

APPENDIX E

BIOLOGICAL TECHNICAL REPORT



Environment

Prepared for:
Santa Barbara County
Public Works Department
Resource Recovery &
Waste Management Division
Santa Barbara County, California

Prepared by:
AECOM
Camarillo, CA
60282626
September 2013

Tajiguas Resource Recovery Project Biological Technical Report



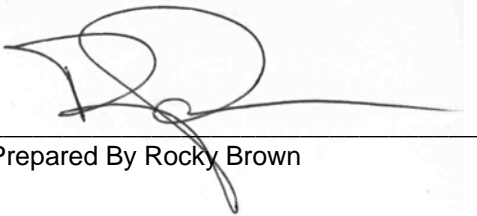


Environment

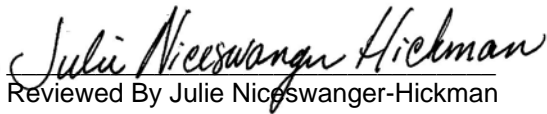
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Prepared By Rocky Brown



Reviewed By Julie Niceswanger-Hickman

Contents

| | |
|--|------------|
| 1.0 Introduction..... | 1-1 |
| 1.1 Project Overview..... | 1-1 |
| 1.2 Previous Analysis..... | 1-2 |
| 1.2.1 Impacts Identified During Analysis of Prior Projects..... | 1-2 |
| 1.2.2 Permits in Place for the Tajiguas Landfill Reconfiguration Project | 1-6 |
| 2.0 Setting..... | 2-1 |
| 2.1 Regional Overview..... | 2-1 |
| 2.2 Site-Specific Setting..... | 2-1 |
| 2.3 Regulatory Setting | 2-2 |
| 2.3.1 Federal Regulations and Standards | 2-2 |
| 2.3.2 State Regulations and Standards | 2-3 |
| 2.3.3 Local Regulations and Standards | 2-4 |
| 3.0 Existing Conditions | 3-1 |
| 3.1 Survey Methods..... | 3-1 |
| 3.2 Vegetation Communities | 3-2 |
| 3.2.1 California Bay Seep Woodland | 3-3 |
| 3.2.2 <i>Ceanothus Megacarpus</i> Chaparral | 3-3 |
| 3.2.3 Coast Live Oak Woodland..... | 3-4 |
| 3.2.4 Southern Coast Live Oak Riparian Forest | 3-4 |
| 3.2.5 Venturan Coastal Sage Scrub..... | 3-5 |
| 3.2.6 Bare Ground/Roads/Existing Facilities | 3-5 |
| 3.2.7 Rock Outcrop | 3-5 |
| 3.2.8 Ruderal..... | 3-5 |
| 3.3 Flora and Fauna..... | 3-6 |
| 3.4 Sensitive Biological Resources | 3-6 |
| 3.4.1 Sensitive Vegetation Communities | 3-7 |
| 3.4.2 Sensitive Plants | 3-7 |
| 3.4.3 Sensitive Wildlife | 3-13 |
| 4.0 Analysis of Effects and Impacts..... | 4-1 |
| 4.1 FESA Analysis of Take | 4-1 |
| 4.2 FESA Definition of Effects | 4-1 |
| 4.3 CEQA Thresholds of Significance for Impacts | 4-2 |
| 4.4 CEQA Definition of Impacts..... | 4-4 |

| | |
|--|------------|
| 5.0 Impacts of Proposed Action | 5-1 |
| 5.1 Construction Impacts to Common Vegetation Communities and Wildlife | 5-1 |
| 5.1.1 Construction Impacts to Common Vegetation Communities | 5-1 |
| 5.1.2 Construction Impacts to Common Wildlife..... | 5-2 |
| 5.2 Construction Impacts to Sensitive Biological Resources | 5-3 |
| 5.2.1 Construction Impacts to Sensitive Vegetation Communities | 5-3 |
| 5.2.2 Construction Impacts to Sensitive Plants..... | 5-3 |
| 5.2.3 Construction Impacts to Sensitive Wildlife..... | 5-4 |
| 5.2.4 Construction Impacts to Habitat Connectivity and Wildlife Corridors..... | 5-8 |
| 5.3 Operational Impacts to Common Vegetation Communities and Wildlife..... | 5-9 |
| 5.3.1 Operational Impacts to Common Vegetation Communities | 5-9 |
| 5.3.2 Operational Impacts to Common Wildlife | 5-9 |
| 5.4 Operational Impacts to Sensitive Biological Resources..... | 5-10 |
| 5.4.1 Operational Impacts to Sensitive Vegetation Communities and Plants..... | 5-10 |
| 5.4.2 Operational Impacts to Sensitive Wildlife..... | 5-10 |
| 5.4.3 Operational Impacts to Habitat Connectivity and Wildlife Corridors | 5-11 |
| 5.5 Impacts of Optional Element Comingled Source Separated Recyclables..... | 5-12 |
| 5.6 Extension of Landfill Life Impacts..... | 5-12 |
| 5.7 Cumulative Impacts | 5-12 |
| | |
| 6.0 Mitigation Measures..... | 6-1 |
| 6.1 Mitigation for Indirect Impacts to Sensitive Vegetation Communities | 6-1 |
| 6.2 Mitigation for Impacts to Wildlife..... | 6-1 |
| 6.3 Mitigation for Impacts to Sensitive Wildlife..... | 6-2 |
| | |
| 7.0 Alternatives | 7-1 |
| 7.1 Survey Methods..... | 7-1 |
| 7.2 No Project Alternative | 7-1 |
| 7.3 Urban Area MRF Alternative 1 (MarBorg Industries MRF) | 7-2 |
| 7.3.1 Existing Conditions | 7-2 |
| 7.3.2 Impacts of the Alternative Action..... | 7-2 |
| 7.4 Urban Area MRF Alternative 2 (SCRTS MRF)..... | 7-3 |
| 7.4.1 Existing Conditions | 7-3 |
| 7.4.2 Impacts of the Alternative Action..... | 7-4 |
| 7.5 Off-site Aerobic Composting | 7-5 |
| 7.5.1 Existing Conditions | 7-5 |
| 7.5.2 Impacts of the Alternative Action..... | 7-5 |
| 7.6 Tajiguas Landfill Expansion..... | 7-6 |
| 7.6.1 Existing Conditions | 7-6 |

7.6.2 Impacts of the Alternative Action..... 7-7

7.7 Waste Export to Simi Valley Landfill and Recycling Center 7-8

7.7.1 Existing Conditions 7-8

7.7.2 Impacts of the Alternative Action..... 7-8

7.8 Waste Export to the Santa Maria Integrated Waste Management Facility..... 7-10

7.8.1 Existing Conditions 7-10

7.8.2 Impacts of the Alternative Action..... 7-11

8.0 References 8-1

List of Appendices

- Appendix A Sensitive Plant Species Known or Potentially Occurring within the Study Area
- Appendix B Sensitive Wildlife Species Known or Potentially Occurring within the Study Area
- Appendix C Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 1 (MarBorg Industries MRF)
- Appendix D Sensitive Wildlife Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 1 (MarBorg Industries MRF)
- Appendix E Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2 (SCRTS MRF)
- Appendix F Sensitive Wildlife Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2 (SCRTS MRF)

List of Tables

Table 1. Vegetation Communities within the Study Area and Proposed Action Area 3-2

List of Figures

Figure 1 Site Location Map

Figure 2 Vegetation Communities and Rare Plant Locations in Study Area

List of Acronyms

°F – degrees Fahrenheit

ADF – Anaerobic Digestion Facility

BGEPA – Bald and Golden Eagle Protection Act

BTR – Biological Technical Report

CDFW – California Department of Fish and Wildlife

CDFG – California Department of Fish and Game

CESA – California Endangered Species Act

CEQA – California Environmental Quality Act

CNDDDB – California Natural Diversity Database

CNPS – California Native Plant Society

CSSR – commingled source separated recyclables

CWA – Clean Water Act

EIR – Environmental Impact Report

ERA – EcoSystems Restoration Associates

ESHs - Environmentally Sensitive Habitats

FESA – Federal Endangered Species Act

HCP – Habitat Conservation Plan

IWMF – Integrated Waste Management Facility

MBTA – Migratory Bird Treaty Act

MM – mitigation measure

MRF – Materials Recovery Facility

MSW – municipal solid waste

RRP – Resource Recovery Project

RRWMD – Resource Recovery and Waste Management Division

RWQCB – Regional Water Quality Control Board

SBBG – Santa Barbara Botanical Gardens

SCRTS – South Coast Recycling and Transfer Station

SSOW – source-separated organic waste

SVLRC – Simi Valley Landfill and Recycling Center

USACE – United States Army Corps of Engineers

USC – U.S. Code

USFWS – U.S. Fish and Wildlife

USGS – United States Geological Survey

WRCC – Western Regional Climate Center

WWTP – Wastewater Treatment Plant

1.0 Introduction

AECOM Environment (AECOM), on behalf of the County of Santa Barbara (County) Public Works Department, Resource Recovery and Waste Management Division (RRWMD) (Project Proponent), has prepared this Biological Technical Report (BTR) to support the analysis of biological impacts pursuant to the requirements of the California Environmental Quality Act (CEQA). This BTR addresses the impacts from the Tajiguas Resource Recovery Project (RRP) (Proposed Action) on the Project site and immediately surrounding areas (Study Area).

The Tajiguas Landfill is located in Santa Barbara County, approximately 26 miles west of the City of Santa Barbara, California (Figure 1). The Study Area is located in the north-south oriented coastal canyon of Cañada de la Pila within the property boundary of the existing County-owned and operated Tajiguas Landfill, a Class III municipal solid waste (MSW) disposal facility (Figure 2). The Proposed Action will occur almost entirely within existing disturbed areas of the Landfill property, either on the Landfill waste footprint or in areas disturbed by existing landfill related operations (Figure 2). The Proposed Action Area is defined as the RRP's disturbance footprint for the purposes of analyzing impacts under CEQA, specifically direct and indirect impacts to vegetation communities, plants, and wildlife. In order to evaluate effects to species covered under the Federal and State Endangered Species Acts (FESA and CESA, respectively), the Study Area was expanded 200 feet beyond the Proposed Action Area to address direct and indirect effects of light, noise, sound, and dust that might occur outside but adjacent to the RRP's footprint. Additionally, AECOM biologists surveyed the Study Area to assess the potential for sensitive State and Federal species to occur.

This BTR provides information and a full analysis of the impacts of the Proposed Action on sensitive biological and wetland resources, as required by CEQA and Santa Barbara County Environmental Thresholds and Guidelines Manual (County 2008). Therefore, this BTR includes a discussion of sensitive vegetation communities; federally-listed species; state-listed species; California Native Plant Society (CNPS) List 1B, 2, 3, and 4 species; California Department of Fish and Wildlife (CDFW, formerly California Department of Fish and Game [prior to January 2013]) species of special concern; CDFW fully protected species; locally sensitive species; wildlife corridors; and wetland resources that may be affected by the Proposed Action.

1.1 Project Overview

The County proposes to modify the operation of the Tajiguas Landfill to add resource recovery facilities that would process MSW from the communities currently served by the Tajiguas Landfill, which include unincorporated areas of the south coast of Santa Barbara, Santa Ynez and New Cuyama Valleys, and the cities of Santa Barbara, Goleta, Buellton and Solvang. The RRP would modify current waste management operations at the Tajiguas Landfill by the addition of a Materials Recovery Facility (MRF) and Dry Fermentation Anaerobic Digestion Facility (ADF) (and associated energy facility) on the existing operations deck and a Composting Area on the top deck of the Landfill. Associated infrastructure includes three new water tanks (two on the western ridge of Cañada de la Pila and one near the eastern ridge of Cañada de la Pila, north of the proposed Composting Area), new water and wastewater lines, a new groundwater well adjacent to Pila Creek, a small maintenance building near the eastern ridge of Cañada de la Pila, and new night-time operations. The implementation of the project would also require the temporary relocation of Landfill operations to other disturbed areas of the Landfill Property during construction. The MRF would also be designed to process source-separated organic (food and green) waste (SSOW) from the region's existing and

future recycling programs. Additionally, as an *optional project element*, the RRP could include the infrastructure to process currently collected commingled source-separated recyclables (CSSR). The optional CSSR element would add an additional 10,000 square-feet to the MRF facility and an additional 20 employees. The locations and approximate sizes of each project component are depicted in Figure 2.

The MRF would be comprised of an approximate 60,000-square-foot facility (70,000 square-feet if CSSR [*optional element*] is included as described above) that would sort MSW into three streams:

- Recyclables (i.e., glass, metal, paper, plastic, wood) – recovered and processed for sale.
- Organics – recovered for processing in the ADF.
- Residue – materials left over after all recyclables and organics are recovered that would be disposed of at the existing Landfill.

The ADF would be housed within an approximate 63,000-square-foot building, and associated energy facility and percolate storage tanks that would convert all organics recovered from the MSW and SSOW into:

- Bio-gas (primarily composed of methane) – that would be used to power two 1,537-horsepower on-site combined heat and power engines driving electric power generators that would generate approximately 1+ net megawatts of renewable power. The Energy Facility would be located on the south side of the ADF.
- Digestate – that can be cured into compost and/or soil amendments. The curing would require an approximately 5.0-acre composting area, planned to be constructed on the Landfill's top deck. The compost and/or soil amendments would be marketed for agricultural or landscape use or used for reclamation projects.

1.2 Previous Analysis

CalRecycle has prepared a programmatic Environmental Impact Report (EIR) for California's Anaerobic Digestion Initiative, which notes that ADFs would be co-located with permitted solid waste facilities or located in areas zoned for industrial or solid waste handling activities; and, as such, their construction was not anticipated to adversely affect biological resources. The EIR describes that if the construction of the ADF includes footprint expansion into undeveloped and undisturbed areas, as is the case with the RRP, impacts to biological resources from the construction would be analyzed on a project-by-project basis.

Assessments of biological resources and impacts associated with the currently permitted Tajiguas Landfill have been addressed in the prior EIRs prepared for the Tajiguas Landfill. Prior EIRs include: The Tajiguas Landfill Expansion EIR (01-EIR-05), December 5, 2006 Addendum, and Tajiguas Landfill Reconfiguration and Baron Ranch Restoration EIR (08EIR-00000-00007). The analysis of biological resources contained in the aforementioned prior EIRs were used to assist in the preparation of this BTR.

1.2.1 Impacts Identified During Analysis of Prior Projects

The following summarizes the impacts to biological resources in the vicinity of the Landfill identified in the aforementioned EIRs for the Tajiguas Landfill Expansion Project and Tajiguas Landfill Reconfiguration and Baron Ranch Restoration Project.

