation Plan for the NCCP program.

The Proposed Pre-mitigation Plan is intended to address all anticipated impacts to coastal sage scrub, southern needlegrass grassland, special status species plants, and riparian habitats containing state and federal jurisdictional wetlands and waters of the United States that will likely occur at some point during the ultimate development of the Prima Deshecha Landfill through projected build-out in 2067, and the extension of La Pata Avenue from Ortega Highway to Calle Saluda in San Clemente. Since the mitigation will be established in advance of impacts to CSS, Southern needlegrass grassland and riparian habitat, impacts to these habitats will be mitigated at a maximum 1:1 ratio. In addition to advanced establishment of coastal sage scrub, southern needlegrass grassland, and riparian (state and federal jurisdictional wetlands and waters of the United States) habitats, special status species plants such vernal barley (*Hordeum intercedens*), small-flowered morning glory (*Convolvulus simulans*), and paniculate tarplant (*Deinandra [Hemizonia] paniculata*) will be incorporated into the appropriate plant community planting program. The thread-leaved brodiaea (*Brodiaea filifolia*) relocation will involve seed collection, nursery propagation, planting, and soil salvage and placement in a designated recipient site within the pre-mitigation portion of the SOS area.

The conceptual design of the On-Site Pre-Mitigation Plan component includes the restoration of up to 122 acres of CSS (14 acres existing created habitat and 108 acres to be created), 19 acres of southern needlegrass grassland (3 acres of existing created habitat and 16 acres to be created), and 6 acres of riparian habitat for Prima Deshecha Landfill. An additional 52 acres of CSS is included to offset impacts associated with the implementation of La Pata Avenue.

The Off-site Pre-mitigation component involves the removal of 24 acres of *Arundo donax* and other exotic invasive plant species within the San Juan Creek portion of Caspers Wilderness Park. OCIWMD intends to make a lump sum in lieu fee mitigation payment in the amount of \$850,000 to the RMVLC for the eradication and ongoing management of invasive plant species. Pre-mitigation concepts have also been developed to accommodate the future expansion of Camino de los Mares through the southwest portion of the project site, based upon the conceptual alignment shown in the MPAH and the latest design alternatives for the Avenida La Pata Extension. The potential extension of Camino de los Mares is not a Covered Activity under the NCCP/MsAA/HCP. No additional management obligations will be required of the County upon payment of the payment of the in-lieu mitigation fee.

Pre-mitigation Plan design is based on the following goals:

- ***Maximize on-site restoration and enhancement mitigation opportunities.*** All of the coastal sage scrub, southern needlegrass grassland, and special status plant species impacted by the ultimate development of the PDL can be accommodated within the

boundaries of the landfill property without impact to current and future landfilling operations or any potential future alignment of Avenida La Pata. Although there are some opportunities for mitigating impacts to the state and federal jurisdictional resources on site, most of the mitigation is proposed to occur within Caspers Wilderness Park as part of an exotic invasive plant species eradication and management program.

- **Select areas that are currently disturbed or contain non-native species.** The proposed pre-mitigation opportunity areas occur within areas of the landfill property that have been disturbed by previous grazing within annual grasslands or within areas disturbed by landslide remediation activities.
- **Select areas that are accessible and contiguous to provide efficiencies in installation, maintenance and monitoring.** The proposed mitigation sites are located immediately adjacent to the newly created bio-mitigation site and existing native coastal sage and riparian habitat resources and are accessible from existing landfill maintenance roads.
- **Provide habitat connectivity between existing native habitat areas (including existing mitigation sites A, B, C, and existing pre-mitigation site D), and existing preserved open space in adjacent land areas.** The proposed mitigation plan identifies areas of the landfill property located primarily along the southern boundaries immediately adjacent to the newly-created bio-mitigation area and existing habitat areas containing suitable habitat for and occupied by the least Bell's vireo, a state- and federally-listed Endangered Species, and California gnatcatcher, a federally-listed Threatened Species. The proposed pre-mitigation areas will also provide enhanced habitat connectivity to the adjacent, off-site Talega mitigation site in San Clemente and other permanent open space areas to the south and east.
- **Enhance sensitive species habitat.** The proposed Pre-mitigation Plan will include restoration, enhancement, and creation elements that enhance the long-term habitat conservation values for the California gnatcatcher and least Bell's vireo as well as other sensitive and non-sensitive native plant and wildlife species.
- **Incorporate viewshed protection elements.** Incorporate viewshed protection requirements from City/County MOUs and agreements with adjacent landowners.

The Pre-mitigation Plan will involve active restoration, revegetation and enhancement as defined in Appendix H with the exception of cattle grazing and control burns which are not permitted uses. The goal of the CSS restoration programs is the establishment of self-sustaining habitat that would provide foraging, cover, nesting and dispersal habitat for the California gnatcatcher, as well as other resident sage scrub species. Similarly, the goal of southern needlegrass grassland habitat revegetation and enhancement is to provide suitable habitat for various grassland plants, including native needlegrass and annual herbs and wildlife species such as the grasshopper sparrow. Lastly, the goal of the riparian habitat revegetation is to provide suitable habitat for the expansion of existing least Bell's vireo territories on and off site as well as the creation of habitat for the establishment of new vireo territories. Performance criteria have been established to define when the restoration effort is successful and are outlined in Section 2.3.3 and Table 1 of Appendix H.

The location and type of habitat restoration has been defined by the plan and will be carried out over the next three to four years and intended to satisfy the mitigation requirements for Prima

Deshecha Landfill and Avenida La Pata at a maximum mitigation ratio of 1:1. The Pre-mitigation plan habitat types, locations and acreage are described below:

**CSS Revegetation:**

One hundred seventy-four (174) acres of CSS habitat revegetation is scheduled to occur within the Pre-mitigation portion of the 530-acre SOS area. The mitigation plan is based on a mitigation ratio of 1:1 and includes mitigation for Prima Deshecha Landfill (122 acres including 14 acres of existing restored CSS habitat and 108 acres of CSS habitat to be restored) and Avenida La Pata (52 acres). The revegetation treatment for CSS would rely upon the use of a native CSS seed mix for the CSS revegetation sites. Container plant installation is only identified as an option that could be used in select areas within the pre-mitigation portion of the SOS area to facilitate more rapid plant establishment and area coverage, particularly on the steeper slopes. However, the application of the native seed mix will be the primary restoration treatment.

Native seed will be obtained from local sources in Southern California to the greatest extent feasible. The seed mix would contain appropriate mycorrhizae to help promote healthy, vigorous plant growth. Common CSS species such as California sagebrush (*Artemisia californica*), California bush sunflower (*Encelia californica*), orange bush monkey-flower (*Mimulus aurantiacus*), coastal goldenbush (*Isocoma menziesii*), white sage (*Salvia apiana*), California buckwheat (*Eriogonum fasciculatum*), and native bunchgrass (*Nassella* spp.) would be included in the seed mix. Also, paniculate tarplant (*Dienandra [Hemizonia] paniculata*) will be included in the seed mix in compliance with mitigation measures contained in EIR 575 and EIR 597 for Prima Deshecha Landfill GDP, as amended.

**TABLE 1  
CONTAINER PLANT SPECIES AND QUANTITIES (171.0 ACRES)  
COASTAL SAGE SCRUB PRE-MITIGATION PROGRAM**

| Plant Species                          |                                | Size  | Qty per Acre | Total Qty     |
|--|--------------------------------|-------|--------------|---------------|
| Common Name <sup>1</sup>               | Botanical Name                 |       |              |               |
| California sagebrush <sup>2</sup>      | <i>Artemisia californica</i>   | 1-gal | 20           | 3,420         |
| coyote bush <sup>2</sup>               | <i>Baccharis pilularis</i>     | 1-gal | 10           | 1,710         |
| California bush sunflower <sup>2</sup> | <i>Encelia californica</i>     | 1-gal | 10           | 1,710         |
| California buckwheat <sup>2</sup>      | <i>Eriogonum fasciculatum</i>  | 1-gal | 10           | 1,710         |
| toyon <sup>3</sup>                     | <i>Heteromeles arbutifolia</i> | 1-gal | 3            | 513           |
| coastal goldenbush <sup>2</sup>        | <i>Isocoma menziesii</i>       | 1-gal | 5            | 855           |
| laurel sumac <sup>3</sup>              | <i>Malosma laurina</i>         | 1-gal | 3            | 513           |
| bush monkey flower <sup>2</sup>        | <i>Mimulus aurantiacus</i>     | 1-gal | 5            | 855           |
| coastal prickly pear <sup>2</sup>      | <i>Opuntia littoralis</i>      | pads  | 10           | 1,710         |
| coastal cholla <sup>2</sup>            | <i>Opuntia prolifera</i>       | pads  | 3            | 513           |
| lemonadeberry <sup>3</sup>             | <i>Rhus integrifolia</i>       | 1-gal | 3            | 513           |
| white sage <sup>2</sup>                | <i>Salvia apiana</i>           | 1-gal | 5            | 855           |
| black sage <sup>2</sup>                | <i>Salvia mellifera</i>        | 1-gal | 10           | 1,710         |
| Mexican elderberry <sup>3</sup>        | <i>Sambucus mexicana</i>       | 1-gal | 3            | 513           |
| <b>Total</b>                           |                                |       | <b>100</b>   | <b>17,100</b> |

- <sup>1</sup> To be propagated from local stock (Southern Orange County).
- <sup>2</sup> To be planted five feet on center in mixed groups of 10-12 plants located throughout the pre-mitigation site.
- <sup>3</sup> To be planted 15 feet on center in mixed groups of 3-4 plants located throughout the pre-mitigation site.

All coastal sage scrub container plants will be established using DriWater irrigation tubes/gel inserts.

**TABLE 2**  
**SEED MIX SPECIES AND QUANTITIES (171.0 ACRES)**  
**COASTAL SAGE SCRUB PRE-MITIGATION PROGRAM**

| Common Name <sup>1</sup>   | Botanical Name                    | % purity | % germ. | lbs./acre    | Total lbs.     |
|--|-----------------------------------|----------|---------|--------------|----------------|
| fiddleneck   | <i>Amsinckia intermedia</i>       | 30       | 70      | 0.10         | 17.1           |
| California sagebrush   | <i>Artemisia californica</i>      | 15       | 50      | 6.00         | 1,026.0        |
| coyote bush  | <i>Baccharis pilularis</i>        | 2        | 40      | 4.00         | 684.0          |
| California brickelbush   | <i>Brickellia californica</i>     | 10       | 15      | 0.10         | 17.1           |
| California brome grass   | <i>Bromus carinatus</i>           | 95       | 80      | 0.50         | 85.5           |
| purple owl's clover  | <i>Castilleja exserta</i>         | 50       | 50      | 0.05         | 8.6            |
| purple Chinese houses  | <i>Collinsia heterophylla</i>     | 98       | 85      | 0.10         | 17.1           |
| California sunflower   | <i>Encelia californica</i>        | 40       | 60      | 0.50         | 85.5           |
| wand buckwheat   | <i>Eriogonum elongatum</i>        | 10       | 20      | 0.05         | 8.6            |
| California buckwheat   | <i>Eriogonum fasciculatum</i>     | 50       | 10      | 8.00         | 1,368.0        |
| golden yarrow  | <i>Eriophyllum confertiflorum</i> | 30       | 60      | 0.10         | 17.1           |
| California poppy   | <i>Eschscholzia californica</i>   | 98       | 80      | 0.10         | 17.1           |
| California everlasting   | <i>Gnaphalium californicum</i>    | 2        | 50      | 0.05         | 8.6            |
| robust gumplant  | <i>Grindelia camporum</i>         | 80       | 40      | 0.10         | 17.1           |
| saw-tooth goldenbush   | <i>Hazardia squarrosa</i>         | 15       | 20      | 0.10         | 17.1           |
| fascicled tarweed  | <i>Hemizonia fasciculata</i>      | 20       | 70      | 0.10         | 17.1           |
| coastal goldenbush   | <i>Isocoma menziesii</i>          | 30       | 30      | 0.10         | 17.1           |
| California goldfields  | <i>Lasthenia californica</i>      | 50       | 50      | 0.05         | 8.6            |
| cudweed aster  | <i>Lessingia filaginifolia</i>    | 15       | 30      | 0.05         | 8.6            |
| giant wild rye   | <i>Leymus condensatus</i>         | 80       | 80      | 0.10         | 17.1           |
| deerweed   | <i>Lotus scoparius</i>            | 90       | 80      | 1.00         | 171.0          |
| miniature lupine   | <i>Lupinus bicolor</i>            | 98       | 85      | 0.20         | 34.2           |
| arroyo lupine  | <i>Lupinus succulentus</i>        | 98       | 85      | 0.10         | 17.1           |
| cliff aster  | <i>Malacothrix saxatilis</i>      | 8        | 30      | 0.05         | 8.6            |
| California melic   | <i>Melica imperfecta</i>          | 80       | 60      | 0.05         | 8.6            |
| bush monkeyflower  | <i>Mimulus aurantiacus</i>        | 2        | 60      | 0.20         | 34.2           |
| wishbone bush  | <i>Mirabilis californicus</i>     | 15       | 15      | 0.05         | 8.6            |
| little-seeded muhli  | <i>Muhlenbergia microsperma</i>   | 80       | 30      | 0.10         | 17.1           |
| foothill needlegrass   | <i>Nassella lepida</i>            | 90       | 60      | 0.20         | 34.2           |
| purple needlegrass   | <i>Nassella pulchra</i>           | 90       | 80      | 0.50         | 85.5           |
| caterpillar phacelia   | <i>Phacelia cicutaria</i>         | 95       | 80      | 0.05         | 8.6            |
| California plantain  | <i>Plantago erecta</i>            | 90       | 80      | 0.20         | 34.2           |
| white sage   | <i>Salvia apiana</i>              | 70       | 30      | 0.20         | 34.2           |
| chia   | <i>Salvia columbariae</i>         | 90       | 40      | 0.05         | 8.6            |
| black sage   | <i>Salvia mellifera</i>           | 70       | 50      | 3.00         | 513.0          |
| blue-eyed grass  | <i>Sisyrinchium bellum</i>        | 95       | 75      | 0.05         | 8.6            |
| Douglas' nightshade  | <i>Solanum douglasii</i>          | 90       | 20      | 0.05         | 8.6            |
| western verbena  | <i>Verbena lasiostachys</i>       | 50       | 50      | 0.10         | 17.1           |
| chaparral yucca  | <i>Yucca whipplei</i>             | 90       | 65      | 0.20         | 34.2           |
| <b>Total</b>   |                                   |          |         | <b>26.60</b> | <b>4,548.6</b> |
| <sup>1</sup> Seed to be collected locally (i.e. Southern Orange County); mycorrhizal inoculum will be included in the seed |                                   |          |         |              |                |