1.2.1.1 Tajiguas Landfill Expansion Project Impacts

1. The Tajiguas Landfill Expansion Project would ultimately disturb a total of 71 acres of vegetation communities. Of these 71 acres, native vegetation communities included 38 acres of mature chaparral, five acres of degraded coastal sage scrub, and four acres of coast live oak woodland. In addition, 16 acres of non-native grassland, seven acres of ruderal/landscaped vegetation and one acre of bare rock would also be removed. The loss of these habitats was considered a significant and unavoidable impact (Class I). Despite mitigation (BIO-7, requiring native revegetation at a 3:1 ratio, see 01-EIR-05 page 3.4-53) proposed to minimize this impact, residual impacts were expected to remain significant.
2. Excavation and construction activities associated with the Tajiguas Landfill Expansion Project were anticipated to result in disturbance from increased human activity and lead to the establishment of invasive, non-native vegetation. This was considered a significant but mitigable impact (Class II).
3. Within the approved Tajiguas Landfill Expansion Project footprint, impacts to 100 to 150 mature coast live oak (*Quercus agrifolia*) trees were anticipated. A tree replacement program and protective measures during construction (BIO-3 and BIO-4, see page 3.4-52 of 01-EIR-05) would potentially reduce the severity of this impact, but residual impacts were expected to remain significant (Class I).
4. Loss of occupied habitat for three sensitive plant species (Plummer's baccharis [*Baccharis plummerae* ssp. *plummerae*], Hoffmann's nightshade [*Solanum xanti* var. *hoffmannii*], and Santa Barbara honeysuckle [*Lonicera subspicata subspicata*]) would occur within the landfill expansion area. Although mitigation provided by 01-EIR-05 (BIO-1, page 3.4-50) would minimize impacts to sensitive plants, residual impacts were expected to remain significant (Class I).
5. The Tajiguas Landfill Expansion Project would lead to abandonment or avoidance of foraging and/or breeding habitats by several sensitive bird and mammal species that occur in adjacent foothill habitats as a result of increased human presence/activities. Mitigation (BIO-9, minimize night lighting, see page 3.4-56 in 01-EIR-05) was proposed to reduce this impact, but residual impacts were expected to remain significant (Class I).
6. The Tajiguas Landfill Expansion Project would result in the increased attraction of nuisance birds, such as various gull species and American crows (*Corvus brachyrhynchos*). Artificially increased populations of these nuisance birds can exert additional pressure on other wildlife species through increased competition for limited habitat areas, such as wetlands and open water, and increased predatory pressure on a variety of species, such as songbirds and California red-legged frogs (*Rana draytonii*). This was considered a significant, but mitigable impact (Class II); implementation of proposed mitigation measures (primarily NUI-2, bird management, see page 3.6-21 of 01-EIR-05) was expected to reduce this impact to below a level of significance.
7. Nine sensitive wildlife species were known to occur within the Tajiguas Landfill Expansion Project area (three mammals, five birds and one amphibian), and 30 additional species were considered to have potential to occur. The project was expected to impact one federally-listed species, the California red-legged frog. These impacts are associated with on-going maintenance activities within the sedimentation basins. A California Red-legged Frog Management Plan, as required by mitigation measure BIO-8 of 01-EIR-05, has been

developed to reduce these impacts and continues to be implemented; however, residual impacts were considered significant and unavoidable (Class I).

8. Impacts from the Tajiguas Landfill Expansion Project were expected to adversely affect mountain lion (*Felis concolor*) and ringtail (*Bassariscus astutus*) through loss of habitat and increased human presence; these impacts were considered significant, but mitigable (Class II); mitigation proposed (BIO-7, BIO-9 and BIO-10 from 01-EIR-05) for these species was expected to reduce the impacts to below a level of significance.
9. The removal of suitable habitat for the San Diego desert woodrat (*Neotoma lepida intermedia*), due to the more sedentary nature of this species, was expected to be a significant and unavoidable impact of the Tajiguas Landfill Expansion Project. Though this would be partially offset by mitigation measures (BIO-5 in 01-EIR-05: surveys and relocation of woodrats), residual impacts were expected to remain significant (Class I).
10. Impacts to four sensitive bird species (California horned lark [*Eremophila alpestris actia*], loggerhead shrike [*Lanius ludovicianus*], Cooper's hawk [*Accipiter cooperii*], and white-tailed kite [*Elanus leucurus*]) known from the site would include removal of habitat used for foraging and, potentially, breeding. Due to the abundance of habitat remaining in the vicinity of the Tajiguas Landfill Expansion Project, and the lower sensitivity status of these species, the impacts would be considered significant, but mitigable. The proposed revegetation during phased closure of the landfill would reduce impacts to the sensitive bird species to less than significant (Class II).
11. The Tajiguas Landfill Expansion Project was considered to have potential indirect impacts to the tidewater goby (*Eucyclogobius newberryi*), which has been found in the adjacent Arroyo Quemado and Arroyo Hondo. These impacts may occur as a result of increased sedimentation and predation by gulls. Potential impacts to the goby were considered significant, but mitigable. Implementation of mitigation measures provided by 01-EIR-05 (BIO-6 and NUI-2) were expected to reduce potential impacts to less than significant levels (Class II).
12. The Tajiguas Landfill Expansion Project was projected to potentially remove food plants (e.g., milkweed) for the monarch butterfly (*Danaus plexippus*). This was considered a potentially significant, but mitigable, impact. Implementation of mitigation measures provided by 01-EIR-05 (BIO-11, page 3.4-57) was expected to reduce potential impacts to monarchs to less than significant levels (Class II).

1.2.1.2 Tajiguas Landfill Reconfiguration Project Impacts

1. The Tajiguas Landfill Reconfiguration Project was projected to result in the permanent loss of 4.1 acres of sensitive vegetation communities and 4.2 acres of other native vegetation communities and potentially indirectly reduce the quality of these habitats in adjacent areas. The loss of these habitats was considered a significant and unavoidable impact (Class I). Despite mitigation (BIO-1[a], Restoration Plan implementation; BIO-1[b], minimization of impacts to adjacent areas; and BIO-1[c], control of highly invasive plants, see 08EIR-00000-00007 pages 4.4-38 – 40), residual impacts were considered significant and unavoidable.
2. The Tajiguas Landfill Reconfiguration Project was projected to result in the additional loss of individuals of three species of sensitive plants (Plummer's baccharis, Santa Barbara honeysuckle, and Hoffmann's nightshade). Although mitigation provided by mitigation

measure BIO-1(a) of 08EIR-00000-00007 would minimize impacts to sensitive plants, residual impacts were expected to remain significant (Class I).

3. The Tajiguas Landfill Reconfiguration Project was projected to result in the loss of specimen native trees. Although mitigation provided by mitigation measures BIO-1(a) and BIO-1(b) of 08EIR-00000-00007 would minimize impacts to specimen native trees, residual impacts were expected to remain significant (Class I).
4. The filling of Pila Creek related to the Tajiguas Landfill Reconfiguration Project was projected to result in the loss of 0.30 acres of United States Army Corps of Engineers (USACE)-defined wetlands and 5.03 acres of California Department of Fish and Game (CDFG)/California Regional Water Quality Control Board (RWQCB)/County-defined wetlands. The implementation of mitigations measures BIO-1(a) and BIO-1(b) of 08EIR-00000-00007 was expected to reduce impacts to less-than-significant levels (Class II).
5. The Tajiguas Landfill Reconfiguration Project was projected to result in mortality and habitat loss for common wildlife species. These impacts were considered adverse, but less than significant (Class III) because the proposed landfill reconfiguration was not expected to reduce these wildlife populations below self-sustaining levels. However, mitigation measure BIO-5(a) (replacement water source) and BIO-5(b) (night lighting) of 08EIR-00000-00007 (see pages 4.4-43 and 44) were proposed to further address impacts to common wildlife.
6. The removal of the in-channel sedimentation basins and adjacent native habitats related to the Tajiguas Landfill Reconfiguration Project was projected to result in the loss of breeding and foraging habitat and potentially result in direct impacts to individual threatened California red-legged frogs from Pila Creek. Despite mitigation (BIO-6, California Red-legged Frog Management Plan implementation, see 08EIR-00000-00007 page 4.4-46), residual impacts were considered significant and unavoidable (Class I).
7. The Tajiguas Landfill Reconfiguration Project was projected to result in habitat loss that would adversely affect the San Diego desert woodrat. This was determined to be a significant but mitigable impact (Class II) via the implementation of Mitigation Measure BIO-7 (San Diego desert woodrat relocation) (see 08EIR-00000-00007 page 4.4-47). The residual impacts, however, were considered significant and unavoidable.
8. The Tajiguas Landfill Reconfiguration Project was projected to result in habitat loss that would adversely affect American badger (*Taxidea taxus*) and ringtail. Removal of active dens during the breeding period was determined to be a potentially significant impact (Class II). This potential impact was mitigated with the implementation of Mitigation Measure BIO-8 (American badger and ringtail surveys) from 08EIR-00000-00007 (see page 4.4-49), and residual impacts were determined to be less than significant.
9. The Tajiguas Landfill Reconfiguration Project was projected to result in habitat loss that would adversely affect two-striped garter snake (*Thamnophis hammondi*). The proposed filling of the in-channel basins would result in the loss of several individuals and may have affected the long-term persistence of the local population, which was considered a potentially significant impact (Class II). This impact was mitigated with the implementation of Mitigation Measure BIO-9 (two-striped garter snake relocation) from 08EIR-00000-00007 (see page 4.4-50), which reduced residual impacts to a less-than-significant level.

10. The Tajiguas Landfill Reconfiguration Project was projected to result in removal of the in-channel basin, which would eliminate potential habitat for the southwestern pond turtle (now known as the Pacific pond turtle) (*Actinemys marmorata*) in Pila Creek. This was determined an adverse impact, but less than significant (Class III). Although mitigation is not required for less-than-significant impacts, Mitigation Measure BIO-10 (southwestern pond turtle relocation) from 08EIR-00000-00007 (see page 4.4-52) was implemented to avoid potential impacts to the species.
11. Habitat loss resulting from the Tajiguas Landfill Reconfiguration Project was projected to potentially significantly affect raptors, including the white-tailed kite, Cooper's hawk, red-tailed hawk (*Buteo jamaicensis*), and great horned owl (*Bubo virginianus*), which was determined to be a Class II impact. Impacts were reduced to a less-than-significant level through the implementation of Mitigation Measure BIO-11 (avoidance of raptor breeding period) from 08EIR-00000-00007 (see page 4.4-53).
12. Habitat loss resulting from the Tajiguas Landfill Reconfiguration Project was projected to adversely affect raptors including the sharp-shinned hawk (*Accipiter striatus*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsonii*), northern harrier (*Circus cyaneus*), osprey (*Pandion haliaetus*), merlin (*Falco columbarius*), and American peregrine falcon (*Falco peregrinus*). This potential impact was determined to be less than significant (Class III) for which mitigation was not required.
13. Vegetation removal resulting from the Tajiguas Landfill Reconfiguration Project was projected to potentially significantly affect other sensitive birds and nesting migratory birds, which was considered to be a significant impact (Class II). This impact was reduced to a less-than-significant level through the implementation of Mitigation Measure BIO-13 (avoidance of migratory bird breeding period) from 08EIR-00000-00007 (see page 4.4-54).
14. The removal of trees and rock outcrops resulting from the Tajiguas Landfill Reconfiguration Project was projected to potentially eliminate habitat for sensitive bat species. The project would permanently eliminate habitat for bat maternity roosts and had the potential to result in direct mortality of individual bats. Any permanent or temporary impacts of occupied maternity roosts were determined to be a significant impact (Class II). This impact was reduced to a less-than-significant level through the implementation of Mitigation Measure BIO-14 (avoidance of bat maternity colonies) from 08EIR-00000-00007 (see page 4.4-55).
15. The filling of Pila Creek resulting from the Tajiguas Landfill Reconfiguration Project was projected to potentially adversely affect habitat connectivity and wildlife corridors. However, this impact was determined to be less-than-significant (Class III) for which mitigation was not required.

1.2.2 Permits in Place for the Tajiguas Landfill Reconfiguration Project

Several regulatory permits are currently in place for the Tajiguas Landfill Reconfiguration Project. These are primarily concerned with the filling of Pila Creek and removal of the in-channel sedimentation basins and the impacts that may result to California red-legged frogs. The permits are applicable only to the Tajiguas Landfill Reconfiguration Project and will not apply to activities related to the RRP. Permits include:

- U.S. Fish and Wildlife Service (USFWS) Biological and Conference Opinion (Biological Opinion) (File No. 200801191-JWM) (8-8-09-F/C-7);

- USACE Clean Water Act (CWA) Section 404 Department of the Army Permit (Permit No. SPL-2008-01191-JWM);
- California Department of Fish and Game Section 1600 Streambed Alteration Agreement (Notification No. 1600-2008-0263-R5); and
- RWQCB Section 401 Water Quality Certification (Certification No. 34208WQ15).

The USFWS Biological Opinion includes a number of measures designed to limit impacts to the California red-legged frog. These include, but are not limited to, a worker environmental awareness training for all project personnel, working during daylight hours, surveys for California red-legged frogs when appropriate, and relocation of frogs found in work areas by a USFWS-approved biologists.

2.0 Setting

2.1 Regional Overview

The Study Area occurs within the southern Santa Barbara County coastal area that has a Mediterranean-type climate with warm, dry summers and mild winters. Daily and seasonal temperature variations are relatively small, with average temperatures ranging from 40 to 70 degrees Fahrenheit (°F) during the winter months and from 50 to 75 °F during the summer months (Western Regional Climate Center [WRCC] 2013). Rain occurs primarily during the winter and early spring months, averaging 16 to 29 inches per year, depending on elevation. Average precipitation during the winter ranges from 3 to 6.55 inches per month and average precipitation during the summer ranges from 0.3 to 0.75 inches per month, again depending on elevation (WRCC 2013). Based on rainfall data since 1973 from the Tajiguas precipitation station (TAJ262) maintained by the Santa Barbara County Flood Control District, mean annual rainfall at the site is 21.8 inches (County 2013). The south-facing slopes and foothills within the Study Area are exposed to sunlight most of the day. Moderate temperatures are sustained by marine fog and the prevailing onshore sea breezes. The prevailing wind speed is generally 5 miles per hour, although wind speed and direction are primarily functions of the location and strength of frontal storm systems that periodically move through the area (County 2009).

2.2 Site-Specific Setting

The Tajiguas Landfill Study Area occurs approximately 26 miles west of the City of Santa Barbara, California (Figure 1). The Study Area is within Range 31 West, Township 5 North, and Sections 28 and 33 of the U.S. Geological Survey (USGS) Tajiguas Quadrangle. The Study Area occurs at elevations ranging from approximately 325 to 730 feet above mean sea level and is situated on the south slope of the Santa Ynez Mountains, which are oriented in an east-west direction, parallel to the coastline (Figures 1 and 2). Los Padres National Forest lands abut the northern border of the Study Area, and U.S. Highway 101, the Union Pacific Railroad tracks, and the Pacific Ocean are located approximately 0.5 miles south of the Study Area (Figures 1 and 2). The Study Area occurs within the existing County-owned and operated Tajiguas Landfill property, a Class III non-hazardous MSW disposal facility (Figure 2). The 24.5-acre proposed Tajiguas RRP occurs within the Study Area (Figure 2).

The deep north-south oriented coastal canyon of Cañada de la Pila dominates the Study Area (Figures 1 and 2; Appendix A). Pila Creek runs north to south through the bottom portion of Cañada de la Pila. Pila Creek is an intermittent stream that drains a 468-acre watershed southward to the Pacific Ocean. Historically, Pila Creek flowed east along an upper terrace and joined with Arroyo Quemado before flowing to the Pacific Ocean. Modifications resulting from the construction of the Southern Pacific Railroad (now the Union Pacific Railroad) and U.S. Highway 101 diverted Pila Creek into a culvert that flows directly south to the Pacific Ocean.

As part of the Tajiguas Landfill Reconfiguration Project, two in-channel sedimentation basins were removed and a portion of Pila Creek and a portion of a tributary to Pila Creek upstream of the in-channel sedimentation basins were modified. These drainages were diverted into a concrete-lined channel that captures up-canyon surface water flows and carries them along the western perimeter of the reconfigured waste footprint. The size and gradient of the channel allows the channel to also capture some of the sediment from the undisturbed upper portion of the Pila Creek watershed. The

concrete-lined channel discharges into the existing subsurface 48-inch storm drain south of the reconfigured waste footprint.

Portions of Pila Creek are dry for the majority of the year in the Study Area, but typically support continuous flows during and immediately following significant storm events. Storm events typically occur between the months of November and April. Groundwater seeps also provide a supplemental source of water to Pila Creek, but only have observable surface flow or pooling during the rainy season. These seeps were covered with fill as a part of the Pila Creek drainage modifications and a seepage/groundwater collection system (Pila Creek in-channel sump pump) was installed.

Historically, the Study Area and many of the terraces along this section of the coast have been used for cattle grazing range and agriculture. Currently, the lower reaches of Cañada de la Pila within the Study Area and the adjacent floodplain have been disturbed by Landfill activities (Figure 2; Appendix A). Much of the original topography within Cañada de la Pila has been altered to provide space and cover material for Landfill operations and fuel breaks have been cut along slopes and ridgelines. Properties east and west of the Study Area are used primarily for agriculture (i.e., avocado, citrus, and cherimoya orchards), grazing land, or are composed of natural vegetation communities (Figure 2). A small cluster of homes (the Arroyo Quemada Community) is located along the bluff south of the Southern Pacific railroad tracks, southeast of the Study Area. Cañada de la Huerta, the site of the former Shell Hercules Project, occurs immediately west of Cañada de la Pila and the Study Area, and the 782-acre Arroyo Hondo Preserve lies just west of that area (Figures 1 and 2).

2.3 Regulatory Setting

Several Federal, State, and local regulations have been established to protect and conserve biological resources. The descriptions below provide a brief overview of the regulations applicable to the resources that occur within or adjacent to the Proposed Action Area, and their respective requirements. The permits or other authorizations that would be required under these regulations if impacts would occur are noted where applicable.

2.3.1 Federal Regulations and Standards

2.3.1.1 Federal Endangered Species Act

Enacted in 1973, the FESA (U.S. Code [USC] Title 16, Chapter 35, Sections 1531-1544) provides for the conservation of threatened and endangered species and their ecosystems. The FESA prohibits the “take” of threatened and endangered species except under certain circumstances and only with authorization from the USFWS through a permit under section 4(d), 7, or 10 of the FESA. Under the FESA, “take” is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The FESA requires Federal agencies to make a finding on all Federal actions, including approval by an agency of a public or private action, as to the potential to jeopardize the continued existence of any listed species under section 7. When there is no Federal nexus for the project, then section 10 of the FESA applies. For the Proposed Action, as there is no Federal involvement, a Habitat Conservation Plan (HCP) would be required under section 10 if the Proposed Action has the potential to affect the federally listed species that have been detected within or adjacent to the Proposed Action Area.

2.3.1.2 Migratory Bird Treaty Act

Congress passed the Migratory Bird Treaty Act (MBTA) (USC Title 16, Chapter 7, Subchapter II, Sections 703-712) in 1918 to prohibit the pursuit, hunting, killing, capture, possession, purchase, barter, or transport of native migratory birds, or any part, nest, or egg of any such bird unless allowed by another regulation adopted in accordance with the MBTA. The USFWS has jurisdiction over

migratory birds. No permit is issued under the MBTA. The Proposed Action would need to comply with the measures that would avoid or minimize effects on migratory birds.

2.3.1.3 Bald and Golden Eagle Protection Act

When first enacted in 1940, the Bald and Golden Eagle Protection Act (BGEPA) (USC Title 16, Chapter 5A, Subchapter II, Sections 668 a-d) prohibited the take, transport, or sale of bald eagles, their eggs, or any part of an eagle except where expressly allowed by the Secretary of Interior. The BGEPA was amended in 1962 to extend the prohibitions to the golden eagle. No permit is issued under the BGEPA. The Proposed Action would need to comply with the measures that would avoid or minimize effects on eagles in the Proposed Action Area.

2.3.1.4 Federal Water Pollution Control Act (Clean Water Act)

The Federal Water Pollution Control Act was first passed by Congress in 1948. The Act was later amended and became known as the CWA (USC Title 33, Chapter 26, Sub-Chapter I-VI). The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the U.S. It gives the U.S. Environmental Protection Agency the authority to implement pollution control programs, including setting wastewater standards for industry and water quality standards for contaminants in surface waters. The CWA makes it unlawful for any person to discharge any pollutant from a point source into waters of the U.S., including wetlands, without a permit under its provisions. CWA Section 404 permits are issued by the USACE for dredge/fill activities within wetlands or non-wetland waters of the U.S. CWA Section 401 certifications are issued by the RWQCB for activities requiring a Federal permit or license which may result in discharge of pollutants into waters of the U.S. Any proposed discharge of dredge or fill materials into Federal jurisdictional waters within or adjacent to the Proposed Action Area would require a Section 404 permit from the USACE and a Section 401 Water Quality Certification from the RWQCB.

2.3.2 State Regulations and Standards

2.3.2.1 California Environmental Quality Act

CEQA (Public Resource Code Section 21000 et seq. and the State CEQA Guidelines, California Code of Regulations Section 15000 et seq.) requires that biological resources be considered when assessing the environmental impacts resulting from proposed actions. CEQA does not specifically define what constitutes an "adverse effect" on a biological resource. Instead, lead agencies are charged with determining what specifically should be considered an impact. However, Appendix G of the CEQA Guidelines provides for identifying whether a proposed project has the potential to adversely affect a plant or animal species identified as having special status by local or regional plans, policies or regulations, or by CDFW or USFWS. Appendix G also recognizes the potential for a project to adversely affect riparian and other sensitive natural communities identified by local or regional plans, policies or regulations, or by CDFW or USFWS, as well as federally protected wetlands. In addition, impacts to plant and animal species may be considered significant if the species are not formally listed under Federal or State regulations. The species may be identified as environmentally sensitive within the State of California and/or Santa Barbara County, regardless of formal recognition by USFWS or CDFW. An environmental document will be prepared for the Proposed Action in accordance with CEQA. The effects of the Proposed Action on biological resources will be evaluated therein, in accordance with the County's Environmental Thresholds and Guidelines Manual (County 2008) and State guidelines.

2.3.2.2 California Fish and Game Code

The California Fish and Game Code includes regulations for the taking or possession of birds, mammals, fish, amphibian, and reptiles, as well as natural resources such as wetlands and waters of the State. It includes the California Endangered Species Act (CESA; Sections 2050-2115) and Streambed Alteration Agreement regulations (Sections 1600-1616), as well as provisions for legal hunting and fishing, and tribal agreements for activities involving take of native wildlife. Any proposed impact to State-listed species or State jurisdictional waters within or adjacent to the Proposed Action Area would require a permit under CESA and a Streambed Alteration Agreement from the CDFW, respectively.

2.3.2.3 California Endangered Species Act

CESA (California Fish and Game Code, Division 3, Chapter 1.5, Sections 2050-2115) generally parallels the main provisions of FESA and is administered by CDFW. CESA prohibits take of any species that the California Fish and Game Commission determines to be a threatened or endangered species and allows for take incidental to otherwise lawful development projects upon approval from the CDFW. Under the California Fish and Game Code, "take" is defined as to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill. California also has identified wildlife species of special concern. These species are rare, restricted in geographic distribution, or declining throughout their geographic range. Species of special concern are also considered in resource planning and management. The "rare" designation applies to plants only and includes those plants that are not threatened or endangered, but that could become eligible due to decreasing numbers or further restrictions to habitat. Any proposed impact to State-listed species within the Proposed Action Area would require a permit under CESA.

2.3.2.4 Porter-Cologne Water Quality Control Act

Porter-Cologne Water Quality Control Act (California Water Code, Division 7, Sections 13000-14958) provides for statewide coordination of water rights and water quality regulations. The Act established the California State Water Resources Control Board as the statewide authority and nine separate RWQCBs to oversee water quality on a day-to-day basis at the regional/local level. Proposed discharges of waste that would affect State waters (that are not Federal waters) within or adjacent to the Proposed Action Area would require filing a Report of Waste Discharge and the issuance of waste discharge requirements or waiver of the waste discharge requirements and potentially a National Pollution Discharge Elimination System (NPDES) permit from the RWQCB.

2.3.3 Local Regulations and Standards

2.3.3.1 Santa Barbara County Comprehensive Plan

The Santa Barbara County Comprehensive Plan includes three elements related to the protection of biological resources: Land Use Element, Conservation Element, and Environmental Resources Management Element.

The Land Use Element includes policies to protect hillsides and watersheds; streams and creeks; and flood hazard areas. The Conservation Element discusses sensitive species and communities and provides recommendations for their management. The Environmental Resources Management Element summarizes and presents environmental factors, including biological resources that occur within the County, to be used in evaluating proposals for open space preservation. No permit is issued under these elements of the County's Comprehensive Plan; however, the Proposed Action would need to be consistent with the relevant policies and elements noted above.

2.3.3.2 Santa Barbara County Environmental Thresholds and Guidelines Manual

The County's Environmental Thresholds and Guidelines Manual (County 2008) provides impact assessment guidance and establishes criteria for determining the significance of potential biological impacts under CEQA. No permit is issued under the County's Environmental Thresholds and Guidelines Manual; however, the Proposed Action would be evaluated with respect to these thresholds and guidelines during the CEQA review process.

2.3.3.3 Santa Barbara County Comprehensive Plan – Conservation Element for Oak Tree Protection in the Inland Rural Areas

The County's Comprehensive Plan includes a Conservation Element for Oak Tree Protection in the Inland Rural Areas. The Conservation Element promotes conservation and regeneration of oak woodlands in the County over the long term, and where feasible, works to increase the native oak population and extent of woodland acreage. The highest priority for conservation, protection, and regeneration is established for valley oak (*Quercus lobata*) trees, valley oak woodlands, and valley oak savannah.

The Conservation Element states that all development shall avoid removal of or damage to mature oak trees, to the maximum extent feasible. Mature oak trees are considered to be live oak trees six inches or greater diameter at breast height and blue oak trees four inches or greater diameter at breast height, or live and blue oaks six feet or greater in height. Native oak trees that cannot be avoided shall be replanted on site. When replanting oak trees on site is not feasible, replanting shall occur on receiver sites known to be capable of supporting the particular oak tree species, and in areas contiguous with existing woodlands or savannas where the removed species occurs. Replanting shall conform to the County's *Standard Conditions and Mitigation Measures*.

2.3.3.4 Draft Gaviota Coast Plan

The Gaviota Coast Plan, which is still in draft form and has not yet been put into effect, contains a Resources Stewardship chapter. This section of the plan describes biological resources along the Gaviota coast and sets forth policies to protect and, where possible, enhance those resources, proposes actions to achieve those policies, and outlines development standards. Biological resources addressed in the Resources Stewardship chapter include Environmentally Sensitive Habitats (ESHs), wetlands, wildlife corridors, riparian vegetation, natural stream channels, and other specific areas. The Proposed Action would not be required to adhere to the policies outlined in the Gaviota Coast Plan because this plan is still in draft form.

3.0 Existing Conditions

This section describes existing conditions of the Study Area, including vegetation communities, common and rare or sensitive plant and wildlife species, jurisdictional waters, and wildlife corridors. The information provided in the following sections is based upon the biological survey conducted within the Study Area on February 15, 2013, previous studies conducted for projects on the Landfill, and relevant research.

3.1 Survey Methods

A biological survey of the Study Area, which included areas of permanent and temporary impacts and a surrounding 200-foot buffer zone, was conducted on February 15, 2013, by AECOM biologists Rocky Brown and Robin Murray. In addition to the site visit, literature and data reviews were conducted to evaluate the Study Area and identify potential current and historic sensitive biological resources. This background research included a review of historic and current aerial photographs and USGS topographic maps as well as a review of the California Natural Diversity Database (CNDDDB) and CNPS database to identify known occurrences of sensitive natural communities, plant species, and wildlife species within the Study Area. Scientific nomenclature follows the Jepson Manual (Baldwin et al., 2012) and vegetation community descriptions follow Holland (1986) and/or Sawyer/Keeler-Wolf/Evans (2009). In addition, existing environmental documents for the Tajiguas Landfill Expansion Project were reviewed for information relevant to the Proposed Action. These documents provided background information on the biological resources present and potentially present in the Study Area. The documents reviewed included the following:

- Tajiguas Landfill Expansion Project Biological Assessment and Addendum (Hunt & Associates 2001);
- Environmental Impact Report for the Tajiguas Landfill Expansion Project (County 2002a);
- California Red-legged Frog Management Plan and Sediment Basin Work Plan, Tajiguas Landfill (County 2002b, updated 2005; 2008);
- Revised Biological Survey Report for the Phase 1b Expansion areas at the Tajiguas Landfill (County 2006a);
- Biological Assessment/Biological Technical Report for the Proposed Tajiguas Landfill Reconfiguration Project and Baron Ranch Restoration (EcoSystems Restoration Associates [ERA] 2008a);
- Final Subsequent Environmental Impact Report for the Tajiguas Landfill Reconfiguration and Baron Ranch Restoration Project (County 2009);
- Biological Opinion for the California Red-legged Frog Management Plan and Sedimentation Basin Work Plan, Tajiguas Landfill, Santa Barbara County, California (File No. 200200768-JEM) (1-8-03-F-4) (USFWS 2003);
- Reinitiated Biological Opinion for the Tajiguas Landfill Reconfiguration Project, Santa Barbara County, California (File No. 200801191-JWM) (8-8-09-F-50R) (USFWS 2009a);
- Biological and Conference Opinions for the Tajiguas Landfill Reconfiguration and Baron Ranch Restoration Projects, Santa Barbara County, California (File No. 200801191-JWM) (8-8-09-F/C-7) (USFWS 2009b);

- Botanical Survey Report for the West Borrow Area at the Tajiguas Landfill (Padre 2009); and
- Biological and Environmental Permit Compliance Monitoring Report – Phase 3 (2012) of the Tajiguas Landfill Reconfiguration Project, Santa Barbara County, California (Padre 2012).

The reconnaissance-level field survey was conducted to cover the Study Area. Vegetation communities that were previously documented and mapped on the Landfill were verified in the vicinity of the project components. Dominant plant species observed in the Study Area were noted. AECOM did not compile a full plant compendium of the Study Area due to the survey occurring outside of the blooming season for the majority of flowering plants. Common wildlife species observed directly or detected from calls, tracks, scat, nests, or other sign were noted.

Subsequent to the AECOM survey, Padre Associates conducted a comprehensive rare plant survey of the Study Area in the spring and early summer of 2013 (Padre 2013). This survey included the compilation of a full list of plants observed in the Study Area and mapping of sensitive plant species.

3.2 Vegetation Communities

Historically, vegetation in the north-south oriented coastal canyon of Cañada de la Pila in which the Landfill is situated consisted of dense riparian forest and woodland vegetation, steep canyon slopes with dense chaparral and sage scrub vegetation, and coastal terraces with sage scrub and grassland vegetation. Currently, the lower reach of Cañada de la Pila and the adjacent floodplain have been disturbed by Landfill activities (Figure 2). Much of the original topography within Cañada de la Pila has been altered to provide space and cover material for Landfill operations and fuel breaks have been cut along slopes and ridgelines. The Study Area occurs almost entirely in previously disturbed areas of the Landfill with little to no native vegetation. In all, eight vegetation communities and land cover types occur within the Study Area: California bay seep woodland, *Ceanothus Megacarpus* chaparral, coast live oak woodland, southern coast live oak riparian forest, Venturan coastal sage scrub, bare ground/roads/existing facilities, rock outcrop, and ruderal (Table 1; Figure 2). The distribution of vegetation communities is influenced by parent soil type, slope, aspect, exposure, and land use history. The three largest components of the RRP, MRF, ADF, and composting area occur entirely within the bare ground/roads/existing facilities land cover type associated with active Landfill operations. Other proposed project components, such as the water and wastewater tanks and mechanics building, and associated utilities trenching, occur within or in close proximity to areas of native vegetation.