**Southern Needlegrass Grassland Revegetation:**

19 acres of Southern needlegrass grassland (3 acres of existing restored habitat and 16 acres of habitat to be created) is scheduled to occur as part of an active revegetation effort similar to the CSS revegetation program. Common species such as Foothill needlegrass (*Nassella lepida*) and purple needlegrass (*Nassella pulchra*) as well as vernal barley (*Hordeum intercedens*), and small-flowered morning glory (*Convolvulus simulans*) in compliance with EIR 575 and EIR 597 for the Prima Deshecha Landfill GDP, as amended.

**TABLE 3  
SEED MIX SPECIES AND QUANTITIES (15.7 ACRES)  
NATIVE GRASSLAND PRE-MITIGATION PROGRAM**

| Common Name   | Botanical Name                    | % purity | % germ. | lbs./ac.     | Total lbs.   |
|---|-----------------------------------|----------|---------|--------------|--------------|
| fiddleneck  | <i>Amsinckia intermedia</i>       | 30       | 70      | 0.10         | 1.6          |
| golden stars  | <i>Bloomeria crocea</i>           | 90       | 60      | 0.10         | 1.6          |
| California brome grass  | <i>Bromus carinatus</i>           | 95       | 80      | 8.00         | 125.6        |
| purple Chinese houses   | <i>Collinsia heterophylla</i>     | 98       | 85      | 0.10         | 1.6          |
| Padre's shooting star   | <i>Dodecatheon clevelandii</i>    | 90       | 60      | 0.10         | 1.6          |
| golden yarrow   | <i>Eriophyllum confertiflorum</i> | 30       | 60      | 0.50         | 7.9          |
| California poppy  | <i>Eschscholzia californica</i>   | 98       | 80      | 0.10         | 1.6          |
| California everlasting  | <i>Gnaphalium californicum</i>    | 2        | 50      | 0.10         | 1.6          |
| robust gumplant   | <i>Grindelia camporum</i>         | 80       | 40      | 0.10         | 1.6          |
| robust gumplant   | <i>Grindelia robusta</i>          | 25       | 60      | 0.10         | 1.6          |
| fascicled tarweed   | <i>Hemizonia fasciculata</i>      | 20       | 70      | 0.10         | 1.6          |
| California goldfields   | <i>Lasthenia californica</i>      | 50       | 60      | 0.20         | 3.1          |
| cudweed aster   | <i>Lessingia filaginifolia</i>    | 15       | 30      | 0.10         | 1.6          |
| giant wild rye  | <i>Leymus condensatus</i>         | 80       | 80      | 1.00         | 15.7         |
| beardless wild rye  | <i>Leymus triticoides</i>         | 90       | 80      | 0.50         | 7.9          |
| miniature lupine  | <i>Lupinus bicolor</i>            | 98       | 85      | 0.20         | 3.1          |
| arroyo lupine   | <i>Lupinus succulentus</i>        | 98       | 85      | 0.20         | 3.1          |
| cliff aster   | <i>Malacothrix saxatilis</i>      | 8        | 30      | 0.10         | 1.6          |
| California melic  | <i>Melica imperfecta</i>          | 80       | 60      | 0.50         | 7.9          |
| little-seeded muhli   | <i>Muhlenbergia microsperma</i>   | 80       | 30      | 0.50         | 7.9          |
| foothill needlegrass  | <i>Nassella lepida</i>            | 90       | 60      | 2.00         | 31.4         |
| purple needlegrass  | <i>Nassella pulchra</i>           | 90       | 80      | 10.00        | 157.0        |
| caterpillar phacelia  | <i>Phacelia cicutaria</i>         | 95       | 80      | 0.10         | 1.6          |
| California plantain   | <i>Plantago erecta</i>            | 90       | 80      | 0.50         | 7.9          |
| chia  | <i>Salvia columbariae</i>         | 90       | 40      | 0.10         | 1.6          |
| blue-eyed grass   | <i>Sisyrinchium bellum</i>        | 95       | 75      | 0.10         | 1.6          |
| Douglas' nightshade   | <i>Solanum douglasii</i>          | 90       | 20      | 0.10         | 1.6          |
| western verbena   | <i>Verbena lasiostachys</i>       | 95       | 80      | 0.50         | 7.9          |
| fescue  | <i>Vulpia microstachys</i>        | 90       | 80      | 0.50         | 7.9          |
| <b>Total</b>  |                                   |          |         | <b>26.60</b> | <b>417.6</b> |
| <sup>1</sup> Seed to be collected locally (i.e. Southern Orange County); mycorrhizal inoculum will be included in the seed application. |                                   |          |         |              |              |

**Seed Application:**

Seed application will be performed as identified in Section 2.7.4 of Appendix H.

**Irrigation System and Schedule:**

Irrigation system installation and use as identified in Section 2.7.5 of Appendix H is not proposed for CSS or southern needlegrass habitat restoration due to the presences of landslide conditions that could be exacerbated by the application of additional moisture, especially on steep slopes. However, irrigation system use is an option that could be used in select areas to improve landscape performance.

**Weed Control:**

Weed control measures will be implements similar those identified in Section 2.7.6 of Appendix H to control invasive exotic species such as artichoke thistle and black mustard.

**Erosion Control:**

Rice straw wattles and silt fencing will be used where needed to control erosion per Section 2.7.7 of Appendix H.

**Maintenance and Monitoring:**

Maintenance and monitoring will be conducted per Section 2.8 of Appendix H including five-year maintenance and monitoring (Section 2.8.3), weed control (Section 2.8.4), clearing and trash removal (Section 2.8.5), and pest control (Section 2.8.6). The SOS is not in the Reserve. Therefore, all reports prepared by a restoration ecologist will be submitted to the Site Manager and Biological Monitor. These data may be included in the overall Reserve report as appropriate.

**Monitoring:**

Monitoring will be conducted by a restoration ecologist per Section 2.9 of Appendix H. Restoration efforts will be considered successful with the performance standards stated in Section 2.3.3 and Table 2 for the specific vegetation type have been met. At this point the restoration of all or a portion of each vegetation type will be considered established. Vegetation monitoring will continue to the end of the full five year monitoring period. Monitoring will consist of qualitative and quantitative data collection and analysis. The results of these monitoring efforts will be submitted to the Site Manager and Biological Monitor. These data may be included in the overall Reserve report as appropriate.

**Monitoring Period for Project Success:**

Qualitative surveys consisting of a site walkover and characterization of the restoration sites would be conducted in the presence of the Installation Contractor to review maintenance activities and requirements per Section 2.9.1 of Appendix H.

**Qualitative Data Collection Methods:**

Following the initial planting effort, the area would be monitored every two weeks for the initial four-month period, quarterly through the end of year 2, and semi-annually for years 3-5. Qualitative surveys will be would be conducted by the Restoration Ecologist and consist of general site walk over and a characterization of the existing vegetation planting. General observations, such as health of planted species, and drought stress would be noted. Revegetation plantings would be examined to visually estimate percentage of cover, species mortality, species composition, seedling recruitment, and soil, weed, and pest problems. Maintenance needs will be recorded and submitted by the Restoration Ecologist to the Site Manager, Biological Monitor and Installation/Maintenance Contractor for appropriate action subsequent to each survey per Section

2.9.2 of Appendix H. Please note that areas containing existing or created habitat within the SOS area that have been disturbed by the installation of equipment or structures required for the ongoing operation of the landfill and are one acre or less in size, will be restored following the completion of the activity using the appropriate native seed mix during the next growing season. These disturbed areas will be visually examined by a Restoration Ecologist in the presence of the Installation/Maintenance Contractor for approximate percentage of cover, species mortality, species composition, seedling recruitment, and soil, weed, and pest problems and appropriate action.

#### **Quantitative Data Collection Methods:**

Quantitative data per Section 2.9.3 of Appendix H would be collected and analyzed by the Restoration Ecologist to document and evaluate the progress of the restoration program. Immediately following project initiation (*i.e.*, site preparation for passive and active restoration sites and installation on active sites), permanent sampling locations would be established within the restoration areas, marked and recorded on maps. These sampling stations would be surveyed two times per year to determine germination and transplant success, species mortality, pest problems, percentage of relative cover, and species composition. The frequency of data collection may be reduced to one time per year at the discretion of the Restoration Ecologist and Site Manager and Biological Monitor. Consistent sampling techniques would be used throughout the monitoring process to ensure accuracy in comparative analysis. Quantitative plant distribution data would be collected from sampling locations (transect lines for CSS and quadrats for southern needlegrass) to compare the restored vegetation with the habitat characteristics of comparable existing CSS and southern needlegrass vegetation in the general project area.

All transects would be 25 meters long and would be established randomly within the revegetation areas. The number and locations of transect lines and quadrats within a restoration area would be determined at the time of project installation, but would be adequate to provide a representative sampling of the restoration area.

CSS transect data would be collected by recording each species that intersects an imaginary vertical plane located at each half-meter mark along the transect. All species present within a 5-meter wide band centered on the transect line would be recorded. Relative species cover and species diversity would be derived from these data.

One-meter quadrat samples within the southern needlegrass enhancement areas would be taken randomly each year. The sampling methodology would consist of randomly tossing a 1-meter quadrant frame in front or to the side of the field monitor. Native and non-native vegetation cover would be estimated within the quadrat. A count of individual species would be made for each quarter quadrat in a clockwise pattern beginning in the lower left quarter. Individuals would be categorized by size class within one of the quadrat quarters, alternating in a clockwise pattern for each successive quadrat sample.

A reference transect of existing established CSS and southern needlegrass habitat occupying similar topography and subject to similar environmental conditions would be established as a control. Each transect sampling area would be photographed to document the progress of revegetation over the five year monitoring period. Photo-documentation would be included in all status reports. Transect data collection shall be achieved by recording each plant species that intersects an imaginary vertical plain at each half-meter along the transect line. Data would be converted to relative cover.

### **Recording Keeping:**

The Restoration Ecologist would recommend actions, as needed, to the Site Manager and Biological Monitor that would promote species survival and achieve coverage criteria as described in Section 2.3.3 of Appendix H. The Restoration Ecologist, Site Manager, Biological Monitor and Installation/Maintenance Contractor would work together to monitor, maintain, and replant restoration areas, if necessary.

An annual report would be prepared each year over the five-year monitoring period by the Restoration Ecologist for submittal to the Site Manager, Biological Monitor, and Wildlife Agencies. The report would contain vegetation cover by species, compliance with required performance standards, species heights, seedling recruitment, pest problems, weed control problems, pest control measures implemented, additional required maintenance procedures, and the general health of the revegetation plantings would be summarized in these reports per Section 2.9.4 of Appendix H.

Photo documentation of the sites would be included in the reports to provide a visual record of the restoration progress.

### **Completion of Restoration:**

- Notice of Completion: At the end of the Year 5 of the monitoring period or when the restoration area(s) have achieved the Year 5 performance criteria, the Restoration Ecologist shall prepare a final report for the Site Manager and Biological Monitor that describes the relative success of each restoration area per Section 2.10.1 of Appendix H.
- Contingency Measures: Contingency measures would be implemented if restoration efforts fail to meet performance criteria at the end of the five-year monitoring period. Such measures shall include additional seed installation, additional weed control efforts, an evaluation and appropriate modification of the irrigation system, and the extension of the maintenance and monitoring period until such time that the performance criteria are achieved per Section 2.10.2 of Appendix H. The Restoration Ecologist may also recommend other mitigation areas within the SOS area with increased potential for achieving the required performance standards.
- Long-Term Management: The County of Orange will provide long-term management beyond the five-year monitoring program would be in compliance with the Southern NCCP/MSAA/HCP. Once establishment has occurred on each phase, the areas containing restored habitats will be assessed on an annual basis or as often as necessary by a qualified restoration ecologist to identify any remedial measures such as weed removal, erosion control measures, native seed application to damaged or disturbed areas, etc. that must be carried out to maintain their long-term biological resource values. The program budget identifies an annual allocation of \$300,000 for the assessment and implementation of the remedial measure identified by the assessment. This budget also includes a contingency factor for “Changed Circumstances”.

### **Riparian Revegetation:**

Impacts to riparian habitat, waters of the United States and wetlands will be mitigated through onsite revegetation and offsite enhancement. The onsite revegetation will involve restoring 6 acres of riparian habitat through a variety of planting methods including the application of native

seed and mule fat and willow cuttings from onsite sources and limited irrigation to create the type and quality of habitat suitable for use by the least Bell's vireo. In addition, 24 acres of exotic invasive plant species eradication will occur within the San Juan Creek portion of Caspers Wilderness Park. The County of Orange will pay a one-time lump sum fee of \$850,000 (\$600,000 for the eradication and \$250,000 for ongoing management of the program) to the RMVLC. This eradication program is intended to compliment the giant reed eradication and management program for San Juan Creek to provide long-term habitat enhancement for the arroyo toad, least Bell's vireo, yellow-breasted chat, yellow warbler, and southwester pond turtle.

The onsite riparian revegetation is will involve the establishment of riparian scrub habitat within selected side canyon drainage areas of the site within the SOS area that are immediately adjacent to existing riparian habitat along Prima Deshecha Canada Creek and Segunda Deshecha portion of the landfill known to support the least Bell's vireo and other sensitive riparian-dependent wildlife species.

**TABLE 4  
CONTAINER PLANT SPECIES AND QUANTITIES (6.0 ACRES)  
MULE FAT SCRUB RIPARIAN PRE-MITIGATION PROGRAM**

| Plant Species <sup>1</sup>  |                              | Size     | Qty per Acre | Total Qty    |
|---|------------------------------|----------|--------------|--------------|
| Common Name   | Botanical Name               |          |              |              |
| Emory's baccharis <sup>3</sup>  | <i>Baccharis emoryi</i>      | liner    | 25           | 150          |
| mule fat <sup>2,3</sup>   | <i>Baccharis salicifolia</i> | liner    | 300          | 1,800        |
| giant wild rye <sup>2</sup>   | <i>Leymus condensatus</i>    | liner    | 25           | 150          |
| alkali wild rye <sup>2,3</sup>  | <i>Leymus triticoides</i>    | liner    | 25           | 150          |
| deergrass <sup>3</sup>  | <i>Muhlenbergia rigens</i>   | liner    | 10           | 60           |
| California sycamore <sup>3</sup>  | <i>Platanus racemosa</i>     | 1-gal    | 10           | 60           |
| coast live oak <sup>2</sup>   | <i>Quercus agrifolia</i>     | 1-gal    | 10           | 60           |
| California rose <sup>3</sup>  | <i>Rosa californica</i>      | 1-gal    | 25           | 150          |
| California blackberry <sup>3</sup>                                      | <i>Rubus ursinus</i>         | 1-gal    | 10           | 60           |
| arroyo willow <sup>3</sup>  | <i>Salix lasiolepis</i>      | cuttings | 25           | 150          |
| sandbar willow <sup>3</sup>   | <i>Salix exigua</i>          | 1-gal    | 25           | 150          |
| Mexican elderberry <sup>2</sup>   | <i>Sambucus mexicana</i>     | 1-gal    | 10           | 60           |
| <b>Total</b>  |                              |          | <b>500</b>   | <b>3,000</b> |
| <sup>1</sup> To be propagated from local stock (Southern Orange County) |                              |          |              |              |
| <sup>2</sup> To be planted in upland-riparian transitional areas        |                              |          |              |              |
| <sup>3</sup> To be planted in moister areas/low points                  |                              |          |              |              |

**TABLE 5  
SEED MIX SPECIES AND QUANTITIES (6.0 ACRES)  
MULE FAT SCRUB RIPARIAN PRE-MITIGATION PROGRAM**

| Common Name <sup>1</sup> | Botanical Name               | % purity | % germ. | lbs./ acre | Total lbs. |
|--------------------------|------------------------------|----------|---------|------------|------------|
| western ragweed          | <i>Ambrosia psilostachya</i> | 20       | 30      | 0.30       | 1.8        |
| mugwort                  | <i>Artemisia douglasiana</i> | 10       | 50      | 5.00       | 30.0       |
| tarragon                 | <i>Artemisia dracunculus</i> | 6        | 50      | 0.05       | 0.3        |
| Emory baccharis          | <i>Baccharis emoryi</i>      | 5        | 20      | 2.00       | 12.0       |
| mule fat                 | <i>Baccharis salicifolia</i> | 2        | 20      | 3.00       | 18.0       |

**TABLE 5**  
**SEED MIX SPECIES AND QUANTITIES (6.0 ACRES)**  
**MULE FAT SCRUB RIPARIAN PRE-MITIGATION PROGRAM**

| Common Name <sup>1</sup>  | Botanical Name                              | % purity | % germ. | lbs./ acre   | Total lbs.  |
|---|---|----------|---------|--------------|-------------|
| saltgrass   | <i>Distichlis spicata</i>                   | 80       | 60      | 0.10         | 0.6         |
| whispering bells  | <i>Emmenanthe penduliflora</i>              | 50       | 60      | 0.20         | 1.2         |
| narrow-leaved bedstraw  | <i>Galium angustifolium</i>                 | 80       | 30      | 0.20         | 1.2         |
| alkali heliotrope   | <i>Heliotropium curassavicum</i>            | 20       | 60      | 0.10         | 0.6         |
| little barley   | <i>Hordeum intercedens</i>                  | 80       | 70      | 0.20         | 1.2         |
| coastal goldenbush  | <i>Isocoma menziesii</i>                    | 30       | 30      | 0.20         | 1.2         |
| giant wild rye  | <i>Leymus condensatus</i>                   | 80       | 80      | 0.50         | 3.0         |
| alkali wild rye   | <i>Leymus triticoides</i>                   | 90       | 80      | 0.20         | 1.2         |
| Spanish clover  | <i>Lotus purshianus</i>                     | 98       | 70      | 0.20         | 1.2         |
| deergrass   | <i>Muhlenbergia rigens</i>                  | 80       | 80      | 0.10         | 0.6         |
| branching phacelia  | <i>Phacelia ramosissima</i>                 | 95       | 80      | 0.30         | 1.8         |
| marsh fleabane  | <i>Pluchea odorata</i>                      | 20       | 40      | 0.10         | 0.6         |
| California figwort  | <i>Scrophularia californica</i>             | 90       | 50      | 0.10         | 0.6         |
| Douglas' nightshade   | <i>Solanum douglasii</i>                    | 90       | 20      | 0.50         | 3.0         |
| giant stinging nettle   | <i>Urtica dioica</i> ssp. <i>holoserica</i> | 50       | 60      | 0.50         | 3.0         |
| western verbena   | <i>Verbena lasiostachys</i>                 | 50       | 50      | 2.00         | 12.0        |
| <b>Total</b>  |   |          |         | <b>15.85</b> | <b>95.1</b> |
| <sup>1</sup> Seed to be collected locally (i.e. Southern Orange County); mycorrhizal inoculum will be included in the seed application. |   |          |         |              |             |

The seed application, irrigation system and schedule, weed control would be consistent with the Section 3.6.4, 3.6.5, and 3.6.6 of Appendix H. The maintenance and monitoring plan would be similar to the CSS and southern needlegrass program. The maintenance and monitoring activities would be consistent with Section 3.7.1, 3.7.3, 3.7.4, 3.7.5, and 3.7.6. However, Restoration Ecologist will perform the assessment, in the presence of the Installation/ Maintenance Contractor, Site Manager and Biological Monitor.

The onsite riparian revegetation areas are small enough to be evaluated qualitatively including percent cover, species composition, and recruitment of native hydrophytes.

**Selection of Reference Sites:**

A reference site would be identified within Prima Deshecha Canada or Segunda Deshecha by the Restoration Ecologist and the Biological Monitor in areas that will be protected through landfill build-out and approved by CDFG prior to the implementation of the mitigation program. The reference site shall be representative of habitat type, species diversity, percent cover of habitat scheduled to be removed.

**Record Keeping:**

See “Record Keeping” for CSS and Southern needlegrass.

**Completion of Restoration:**

- Notification of Completion:  
 Upon completion of Year 5 of the monitoring period or when the restoration area(s) have achieved the Year 5 performance criteria, the Restoration Ecologist would prepare a final

report for the Site Manager and Biological Monitor that describes the relative success of each restoration area.

- Contingency Measures:  
Contingency measures would be implemented if restoration efforts fail to meet performance criteria at the end of the five-year monitoring period. Such measures would include additional plant and/or seed installation, additional weed control efforts, an evaluation and appropriate modification of the irrigation system, and the extension of the maintenance and monitoring period until such time that the performance criteria are achieved.
- Long-Term Management:  
Long-term management would continue beyond the five-year mitigation performance standard monitoring program.

### **Site preparation for restoration:**

Site preparation consists of: (1) installation of staking to identify the limits of the mitigation site; (2) remedial grading to create more natural contours; (3) installation of erosion control measures; (4) soils treatments to provide suitable soil conditions; (5) removal of non-native species; and (6) installation of a temporary irrigation system. Specific site preparation activities are described below.

- Identification of Site Boundaries:  
The mitigation site boundary will be surveyed and staked in a manner that clearly identifies the limits of the mitigation site, using materials that will remain easily visible for the life of the mitigation project. Stakes will be re-installed as necessary throughout initial installation and long-term maintenance tasks. The use of staking will avoid future confusion regarding the Landscape Contractor's responsibilities for site maintenance as the mitigation site vegetation blends with the surrounding habitat.
- Site Grading Plans  
The Project Engineer would development of site grading plans for specific mitigation components such as the Thread-leaved brodiaea as necessary to approximate the original topography of the donor site at the mitigation (recipient) site and oversee the implementation of these plans in consultation with the Biological Monitor and Restoration Ecologist.
- Erosion Control  
Erosion control measures will be implemented at the mitigation sites including interim erosion control measures installed during site preparation and hydroseeding activities, as well as final erosion control measures installed at the completion of hydroseeding activities. Interim erosion control measures may include the placement of sandbags, straw rolls, and silt fencing, as well as the implementation of best management practices where needed during site preparation procedures to prevent erosion damage to finished slopes and the off-site deposition of silt materials within existing stream courses. The Project Engineer will design and install the interim erosion control measures and the Landscape Contractor will install the final erosion control measures and maintain the mitigation sites to establishment under the supervision of the Restoration Ecologist and Biological Monitor.

The establishment of the CSS, southern needlegrass, and riparian seed mix species and containerized plantings within the restoration sites will serve as a final and ongoing erosion control measure for each mitigation treatment site.

- Ground Surface and Soils Treatment:

Native species require suitable soil microbiological and physical elements for long-term success. Fairly loose, aerated soils are required for deep root development and successful plant establishment. Healthy soil structure occurs when soils are loosened and appropriate microbiological elements are present in abundant quantities. Treatments implemented within the restoration site may include track-walking soils with a tractor to reduce surface compaction and roughen the soil surface to provide appropriate microhabitats for seed species establishment. Compacted soils may require use of a ripping attachment for the tractor to facilitate water infiltration and deep root development. All ground surface and soils treatment will be implemented under the supervision of the Project Engineer in consultation with the Restoration Ecologist and Biological Monitor.

- Installation of Temporary Irrigation System:

The Landscape Contractor will install a temporary overhead irrigation system within mitigation sites that do not pose a threat of landslide to facilitate weed abatement (through a “grow and kill” program), seed mix germination and plant establishment. Prior to the application of the native species seed mix, the landscape contractor shall demonstrate in a field meeting with the Restoration Ecologist and Biological Monitor that the irrigation system is in good working order and provides adequate coverage for seed mix germination. Overhead irrigation should be discontinued no more than three years after site installation completion, though poor seed germination or plant health may require the irrigation period to be extended. Discontinuing overhead irrigation after native plants have become established will minimize the ongoing establishment of weed species.