Table 1. Vegetation Communities within the Study Area and Proposed Action Area

| Vegetation Community | Study Area (Acres) | Proposed Action Area (Acres) |
|--|--------------------|------------------------------|
| California bay seep woodland ¹ | 0.22 | -- |
| <i>Ceanothus megacarpus</i> chaparral | 16.99 | 1.07 |
| Coast live oak woodland ¹ | 0.39 | -- |
| Southern coast live oak riparian forest ¹ | 0.28 | -- |
| Venturan coastal sage scrub | 1.62 | -- |
| Bare ground/roads/existing facilities | 58.61 | 21.18 |

Table 1. Vegetation Communities within the Study Area and Proposed Action Area

| Vegetation Community | Study Area (Acres) | Proposed Action Area (Acres) |
|--|---------------------------|-------------------------------------|
| Rock outcrop | 0.10 | 0.02 |
| Ruderal | 26.78 | 2.24 |
| Total | 103.99 | 24.51 |
| ¹ Sensitive vegetation community by Holland (1986) and/or County (2008) | | |

3.2.1 California Bay Seep Woodland

California bay seep woodland is considered a sensitive vegetation community by various local, State, and Federal resource agencies (Holland 1986; County 2008; CDFG 2010). California bay seep woodland is a vegetation community dominated by California bay (*Umbellularia californica*), a broadleaved tree that often forms dense, wind-pruned stands of trees less than 30 feet tall on coastal slopes. Stands of this vegetation community are typically dense (probably from cloning after fires) and support little or no understory. Associates within this community vary according to canopy closure but may include overstory species such as coast live oaks and cottonwood (*Populus* spp.) and understory species such as California blackberry (*Rubus ursinus*), and western poison oak (*Toxicodendron diversilobum*). California bay seep woodland grows on canyon walls, shaded slopes, and in alluvial fans where there are moist soils, running water, and/or available groundwater from the Oregon border to central California (Holland 1986). Woodland communities generally support a diverse wildlife population, and typically offer abundant resources to wildlife including food sources, shade in summer, shelter in winter, perching, roosting, nesting, and food storage sites.

This vegetation community does not occur within the Proposed Action Area, but 0.22 acres does fall within the Study Area. A small stand of California bay woodland occurs in a small tributary canyon to Cañada de la Pila, just northeast of the proposed location for the two water tanks on the western ridge of the Landfill property (Figure 2). In this area, this vegetation community is dominated by California bay with associated species including overstory species such as coast live oaks and black cottonwood (*Populus balsamifera* ssp. *trichocarpa*) and understory species such as California blackberry and western poison oak.

3.2.2 *Ceanothus Megacarpus* Chaparral

Ceanothus megacarpus chaparral is the most dominant vegetation community on the hillsides surrounding the Tajiguas Landfill. This community is composed of evergreen, sclerophyllous shrubs dominated by big-pod ceanothus (*Ceanothus megacarpus*). Approximately 16.99 acres of *Ceanothus megacarpus* chaparral occur within the Study Area (Figure 2), with 1.07 acres occurring within the Proposed Action Area. This dense chaparral community is dominated by big-pod ceanothus. Other associated species include green-bark ceanothus (*Ceanothus spinosus*), toyon (*Heteromeles arbutifolia*), laurel sumac (*Malosma laurina*), black sage (*Salvia mellifera*), sugar bush (*Rhus ovata*), mountain mahogany (*Cercocarpus betuloides*), chamise (*Adenostoma fasciculata*), western poison oak, bush monkeyflower (*Mimulus aurantiacus*), holly-leaved cherry (*Prunus ilicifolia*), California buckwheat (*Eriogonum fasciculatum*), clematis (*Clematis ligusticifolia*), and wild cucumber (*Marah macrocarpus*). Rock rose (*Helianthemum scoparium*), deerweed (*Lotus scoparius*), and green everlasting (*Gnaphalium californicum*) are characteristic in openings, particularly on less steep terrain, and small patches of giant wild rye (*Elymus condensatus*) are scattered throughout this community.

Bands or clusters of coast live oaks are scattered on the south-facing slopes in the area, possibly along fractures where roots access perched water; however, none occur in this community within the Study Area. At higher elevations, chamise (*Adenostoma fasciculatum*) and Eastwood manzanita (*Arctostaphylos glandulosa*) become more frequent.

3.2.3 Coast Live Oak Woodland

Coast live oak woodland is considered a sensitive vegetation community and individual oaks are protected by the County (County 2008). Coast live oak woodland is an evergreen woodland vegetation community dominated by coast live oak. The understory shrub layer in this community is poorly developed, but may include toyon, currant (*Ribes* spp.), laurel sumac, and blue elderberry (*Sambucus nigra* ssp. *caerulea*). The herb component in this community is continuous and typically dominated by rip-gut brome (*Bromus diandrus*) and several other introduced taxa. Coast live oak woodland typically occurs on north-facing slopes and shaded ravines in the south portion of the South Coast Ranges and more exposed sites in the north portion of the outer South Coast Ranges, and coastal slopes of the Transverse and Peninsular ranges, usually below 4,000 feet (Holland 1986). Oak woodland communities generally support a diverse wildlife population, and typically offer abundant resources to wildlife including food sources, shade in summer, shelter in winter, perching, roosting, nesting, and food storage sites.

A small area (0.39 acres) of coast live oak woodland occurs within the Study Area in the short tributary canyon to Cañada de la Pila that extends between the proposed water tank location on the western ridge of the Landfill property to the proposed location for the groundwater Well 6, adjacent to the channelized Pila Creek. No portions of this community occur within the Proposed Action Area.

3.2.4 Southern Coast Live Oak Riparian Forest

Southern coast live oak riparian forest is considered a sensitive vegetation community by various local, State, and Federal resource agencies (Holland 1986; County 2008; CDFG 2010). Southern coast live oak riparian forest is a locally dense evergreen sclerophyllous vegetation community dominated by coast live oak. This community appears to be richer in herbs and poorer in understory shrubs than other riparian communities. Southern coast live oak riparian forest occurs in bottomlands and outer floodplains along larger streams with fine-grained, rich alluvium within canyons and valleys of coastal southern California, mostly south of Point Conception (Holland 1986). Riparian and forest communities generally support a diverse wildlife population, and typically offer abundant resources to wildlife including food sources, shade in summer, shelter in winter, perching, roosting, nesting, and food storage sites.

Historically, this vegetation community was dominant within moist areas along the Pila Creek riparian corridor, extending into the lower reaches of tributary canyons. This community is dominated by an overstory of coast live oak, with scattered individuals of arroyo willows (*Salix lasiolepis*), narrow-leaved willow (*Salix exigua*), blue elderberry, California bay, and western sycamore (*Platanus racemosa*). Common understory plant species include California blackberry, western poison oak, coyote brush (*Baccharis pilularis*), creeping snowberry (*Symphoricarpos mollis*), giant wild rye, and hedge nettle (*Stachys bullata*). Other representative species within moist areas that received a more consistent supply of surface- or subsurface-water flows during the year include mugwort (*Artemisia douglasiana*), nutsedge (*Cyperus* sp.), and broad-leaved cattails (*Typha latifolia*). Drier and more disturbed areas that receive more intermittent and brief surface-water flows during the year are vegetated by species such as tocalote (*Centaurea melitensis*), veldt grass (*Ehrharta calycina*), white sweet-clover (*Melilotus alba*), and other non-native species.

Due to the changes to the area associated with the implementation of the Tajiguas Landfill Reconfiguration Project, there remains only a small (0.28 acre) section of this community within the Study Area, immediately west of the proposed location for the groundwater Well 6 (Figure 2). No portions of this community occur within the Proposed Action Area.

3.2.5 Venturan Coastal Sage Scrub

Venturan coastal sage scrub is a vegetation community composed of low, mostly soft-woody shrubs, typically with crowns usually touching and a bare understory. Growth within this community occurs in late winter and spring, following the onset of winter rains, and flowering typically occurs in spring; some species in this community continue flowering into summer. Plant species within this community remain dormant in summer and fall. Venturan coastal sage scrub occurs on dry, more or less rocky slopes, from the South Coast Ranges to cismontane southern California and northern Baja California, usually below 3,000 feet. This vegetation community is most abundant in the coastal region south of Point Conception, but it also extends inland to the vicinity of Cajon and San Gorgonio passes in San Bernardino and Riverside counties.

Approximately 1.62 acres of Venturan coastal sage scrub occurs in the Study Area on the western ridge of the Landfill property in the vicinity of the water tank and recycled water tank location, though none occurs within the Proposed Action Area (Figure 2). In this area, this community is dominated by species such as California sagebrush (*Artemisia californica*) with other associated shrubs including black sage, sawtooth goldenbush (*Hazardia squarrosa*), prickly phlox (*Leptodactylon californicum*), California brittlebush (*Encelia californica*), spiny redberry (*Rhamnus crocea*), lemonade berry (*Rhus integrifolia*), and chaparral yucca (*Hesperoyucca whipplei*).

3.2.6 Bare Ground/Roads/Existing Facilities

Approximately 58.61 acres of bare ground, roads, and existing facilities occur throughout the Study Area, with 21.18 acres occurring within the Proposed Action Area (Figure 2). Due to operation of the Tajiguas Landfill, roads and heavily disturbed areas occur throughout the Landfill property. These areas are generally devoid of vegetation, except where scattered invasive or non-native plant species are present, such as tocalote, white sweet-clover, red stem filaree (*Erodium cicutarium*), and non-native grasses.

3.2.7 Rock Outcrop

One small area (0.10 acres) of rock outcrop occurs in the Study Area, adjacent to the 48-inch drain that directs Pila Creek underground, with 0.02 acres occurring within the Proposed Action Area (Figure 2). Common species associated with these outcrops include spike-moss (*Selaginella bigelovii*), birds-foot fern (*Pellaea mucronata*), yarrow (*Achillea millefolium*), tocalote, and non-native grasses and forbs.

3.2.8 Ruderal

Ruderal areas are generally defined as disturbed land on which the native vegetation has been significantly altered by agriculture, grazing, construction, or other land-clearing activities, resulting in species composition and site conditions that favor invasive or ruderal species. Typically, a low number of native forbs, and occasionally native grasses, contribute to this community. These ruderal areas occur in areas such as roadsides, dirt access roads, vacant lots, construction staging areas, abandoned fields, and areas of recent disturbance. The level of soil disturbance is such that only the most ruderal plant species would be expected to occur, such as Russian thistle (*Salsola tragus*), fennel (*Foeniculum vulgare*), horseweed (*Conyza* spp.), black mustard (*Brassica nigra*), lamb's

quarters (*Chenopodium album*), fountain grass (*Pennisetum setaceum*), and/or castor bean (*Ricinus communis*).

Approximately 26.78 acres of ruderal land occurs throughout the Study Area, with 2.24 acres of this ruderal land occurring within the Proposed Action Area (Figure 2). These ruderal areas occur in areas such as closed sections of the Landfill, which may have been subject to seeding to prevent erosion, roadsides and dirt access roads, which may be maintained by periodic mowing, and slopes immediately adjacent to the Landfill. Typical species within this land-cover type include tocalote, milk thistle (*Silybum marianum*), cocklebur (*Xanthium strumarium*), black mustard, rye grass (*Festuca perennis*), veldt grass, red stem filaree, wild oat (*Avena fatua*), rat-tailed fescue (*Vulpia myuros*), and white sweet-clover.

3.3 Flora and Fauna

Previous environmental documents prepared for operations at the Tajiguas Landfill, including the biological reports prepared in support of the 2001 and 2009 EIRs, have described the plant and animal species that commonly occur and may utilize the Landfill property and immediate surroundings. The potential for the presence of sensitive biological resources was analyzed and is presented in Section 3.4 of this report.

3.4 Sensitive Biological Resources

Several sensitive vegetation communities, plant species, wildlife species, and wetland resources have been documented on the Tajiguas Landfill property or in the vicinity, while others have the potential to occur based on habitat conditions. Local, State, and Federal agencies regulate these sensitive biological resources and require an assessment of their presence or potential presence to be conducted in the Study Area prior to approving of the Proposed Action. The CNDDDB, administered by the CDFW, provides an inventory of plant and animal species and vegetation communities that are considered sensitive by State and Federal resource agencies, academic institutions, and conservation groups such as the CNPS.

In general, the principal reason an individual taxon (species, subspecies, or variety) is considered sensitive is the documented or perceived decline or limitation of its population size or geographical extent and/or distribution resulting in most cases from habitat loss, though this is not the case with CNPS List 3 and 4 species. List 3 is a review list for plants about which more information is needed and List 4 is a watch list for plants with limited distribution. Wildlife movement corridors or linkages are also considered sensitive by local, State, and Federal resource and conservation agencies because these corridors allow wildlife to move between adjoining open space areas that are becoming increasingly isolated and fragmented due to the existing rugged terrain combined with expanding urbanization or changes in vegetation (Beier and Loe 1992).

A federally endangered species is defined as a species facing extinction throughout all or a significant portion of its geographic range, and a federally threatened species is defined as a species that is likely to become endangered within the foreseeable future throughout all or a significant part of its range. The State of California defines an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy, a threatened species as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management, and a rare species as one present in such small numbers throughout its range that it may become endangered if its present environment worsens. Species that are federally or State listed as threatened or endangered species and/or are designated as CNPS List 1B or 2 species are afforded a degree of protection that entails a permitting process, including specific mitigation measures to compensate for impacts to the species.

Species that are proposed to be listed by the USFWS are treated similarly to listed species by that agency. Recommendations of the USFWS, however, are advisory rather than mandatory in the case of proposed species. Although plant species that are classified as List 3 or 4 species by CNPS are not provided legal protection, this designation is used to identify declining plant species that are considered sensitive by the CNPS but not considered threatened or endangered.

The following sections present the sensitive vegetation communities, plant species, wildlife species, wildlife corridors, and wetland resources that are either known to occur or potentially occur in the Study Area or in the immediate vicinity based on available CNDDDB information, rare plant surveys conducted for the Proposed Project (Padre 2013), surveys conducted for various Landfill projects, the previous 2002 and 2009 EIRs for the Landfill Expansion and Reconfiguration projects, respectively, and the presence of suitable habitat and/or other requisite components. In addition, definitions for these sensitive biological resources are provided and discussed in the following sections.

3.4.1 Sensitive Vegetation Communities

Sensitive vegetation communities are vegetation assemblages, associations, or sub-associations that support or potentially support sensitive plant or wildlife species, have cumulative losses throughout the region, have relatively limited distribution, or have particular value to wildlife. Typically, sensitive vegetation communities are considered sensitive whether or not they have been disturbed. Sensitive vegetation communities are regulated by various local, State, and Federal resource agencies. The CNDDDB provides an inventory of vegetation communities that are considered sensitive by State and Federal resource agencies, academic institutions, and conservation groups such as CNPS. Determination of the level of sensitivity is based on the classification by resource agencies and Holland (1986). In addition, the County's Environmental Thresholds and Guidelines Manual (County 2008) lists additional vegetation communities that are not typically considered sensitive by other resource agencies, such as coast live oak woodland and perennial grassland.

A total of approximately 0.89 acres composed of three sensitive vegetation communities occur within the Study Area, though none extend into the Proposed Action Area. The following sensitive vegetation communities occur with the Study Area: California bay seep woodland (0.22 acres), which is identified as sensitive in the 2010 CDFG List of Vegetation Alliances and Associations (CDFG 2010) and by the County (County 2008), coast live oak woodland (0.39 acres), designated as sensitive by the County (County 2008), and southern coast live oak riparian forest (0.28 acres), which is listed as sensitive by the State and County (Holland 1986; County 2008; CDFG 2010) (Table 1; Figure 2).

3.4.2 Sensitive Plants

For the purposes of this report, plant species will be considered sensitive if they are: 1) listed or proposed for listing by State or Federal agencies as threatened or endangered; 2) on List 1B (considered endangered throughout its range) or List 2 (considered endangered in California, but more common elsewhere) of the CNPS Inventory of Rare and Endangered Vascular Plants of California (CNPS 2013); or 3) considered rare, endangered, or threatened by the State of California (CDFW 2013b) or other local conservation organizations or specialists. Noteworthy plant species are considered to be those on List 3 (more information about the plant distribution and rarity needed) and List 4 (plants of limited distribution) of the CNPS Inventory. The CNPS is a statewide resource conservation organization that has developed an inventory of California's sensitive plant species. The CNPS Listing is sanctioned by the CDFW and essentially serves as an early warning list of potential candidate species for threatened or endangered status.

The County of Santa Barbara Environmental Thresholds and Guidelines Manual (County 2008) also considers native specimen trees to be important and impacts to these trees can be potentially

significant. Native specimen trees are defined for biological assessment purposes as mature trees that are healthy and structurally sound and have grown into the natural stature particular to the species. The significance evaluation is done on a case-by-case basis and considers tree size, numbers, location, relationship to habitat, and other relevant features for each project.

Appendix A summarizes all sensitive plant species that have or were analyzed to have the potential to occur within or adjacent to the Study Area. This table also includes species that are known historically from the region but are not expected to occur within the Study Area based on a lack of suitable habitat.

3.4.2.1 Sensitive Plant Species with the Potential to Occur within the Study Area

Five plant species considered sensitive by the State, CNPS, or Santa Barbara County have been detected in the immediate vicinity of the Proposed Action Area during rare plant surveys conducted for various actions at the Landfill, including the RRP (ERA 2008a; Padre 2006; Hunt and Associates 2001; County 2006a; Baldwin et al. 2012; Padre 2013; CDFW 2013a). These are Plummer's baccharis, Santa Barbara honeysuckle, cliff aster (*Malacothrix saxatilis* var. unknown), Catalina mariposa lily (*Calochortus catalinae*), and Hoffmann's nightshade.

As previously stated, Appendix A summarizes all sensitive plant species that have or were analyzed to have the potential to occur within the Study Area. Of those species potentially present, the species that have a moderate to high potential to occur within a portion of the Study Area and are federally and/or State listed as threatened or endangered, State-listed rare, CNPS list 1B, 2, and 4, and/or locally sensitive are discussed in more detail below.

Plummer's Baccharis

Plummer's baccharis is not State or federally listed, but is a CNPS List 4 species. This species was removed from the locally sensitive plant list for Santa Barbara County maintained by the Central Coast Center for Plant Conservation (Santa Barbara Botanical Garden [SBBG] 2012) but is considered locally sensitive by the County (Wiskowski 1988). This subspecies is known to occur throughout the Santa Ynez Mountains, Cuyama Valley, and towards San Luis Obispo County (Hunt and Associates 2001). Plummer's baccharis is a deciduous shrub found in coast live oak woodland, coastal scrub, and chaparral with rocky soils. This plant flowers between May and October at elevations ranging from 50 to 480 meters. Stems have fine, curled hairs and the leaves are toothed with three main veins (Baldwin et al. 2012). Threats to Plummer's baccharis are most likely due to development resulting in loss of habitat.

Plummer's baccharis was observed adjacent to the Proposed Action Area during rare plant surveys conducted in 2008 (ERA 2008a). Approximately 30 individuals of this species were observed adjacent to and west of the southern sedimentation basin formerly in Pila Creek. Many of these individuals were removed as the Landfill Reconfiguration project was implemented, but more are likely present in surrounding areas. Thirty Plummer's baccharis were planted at the Baron Ranch restoration site as mitigation for the removal of these individuals and an additional 10 were also planted as a part of the restoration activities.

The Padre Associates rare plant survey during the spring of 2013 again detected Plummer's baccharis within the Study Area and Proposed Action Area (Padre 2013). Ten plants were discovered in the vicinity of the proposed water tanks just north of the former West Borrow Area, though they are located outside of the disturbance area. An additional 8 plants were observed along the utilities corridor to the proposed Well 6 site (Figure 2). A group of individuals in the southern portion of the

utilities corridor to Well 6 were likely previously discovered during surveys for the Landfill Reconfiguration Project and for whose removal mitigation has already been completed (County 2009).

Santa Barbara Honeysuckle

Santa Barbara honeysuckle is not State or federally listed, but is a CNPS List 1B species and is locally sensitive in Santa Barbara County (SBBG 2012, Wiskowski 1988). This variety is known to be endemic to the Santa Ynez Mountains, ranging from Casitas Pass to Goleta (Hunt and Associates 2001). Santa Barbara honeysuckle is an evergreen shrub found in chaparral, coast live oak woodland, and coastal scrub. This plant flowers between May and August at elevations ranging from 35 to 200 meters. Flowers are strongly two-lipped and pale yellow. The leaf blade is narrowly elliptic (Baldwin et al. 2012). Threats to Santa Barbara honeysuckle are most likely due to development resulting in loss of habitat.

Santa Barbara honeysuckle was observed on the west side of Cañada de la Pila during rare plant surveys conducted in 2008 (ERA 2008a) and was observed in open scrub/oak woodland on the south-facing slopes of Cañada de la Pila in 2000 (Hunt and Associates 2001). Many of these individuals were removed as the Landfill Reconfiguration project was implemented, but more are likely present in surrounding areas. Thirteen Santa Barbara honeysuckle plants were planted at the Baron Ranch restoration site as mitigation for the removal of these individuals and an additional 27 were planted as a part of the restoration activities.

The 2013 Padre Associates rare plant survey again detected Santa Barbara honeysuckle within the Proposed Action Area (Padre 2013). Seven plants were discovered along the utilities corridor to the proposed Well 6 site.

Cliff Aster

Cliff aster is not State or federally listed, but is a CNPS List 4 species. This species was removed from the locally sensitive plant list for Santa Barbara County maintained by the Central Coast Center for Plant Conservation (SBBG 2012) but was previously included in the list developed for the County in 1988 (Wiskowski 1988). This variety is known to be endemic to the south coastal region of Santa Barbara County (Hunt and Associates 2001). Cliff aster is a rhizomatous herb found in coastal scrub and coastal bluff scrub. This plant flowers between March and September at elevations ranging between 3 and 200 meters. The inflorescence of this species is dense with white flowers. This variety of aster readily hybridizes with *M. s. var. tenuifolia*, but the inflorescence is characterized as open. The leaves of the *saxatilis* variety are widest at the base and taper at the tip, whereas, the *tenuifolia* variety leaves are more symmetrical in width (Baldwin et al. 2012). Threats to cliff aster are most likely due to development resulting in loss of habitat.

One record states that the *saxatilis* variety of cliff aster is prospering at the Tajiguas Landfill, and expects the numbers to increase due to creation of disturbed slopes and road cuts, where this plant was located (Padre 2006). Another report states the more common *tenuifolia* variety of cliff aster was observed in Cañada de la Pila in road cuts, but the *saxatilis* variety of cliff aster was not observed (Hunt and Associates 2001). During rare plant surveys conducted in 2008, approximately 220 individuals of *Malacothrix saxatilis* were observed, several samples of which were identified as variety *tenuifolia*, along road cuts and within chaparral and sage scrub. Although there are somewhat conflicting accounts of this species in the vicinity of the Study Area, these varieties reportedly hybridize, which may contribute to the confusion. This species was not detected in suitable habitat within the Study Area during the Padre Associates rare plant survey in spring 2013 (Padre 2013).

Hoffmann's Nightshade

Hoffmann's nightshade is not State or federally listed. This variety is not considered a valid taxon in the current treatment of California flora under the Jepson Manual (Baldwin et al. 2012); subsequently it is not recognized by CNPS or SBBG. However, it is considered endemic and treated as a locally sensitive species by the County (Wiskowski 1988). Hoffmann's nightshade is a perennial herb found in coast live oak woodland and chaparral. This plant occurs at elevations less than 2,700 meters. The plant is hairy with dark blue or lavender flowers (Baldwin et al. 2012). Threats to Hoffmann's nightshade are most likely due to development resulting in loss of habitat.

Hoffmann's nightshade was observed within the Landfill Reconfiguration Project Action Area in the vicinity of the western portion of the Study Area during rare plant surveys conducted in 2008 (ERA 2008a) and 30 were removed as the Landfill Reconfiguration project was implemented. Thirty Hoffmann's nightshade were planted at the Baron Ranch restoration site as mitigation for the removal of these individuals and an additional 160 individuals were also planted as a part of the restoration activities. This species was not detected in suitable habitat within the Study Area during the Padre Associates rare plant survey in spring 2013 (Padre 2013).

Davidson's Saltscale

Davidson's saltscale (*Atriplex serenana* var. *davidsonii*) is not State or federally listed, but is a CNPS List 1B species. This variety is known to occur along the southern coastal area of Santa Barbara County. Davidson's saltscale is an annual herb found in coastal bluff scrub and coastal scrub with alkaline soils. This plant flowers between April and October at elevations ranging from 3 to 250 meters. Leaves are dentate and have sparse fine scales on top (Baldwin et al. 2012). Threats to Davidson's saltscale are due to human activities including habitat fragmentation, flooding, channelization, off-road vehicles, livestock, hydrology alterations, development, weed abatement, fire suppression practices, and competition with non-native plant species.

Davidson's saltscale has not been observed within Cañada de la Pila during rare plant surveys conducted for previous actions at the Tajiguas Landfill, nor was it observed in suitable Venturan coastal sage scrub within the Study Area during the 2013 Padre Associates rare plant survey (Padre 2013).

Catalina Mariposa Lily

Catalina mariposa lily is not State or federally listed, but is a CNPS List 4 species. This species occurs in Santa Barbara, Ventura, Los Angeles, Orange, and San Diego counties, as well as, three of the Channel Islands. This species was not detected in previous surveys for the 2002 Expansion Project but was considered in the Expansion Project EIR. Catalina mariposa lily is a perennial bulbiferous herb found in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. This plant flowers between February and May and occurs at elevations ranging from 15 to 700 meters. Threats to Catalina mariposa lily are most likely due to development, resulting in loss of habitat.

Approximately 25 Catalina mariposa lily plants were observed in the proposed west slope borrow area near the bottom of the cut-slope during surveys conducted by Padre Associates for the Tajiguas Landfill Reconfiguration Project (Padre 2009). The bulbs and seed were collected and incorporated into the Baron Ranch Restoration efforts. This plant was not detected in within the Study Area during the 2013 Padre Associates rare plant survey (Padre 2013).

Late-flowered Mariposa Lily

Late-flowered mariposa lily (*Calochortus weedii* var. *vestus*) is not State or federally listed, but is a CNPS List 1B species. This variety is known to occur in the San Marcos Pass area of the Santa Ynez Mountains (Hunt and Associates 2001). Late-flowered mariposa lily is a perennial bulbiferous herb found in chaparral, cismontane woodland, and riparian woodland with serpentine soils. This plant flowers between June and August at elevations ranging from 275 to 900 meters. Flowers have slightly square shaped petals and range in color from pale cream, to purplish, to red-brown and are hairy (Baldwin et al. 2012). Threats to late-flowered mariposa lily are most likely due to development, resulting in loss of habitat.

Late-flowered mariposa lily has not been observed within Cañada de la Pila during rare plant surveys conducted for previous actions at the Tajiguas Landfill, nor was it observed in suitable coast live oak woodland, California bay seep woodland, or *Ceanothus megacarpus* chaparral habitat within the Study Area during the 2013 Padre Associates rare plant survey (Padre 2013).

Mesa Horkelia

Mesa horkelia (*Horkelia cuneata* ssp. *puberula*) is not State or federally listed, but is a CNPS List 1B species. This subspecies is known to occur within the coastal ranges, especially along the foothill edge of the Los Angeles Basin (Baldwin et al. 2012). Mesa horkelia is a perennial herb found in chaparral, cismontane woodland, and coastal scrub with sandy or gravelly soils. This plant flowers between February and July at elevations ranging from 70 to 810 meters. Flowers typically have a resinous odor and are white. Plants are typically matted and are green or grayish with sparse hairs (Baldwin et al. 2012). Threats to mesa horkelia are most likely due to loss of habitat from development.

Mesa horkelia has not been observed within Cañada de la Pila during rare plant surveys conducted for previous actions at the Tajiguas Landfill, nor was it observed in suitable coast live oak woodland, California bay seep woodland, *Ceanothus megacarpus* chaparral, or Venturan coastal sage scrub habitat within the Study Area during the 2013 Padre Associates rare plant survey (Padre 2013).

Robinson's Peppergrass

Robinson's peppergrass (*Lepidium virginicum* var. *robinsonii*) is not State or federally listed, but is a CNPS List 1B species. This variety is known to occur in southwestern California and Baja California, Mexico (Baldwin et al. 2012). Robinson's peppergrass is an annual herb found in coastal sage scrub and chaparral with dry soils. This plant flowers between January and July at elevations ranging from 1 to 885 meters. Flowers are white and the stems have rigid hairs (Baldwin et al. 2012). Threats to Robinson's peppergrass are most likely due to development resulting in loss of habitat.

Robinson's peppergrass has not been observed within Cañada de la Pila during rare plant surveys conducted for previous actions at the Tajiguas Landfill, nor was it observed in suitable *Ceanothus megacarpus* chaparral or Venturan coastal sage scrub habitat within the Study Area during the 2013 Padre Associates rare plant survey (Padre 2013).

Nuttall's Scrub Oak

Nuttall's scrub oak (*Quercus dumosa*) is not State or federally listed, but is a CNPS List 1B species. This species is known to occur along the southern coasts of California and Baja California, Mexico (Baldwin et al. 2012). Nuttall's scrub oak is an evergreen shrub found in closed-cone coniferous forest, coastal chaparral, and coastal sage scrub with sandy and clay loam soils. This plant flowers between February and April at elevations ranging from 15 to 400 meters. Nuttall's scrub oak looks similar to the

common scrub oak (*Quercus berberidifolia*). The common scrub oak is more widespread and occurs at elevations between 300 and 1,500 meters. The underside of the Nuttall's scrub oak leaves have finely interwoven and generally matted hairs, whereas the underside of the common scrub oak leaves have hairs that can only be seen once magnified and the hairs are pressed against the leaf surface (Baldwin et al. 2012). Threats to Nuttall's scrub oak are most likely due to loss of habitat from development.

Nuttall's scrub oak has not been observed within Cañada de la Pila during rare plant surveys conducted for previous actions at the Tajiguas Landfill, nor was it observed in suitable *Ceanothus megacarpus* chaparral or Venturan coastal sage scrub habitat within the Study Area during the 2013 Padre Associates rare plant survey (Padre 2013).

Black-flowered Figwort

Black-flowered figwort (*Scrophularia atrata*) is not State or federally listed, but is a CNPS List 1B species. This species is known to occur in Santa Barbara and southern San Luis Obispo Counties (Baldwin et al. 2012). Black-flowered figwort is a perennial herb found in closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, and riparian scrub with sandy soils and diatomaceous shales. This plant flowers between March and July at elevations ranging from 10 to 500 meters. Hairs on the inflorescence are typically only visible with magnification, and are long and glandular. The upper half of the flower is blackish, while the lower half is dark maroon (Baldwin et al. 2012). In addition, black-flowered figwort is known to hybridize with California figwort (*Scrophularia californica*), which is a more common and widespread species (Hunt and Associates 2001). Threats to black-flowered figwort are most likely due to loss of habitat from development.