- Non-Native Species Removal:

The Landscape Contractor will treat all non-native species, as directed by the Restoration Ecologist and the Biological Monitor, which are found within the mitigation site at the conclusion of remedial grading activities. Prior to the application of the native species seed mix, the Landscape Contractor shall perform a “grow and kill” program to exhaust the existing seed bank of non-native species. Performance of a “grow and kill” program will minimize weed control during the long-term maintenance period. The Landscape Contractor will apply irrigation to the site on a regular basis to maintain moist soil conditions and encourage weed germination. Once non-native plants germinate and begin to flower, but before they produce seed, the Landscape Contractor will chemically treat all non-native plants. The Restoration Ecologist and Biological Monitor will monitor the herbicide treatment and will approve the herbicide to be used and the rate of application. Three “grow and kill” cycles will be performed between the months of January and May before the native seed mix is applied.

After the native seed mix is applied to the site, hand-weeding is the preferred method of weed removal, though alternate methods may be approved by the Restoration Ecologist dependent on site conditions and targeted non-native species. The Landscape Contractor shall also remove non-native vegetation within a 30-foot-wide buffer around the entire mitigation site to minimize the invasion of non-native species into the mitigation site from adjacent areas. This buffer area will be maintained throughout the life of the project.

Application of the native species seed mix may be performed only after the Restoration Ecologist concurs that non-native species removal is complete and satisfactory.

**Native Plant Establishment:**

Native plant installation and establishment will generally be accomplished as follows under the supervision of a Restoration Ecologist and Biological Monitor:

- Seed Mix Application:

The native seed mixes are identified in the SOS Management Plan in Appendix M will be applied to the site via the hydroseeding method to provide suitable shrub and herbaceous species. Seeding will be performed when weather and soil conditions are suitable and seasonal rains can facilitate successful germination. Timing of seed mix application will be approved in advance by the Restoration Ecologist. Hydroseeding will occur outside the gnatcatcher nesting season (February 15 to August 30).

Hydroseeding will be performed using the two-step application methods described below:

- Mulch materials will consist of fiber produced from virgin wood mulch. A total of 500 pounds per acre will be used in the first application and 1,000 pounds per acre will be used in the second application.
  - Mycorrhizal inoculum will be pre-mixed with the specified seed mix at a rate of ten pounds of inoculum per 1,000 pounds of hydroseed mix. The mixture of inoculum and seed materials will be applied during the first application.
  - The soil stabilizer will consist of Aztac M binder or an approved stabilizer of equal quality and will be applied at 150 pounds per acre during the second application along with the remaining 1,000 lbs/acre of mulch.
  - The first application will consist of all seed, mycorrhizal inoculum, and 500 lbs/acre of mulch as specified above.
  - The second application will consist of remaining mulch and binder as specified above.
- Container Planting  
Container planting will be used in the riparian mitigation sites and in limited areas in CSS restoration sites in areas that have low native species germination, as identified by the Restoration Ecologist. All suitable host container species will be inoculated with mycorrhizal fungi to facilitate successful root uptake of nutrients and overall plant establishment (St. John, 1993). The following guidelines will be used to facilitate successful establishment:
    - Supplemental water will be used so that soil moisture level is no less than horticulturally acceptable prior to planting.
    - The landscape contractor will remove plants from the containers in such a manner that the rootball is not damaged.
    - The landscape contractor will create a planting hole that is twice as deep and wide as the container.

- Supplemental will be used to thoroughly moisten the rootball.
- The landscape contractor will spill native soil backfill material into the hole and then fill the hole with water. The water will be allowed to percolate into the backfill material.
- The rootball will be set on top of the moistened backfill so that the rootball collar is one inch higher than the finished grade.
- The remaining backfill material mixture will be placed into the planting hole and brought up to the existing grade.
- An irrigation basin berm will be created two to three feet outside the dimension of the hole.
- The finished planting basin will be irrigated from the top so that the entire basin is filled with water. Additionally, water will be sprinkled around the plant to settle and thoroughly moisten backfill materials.

### **Long-Term Site Maintenance**

Maintenance operations will be initiated after completion of initial installation activities. The maintenance tasks described below will be performed by the Landscape Contractor under the direction of the Restoration Ecologist and Biological Monitor throughout the long-term maintenance program. The intent of the maintenance program is to facilitate the successful establishment of self-sustainable CSS habitat within five years. The Restoration Ecologist will approve any needed revisions to the specified schedule and methodologies. Due to the presence of coastal California gnatcatchers in the vicinity of the mitigation site, maintenance activities within the gnatcatcher breeding season will be performed at the discretion of the Restoration Ecologist and Biological Monitor to ensure that maintenance activities do not negatively affect this species. Anticipated maintenance tasks will include:

- Plant and Resource Protection,
- Erosion Control,
- Weed Control,
- Re-Seeding,
- Trash Removal
- Pest Control

Maintenance task schedule and frequency will be adjusted as appropriate depending on site conditions and in coordination with the Restoration Ecologist and Biological Monitor. The mitigation sites will be monitored throughout the five-year maintenance/establishment period. During the establishment period, additional remedial maintenance tasks may be performed based on site performance and site conditions as directed by the Restoration Ecologist, and may include: additional seed mix application performed as needed during the five-year program to increase native plant species coverage and diversity; adjustments to weed control methods and schedule; and the identification of appropriate protection measures for establishing native species as well as special status species adjacent to and within the site.

The Landscape Contractor will be responsible for providing, as feasible, adequate protection of the mitigation site against herbivores, traffic, or other intrusions by erecting fencing, caging, or other acceptable structures as needed.

#### Plant and Resource Protection:

Biological resources within and adjacent to the restoration site will be protected throughout the performance of site maintenance tasks. The Landscape Contractor will coordinate with the Restoration Ecologist and Biological Monitor, as needed, regarding the protection of biological resources; maintenance methods and scheduling will be adjusted to accommodate special status species that may occur within or adjacent to the site. This will include (but not be limited to):

- Removing weed species by hand during the gnatcatcher nesting season (if necessary) instead of using power tools;
- Restricting herbicide use within the site;
- Minimizing all maintenance activities during the nesting season;
- Dead-heading weed species (instead of total plant removal); and
- Limiting the number of maintenance personnel on site during the nesting season.

#### Erosion Control

The Landscape Contractor will be install erosion and sediment control as appropriate to prevent soil erosion that would damage native species establishment and result in sediment deposition into the adjacent drainage and lake.

#### Weed Control

It is important that maintenance field crews be able to distinguish native plant materials from weedy or non-native plants. Before weed control begins, the Restoration Ecologist and Biological Monitor will educate the Landscape Contractor and crew regarding differences in desirable and undesirable plant materials. Photographs of target weed species will be provided to the Landscape Contractor as necessary. Weed removal will occur on a monthly basis for the first three years following installation and on a monthly basis from March through August for years four and five. The site will be kept free of weed species at all times. Weed species will not be allowed to mature, set seed, or otherwise inhibit the germination, growth, and establishment of planted, seeded, and volunteer native plant species at any time during the five-year maintenance program. Weed control will occur within a 30-foot wide buffer adjacent to the mitigation site where the site abuts disturbed, weedy areas.

Non-native grasses will be mowed only if they become problematic and discourage native species germination and establishment, and adversely affect native shrub species coverage. The understory grass species provide soil stabilization, as well as foraging opportunities for many wildlife species and are considered an important component of the coastal sage scrub community. Broadleaf weed species such as tree tobacco, Russian thistle, black mustard, and artichoke thistle will be controlled as necessary using hand removal methods. The application of herbicides is not precluded as long as the herbicides are applied in accordance with the usage guidelines on the manufactures' label.

#### Re-Seeding

During the maintenance period, low germination rates and coverage, as well as damage resulting from regular maintenance activities will be compensated for by applying additional seed to the site using appropriate species and quantities. Modifications to the seed mix species and quantities may be recommended by the Restoration Ecologist. No re-seeding will occur in any season that

is unfavorable for plant germination and establishment. The Restoration Ecologist will make regular inspections of the site to assess the condition of all plants and determine if remedial measures are necessary to provide adequate coverage.

Trash Removal

The mitigation site will be kept clear of all trash and debris.

## Pest Control

Insects, plant disease, herbivores, and other pests will be closely monitored during the maintenance period. Diseased or infected plants will be immediately disposed of off site at an appropriate green waste facility to prevent infection of on site resources. Pesticide use will comply with local codes and regulations and the recommendations of the Restoration Ecologist. Rodent control will occur by use of live traps rather than the use of poisons (which would adversely affect the local food chain).

## **Initial Installation Monitoring**

Meetings between the Landscape Contractor and the Restoration Ecologist, and any other appropriate entities, will be conducted as necessary prior to and during initial installation activities to identify and clarify specified methodologies and to resolve any issues that arise during mitigation installation. Deviations from the specified methodology require prior approval from the Restoration Ecologist. Site inspections shall be performed on an as-needed basis during installation procedures and will include:

- Photo documentation of pre-existing site conditions and installation procedures;
- Identification of non-native species;
- Flagging of native species to be retained by the Landscape Contractor;
- Monitoring weed control and soils treatment activities;
- Conducting field inspections during seed mix application;
- Coordinating (verbal and written) with the Landscape Contractor, the hydroseed company, and the seed supplier;
- Identification of appropriate resource protection measures for adjacent biological resources; and
- Establishing photo documentation stations at the completion of all installation activities.

## **Long-Term Monitoring**

Long-term monitoring will be performed by the Restoration Ecologist and Biological Monitor and will include monitoring maintenance activities, evaluating site performance, and facilitating the protection of existing biological resources.

- Progress Reports  
Progress reports summarizing site status and recommended maintenance actions will be submitted by the Restoration Ecologist to the Landscape Contractor following each monitoring site visit, with the exception of the site visits. Each progress report will list estimated native species coverage and diversity, native species health and overall vigor, the establishment of volunteer native species, problem weed species, the use of the site by wildlife species, significant drought stress, and any recommended action items deemed necessary to ensure compliance with specified performance standards.
- Annual Status Reports  
Annual site status reports that summarize site conditions and site performance will be forwarded by the Restoration Ecologist to the Landscape Contractor, USFWS, CDFG, and NROC at the end of the first, second, third, fourth, and fifth year following installation. These status reports will be developed following the completion of each annual quantitative survey. Each annual report will list native species coverage measured during annual transect studies, compliance or non-compliance with required performance standards, native species health and overall vigor, the establishment of volunteer native species, the use of the site by wildlife species, the presence of invasive weed species, and

significant drought stress. In the event of substantial non-compliance with the required performance standards, the reports will include remedial measures deemed necessary to achieve future compliance with the specified performance standards. The annual reports will also include: (1) photo documentation of site conditions; and (2) a site map that indicates photo location and transect study locations.

## **Avoidance and Minimization Measures**

### County of Orange Prima Deshecha Landfill

#### (1) Avoidance/Minimization through habitat, mitigation and construction related measures

IWMD is authorized by this NCCP/MSAA/HCP to remove all vegetation resources within the designated development areas of the landfill required for landfill buildout in accordance with the 2001 GDP Amendment No. 2 for Prima Deshecha Landfill to buildout in 2067. In addition, temporary vegetation removal may be required within the designated SOS areas to implement the permitted uses identified in the NCCP/MSAA/HCP and/or to respond to emergencies. These mandatory IWMD avoidance and minimization measures are intended to be implemented during initial construction as well as long-term operation and management of the Prima Deshecha Landfill for permitted uses and/or emergency activities that involve the temporary disturbance and/or permanent removal of habitat that is known to be occupied by or has the potential to be occupied by any of the “Covered Species” identified in the NCCP/MSAA/HCP both in the development areas and SOS areas of the landfill. In general, the minimization measures include avoidance of the breeding and nesting season, pre-construction biological surveys, and the use of a monitoring biologist.

#### California Gnatcatcher and Least Bell’s Vireo

- To the extent practicable, no disturbance and/or removal of riparian/wetlands or coastal sage scrub (CSS) habitat that is occupied by either nesting vireos or gnatcatchers will occur during the breeding and nesting season for the vireo (March 15 to September 15 or until a qualified biologist determines that the vireo and/or their fledglings have left the site or determines that the activity will not substantially disruption breeding behavior) or the gnatcatcher (February 15 to August 31) unless a qualified biologist determines that the activity will not substantially disrupt breeding and nesting behavior of these species. It is expressly understood that this provision and the remaining provisions of these “construction minimization measures” are subject to public health and safety considerations. These considerations include unexpected slope stabilization, erosion control measures and emergency facility repairs or changes in state and federal regulations governing landfill operation and maintenance. In the event of such public health and safety circumstances, IWMD will provide USFWS/CDFG with the maximum practicable notice (or such notice as is specified in the NCCP/MSAA/HCP). Prior to the implementation of any construction-related activity that involves the disturbance and/or temporary/permanent removal of riparian/wetlands, CSS, or native grassland habitat, a qualified biologist will determine the potential effects of the specific construction activity on these species and prescribe the appropriate course of action or measures to be taken. The County will carry out the following measures only to the extent practicable in the context of the public health and safety considerations.
- Prior to the commencement of grading operations or other activities involving significant soil disturbance, all areas of riparian/wetlands or CSS habitat to be avoided under the provisions of the NCCP/MSAA/HCP, shall be identified with temporary fencing or other markers clearly visible to construction personnel. Additionally, prior to the commencement of grading operations or other activities involving disturbance of riparian/wetlands or CSS, a survey will be conducted by a qualified monitoring biologist to locate vireos and/or gnatcatchers within 500 feet of the outer extent of projected soil disturbance activities and the locations of any such species shall be clearly marked and identified on the construction/grading plans. Activities will be allowed to

proceed if the monitoring biologist determines that such activities will not substantially disrupt breeding behavior of this species. The temporary fencing or other appropriate markers that have been installed to clearly identify habitat to be avoided shall be visible to construction personnel will be maintained until all construction activities have been completed and all construction equipment has been removed from the construction site for the specific project. No construction access, parking or storage of equipment or materials will be permitted within such marked areas.