Black-flowered figwort has not been observed within Cañada de la Pila during rare plant surveys conducted for previous actions at the Tajiguas Landfill, nor was it observed in suitable *Ceanothus megacarpus* chaparral, Venturan coastal sage scrub, coast live oak woodland, California bay seep woodland, or southern coast live oak riparian forest habitat within the Study Area during the 2013 Padre Associates rare plant survey (Padre 2013). The common California figwort was observed during surveys in 2001 (Hunt and Associates 2001), surveys conducted in 2007 and 2008 (ERA 2008a), and the 2013 Padre survey. As these species are known to hybridize, they may occur simultaneously, but do not appear to be doing so within the Study Area.

Rayless Ragwort

Rayless ragwort (*Senecio aphanactis*) is not State or federally listed, but is a CNPS List 2 species. This species is known to occur along the California coastline and on the Channel Islands. Rayless ragwort is an annual herb found in chaparral, cismontane woodland, and coastal sage scrub with mildly alkaline soils (Baldwin et al. 2012; Hunt and Associates 2001). This plant flowers between January and April at elevations ranging from 15 to 800 meters. Flowers are generally yellow and the inflorescence is urn-shaped (Baldwin et al. 2012). Threats to Rayless ragwort are most likely due to loss of habitat from development.

Rayless ragwort has not been observed within Cañada de la Pila during rare plant surveys conducted for previous actions at the Tajiguas Landfill, nor was it observed in suitable *Ceanothus megacarpus* chaparral, Venturan coastal sage scrub, or coast live oak woodland habitat within the Study Area during the 2013 Padre Associates rare plant survey (Padre 2013).

Sonoran Maiden Fern

Sonoran maiden fern (*Thelypteris puberula* var. *sonorensis*) is not State or federally-listed, but is a CNPS List 2 species. This variety is known to occur in southwestern California, Arizona, and ranges

south into Mexico (Baldwin et al. 2012). Sonoran maiden fern is a rhizomatous herb found in meadows, streams, and seeps with fertile soils. This plant is most obvious between January and September at elevations ranging from 50 to 610 meters. The underside of the thick blade does not have any glands or hairs with glands. The hairs are moderately dense to dense on the axes, veins, and between the veins (Baldwin et al. 2012). Threats to Sonoran maiden fern are most likely due to loss of habitat from development.

Sonoran maiden fern has not been observed within Cañada de la Pila during rare plant surveys conducted for previous actions at the Tajiguas Landfill, nor was it observed in suitable California bay seep woodland or southern coast live oak riparian forest habitat within the Study Area during the 2013 Padre Associates rare plant survey (Padre 2013).

3.4.3 Sensitive Wildlife

For purposes of this report, wildlife species will be considered sensitive if they are: 1) listed or proposed for listing as threatened or endangered under the FESA or CESA; 2) designated as California fully protected by CDFW; 3) listed as a species of special concern by the CDFW; 4) listed on the CDFW watch list; and/or 5) protected under the Bald and Golden Eagle Protection Act. In addition, raptors (birds of prey) and active raptor nests are protected by the California Fish and Game Code 3503.5, which states that it is “unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird” unless authorized (CDFG 2006). The Federal MBTA, which restricts the killing, taking, collecting, selling, or purchasing of native bird species or their parts, nests, or eggs, also provides legal protection for almost all breeding bird species occurring in the U.S. Other noteworthy and sensitive wildlife species are those given the informal designation of California species of special concern by CDFW. This designation applies to animals not listed under California ESA, but due to declining, population levels, limited ranges, and/or continuing threats these species are potentially vulnerable to extinction or local extirpation.

A federally endangered species is defined as a species facing extinction throughout all or a significant part of its geographic range, and a federally threatened species is defined as a species that is likely to become endangered within the foreseeable future throughout all or a significant part of its range. The State of California defines an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy, a threatened species as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management, a fully protected species as one that is rare or faces possible extinction, and a California species of special concern as one that is declining in numbers. In the past, CDFW has revised its list of avian species of special concern, adding or removing species from this category and, if removed, placing them on a “watch list.” Watch list species are being monitored by CDFW but impacts to these species, without a combination of other factors would not be considered significant under CEQA. Many of these species were considered in the EIR for the Expansion and Reconfiguration Projects (County 2002a and 2009, respectively). They are therefore described in the existing conditions but they will not be evaluated in the impact analysis.

Species that are federally or State-listed threatened or endangered are afforded a degree of protection that entails a permitting process, including specific mitigation measures to compensate for impacts to the species or habitat occupied by the species. As regulated by the CDFW, fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock. Wildlife species classified as California species of special concern by the CDFW are not typically provided legal protection; these species are evaluated under CEQA and impacts could be considered significant based on population level effects, the proportion of a taxon’s range affected by a project, and impact to important habitat features.

Appendix B summarizes all sensitive wildlife species that are known or have the potential to occur within or adjacent to the Study Area and Proposed Action Area. This table also includes species that are known historically from the region but are not expected to occur within the Study Area based on a lack of suitable habitat. The sensitive wildlife species that have moderate to high potential to occur in the Study Area based on habitat conditions are discussed in the following sections.

3.4.3.1 Sensitive Wildlife Species with the Potential to Occur within the Study Area

Of all the species known historically from the vicinity of the Study Area (listed in Appendix B), the following species that have a moderate to high potential to occur within the Study Area or are federally and/or State-listed, California fully protected species, CDFW species of special concern, and/or locally sensitive, are discussed in more detail below.

Cooper's Hawk

The Cooper's hawk was formerly a CDFW species of special concern but was downlisted in the February 2008 CDFW Special Animals list and is currently a CDFW watch list species. This species has no Federal status. The Cooper's hawk is found throughout southern California year-round, preferring wooded and riparian areas as well as adapting to urban environments that provide cover (Unitt 2004). Nests are generally constructed high in trees, particularly oaks or other native trees with suitable cover for concealment. However, with urban sprawl and the destruction of native habitats, Cooper's hawks will also utilize eucalyptus, pine, and even avocado trees for breeding (Unitt 2004). Similar to the bald eagle, Cooper's hawk numbers began declining during the middle part of the 20th century, probably as a result of shooting, habitat destruction, and the use of pesticides (particularly DDT). Today, population numbers have increased due to the restrictions on pesticide use, a shift in society's attitudes towards birds of prey, and perhaps the maturation of urban trees in areas that were formerly scrub lands (Unitt 2004). In recent years the Cooper's hawk has become more common in human-altered landscapes nesting in urban parks and neighborhoods.

The Cooper's hawk has not been detected within the Study Area. This species is known to occur in the region year round and suitable woodland and riparian habitat occurs within the Study Area. In addition, Cooper's hawks have been observed on several occasions in riparian woodlands in the vicinity of the Study Area during previous studies (County 2002a; Hunt and Associates 2001). However, due to the removal of much of the riparian and woodland habitat within and adjacent to Pila Creek in the vicinity of the Study Area, there is only a moderate potential for the Cooper's hawk to nest in the remaining woodland and riparian habitat within the Study Area between mid-February and mid-July.

Sharp-shinned Hawk

The sharp-shinned hawk (*Accipiter striatus*) was formerly a CDFW species of special concern but was downlisted in the February 2008 CDFW Special Animals list and is currently a CDFW watch list species. This species has no Federal status. This forest specialist has both resident and migratory populations across North America and south to Argentina (Bildstein and Meyer 2000). In the western U.S., this species breeds mainly in Canada as well as a few northern states but migrates south in winter. Though this species nests in small numbers in northern California, the majority of occurrences in the State are winter visitors and are fairly common throughout much of the State from mid-September to mid-April (Small 1994). Sharp-shinned hawks typically winter in woodland communities. Adapted to hunting on the wing in moderately dense vegetation, this species preys on small birds almost exclusively and are rarely encountered away from large trees or brushy borders of agricultural fields and canals. The sharp-shinned hawk's small breeding population in California makes it vulnerable to impacts, which is the reason for its watch list status (Remsen 1978).

The sharp-shinned hawk has not been detected within the Study Area. This species is known as a winter visitor to the region and suitable foraging habitat occurs within and in the vicinity of the Study Area. However, due to the removal of much of the riparian and woodland habitat within and adjacent to Pila Creek in the vicinity of the Study Area, there is only a moderate potential for the sharp-shinned hawk to occur within the Study Area between mid-September to mid-April (Small 1994) in the areas of remaining coast live oak woodland, southern coast live oak riparian forest, and California bay seep woodland.

Other Raptors

Raptors that are protected by the MBTA, particularly when nesting, but are not otherwise federally or state-listed, have been known to occur at the Tajiguas Landfill. Red-tailed hawks (*Buteo jamaicensis*) have been observed nesting in oak trees in Cañada de la Pila to the north of main landfill operations, though the nest ultimately failed. A pair of great horned owls (*Bubo virginianus*) successfully nested on the cliff face adjacent to Pila Creek on the west side of the Landfill. Once vacated and through consultation with the (then) California Department of Fish and Game, the nest and cliff ledge on which the owls were nesting was removed as it was within the footprint of the Tajiguas Landfill Reconfiguration. To mitigate for the loss of this nest, a fee was paid to the Ojai Raptor Center and two artificial nests, one tree and one artificial rock ledge, were installed in the back canyon area of the Landfill property as a voluntary measure.

Other sensitive raptors are not expected to nest within the Proposed Action Area due to the absence of trees or other suitable nesting sites; however, they have a low potential to occur in the Study Area as transients during winter, migration, or foraging. These include: ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsonii*), northern harrier (*Circus cyaneus*), osprey (*Pandion haliaetus*), merlin (*Falco columbarius*), and American peregrine falcon (*Falco peregrines anatum*).

Southern California Rufous-crowned Sparrow

The Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) is a CDFW watch list species and has no Federal status. One of four subspecies of rufous-crowned sparrows in California, it is a common year-round resident of southwestern California. Collins (1999) reports its range is restricted to coastal slopes of the Transverse and Peninsular Ranges south into northwest Baja California (Collins 1999). However, Grinnell and Miller (1944) indicates its range extends northwest throughout Santa Barbara County. The subspecies *A. r. ruficeps* is very similar in appearance but its range typically occurs north of the range of *A. r. canescens*; however, the area of integration between *A. r. canescens* and the subspecies *A. r. ruficeps* is poorly known. Southern California rufous-crowned sparrows prefer fairly steep grassy hillsides with moderate shrub cover, rock outcrops and canyons ranging from 60 to 1,400 meters in elevation (Collins 1999). They can also be found breeding in coastal bluff scrub, low-growing serpentine chaparral, and sage scrub on gentle rolling hillsides (Thorngate and Parsons 2005). Rufous-crowned sparrows thrive in areas that have recently been burned, and will stay in such open, disturbed habitats for years (Thorngate and Parsons 2005; Unitt 2004). Several studies have indicated that this species is highly susceptible to habitat fragmentation, an indication that they require large expanses of unbroken native habitat to sustain viable populations (Unitt 2004).

The Southern California rufous-crowned sparrow has not been detected within the Study Area during 2013 surveys or in any other monitoring and pre-activity surveys conducted for the Reconfiguration Project in the same vicinity since 2009. However, the Study Area and immediate vicinity contains moderately suitable habitat in the form of coastal sage scrub and chaparral with scattered rock outcrops. Although the area of integration between *A. r. canescens* and the subspecies *A. r. ruficeps* is poorly known, the Study Area likely lies within the range of integration for these subspecies.

According to CNDDDB, two specimens of *A. r. canescens* in the Santa Barbara Museum of Natural History collection were collected from Arroyo Hondo, approximately 0.8 mile west of the Study Area (CDFW 2013a). Therefore, the rufous-crowned sparrow has a moderate potential to occur within the Study Area based on known historical occurrences within the vicinity of the Study Area and the presence of moderately-suitable habitat.

California Red-legged Frog

The California red-legged frog was federally listed as threatened May 23, 1996 (61 Federal Register 25813). A final Recovery Plan for the California red-legged frog was published in May 2002 and critical habitat was designated on April 13, 2006 (71 Federal Register 19243). The critical habitat designation does not include the Tajiguas Landfill. California considers the California red-legged frog a species of special concern. The following species account incorporates information from these sources and additional papers to describe the quality of the habitat and potential use of the Proposed Action Area by California red-legged frog.

This frog ranges from Redding in Shasta County south into Baja California at elevations between sea level and 5,000 feet (Jennings and Hayes 1994). This species can be found in both permanent and ephemeral streams, but populations are unlikely to remain in ephemeral streams (Jennings and Hayes 1994; USFWS 1996). California red-legged frogs are found in a range of habitat types primarily within aquatic and riparian habitats and prefer deep-water pools with overhanging vegetation, including willows, cattails, and bulrushes, at the margins of the pools. They require specific parameters for breeding sites and also rely on adequate uplands and riparian areas for foraging and dispersal. This species resides in dynamic systems that fluctuate radically, altering the suitability of habitats as water flows change throughout the year. The Recovery Plan for the California red-legged frog (USFWS 2002) cites Scott and Rathbun emphasizing that overall, populations are more likely to persist where multiple breeding areas are embedded within a matrix of habitats used for dispersal.

All life history stages of the California red-legged frog are most likely to be encountered in and around breeding sites, which are known to include coastal lagoons; marshes; springs; permanent and semi-permanent natural ponds; and ponded and backwater portions of streams and artificial impoundments such as stock ponds, irrigation ponds and siltation ponds (Stebbins 2003). In the summer, California red-legged frogs are often found close to a pond or a deep pool in a creek where emergent vegetation, undercut banks or semi-submerged root masses afford shelter from predators. California red-legged frogs may also take shelter in small mammal burrows and other refugia on the banks up to 100 meters from the water any time of the year and can be encountered in smaller, even ephemeral bodies of water in a variety of upland settings (Jennings and Hayes 1994; USFWS 2002). Bulger et al. (2003) and Tatarian (2004) both found that California red-legged frogs tend to be resident in their aquatic habitats while still utilizing adjacent upland habitats. The Bulger et al. (2003) study, conducted in a mesic environment in Santa Cruz County, found that 75 percent of adult California red-legged frogs were resident in their aquatic habitat and approximately 90 percent remained within 197 feet of their aquatic habitat. The Tatarian (2004) study was conducted in a more inland xeric environment and found that upland use by California red-legged frogs averaged only 91 feet.

California red-legged frogs typically migrate or disperse during periods of wet weather, starting with the first rains of fall (Fellers and Kleeman 2007; Bulger et al. 2003; USFWS 2002, Tatarian 2004). However, California red-legged frogs may also disperse in response to receding water, which often occurs during the driest, hottest times of the year (USFWS 2002). Fellers and Kleeman (2007), in their study in Marin County, found that "frogs departed from breeding ponds at varying times throughout the rainy season, with some frogs remaining at permanent ponds all year. Some frogs made large-scale movements during the dry season (May through October), as seasonal breeding sites dried."

California red-legged frogs typically breed between November and April, with earlier breeding records occurring in southern localities. Egg masses are usually found in ponds or in backwater pools in creeks attached to emergent vegetation such as cattails and bulrush. California red-legged frogs are prolific breeders and can often lay 500 to 1,000 or more eggs during or shortly after large rainfall events in late winter and early spring (Stebbins 2003). Embryos hatch 6 to 14 days after fertilization and larvae require anywhere between 11 to 20 weeks to attain metamorphosis (71 Federal Register 19244); in some instances, larvae overwinter and metamorph the following spring (USFWS 2002).

Creeks and ponds where California red-legged frogs are found most often have dense growths of woody riparian vegetation, especially willows (Hayes and Jennings 1988). "California red-legged frogs also frequently breed in artificial impoundments such as stock ponds. It is assumed, however, that these ponds must have proper management of hydroperiod, pond structure, vegetative cover, and control of non-native predators although some stock ponds support California red-legged frogs despite a lack of these characteristics" (USFWS 2002). Current threats include habitat destruction and alteration and predation by introduced species including the non-native American bullfrog (*Rana catesbiana*) and exotic fishes (Jennings and Hayes 1994).

California red-legged frogs have been historically observed on the Tajiguas Landfill property utilizing two man-made in-channel sedimentation basins that were formerly present in the Pila Creek channel, a groundwater seep area in the creek, and the out-of-channel sedimentation basin to the east of Pila Creek. The in-channel basins provided the only breeding habitat and were managed according to the 2003 USFWS Biological Opinion for the California Red-legged Frog Management Plan and Sedimentation Basin Work Plan. No other areas of Pila Creek were identified as providing breeding habitat (ERA 2008a) due to the ephemeral/intermittent nature of creek flows and the lack of suitable pools.

As a part of the sedimentation basin maintenance biological opinion (USFWS 2003) and since 2009, as part of the California Red-legged Frog Management Plan (ERA 2008c), which was developed to serve as mitigation for effects to the California red-legged frog from the Tajiguas Landfill Reconfiguration Project and Baron Ranch Restoration Project (ERA 2008b), and is a condition of the 2009 Biological Opinion issued for the Tajiguas Landfill Reconfiguration Project (USFWS 2009a and b), monitoring has been conducted for California red-legged frogs within the Pila Creek drainage. The 2009 Biological Opinion authorizes the collection and translocation of California red-legged frogs observed during Reconfiguration Project monitoring to Arroyo Quemado, on the Baron Ranch where restoration activities continue to be implemented to enhance and expand the California red-legged frog habitat. In 2009, 18 adult and approximately 1,114 larval and 1,689 metamorph California red-legged frogs were captured and translocated to Arroyo Quemado; in 2010, there were 14 adults; in 2011, there were 3 adults; and in 2012, there were 16 juveniles. The 16 juveniles were found within a small seep area within the Pila Creek channel. All of the frogs were translocated to USFWS-approved pools in Arroyo Quemado.

Construction of the Reconfiguration Project resulted in the removal of the existing sources of standing water on the Landfill that could have functioned as potential habitat for the California red-legged frog. The two sedimentation basins that provided suitable breeding habitat were removed from Pila Creek to allow for the reconfiguration of the waste footprint. The groundwater seep was removed, and the natural Pila Creek channel was modified and reconstructed as a concrete-lined trapezoidal channel as part of the permitted Reconfiguration Project. In addition, the North Sedimentation Basin (formerly the out-of-channel sedimentation basin) has been reconstructed and a free-draining skimmer system has been installed that reduces the amount of time water is retained in the basin. Previously, the basin ponded water until the basin was physically pumped. Since these changes have been implemented,

no California red-legged frogs have been observed during surveys conducted at the Landfill (Padre 2012 and personal communication with Joddi Leipner 2013).

Pallid Bat

The pallid bat (*Antrozous pallidus*) is a CDFW species of special concern and has no Federal status. This species' range extends from Mexico, throughout the southwestern U.S., and north to western Canada (Batcon 2013). It is a locally common yearlong resident of low elevations throughout most of California. This bat occupies a variety of habitats including grasslands, shrublands, woodlands, and forests at elevations ranging from sea level up through mixed conifer forests in the Sierra Nevadas. The species occurs most commonly in open, dry habitats and prefers rocky areas for roosting (Zeiner et al. 1990). Pallid bats are social, commonly roosting in multi-species groups of 20 or more. The day roosts, such as caves, crevices, tree cavities, and mines, must protect the bats from high temperatures. Maternity colonies form in April, and pups are born from May to July. The bats forage low over open ground, and consume large, hard-shelled prey items such as beetles, grasshoppers, cicadas, spiders, scorpions, and Jerusalem crickets. Pallid bats are very sensitive to disturbance at roosting sites as these roosts are crucial for metabolic economy and juvenile development. Population declines are generally attributable to loss of roost sites resulting from human intrusion and physical alteration (Zeiner et al. 1990).

The pallid bat has not been detected within the Study Area and the nearest reported occurrence of this species is approximately 10 miles west of the Study Area (CDFW 2013a). Rock outcrops and tree cavities within the Study Area may provide suitable roosting sites for this species; however, within the Proposed Action Area there is only a very small area of rock outcrop at the base of a steep hillside adjacent to the channelized portion of Pila Creek and no tree cavities or suitable areas for maternity colonies. The pallid bat has a moderate potential to roost within the Study Area based on known distribution and habitat preference of the species but foraging habitat appears to be marginal given the high level of disturbance due to continual landfill operations.

Ringtail

The ringtail is a CDFW fully protected species and has no Federal status. The range of this species is widespread from the western U.S. to Louisiana and south into Mexico and Baja. Ringtails prefer woodland, riparian, and arid scrubland habitats with rocky terrain (Kays and Wilson 2002, Zeiner et al. 1990). They are nocturnal and active year round. Ringtails nest in rock recesses, tree hollows, logs, snags, abandoned burrows, or woodrat nests (Zeiner et al. 1990). Young are typically born between May and June. Ringtails produce one litter per year with one to five young, averaging three. Their diet primarily consists of small mammals (e.g., rodents and rabbits), but they are opportunistic and will eat birds, eggs, reptiles, invertebrates, fruits, nuts, and carrion (Zeiner et al. 1990). Threats to ringtails include highway mortality and trapping practices (Glatston 1994).

Ringtail tracks were detected in Cañada de la Pila during biological surveys in 2001 (Hunt and Associates 2001), though no sign was observed during the 2007 or 2008 surveys. This species is a relatively common resident of the Santa Ynez Mountains, with sightings in Gaviota State Park, Gato Canyon, and Tajiguas Canyon (County 2002a). This species may not be a permanent resident of Cañada de la Pila but has a moderate potential to occur within the Study Area, likely as a migrant, based on known distribution of the species, suitable habitat, and detection of this species in the vicinity of the Study Area.

Spotted Bat

The spotted bat (*Euderma maculatum*) is a CDFW species of special concern and has no Federal status. Spotted bats range from British Columbia to northern Mexico (Batcon 2013). In the

southwestern U.S., the spotted bat is commonly found in arid desert, scrub, and open forest habitats with vertical cliffs or canyons near water (Blood 1993). Spotted bats are named for having three white spots; one at each shoulder and one at the rump. Of the North American bats, the spotted bat has the largest ears, which are pinkish gray (Blood 1993). This species is solitary, roosting and feeding alone; utilizing cliff or canyon crevices and tree cavities for roosting and nursery sites. Breeding occurs in spring with births in June or July. Their diet predominantly consists of moths. The echolocation of the spotted bat has a low frequency and is audible to the human ear from up to 820 feet (Blood 1993). Little is known about the biology of this bat species, but potential threats include lack of suitable day-roosts and foraging terrain, development, and pesticides.

The spotted bat has not been detected within the Study Area and the nearest reported occurrence of this species is approximately 86 miles east of the Study Area (CDFW 2013a). Rock outcrops and tree cavities within the Study Area may provide suitable roosting sites for this species; however, within the Proposed Action Area there is only a very small area of rock outcrop at the base of a steep hillside adjacent to the channelized portion of Pila Creek and no tree cavities. Therefore, the spotted bat has a moderate potential to roost and/or forage within the Study Area based on known distribution and habitat preference of the species.

San Diego Desert Woodrat

The San Diego desert woodrat is a CDFW species of special concern and has no Federal status. Its range extends through coastal areas from San Luis Obispo well into Baja California, inland to the San Bernardino Mountains and Julian (Hall 1981). The San Diego desert woodrat occurs within chaparral areas with a preference for rock outcrops (Bond 1977). The middens (nests) of this species can be occupied by multiple generations and have been documented as old as 200 to 400 years. The breeding season for the San Diego desert woodrat is from October to May. Their diet consists of a variety of plant species and many parts of plants including buds, fruits, seeds, bark, leaves, and young shoots (Brylski 1983). Threats to this species include habitat degradation and loss of habitat.

The San Diego desert woodrat has been found throughout the coastal slope of the Santa Ynez Mountains, including Cañada San Onofre near the mouth of Refugio Creek, Cañada de las Zorrilas, Cañada del Molino, Cañada de Guillermo, Arroyo Hondo, Arroyo Quemado, Cañada del Venadito, Las Llagas Creek, and Gato Creek (ERA 2008a). Woodrat nests (not determined as to species) were observed within the riparian and woodland communities on the west side of Cañada de la Pila during tree surveys conducted in 2008 in support of the Landfill Reconfiguration project (ERA 2008a). In addition, woodrat nests were found in rock crevices along the exposed east- and south-facing slopes of the back canyon portion of the Landfill during previous field surveys (County 2002a). However, it is unknown if the nests belong to the unlisted dusky-footed woodrat (*Neotoma fuscipes*), which has also been observed on the Landfill property (County 2009), or the San Diego desert woodrat. No woodrat nests have been observed within the Study Area during recent surveys; however, the San Diego desert woodrat has a moderate potential to occur in the immediate vicinity of the Study Area based on known distribution of the species, suitable habitat, past detection of woodrat nests near the Study Area, and detection of the San Diego desert woodrat as near as 0.75 mile to the southeast of the Study Area (CDFW 2013a). Due to the limited mobility of this species, vegetation removal and equipment operations associated with construction of the permitted Landfill were identified as significant and unavoidable in the Final EIR (01-EIR-05) for the Tajiguas Landfill Expansion Project (County 2002a) and the Final Subsequent EIR (08EIR-00000-00007) for the Tajiguas Landfill Reconfiguration Project (County 2009).

Big Free-tailed Bat

The big free-tailed bat (*Nyctinomops macrotis*) is a CDFW species of special concern and has no Federal status. This species ranges from South America, the Caribbean Islands, and throughout the western U.S. Big free-tailed bats occupy rocky areas, cliff crevices, and tree cavities, and can be found up to 8,000 feet in elevation. Breeding is not known to occur in California; pups are typically born in June and July. Although this bat feeds upon a variety of insects, moths are its primary food item (Zeiner et al. 1990). Population declines are generally attributable to loss of roost sites resulting from human intrusion and physical alteration.

The big free-tailed bat has not been detected within the Study Area and the nearest reported occurrence of this species is approximately 25 miles east of the Study Area (CDFW 2013a). Rock outcrops and tree cavities within the Study Area may provide suitable roosting sites for this species; however, within the Proposed Action Area there is only a very small area of rock outcrop at the base of a steep hillside adjacent to the channelized portion of Pila Creek and no tree cavities. The big free-tailed bat has a moderate potential to roost and/or forage within the Study Area based on known distribution and habitat preference of the species.

American Badger

The American badger is a CDFW species of special concern and has no Federal status. American badgers are widespread; ranging from the Great Lakes to the Pacific Coast and from the Canadian prairie provinces to the Mexican Plateau. This species can be found in a variety of habitats, which include shrub steppes, agricultural fields, open woodland forests, and large grass and sagebrush meadows and valleys (Streubel 2000). Badgers mate in summer and early fall. Gestation lasts 183 to 265 days, including delayed implantation. A litter of two to five young are typically born in burrows dug in relatively dry, often sandy soil, usually in areas with sparse overstory cover between March and early April (Streubel 2000). Young are altricial at birth, furred, and blind. They typically are weaned in June and disperse in late summer. The American badger diet consists of a variety of rodents, scorpions, insects, snakes, lizards, birds, and carrion. Threats to the American badger are due to human activity caused by habitat destruction, trapping, hunting, vehicular deaths, and poisoning.

The American badger has not been detected within the Study Area. However, the Study Area has moderately-suitable woodland and sage scrub habitat and the species has been detected in Arroyo Hondo, within 1.25 miles west of the Landfill property (CDFW 2013a). Therefore, the American badger has a moderate to high potential to occur within the Study Area based on known distribution of the species, potentially suitable habitat within the Study Area, and known occurrences within the vicinity of the Study Area.

4.0 Analysis of Effects and Impacts

4.1 FESA Analysis of Take

Section 10(a)(1)(B) of the FESA provides a permitting vehicle for non-Federal activities that may result in take of federally listed species. Take as defined by the FESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." When it is determined that take may occur, an HCP is prepared that outlines, among other things, the impacts that are likely to result from the take and the measures the permit applicant will undertake to minimize and mitigate such impacts. Under Section 10, there is either a determination that take will occur or that take will be avoided. This is different than the Federal process under Section 7 where a biological assessment is prepared for major construction activities considered to be Federal actions significantly affecting federally-listed threatened or endangered species and/or critical habitat. One of the purposes of the biological assessment is to help make the determination of whether the proposed action is "likely to adversely affect" federally listed species and critical habitat. A biological assessment generally includes results of on-site inspections determining the presence of listed or proposed species, an analysis of the likely effects of the action on the species or habitat, and a description of any known unrelated future non-Federal activities (cumulative effects) reasonably certain to occur within the action area that are likely to affect the species.

4.2 FESA Definition of Effects

Biological resources may be either directly or indirectly affected by the Proposed Action. Direct and indirect effects may, furthermore, be either permanent or temporary in nature. These effects are defined below.

- **Direct Effects:** Any alteration, disturbance, or destruction of biological resources that would result from project-related activities is considered a direct effect. Examples include encroachment into wetlands, diversion of surface water flows, and the loss of individual species and/or their associated habitat. Under the FESA, direct effects are defined as the immediate effects of a project on a species or its habitat, including construction noise disturbance, sedimentation, dust accumulation, or habitat loss.
- **Indirect Effects:** As a result of project-related activities, biological resources may also be affected in an indirect manner. Under the FESA, indirect effects are defined as those effects that are caused by, or would result from, a proposed project and are later in time, but still reasonably certain to occur (50 Code of Federal Regulations Section 402-02). An example of indirect effects may include increased vehicle traffic and increased ambient noise levels following completion of construction of a new roadway.
- **Temporary Effects:** Any effects to biological resources that are considered reversible can be viewed as temporary. Examples include the generation of fugitive dust during construction or the removal of vegetation for construction activities and subsequently revegetating the impact area.
- **Permanent Effects:** All effects that result in the irreversible removal of biological resources are considered permanent. Examples include constructing a building or permanent road on an area containing biological resources.

4.3 CEQA Thresholds of Significance for Impacts

The criteria for determining significant impacts on biological resources were developed in accordance with Section 15065(a) of the CEQA Guidelines, which states that a project may have a significant effect on the environment if the project has the potential to:

- substantially degrade the quality of the environment;
- substantially reduce the habitat of a fish or wildlife species;
- cause a fish or wildlife population to drop below a self-sustaining level;
- threaten to eliminate a plant or animal community; and/or
- reduce the number or restrict the range of an endangered, rare, or threatened species.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. A substantial impact is an impact that diminishes, or results in the loss of, a sensitive biological resource or that significantly conflicts with local, State, or Federal resource conservation plans, goals, and/or regulations. Sometimes impacts can be locally adverse, but not significant. In such a case, the impacts may result in an adverse alteration of a local biological resource, but they may not substantially diminish or result in the permanent loss of an important resource on a population- or region-wide basis.

The following thresholds of significance are based on Appendix G of the CEQA Guidelines. Implementation of the Proposed Action may have potentially significant adverse impacts on biological resources if it would result in any of the following:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the CDFW or the USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or the USFWS;
- have a substantial adverse effect on State or federally protected wetlands as defined by USACE, CDFW, RWQCB, or California Coastal Commission, including but not limited to marsh, coastal, etc., through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources such as a tree preservation policy or ordinance; and/or
- conflict with the provisions of any adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or State HCP.