- A monitoring biologist, acceptable to the USFWS/CDFG will be on site during any clearing of riparian/wetlands or CSS. IWMD will advise USFWS/CDFG at least seven (7) calendar days prior to the clearing of any habitat occupied by Covered Species to allow USFWS/CDFG to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist will flush Covered Species (avian or other mobile Covered Species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities. In addition, the biologist will walk ahead of mechanized equipment to flush birds towards areas of habitat that will be maintained on site (i.e., areas not designated for clearing or grading).
- If construction within 500 feet of riparian/wetlands or CSS is approved by USFWS/CDFG during the vireo or gnatcatcher breeding season, the monitoring biologist will locate and monitor vireos and/or gnatcatchers (including nesting sites) to determine whether bird breeding activity is being substantially disrupted. During the course of construction or landfill operations, the biological monitor shall track take of vireos and/or gnatcatchers and associated habitat resources. If the monitoring biologist determines that vireo or gnatcatcher activity is being substantially disrupted, IWMD will stop work and coordinate with USFWS/CDFG to review measures developed by the monitoring biologist in cooperation with the site manager to minimize construction-related effects and to mitigate construction-related noise levels that are greater than 60 dBA Leq(h) adjacent to occupied vireo or gnatcatcher nests. Construction will be allowed to proceed if the monitoring biologist determines that construction noise levels exceeding 60 dBA Leq(h) are not substantially disrupting species breeding behavior.

#### Thread-Leaved Brodiaea

- IWMD has prepared a mitigation plan for the thread-leaved brodiaea at the Prima Deshecha Landfill that includes seed collection, corm translocation through soil salvage and placement to on-site receptor site within the Pre-Mitigation areas in the SOS area of the project site, seed storage and nursery propagation. IWMD is currently seeking authorization from CDFG pursuant to Section 2081(b) of the Fish and Game Code which includes the approval of a mitigation plan. This is the only population of Brodiaea filifolia within the project. Transplantation of this population to the Pre-Mitigation Plan areas within the SOS will insure long-term management and protection of the species. No long-term impacts to the brodiaea are expected to occur upon the implementation of the mitigation plan.

#### Raptors

- IWMD shall ensure that grading and construction operations are redirected temporarily around nesting sites for a distance of 300 feet for raptors during nesting and breeding seasons unless a monitoring biologist determines that the construction activity will not substantially disrupt the breeding behavior of the nesting raptor.

#### Temporary Disturbance to Pre-Mitigation Habitat Within the Supplemental Open Space

Any landslide remediation requirements and/or activities required by state and/or federal law or regulation that involves the temporary removal of existing habitat implemented under the Pre-Mitigation Plan will be restored during the next growing season following the completion of these activities using an appropriate hydroseed mix representative of the habitat removed. The hydroseed application and continued maintenance to remove non-native invasive plant species for a period of at least three (3) years to equivalent conditions

- Avoidance and Minimization Measures for Site Preparation:  
Site preparation activities occurring immediately adjacent to existing habitat occupied by the California gnatcatcher or least Bell's vireo should occur outside of the breeding season for the gnatcatcher (February 15 through August 30) or vireo (April 15<sup>th</sup> to September 15<sup>th</sup>) to avoid impacts to these species, if determined to be necessary by the Biological Monitor. Prior to any site preparation or maintenance activities that occur during this period, a qualified biologist shall monitor for gnatcatcher and/or vireo activity and determine if the site preparation activities would substantially disrupt the breeding behavior of these species. A qualified biologist will continue to monitor these species as necessary through the completion of site preparation.
- Avoidance and Minimization Measures for Plant Installation:  
Plant installation activities occurring immediately adjacent to existing habitat occupied by the California gnatcatcher or least Bell's vireo should occur outside of the breeding season for the gnatcatcher (February 15 through August 30) or vireo (April 15<sup>th</sup> to September 15<sup>th</sup>) to avoid impacts to these species, if determined to be necessary by the Biological Monitor. Prior to any site preparation or maintenance activities that occur during this period, a qualified biologist shall monitor for gnatcatcher and/or vireo activity and determine if the plant installation activities would substantially disrupt the breeding behavior of these species. A qualified biologist will continue to monitor these species as necessary through the completion of planting installation.
- Avoidance and Minimization Measures for Long-Term Site Maintenance:  
Site maintenance activities occurring immediately adjacent to existing habitat occupied by the California gnatcatcher or least Bell's vireo should occur outside of the breeding season for the gnatcatcher (February 15 through August 30) or vireo (April 15<sup>th</sup> to September 15<sup>th</sup>) to avoid impacts to these species, if determined to be necessary by the Biological Monitor. Prior to any site preparation or maintenance activities that occur during this period, a qualified biologist shall monitor for gnatcatcher and/or vireo activity and determine if the site maintenance activities would substantially disrupt the breeding behavior of these species. A qualified biologist will continue to monitor these species as necessary through the completion of site preparation.

Pesticide use will comply with local codes and regulations and the recommendations of the Restoration Ecologist. Rodent control will occur by use of live traps rather than the use of poisons (which would adversely affect the local food chain).

- Avoidance and Minimization Measures for Long-Term Monitoring and Reporting:  
Site monitoring activities occurring within and immediately adjacent to existing habitat occupied by the California gnatcatcher or least Bell's vireo should occur outside of the breeding season for the gnatcatcher (February 15 through August 30) or vireo (April 15<sup>th</sup> to September 15<sup>th</sup>) to avoid impacts to these species, if determined to be necessary by the

Biological Monitor. Prior to any site preparation or maintenance activities that occur during this period, a qualified biologist shall monitor for gnatcatcher and/or vireo activity and determine if the site monitoring activities would substantially disrupt the breeding behavior of these species. A qualified biologist will continue to monitor these species as necessary through the completion of site preparation.

## **SURVEYS:**

Surveys will be conducted on an annual basis for the least Bell's vireo and coastal California gnatcatcher by a qualified biologist. Surveys for "Covered Species" known to occur or likely to occur will be conducted every five years by a qualified biologist. All surveys will be general, not protocol and occur on two days per survey year: spring and early summer to maximize detection of these species. The survey observations will be recorded using data logs and GPS technology with data dictionaries identified for the HRMP. The program budget identifies an annual allocation of \$25,000 to conduct these surveys.

## **FIRE MANAGEMENT PROGRAM:**

IWMD's approach for fire management on the Prima Deshecha Landfill property is based on the types of fires that are commonly associated with the operation of a municipal solid waste (MSW) landfill. Both surface and subsurface fires can occur at a refuse disposal operation. Fires originating from offsite areas are a threat to landfill operations and management. The management of these potential future fire types within the Prima Deshecha Landfill property is discussed below.

### Surface Fires:

Surface fires at the Prima Deshecha Landfill property can potentially result from wildland fires, originating from either on-site or off-site sources. Future residential development near the landfill site will increase the risk of wildland fires. For the landfill refuse disposal operation, surface fires can occur from smoldering materials (i.e., hot loads), spontaneous heating or through chemical reaction (i.e., hazardous materials). With the implementation of the La Pata Avenue Extension project in the future, surface fires could be started by motorists when they discard potential ignition sources, such as cigarettes.

### Wildland Fires:

Approximately one thousand acres of the landfill site is currently undeveloped and is dominated by non-native annual grasslands with small patches of coastal sage scrub and riparian habitats that have been affected by wildland fires. These wildland fires have occurred as recently as 1988. In addition, the landfill site is located immediately adjacent to San Clemente open space areas to the west and portions of the proposed Habitat Reserve to the northeast. Therefore, there is a potential for wildland fires to affect the landfill site in the future. In preparation for potential wildland fires that could originate onsite as well as those wildland fires that may originate in off-site areas and spread to the landfill, site operations staff maintain the landfill site's maintenance roads and remove combustible vegetation as part of the landfill refuse disposal operations.

### Refuse Fires:

Landfills in general may be subject to surface fires started by smoldering waste material inadvertently deposited in the unloading area (i.e., working face). Because fire will not generally propagate through cover soil, the amount of refuse subject to burning would be limited to the materials deposited prior to the daily application of cover material. The primary nuisance and potential hazard caused by landfill disposal area fires are the potential for burn injuries, smoke inhalation to people near the fire area and the visible smoke from the fire. Smoke can cause temporary eye and throat irritation, create unpleasant odors, detract from the aesthetics of a location and can contribute to subregional levels of particulate matter (pollution), particularly soot, which is a byproduct of incomplete combustion.

#### Fires Started by Motorists:

The Avenida La Pata Extension project will extend Avenida La Pata, which currently terminates at the entrance of the Prima Deshecha Landfill, through the Prima site, until connecting with Camino Del Rio, south of the landfill property. The extended Avenida La Pata will become an arterial highway providing access between the Cities of San Clemente and San Juan Capistrano, as well as other south Orange County cities. Construction is currently anticipated to occur in approximately 2012. In the future, motorists using this roadway could potentially start surface fires on the landfill property by throwing lit cigarettes out their windows. However, because of the abundance of soil and the lack of vegetation on the landfill itself, accidentally or intentionally set fires are easily extinguished and therefore do not pose a threat to public safety. On-site roadways, natural barriers, and fuel modification areas will serve as fire breaks in the event of a fire, thereby slowing the spread of fire. Likewise, the existing water trucks used in the landfill areas for dust control could be quickly called into service to assist in fire control efforts. Prior to the opening of the extended Avenida La Pata, if deemed necessary by local fire officials, the IWMD will coordinate with the County of Orange Resources and Development Management Department, regarding the placement of warning signs along the new La Pata roadway, advising motorists and landfill patrons of potential high hazard fire conditions and other relevant information. The extended Avenida La Pata will provide access to emergency services vehicles in the event of a fire.

#### **Subsurface Fires**

All landfill disposal areas contain combustible materials and insulating characteristics that under certain conditions facilitate subsurface combustion. The ignition and propagation of subsurface landfill fires are functions of several factors including waste composition, moisture content, available oxygen and ambient pressure in the area of combustion. Subsurface fires can occur as combustible materials in refuse are heated, either through burial of hot loads with other refuse materials or through chemical oxidation processes. As temperatures in the landfill increase, pyrolytic reactions may occur. Natural biological decomposition within a landfill does not reach combustion temperatures, as the maximum temperature it reaches is approximately 140 degrees Fahrenheit.

A continuous source of oxygen is necessary for combustion. Although a large portion of the oxygen in the refuse at the time of burial is depleted during the initial, aerobic stages of decomposition, improper operation of the landfill gas collection system, such as overdrawn extraction wells, breaks in the surface collection pipe caused by landfill settlement, or cracks and fissures in the landfill cover, could result in air and therefore oxygen being drawn into the refuse.

While open flames are not likely to occur during a subsurface fire, accelerated or sudden localized settlement of the landfill refuse and cover materials in the vicinity of the fire can occur.

Subsurface fires are precluded by preventing oxygen from entering the disposal areas and by the proper operation of the landfill gas control system.

### **Fire Response Agencies**

Fire protection and emergency medical services for the landfill site are provided by the Orange County Fire Authority (OCFA), and when necessary through mutual aid agreements with other fire agencies. The OCFA fire station that provides both fire fighting and emergency medical services to the site is OCFA fire station # 7, located at 31865 Del Obispo Street in San Juan Capistrano (approximately five to six miles west of the site). Access from this fire station to the site is via Ortega Highway and Avenida La Pata. This fire station houses one engine company and one paramedic unit. The future extension of Avenida La Pata will provide access to the site from the south. This will facilitate access to the site from other fire protection and emergency medical service units.

### **Fire Control and Prevention Measures at Landfill Operations Areas and Biological Mitigation Areas**

The following fire control and prevention measures will continue to be implemented on the Prima Deshecha Landfill property.

- In the event of a wildland fire, the following protocols will be implemented by the IWMD landfill staff: (1) landfill staff will report the fire to the 911 operator and monitor conditions, (2) landfill personnel will be evacuated to staging/safe refuge areas, (3) landfill staff will direct/guide fire units to affected areas, and (4) landfill staff will provide support under the direction of fire ground commanders, such as for the use of landfill heavy equipment and water trucks.
- Bulldozers and scrapers are located on-site and are used for daily landfill operations. During emergencies, this heavy equipment is also available for fire fighting purposes. In addition, the IWMD has a 96,000 gallon recycled water tank, a 4,500 gallon potable water tank and two water trucks that are used for daily landfill operations. This equipment is also available for fire fighting purposes in coordination with and support of fire companies. Hydrants are in place near the Operations Building and Household Hazardous Waste Collection Center and meet fire flow requirements. Fire companies are fully capable of using this water supply for both structures and remote fire suppression efforts such as for wildland fires. Water can be delivered anywhere on-site via “relay pumping” (i.e., water delivery from one engine to another in series), or by water truck/shuttle operations via existing access roads.
- In the event of an on-site fire that potentially involves hazardous materials, if the fire is small and manageable, on-site the IWMD landfill staff will control and put out the fire with dry chemical fire extinguishers. However, if an on-site fire that potentially involves hazardous materials is a major fire or generates heavy smoke, the IWMD landfill staff will immediately call a fire company. The IWMD landfill staff will indicate to the fire company that the on-site fire may involve hazardous materials. While waiting for the fire company to arrive at the landfill site, landfill staff will cordon-off the area where the fire is located, thereby establishing a “hot zone”. The IWMD landfill staff will remain

upwind and uphill from the fire as precautionary measures. From a safe distance, the IWMD landfill staff will attempt to identify the material or materials causing the fire, usually by identifying the type, size and shape of the material container.

- While unloading refuse at the landfill disposal area, if a waste-hauling vehicle is carrying a “hot load” that is smoldering, a bulldozer will immediately spread the refuse. A water truck will then saturate the refuse with water. This combination of spreading, compaction and water application, eliminates the potential for “hot loads” resulting in major surface fires in the disposal area of the landfill.
- Subsurface fires in the landfill disposal areas are prevented by the proper installation and operation of the landfill gas collection and monitoring system. In the event of a subsurface fire, the IWMD will implement measures to prevent oxygen from being drawn into the refuse. This may include adjusting the landfill gas collection system to control the level of gas extraction. In addition, the IWMD may add additional soil and/or repair cracks on the landfill top deck and/or side slopes in the area near the subsurface fire.
- The IWMD routinely performs ground clearing in and near the active face of the landfill disposal area, along access roads, around structures and in the vicinity of equipment parking areas. All combustible vegetation is cleared from structures per the requirements of the Fire Code and local ordinances.
- Flammable debris is removed from heavy equipment on a daily basis.
- Fire extinguishers are required on all heavy equipment and in offices and lunchroom facilities. A fire extinguisher is located within 50 feet of any above ground storage tanks containing combustible/flammable liquids. In addition, all County-issued official vehicles are equipped with fire extinguishers.
- Work areas shall be kept neat and clean, including around buildings and other operating locations. Areas should be free of trash and unnecessary combustible materials (e.g., weeds, excess accumulation of dirt/dust, etc.). This is especially important near machines and around other powered equipment. In addition, combustible materials must not be stored in close proximity to heat producing sources (e.g., electric heater or open flame).
- No open flames or smoking is permitted in combustible liquid storage areas, near fueling operations, or near hazardous materials. The IWMD posts “No Smoking” signs throughout the active parts of the landfill and near all structures.
- Proper storage, maintenance and operating practices shall be followed to prevent the accidental release of combustible materials and/or flammable liquids. Spills shall be cleaned up promptly.
- All fire suppression equipment shall be maintained in operating condition and serviced according to fire code requirements. Defective equipment shall be immediately replaced or tagged for service.
- Spark arrestors are installed on heavy equipment that has the potential to emit sparks or glowing embers. In addition, heavy equipment will not be parked in areas with high or very dry vegetation.

- All biological mitigation sites affected by fire will be inspected by a qualified restoration ecologist who will assess the effects of the fire on the mitigation sites and recommend remedial measures as necessary to restore the biological values of the affected mitigation sites to their pre-fire condition. These remedial activities could range from either: (1) allow the affected areas to recover on their own and monitor and manage invasive plant species as necessary, or (2) perform necessary site preparation, apply appropriate native seed mix, and monitor and manage invasive plant species as necessary.
- In the future, fire breaks may be constructed near biological mitigation areas; however, fire breaks will not be constructed within biological mitigation areas, unless specifically directed by OCFA for life safety purposes and/or protection of property.
- Emergency evacuation routes will not be constructed through biological mitigation areas. In addition, emergency evacuation staging areas will not be located on or routed through biological mitigation areas, unless life safety issues are present.
- Combustible materials will not be stored within biological mitigation areas. In addition, heavy equipment used for daily refuse disposal operations will not be refueled within biological mitigation areas.
- On a daily basis, at least one IWMD employee will remain on-site for at least one-half hour after the cessation of landfilling activities, to act as a fire watch, for the purpose of detecting and extinguishing smoldering fires.
- General safety inspections, including the identification of fire hazards, are conducted on a monthly basis by the IWMD Safety Officer, or as necessary, by the IWMD landfill supervisors and employees to eliminate potential fire hazards. This will include not only the fire protection systems and equipment, but also any and all associated fire hazards. In addition, OCFA performs an annual, formal inspection of the site.
- The IWMD currently has in place a Fire Prevention Plan that includes the Prima Deshecha Landfill, as required by Cal/OSHA. The IWMD Safety Officer will review this plan on an annual basis.
- All IWMD landfill field personnel are periodically trained regarding fire prevention and safety measures.
- All biological mitigation sites affected by fire will be inspected by a qualified Restoration Ecologist who will assess the effects of the fire on the mitigation sites and recommend remedial measures, as necessary, to restore the biological values of the affected mitigation sites to their pre-fire condition. These remedial activities could range from either: (1) allow the affected areas to recover on their own and monitor and manage invasive plant species as necessary, or (2) perform necessary site preparation, apply appropriate native seed mix, and monitor and manage invasive plant species as necessary. The recommended remedial measures will be submitted to the Site Manager and Biological Monitor for review and approval, in consultation with the USFWS.

## **COMPLIANCE MONITORING:**

Compliance monitoring reports will be prepared to verify that the County is in compliance with the requirements, conditions and measures contained in the NCCP/MSAA/HCP, the 10(a)(1)(B) permit and Implementation Agreement. The report will include the following:

- Summary of the expenditure of funds for the implementation, operation and maintenance of the Pre-Mitigation Plan.
- Accounting of the location and amount of impacts on Covered Species, Conserved Vegetation Communities, and CDFG Jurisdictional areas.

## **FUNDING:**

### **COSTS AND FUNDING FOR MITIGATION OBLIGATIONS**

In addition to funding the HRMP program as described above, the participating landowners have certain mitigation obligations for impacts resulting from covered activities. The anticipated costs (if known) of these obligations and funding sources to address these costs, are described below.

#### **County of Orange**

As part of the implementation programs for (A) the proposed Prima Deshecha Landfill General Development Plan (“Prima Deshecha Landfill GDP”) and (B) the anticipated improvements to/ the extension of Avenida La Pata southerly of Ortega Highway, County will contribute \$850,000 (i.e. \$600,000 for the eradication effort and \$250,000 for the on-going operation and maintenance of the eradication program) in funding to mitigate impacts to aquatic areas and species associated with said development programs. The funding will contribute significantly toward the overall HRMP by providing for the eradication of invasive plant species with a focus on approximately 24 acres of giant reed within the San Juan Creek portion of Caspers Wilderness Park as depicted in Appendix J. The County shall pay the in-lieu mitigation fee as a one-time lump sum payment to RMVLC within six months of execution of the Southern NCCP/MSAA/HCP, all in accordance with provisions and conditions set forth in Section 9.2.1.1 of the IA. RMVLC shall deposit, maintain and manage all fees thus received from County in accordance with provisions of IA Section 9.2.3, and shall disburse said funds solely for invasive plant species control within the San Juan Creek portion of Caspers Wilderness Park. Should the RMVLC fail to perform invasive plant species control within the San Juan Creek portion of Caspers Wilderness Park as determined by the Wildlife Agencies, any remaining funds paid by the County shall be returned to the County within 90 days of receipt of a written request. In the event that RMV withdraws from the Southern NCCP/MSAA/HCP prior to the commencement or completion of the eradication programs thus specified, RMVLC shall return to the County all remaining and unexpended portions of the County’s original \$850,000 contribution.

The restoration activities that the County IWMD will implement within the Prima Deshecha SOS for both Prima and Avenida La Pata include the pre-mitigation restoration of approximately 174 acres of coastal sage scrub, approximately 18 acres of native grassland and restoration of six acres of willow riparian habitat (on a 1:1 basis for acres impacted consistent with *Appendix M (Pre-Mitigation Plan – County Covered Activities)*). The anticipated restoration activities include the following: site preparation (including mechanized clearing and weed grow and kill), installation of erosion control measures, biological monitoring and documentation, container planting and hydro-seeding, translocation of sensitive plants, species, and implementation of the avoidance and minimization measures set forth in Appendices M and U. In addition to restoring

the habitats noted above, the County will continue in perpetuity to manage these habitats for the benefit of Covered Species. Permanent management will include invasive species remediation actions necessary to address monitoring and administrative activities. Total cost for these actions through landfill closure in approximately 2067 is estimated to be approximately \$43 Million and will constitute funding compliance with the provisions of the Southern NCCP/MSAA/HCP to that date (See Table 12-4). In the event that any restored area is subsequently disturbed by landfill-related operations or in the event of changed circumstances, County will re-restore the areas using County Landfill Operation funds or after 2067, closure or post-closure maintenance funds. Staff funding through landfill post-closure is included in the Post Closure Maintenance Plan Financial Assurance fund. Projected costs for habitat post-closure maintenance for the minimum 30-year post-closure maintenance period will be based upon Program Implementation and General Biological/Regulatory Services Support costs described summarized in Table 12-4.

### Integrated Waste Management Department (IWMD) Organization

The County IWMD is responsible for the administration and management of Orange County's solid waste disposal system including the Prima Deshecha Regional Landfill. IWMD is organized as an enterprise fund and finances its operations through disposal fees charged to users of the waste disposal system. The disposal fees are IWMD's primary source of revenue. All IWMD financial resources are segregated from the County of Orange General Fund.

IWMD long-term financial soundness is secured with negotiated Waste Disposal Agreements. The negotiated Waste Disposal Agreements commit contracted cities and franchise waste haulers to dispose of all waste collected within each city's jurisdiction to the County of Orange landfill system. The disposal fees charged and received under the contracts for the provision of this essential public service are required to be used solely for landfill system purposes.

### IWMD Operations Planning/ Budget

IWMD will identify funding and obtain appropriations for restoration, monitoring and long-term management of the Prima Deshecha Landfill SOS, and its annual operations budget for specific obligations set forth in the NCCP/MSAA/HCP Conservation Strategy, the Permits and this Agreement during its annual budget planning cycle.

IWMD Operations Planning/Budgeting for the landfill system is based upon each landfill's Master Development Plan (the MDP) and evolving legislative and regulatory prescriptions for landfill operations and compliance. The MDPs provide design outlines for the life of the landfills. The MDPs also provide data that allow IWMD to plan for capital assets, environmental mitigations, staffing, and unforeseen circumstances such as landslides or other Acts of God.

IWMD Executive Management reviews the MDP data to ensure appropriate levels of tonnage, expenses and revenue are being forecast and budgeted. IWMD Executive Management operations and policy decisions are incorporated into IWMD's 10-Year Financial Forecast Plan (updated annually) and annual budget, in accordance with IWMD 1997 Revenue Bonds covenant and credit rating agencies (e.g., Moody's and Fitch) criteria. IWMD is required to maintain specific debt/revenue ratios and operating funding levels.

IWMD annually contracts with an independent auditor to perform an audit of its financial operations and to submit the findings to financial rating agencies for review in order to maintain its current AAA creditworthiness rating.

Within IWMD's annual budget, habitat mitigation, risk/liability, and capital costs are specifically identified in each operating landfill's line-item budget with related appropriations, and will be included in County's NCCP/MSAA/HCP annual management and monitoring reports to the Wildlife Agencies.

## Landfill Closure and Post Closure Maintenance

### Landfill Closure

In compliance with the California Integrated Waste Management Board's regulations (Title 27, Code of Regulations, Division 2, Subdivision 1, Chapter 6, Subchapter 2, Articles 1 and 2). IWMD is required to reserve a minimum calculated cash balance that is restricted to a closure escrow fund established for each landfill within the solid waste management system. This fund is an accumulation of sufficient cash to meet the estimated closure costs so funds will be available at the time of the landfill closure based on closure cost estimates that are outlined within a Joint Technical Document (JTD) prepared by an independent consultant. The JTD is the "Master" landfill document that contains all of the technical information for each facility. The JTD is approved by the Local Enforcement Agency (LEA), the Local Enforcement Agency of the California Integrated Waste Management Board (CIWMB), the Regional Water Quality Control Board (RWQCB), with concurrence by the CIWMB. The JTD includes the following:

- Preliminary closure and post-closure maintenance plans (which specify how the County will close and maintain the facility for a minimum of 30 years after closure)
- Financial funding elements.

The JTD is updated every five years but may be amended at any time to reflect changing conditions at the facility. The County prepares a draft update which is approved by the LEA and RWQCB, with concurrence by the CIWMB.

The calculated cash balance included in the JTD is in accordance with the CIWMB state mandated formula and is based upon the closure cost estimate. IWMD updates this calculation annually to assure that the pre-established minimum financial requirements are available, and forwards this information to the CIWMB along with a Certification from the Orange County Treasurer that adequate funding is available. The CIWMB reviews the financial certification and indicates their acceptance of adequate funding on an annual basis through issuance of an Acceptance Letter.

### Landfill Post Closure

A Pledge of Revenue Agreement was executed with the CIWMB that formally offers the state assurance that IWMD will have adequate funds available to carry out the post closure care of all landfills based on estimated post closure costs outlined within the JTD. So that funds will be available at the time each landfill enters into the post closure phase, IWMD has taken action to establish a Pledge of Revenue Agreement (Post Closure Maintenance Plan Financial Assurance) to reserve monies to meet these JTD estimated post closure costs. Projected costs for habitat post-closure maintenance for the minimum 30-year post-closure maintenance period will be based upon Program Implementation and General Biological/Regulatory Services Support costs described and summarized in Table 12-4.

IWMD will incorporate habitat-related funding obligations into its post-closure financial assurance mechanisms for the Prima Deshecha Landfill within approximately eighteen (18) months of execution of the Southern NCCP/MSAA/HCP Implementation Agreement.

The calculated cash balance for post-closure maintenance included in the JTD is reviewed and updated annually to assure that adequate post-closure funds will be available during the landfill post-closure maintenance period.

The closure and post-closure maintenance fund reserve balances are disclosed annually in the Department's Audited Financial Statement and Annual Financial Report.

## **CHANGED CIRCUMSTANCES:**

### **Changed Circumstances**

#### **a. Regulatory Definitions**

Changed Circumstances are defined under the federal "No Surprises" rule as "changes in circumstances affecting a species or geographic area covered by a conservation plan that can reasonably be anticipated by plan developers and the USFWS and that can be planned for." Two types of Changed Circumstances are identified in the applicable regulations:

- (i) Changed circumstances provided for in the plan: If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and were provided for in the plan's operating conservation program, the permitted will implement the measures specified in the plan.
- (ii) Changed circumstances not provided for in the plan: If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and such measures were not provided for in the plan's operating conservation program the Director will not require any conservation and mitigation measures in addition to those provided for in the plan without the consent of the Permittee, provided the plan is being properly implemented."  
(50 CFR 17.32 (b)(5))

Unforeseen Circumstances are defined as follows:

"Unforeseen circumstances means changes in circumstances affecting a species or geographic area covered by a conservation plan that could not reasonably have been anticipated by plan developers and the Service at the time of the conservation plan's negotiation and development, and that result in a substantial and adverse changed in the status of the covered species."  
(50 CFR 17.3)

The provisions of this subsection are also intended to address Changed Circumstances pursuant to the NCCP Act and 1998 Process Guidelines with regard to assurances.

Changed Circumstances addressed by the NCCP/MSAA/HCP Appendix M include the following environmental stressors:

- Fire frequency and geographic extent within the historic fire record
- Flood and associated hydrologic and geomorphic alterations
- Precipitation cycles, including drought
- Invasion by exotic species

Each of these Changed Circumstances is addressed below along with the proposed response which will include evaluation of the above-mentioned events and recommended actions by a qualified Restoration Ecologist for the Site Manager and Biological Monitor for consultation with the Wildlife Agencies:

## **FIRE**

**Fire Frequency within the Historic Fire Frequency Record:** Appendix N, Figure N-3 provides an illustration of the fire frequency record for the Southern Subregion for the years 1911 through 2002. With development and increased in human visitation to wildlands, as well as the proximity of Camp Pendleton Marine Corps Base to Prima Deshecha Landfill, accidental and intentional human-caused ignitions are likely to increase. As identified in Appendix N. While chaparral and coastal sage scrub are fire-adapted communities, fires occurring in short intervals can result in conversion of shrub communities to annual grasslands and promote invasions of exotic plant species. Fires that are within the historic frequency record are Changed Circumstances that are addressed by the NCCP/MSAA/HCP through the Wildland Fire Management Plan that is included in the SOS Management Plan in this Appendix. The following measures would apply:

1. A Restoration Ecologist will conduct an assessment of the fire effects within the mitigation portions of the SOS area to proposed Covered Species and associated vegetation communities and recommend actions to remediate the fire effects (*e.g.*, restoration, invasive species controls) as part of the annual report, in consultation with the Site Manager and Biological Monitor.
2. If active remediation actions are determined to be needed, the Site Manager, in consultation with the Restoration Ecologist and Biological Monitor shall proceed within implementation of the remediation actions. These actions may range from no action to more extensive remediation such as hydroseed application with appropriate species, exotic invasive weed control, and erosion control. Funding for implementation of the remediation actions shall be through the mitigation funding program described in Appendix M.

### **Fire within Historic Geographic Extent (up to but excluding 1958 event):**

Part IV, Appendix N, Figure N-3 provides an illustration of the fire record for the Southern Subregion for the years 1911 through 2002. Figure N-3 also shows the geographic extent of fires that have occurred in the Southern Subregion. Fires up to, but excluding the 1958 fire event, are addressed by NCCP/MSAA/HCP through the following measures:

1. A Restoration Ecologist will conduct an assessment of the fire effects to proposed Covered Species and associated vegetation communities within the SOS areas and recommend actions to remediate the fire effects (*e.g.*, restoration, invasive species controls) as part of the annual report, in consultation with the Site Manager and Biological Monitor.

2. If active remediation actions are determined to be needed within the mitigation portions of the SOS areas, the Site Manager, in consultation with the Restoration Ecologist and Biological Monitor shall proceed within implementation of the remediation actions. These actions may range from no action to more extensive remediation such as hydroseed application with appropriate species, exotic invasive weed control, and erosion control. Funding for implementation of the remediation actions shall be through the mitigation funding program described in Appendix M.

**High Frequency Fires Outside Historic Record and Fires Equal to 1958 Event Size:** Fires that are outside the historic record shown in Figure N-3 in terms of frequency or are equal in geographic extent to the 1958 event are potentially foreseeable, but are considered to be outside the scope of the NCCP/MSAA/HCP. In the event a fire occurs that is equal to the 1958 event size or multiple fires occur that are outside the historic frequency record, the following conditions shall apply:

1. A Restoration Ecologist will conduct an assessment of the fire effects to proposed Covered Species and associated vegetation communities within the mitigation portions of the SOS areas and submit this report to the Wildlife Agencies within 60 days of the fire event in the case of a fire outside the specified historic geographic extent or the latest fire in the case of short interval fires on the same area (“Fire Damage Assessment Report”).
2. If, based on the Fire Damage Assessment Report, remediation actions outside of those provided in the SOS Management Plan are determined to be needed, the Site Manager and Biological Monitor shall consult with the Wildlife Agencies. The Site Manager and Biological Monitor as applicable, in consultation with the Wildlife Agencies, shall have a Restoration Ecologist develop a plan for implementing any necessary measures to ameliorate the impacts of the fire within the restored habitat areas of the SOS until natural processes of fire recovery occur over time. The plan shall identify the costs of the remediation actions. Funding for implementation of the remediation actions shall be through the mitigation funding program described in Appendix M.

**Unforeseen Circumstances for Fire:** Fire(s) of a greater geographic scale than the 1958 event have not occurred within the Southern Subregion since the recording of fire history. The potential damage due to such an event thus is not foreseeable, nor predictable. Therefore, a fire of a geographic scale greater than the 1958 event shall be considered an Unforeseen Circumstance.

## **FLOOD**

**Flood and Associated Hydrologic and Geomorphic Alterations (50- to 100-year Events):** 50- and 100-year floods can cause substantial alterations of the structure and functions of riparian and wetland communities that provide habitat for numerous species. Prima Deshecha Canada is the primary drainage feature within the Prima Deshecha Landfill that would be subject to flood events of this magnitude. Disturbances to protected habitats within the SOS area would include existing and create southern willow riparian habitat located within this drainage. Changes to channel geomorphology are also common within mainstem creeks during events of a 50- to 100-year magnitude and are generally not a cause for management action as such changes result in the downstream movement of sediment and regeneration of riparian plant communities.

The objective is to maintain natural hydrologic and geomorphic processes to the maximum extent feasible. Floods that are of a greater than 100-year magnitude (and up to 200-year

magnitude) are Changed Circumstances that are addressed by the SOS Management Plan through the following measures:

1. The Site Manager and/or Biological Monitor as applicable, and have a Restoration Ecologist will conduct an assessment of the flood effects to proposed Covered Species and associated vegetation communities and recommend actions to remediate the flood effects (*e.g.*, restoration, invasive species controls). The assessment shall focus primarily on conditions of concern that may occur in Prima Deshecha Canada Channel.
2. If remediation actions are determined to be needed, the Site Manager and/or Biological Monitor as applicable shall have a Restoration Ecologist proceed within implementation of the remediation actions as part of the annual actions provided for in the SOS Management Plan as an ad hoc response during the year as circumstances dictate.

**Flood and Associated Hydrologic and Geomorphic Alterations (greater than 100- and up to 200-year Events):** Floods of a 100- to 200-year magnitude are potentially foreseeable, but are not addressed by the SOS Management Plan. In the event a flood event of this magnitude, the following conditions shall apply:

1. The Site Manager and/or Biological Monitor as applicable, will have a Restoration Ecologist conduct an assessment of the flood effects to proposed Covered Species and associated vegetation communities and recommend actions to remediate the flood effects (*e.g.*, restoration of wetlands/riparian vegetation, invasive species controls) and submit this report to the Wildlife Agencies within 60 days of the cessation of the flood event (“Flood Damage Assessment Report”). In conducting the assessment, the Site Manager and/or Biological Monitor as applicable shall have the Restoration Ecologist focus primarily on conditions of Prima Deshecha Canada Channel.
2. If, based on the Flood Damage Assessment Report, remediation actions are determined to be needed, the Site Manager and/or Biological Monitor shall consult with the Wildlife Agencies. The Site Manager and/or Biological Monitor as applicable, in consultation with the Wildlife Agencies, shall have a Restoration Ecologist develop a plan for implementing any necessary measures to address the flood damage with regard to habitat conditions. The plan shall identify the costs of the remediation actions. Funding for implementation of the remediation actions shall be through the mitigation funding program described in Appendix M.

**Unforeseen Circumstances for Flood and Associated Hydrologic and Geomorphic Alterations (Greater than 200-year Events):** The potential damage from a greater than 200-year event is not foreseeable, nor predictable. Therefore, flood associated damage and hydrologic geomorphic alterations resulting from a greater than 200-year event shall be considered an Unforeseen Circumstance.

### **PRECIPITATION CYCLES**

**Precipitation Cycles, Including Drought:** Precipitation cycles, including drought, are weather phenomena beyond local human control. Drought, in combination with other stressors such as fire, can have a severe effect on habitat quality for the proposed Covered Species and the Conserved Vegetation Communities. While precipitation cycles cannot be controlled directly, the effects of precipitation cycles shall be addressed by the measures:

1. The Site Manager and/or Biological Monitor as applicable, will have a Restoration Ecologist monitor the effects of precipitation cycles on proposed Covered Species and associated vegetation communities and recommend actions to address the effects of precipitation cycles (*e.g.*, invasive species controls) as part of the annual report.
2. If actions to address precipitation effects are determined to be needed by the Restoration Ecologist, the Site Manager and/or Biological Monitor as applicable shall proceed within implementation of the actions as part of the annual adjustments to the SOS Management Plan or as an ad hoc response during the year as circumstances dictate.

**Unforeseen Circumstances for Precipitation Cycles Outside the Historic Record:** The potential damage caused by precipitation cycles outside the historic record is not foreseeable, nor predictable. Therefore, precipitation cycles outside the historic record shall be considered an Unforeseen Circumstance.

### **EXOTIC INVASIVE SPECIES**

**Invasion by Exotic Species:** The control and continued management of invasive plant species in the SOS areas of Prima Deshecha Landfill, such as giant reed infestations in the Pre-Mitigation Plan restoration areas is extremely important to the overall success of this program. The control of invasive species is addressed in the Pre-Mitigation Plan. Long-term management approaches for controlling invasive plant species are as follows:

1. The Site Manager and/or Biological Monitor, as applicable, will have a Restoration Ecologist monitor for any new invasive plant species or severe outbreaks of known invasive plant species within the Pre-Mitigation restoration areas as part of the annual report.
2. If remediation actions recommended by the Restoration Ecologist are determined to be needed, the Site Manager and/or Biological Monitor, as applicable, shall have a Restoration Ecologist implement the remediation actions as part of the annual report program or as an ad hoc response during the year as circumstances dictate.

### **Unforeseen Circumstances for Invasion by Exotic Species:**

Although the problem of non-native invasive plants and animals, and their effects on vegetation and wildlife is well documented, invasions of non-native plants or animals that are beyond the scale or type documented in Southern Subregion may occur. The potential damage caused by an invasion of this scale or type is not foreseeable, nor predictable. Therefore, this circumstance shall be considered an Unforeseen Circumstance.

### **c. Proposed Procedures for Addressing Unforeseen Circumstances**

As described in 50 Code of Federal Regulations, Sections 17.22(b)(5)(C) and 17.32(b)(5)(C), the No Surprises Rule, the USFWS shall have the burden of demonstrating that Unforeseen Circumstances exist, using the best scientific and commercial data available. Any findings of Unforeseen Circumstances will be clearly documented and based upon reliable technical information regarding the biological status and habitat requirements of the affected Covered Species. Except where there is a substantial threat of imminent, significant adverse impacts to a Covered Species, USFWS will provide the Participating Landowners at least sixty 60 days written notice of a proposed finding of Unforeseen Circumstances, during which time the USFWS will meet with the Site Manager, Biological Monitor and Restoration Ecologist

to discuss the proposed finding and potential responses. The County of Orange will have an opportunity to submit information to rebut the proposed finding.

## NCCP/MSAA/HCP COMPLIANCE PROCEDURES

**Note:** *This compliance manual will be revised to reflect the requirements of the NCCP/MSAA/HCP, EIR/EIS, IA and 10(a) upon their approval and/or issuance.*

The approval of the NCCP/MSAA/HCP will provide regulatory coverage for 32 “Covered Species” and authorize the removal of up to 122 acres of CSS, 19 acres southern needlegrass grassland, and 12 acres of riparian habitats which will be fully mitigated through the implementation of a Pre-Mitigation Plan involving onsite and offsite mitigation to offset impacts associated with the ultimate build-out of Prima Deshecha Landfill. The implementation of the Pre-Mitigation Plan will be initiated within five (5) years of the execution of the NCCP/MSAA/HCP Implementation Agreement and includes up to 122 acres of CSS, 19 acres southern needlegrass grassland, and 6 acres of riparian habitats on site within areas designated “Supplemental Open Space” (SOS) within the Prima Deshecha Landfill and 24 acres of *Arundo donax* (giant reed) and other invasive exotic plant species removal within the San Juan Creek portion of Caspers Wilderness Park to fully satisfy the mitigation requirements for both Prima Deshecha Landfill. Avenida La Pata mitigation requirements will also be satisfied through this implementation of this Pre-Mitigation Planning program through the creation of an additional 52 acres of CSS restoration within the SOS portion of Prima Deshecha Landfill. In addition, other mitigation sites as identified in the Regional Environmental Enhancement Opportunity Plan (REEOP) may be used to offset impacts for other public and private projects.

This section describes the procedures to be followed by IWMD personnel for addressing the removal of CSS, southern needlegrass grassland and riparian resources within areas designated by the NCCP/MSAA/HCP as “Development” and “Supplemental Open Space” within the Prima Deshecha Landfill property.

Authorized “Take” will be based on the establishment of 122 acres of CSS, 19 acres of southern needlegrass grassland, and 6 acres of riparian, the one-time lump sum payment of \$850,000 to the RMVLC for the eradication and ongoing management of 24 acres of *Arundo donax* and other invasive plant species as identified in the Pre-Mitigation Plan for Prima Deshecha Landfill. Avenida La Pata will contribute an additional 52 acres of CSS restoration within the SOS areas at Prima Deshecha Landfill. These mitigation components shall constitute full satisfaction of the mitigation requirements for both projects. Once performance standards have been satisfied for all or a portion of the Pre-Mitigation Plan, the County will seek written authorization from the Wildlife agencies during the five-year establishment period as soon as all or a portion of each habitat area within the Pre-Mitigation Plan areas achieve performance criteria.

The procedures contained in this document are based on the mitigation measures contained in the Southern Orange County NCCP/MSAA/HCP EIR/EIS, NCCP/MSAA/HCP, Implementation Agreement, and the 10(a) permit.

### 1. Authorized Take:

IWMD is authorized to removal up to 122 acres of CSS, 19 acres of southern needlegrass grassland, 12 acres of riparian identified within the limits of disturbance during the ultimate build-out of Prima Deshecha Landfill. Please note that these habitat removals will occur within areas designated by the NCCP/MSAA/HCP as Development and SOS. See attached 10(a) permit. The procedures for NCCP/MSAA/HCP compliance for

removals within the SOS are provided below. Please note that these take acreages may not be exceeded without obtaining prior authorization from the Wildlife Agencies in accordance with the provisions of the Implementation Agreement.

2. Covered Activities and Permitted Activities:

All Prima Deshecha Landfill activities defined by the 2001 GDP, as amended, are “Covered Activities” as defined by the approved NCCP/MSAA/HCP Chapter 10. Covered Activities are further listed in the NCCP/MSAA/HCP Appendix M (Prima Deshecha Landfill Covered Activities). The site engineer shall confirm that the landfill activity is consistent with the list of “Covered Activities” authorized by the NCCP/MSAA/HCP, IA and 10(a) permit.

3. Disturbance Documentation:

The project manager shall identify the project location and have a qualified biologist and the Biological Monitor determine the amount of acreage of native and/or created CSS that will be impacted to implement the project including construction access and equipment and materials staging. These impacts will be recorded on the vegetation base map and deducted from the overall “Take” authorization identified in the 10(a) permit. The impacts will be reported on an annual basis to the Wildlife Agencies as part of the Annual Take Report to be submitted on or before November 15<sup>th</sup> of each year following the date of the issuance of the 10(a) permit and execution of the IA.

4. Breeding and Nesting Season Minimization Measures:

Removal of CSS, southern needlegrass grassland and riparian habitats should occur outside of the breeding and nesting season (February 15<sup>th</sup> through July 15<sup>th</sup>) to avoid potential impacts to sensitive and non-sensitive bird species breeding and nesting activities. The site engineer shall consult with a qualified biologist and the Biological Monitor if the landfill activity involves the removal of one (1) acre or greater of CSS habitat outside the breeding season and anytime during the breeding season. The biologist will review the habitat conditions to determine if there are any sensitive plants and/or wildlife concerns. If there are none, the site engineer may authorize immediate habitat removal. If the biologist determines that there is a potential to impact a sensitive plant and to substantially disrupt wildlife breeding and/or nesting activities, the biologist will submit recommended measures to minimize the affects of the removal activities on these resources to the site engineer for his consideration.

Avoidance and minimization measures for Prima Deshecha Landfill are identified in NCCP/MSAA/HCP SOS Management Plan (Appendix M), Avoidance and Minimization Measures (Appendix U), and the 10(a) permit (Appendix (M)).

5. Notification Letters:

The site engineer shall prepare and transmit a notification letter to the USFWS and CDFG at least 7, preferably 14 days prior to the removal of any CSS habitat one (1) acre or greater. Template notification letters to these wildlife agencies are attached.

6. Skip Steps 3 & 7, if the proposed disturbed CSS habitat area is less than one (1) acre.

7. Temporary Impacts to Created Habitat within the SOS Area:

Disturbance to any habitat created as part of the implementation of the Pre-Mitigation Plan within the SOS area or the Regional Environmental Enhancement Plan within the

SOS or other portions of the landfill site contained herein shall be restored at the completion of the landfill-related activity using the appropriate hydroseed mix consistent with the approved Pre-Mitigation Plan to achieve equal habitat value. All restored areas will be maintained to remove non-native invasive plant species for at least three years. These impacts will be described and mapped in the Annual Take Report as “Non-Take” activities. NCCP/MSAA/HCP Appendix M – SOS Management Plan should be used as technical references by a landscape contractor to restore CSS, native grassland, or riparian habitats for the disturbed area(s), in consultation with a Restoration Ecologist and IWMD/Staff Biological Monitor.

8. Performance Criteria for CSS Restoration: The performance criteria for CSS habitat creation are identified in the SOS Management Plan contained in NCCP/MSAA/HCP Appendix M.
9. Performance Criteria for Southern Needlegrass Grassland Restoration: The performance criteria for southern needlegrass grassland habitat creation are identified in the SOS Management Plan contained in NCCP/MSAA/HCP Appendix M.
10. Performance Criteria for Riparian Restoration: The performance criteria for riparian habitat creation are identified in the SOS Management Plan contained in NCCP/MSAA/HCP Appendix M.

11. Annual Take Reports:

IWMD shall prepare and submit to the Wildlife Agencies on or before on or before November 15<sup>th</sup> of each year. The report shall describe and summarize certain facts and issues relevant to any take of Covered Species and Habitats during the reporting period in accordance with NCCP/MSAA/HCP. All take of Covered Species and Habitats shall be documented (impacted area mapped and impacted acreage calculated) by a qualified biologist. The Annual Take Report should contain the following elements:

- Background
  - Landfill Facility
  - Take Authorization
  - Take History Table
- Landfill Activities for the Reporting Period (include pictures)
  - Infrastructure Activities
  - Operations and Maintenance Activities
  - Fires Events
  - Floods Events
  - Invasive Species Conditions
  - Revised Vegetation Map - Identify temporary/permanent disturbance resulting from these activities, events, conditions.
- Habitat Restoration and Enhancement Activities
  - Summary of Pre-Mitigation Restoration and Enhancement Activities
  - Restoration and Enhancement Activities resulting from temporary disturbance to existing mitigation within SOS or REEOP areas.
- Coordination with Wildlife Agencies
  - Correspondence
- References

Ken Corey  
U.S. Fish and Wildlife Service  
6010 Hidden Valley Road  
Carlsbad, CA 92011

Dear Mr. Corey:

**Subject: Notification of Intent to Remove Coastal Sage Scrub and Other Sensitive Habitat Resources within Prima Deshecha Landfill**

This letter serves as notification that Orange County Integrated Waste Management Department intends to remove coastal sage scrub resources and other sensitive habitat resources within the areas of disturbance within Prima Deshecha Landfill as identified in Appendix M

Description of Activity: (Landfilling activities within the designated “Development Areas” are “Covered Activities by the NCCP/MSAA/HCP are listed in the “Landfill Activities Matrix” attached to the Compliance Manual. Please review Appendix D of this Compliance Manual to determine if activities proposed within the “Supplemental Open Space” are consistent with the “Permitting Activities” identified in Appendix D. Also, this notification should include a statement that a qualified biologist has reviewed the proposed activity and determined that it will not impact sensitive plants or wildlife species or substantially impact their breeding and nesting behavior.)

Amount of Coastal Sage Scrub and other Covered Vegetation Acreage to be Disturbed: (Provide a calculation of all Covered Vegetation and attach a map of Prima Deshecha Landfill where the disturbance will occur. The notification letters will ultimately be used to prepare the Annual Take Report due on or before November 1<sup>st</sup> of each year.)

Scheduled Start and Completion Dates:

Please contact the Project Manager \_\_\_\_\_ at (949) \_\_\_\_\_ if you have any further questions.

Sincerely,

Kevin H. Kondru, P.E., Manager  
Environmental Services

Attachment: (include exhibit showing area of disturbance and vegetation to be removed)

cc: Tim Neely, RDMD  
Suzanne McClanahan, IWMD



**COUNTY OF ORANGE**  
**INTEGRATED WASTE MANAGEMENT DEPARTMENT**

**1.0 JANICE V. GOSS,**  
**DIRECTOR**

320 N. Flower Street, Suite 400  
Santa Ana, CA 92703

1.2

1.3

**APPENDIX A**



Date

Larry Eng  
California Dept. of Fish and Game  
South Coast Region (Region 5)  
4949 Viewridge Avenue  
San Diego, CA 92123

Dear Mr. Mike Mulligan:

**Subject: Notification of Intent to Remove Coastal Sage Scrub**

This letter serves as notification that Orange County Integrated Waste Management Department intends to remove coastal sage scrub resources and other sensitive habitat resources within the areas of disturbance within Prima Deshecha Landfill as identified in Appendix M

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Amount of Coastal Sage Scrub and other Covered Vegetation Acreage to be Disturbed: Provide a calculation of all Covered Vegetation and attach a map of Prima Deshecha Landfill where the disturbance will occur. The notification letters will ultimately be used to prepare the Annual Take Report due on or before November 15<sup>th</sup> of each year.

Scheduled Start and Completion Dates:

Landfill Site:

Activity:

Coastal Sage Scrub  
Acreage to be Disturbed

Scheduled Start Date

Please contact the Project Manager \_\_\_\_\_ at (949) \_\_\_\_\_ if you have any further questions.

Sincerely,

Kevin H. Kondru, P.E., Manager  
Environmental Services

Attachment (include exhibit showing area)

cc: Tim Neely, RDMD  
Suzanne McClanahan, IWMD