In accordance with Section 15605, Mandatory Findings of Significance of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment in regard to biological resources if the project has the potential to:

- substantially reduce the habitat of a fish or wildlife species;
- cause a fish or wildlife population to drop below self-sustaining levels;

- threaten to eliminate a plant or animal community; and/or
- reduce the number or restrict the range of an endangered, rare or threatened species.

Additionally, under the Santa Barbara County Environmental Thresholds and Guidelines Manual (County 2008), an impact would be considered significant if it were to result in any of the following:

- conflict with local, State, or Federal plans and policies protecting sensitive species and habitat resources;
- adverse effects on a rare or endangered species of animal, plant, or the habitat of the species;
- reduction or elimination of species diversity or abundance;
- reduction or elimination of quantity or quality of nesting areas;
- limitation of reproductive capacity through loss of individuals or habitat;
- creation of a barrier that prevents the migration of any resident or migratory fish or wildlife species;
- limitation or fragmentation of the geographic distribution of any animal species;
- interference with natural processes, such as fire or flooding, upon which habitat depends;
- loss of valuable habitat for fish, wildlife, or plants for more than 5 years;
- impacts to wetlands:
 - net loss of important wetland area or wetland habitat value, either through direct or indirect impacts to wetland vegetation, degradation of water quality, threatening the continuity of wetland-dependant animal or plant species;
 - substantial interruption of wildlife access, use and dispersal in wetland areas;
 - the hydrology of wetlands systems must be maintained if their function and values are to be preserved; therefore, maintenance of hydrological conditions, such as the quantity and quality of run-off, etc., must be assessed in project review;
- impacts to coastal salt marshes:
 - substantial alteration of tidal circulation or decrease of tidal prism;
 - adverse hydrologic changes (e.g., altered freshwater input), substantial increase of sedimentation, introduction of toxic elements or alteration of ambient water temperature;
 - construction activity which creates indirect impacts such as noise and turbidity on sensitive animal species, especially during critical periods such as breeding and nesting;
 - disruption of wildlife dispersal corridors;
 - disturbance or removal of substantial amounts of marsh habitats (because of the high value and extremely limited extent of salt marsh habitat in the County, small areas of such habitat may be considered significant);
- impacts to vernal pools:
 - direct removal of vernal pool or vernal pools complex;

- direct or indirect adverse hydrologic changes such as altered freshwater input, changes in the watershed area or run-off quantity and/ or quality, substantial increase in sedimentation, introduction of toxic elements or alteration of ambient water temperature;
- disruption of larger plant community (e.g., grassland) within which vernal pools occur, isolation or interruption of contiguous habitat which would disrupt animal movement patterns, seed dispersal routes or increase vulnerability of species to weed invasion or local extirpation;
- impacts to riparian habitat:
 - direct removal of riparian vegetation;
 - disruption of riparian wildlife habitat, particularly animal dispersal corridors and or understory vegetation;
 - intrusion within the upland edge of the riparian canopy (generally within 50 feet in urban areas, within 100 feet in rural areas, and within 200 feet of major rivers listed in the previous section), leading to potential disruption of animal migration, breeding, etc. through increased noise, light and glare, and human or domestic animal intrusion;
 - disruption of a substantial amount of adjacent upland vegetation where such vegetation plays a critical role in supporting riparian-dependent wildlife species (e. g., amphibians), or where such vegetation aids in stabilizing steep slopes adjacent to the riparian corridor, which reduces erosion and sedimentation potential;
 - construction activity which disrupts critical time periods (nesting, breeding) for fish and other wildlife species;
- impacts to native grassland:
 - for purposes of resource evaluation in Santa Barbara County, a native grassland is defined as an area where native grassland species comprise 10 percent or more of the total relative cover;
 - removal or severe disturbance to a patch or patches of native grasses less than one-quarter acre, which is clearly isolated and is not a part of a significant native grassland or an integral component of a larger ecosystem, is usually considered insignificant;
- impacts to oak woodlands and forests:
 - changes in habitat value and species composition such as the following: habitat fragmentation, removal of understory, alteration of drainage patterns, disruption of the canopy, removal of a significant number of trees that would cause a break in the canopy or disruption of animal movement in and through the woodland; and/or
 - in general, the loss of 10 percent or more of the trees of biological value on a project site.

4.4 CEQA Definition of Impacts

Biological resources may be either directly or indirectly impacted by a project. Direct and indirect impacts may be either permanent or temporary in nature. From section 15358 of the CEQA guidelines: direct, or primary, impacts are caused by the project and occur at the same time and place and indirect, or secondary, impacts are those caused by the project which occur later in time or farther removed in distance, but are still reasonably foreseeable. Indirect impacts may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems.

5.0 Impacts of Proposed Action

The following sections discuss the permanent and temporary, direct and indirect impacts associated with the Proposed Action. The significance of impacts to sensitive biological resources and mitigation required to reduce these impacts is dependent on the sensitivity and associated legal status of the species in accordance with guidelines set forth in CEQA and Santa Barbara County Environmental Thresholds and Guidelines Manual (County 2008). These impacts are discussed in more detail as they relate to the FESA and CEQA in the sections below.

5.1 Construction Impacts to Common Vegetation Communities and Wildlife

The Proposed Action may result in direct and indirect impacts, both permanent and temporary, to native vegetation communities and common wildlife species. Impacts to biological resources are assessed according to the resources present or potentially present and the quality or condition of these resources as a result of activities before, during, and after construction of the Proposed Action.

5.1.1 Construction Impacts to Common Vegetation Communities

Impacts to native vegetation communities will be relatively limited due to the majority of the Proposed Action occurring in areas that have already been disturbed by previously permitted activities at the Landfill. The Proposed Action would result in direct permanent impacts to a total of approximately 3.33 acres of common vegetation communities and land cover types within the Proposed Action Area (Figure 2) and project related activities will be located within an additional 21.18 acres of existing disturbed areas (bare ground/roads/existing facilities). Approximately 1.07 acres of *Ceanothus megacarpus* chaparral, 0.02 acre of rock outcrop, and 2.24 acres of ruderal areas would be permanently impacted by the Proposed Action through clearing, grubbing, and grading of the Proposed Action Area in preparation for construction. Impacts to common native vegetation communities are generally considered adverse but less than significant because the Proposed Action is not expected to reduce these vegetation communities, and wildlife and plant species within these vegetation communities, below self-sustaining levels. Impacts to rock outcrop, bare ground/roads/existing facilities, and ruderal areas are also not considered significant. Impacts to the rock outcrop area is very small (0.02 acre) and is considered adverse but not significant. Additionally impacts to bare areas/roads/existing facilities and ruderal areas where previous disturbance has occurred and removed native vegetation are not considered significant due to the low existing habitat value these areas contribute to the overall landscape.

The Proposed Action will not result in direct permanent impacts to sensitive vegetation communities within the Study Area. However, it would result in indirect temporary impacts to both common and sensitive vegetation communities immediately surrounding the Proposed Action Area, including increased fugitive dust, potential introduction of invasive or weedy species, soil erosion, and runoff which could compromise plant respiration, photosynthesis, and growth in vegetation communities not directly removed from within or adjacent to the Proposed Action Area. The indirect effect on common native vegetation communities would be adverse but less than significant considering the abundance of these communities on the landfill property and on adjacent properties. However, measures included to address indirect impacts on sensitive vegetation communities would also benefit these commonly occurring communities.

5.1.2 Construction Impacts to Common Wildlife

The Proposed Action will result in direct permanent impacts to 3.33 acres of wildlife habitat for common wildlife species during clearing and grubbing of the Proposed Action Area, particularly in the areas of native vegetation on the western and eastern ridges of Cañada de la Pila. Common wildlife species (especially small mammals and reptiles with low mobility) may be inadvertently killed or injured during grading of the Proposed Action Area, though many birds and large mammals that have higher mobility are less likely to be crushed during the construction of the Proposed Action.

The Proposed Action will also result in direct permanent impacts through the reduction in the amount of habitat available to common wildlife, since the conversion of native vegetation communities to landfill infrastructure will create conditions unsuitable to most wildlife species. This further encroachment of landfill infrastructure (i.e., tanks and associated pipelines) into areas of historically lower intensity uses would also indirectly impact common wildlife by reducing the buffer area surrounding the Landfill. However the additional conversion would be minimal (1.07 acres) and approximately 200 acres remain available on the Landfill property for use by these common species. Habitat will be restored within portions of the Proposed Action Area upon closure of the Tajiguas Landfill; however, the functional value of these revegetated areas with respect to usage by native wildlife is initially expected to be less than the functional value of surrounding undisturbed areas because the density diversity and stature of vegetation in the restored areas would be less than the surrounding areas. Restoration would include revegetation with native communities, primarily coastal sage scrub in areas of closed waste cells and chaparral in areas of the back canyon where there is no waste. Closed areas may be subject to ongoing disturbance from maintenance activities such as weed and rodent control and operation of the environmental control systems (e.g., gas wells, monitoring well, etc.).

The Proposed Action will result in indirect temporary impacts to wildlife habitat and common wildlife species, such as increased fugitive dust, elevated noise levels, and increased human activity within and adjacent to the Proposed Action Area. Temporary impacts related to storage of construction materials, staging of equipment, etc. will not affect wildlife or wildlife habitats because these types of project activities will be conducted within existing disturbed landfill areas.

Under CEQA guidelines, direct and indirect impacts, both permanent and temporary, to common wildlife species are considered an adverse but less than significant impact because the Proposed Action affects only a small amount of native habitat, other undeveloped areas of the Landfill property and neighboring properties are available for use by common wildlife species, and the Proposed Action is not expected to reduce common wildlife populations below self-sustaining levels.

While vegetation removal within the Action Area will be limited, shrubs or trees within the Study Area and immediate vicinity may be used for nesting by common migratory bird species or raptors. Construction activities during the nesting season could directly impact nests or cause abandonment or failure of the nests, which would be considered a significant but mitigable impact. Pursuant to the requirements of the MBTA, which provides legal protection for nearly all breeding migratory bird species (common and sensitive) occurring in the U.S., and Section 3503.5 of the California Fish and Game Code, which specifically protects raptor nests, the Proposed Action will be required to avoid impacts to nesting birds. It should be noted that construction activities would occur in areas already subject to significant noise from existing Landfill operations and the species present are likely to be habituated to the existing noise environment. Implementation of Mitigation Measure **BIO-2** will reduce potential impacts to a less-than-significant level.

5.2 Construction Impacts to Sensitive Biological Resources

The Proposed Action may result in direct and indirect impacts, both permanent and temporary, to a variety of sensitive biological resources. Impacts to sensitive biological resources are assessed according to the resources present or potentially present and the quality or condition of these resources as a result of activities before, during, and after construction of the Proposed Action.

5.2.1 Construction Impacts to Sensitive Vegetation Communities

As noted above, no sensitive vegetation communities will be directly permanently or temporarily impacted by the Proposed Action. While sensitive vegetation communities do occur within the Study Area, the Proposed Action is limited primarily to previously disturbed areas with some minor impacts to areas of common native vegetation communities.

Indirect temporary impacts could occur in the surrounding 0.89 acres of sensitive vegetation communities (0.22 acre of California bay seep woodland, 0.39 acre of coast live oak woodland, and 0.28 acre of southern coast live oak riparian forest), identified in the 200-foot project buffer outside of the Proposed Action Area due to increased dust, soil erosion, potential introduction of invasive species or if equipment operations inadvertently worked outside of the designated project area, which could compromise plant respiration, photosynthesis, and growth in vegetation communities. Indirect temporary impacts to sensitive vegetation communities would be potentially significant. Mitigation Measures BIO-1(a), (b), (c), and (d) will reduce impacts to a less-than-significant level.

5.2.2 Construction Impacts to Sensitive Plants

As presented in Appendix A, 40 sensitive plant species known to occur in the region were evaluated for their potential to occur within the Study Area and Proposed Action Area. As discussed in Section 3.4.2.1 and presented in Figure 2, based on the 2013 Padre Associates rare plant survey, two sensitive plant species occur within the Proposed Action Area, Plummer's baccharis and Santa Barbara honeysuckle (Padre 2013). Eight Plummer's baccharis and seven Santa Barbara honeysuckle are present in the utilities corridor leading to the proposed Well 6 site, adjacent to the channelized Pila Creek drainage. In addition, 10 Plummer's baccharis are also present in the vicinity of the proposed location for the water tanks on the western ridge of Cañada de la Pila, but are outside the Proposed Action Area. No other sensitive plants were observed within the Study Area during this survey.

As noted in Section 3.4.2.1, the Plummer's baccharis present at the south end of the utilities corridor are likely the same group that was documented during rare plant surveys for the Landfill Reconfiguration Project. These 30 individuals were assumed to be impacted in the Final Subsequent EIR for the Tajiguas Landfill Reconfiguration Project (08EIR-00000-00007) (County 2009) and their loss was mitigated through the installation of 30 plants at the Baron Ranch. Because the loss of this group of Plummer's baccharis has already been mitigated, additional mitigation would not be required if they were impacted by construction in the utilities corridor.

Clearing, grubbing, and grading in other areas of the utilities corridor may permanently remove 8 additional Plummer's baccharis and 7 Santa Barbara honeysuckle plants and their habitat, which would be considered a significant impact. However, there were 10 additional Plummer's baccharis and 27 additional Santa Barbara honeysuckle plants planted at Baron Ranch as a part of the Tajiguas Landfill Reconfiguration Project. This would offset the loss of these additional sensitive plants at the Tajiguas Landfill and impacts to sensitive plants will be reduced to a less-than-significant level.

5.2.3 Construction Impacts to Sensitive Wildlife

As presented in Appendix B and discussed in Section 3.4.3.1, 42 wildlife species were evaluated for their potential to occur within the Study Area and Proposed Action Area. In general, species were identified as having the same potential to occur in the Study Area and Proposed Action Area because impacts to native vegetation occur at the periphery of larger contiguous areas of native habitat surrounding the Landfill.

Species listed as federally or State threatened or endangered, CDFW species of special concern, CDFW fully protected, and/or locally sensitive that have been evaluated to have the potential to occur within the Proposed Action Area are listed below and species with a moderate or higher potential to occur are discussed in detail:

Not Expected to Occur or Rare Transient

- Santa Ynez walking stick (*Timema cristinae*) (locally sensitive)
- Tidewater goby (federally endangered, CDFW species of special concern)
- Southern steelhead (*Oncorhynchus mykiss irideus*) (federally endangered)
- Coast Range newt (*Taricha torosa torosa*) (CDFW species of special concern)
- Pacific pond turtle (CDFW species of special concern)
- Two-striped garter snake (CDFW species of special concern)
- Grasshopper sparrow (*Ammodramus savannarum*) (CDFW species of special concern, locally sensitive)
- Golden eagle (*Aquila chrysaetos*) (BGEPA, CDFW watch list, CDFW fully protected)
- Western snowy plover (*Charadrius alexandrinus nivosus*) (federally threatened)
- Northern harrier (CDFW species of special concern)
- Bald eagle (*Haliaeetus leucocephalus*) (State endangered, BGEPA, CDFW fully protected)
- California brown pelican (*Pelecanus occidentalis californicus*) (federally and State endangered)
- Bank swallow (*Riparia riparia*) (State threatened)
- Least Bell's vireo (*Vireo bellii pusillus*) (federally and State endangered)

Low Potential to Occur

- Monarch butterfly (locally sensitive)
- Silvery legless lizard (*Anniella pulchra pulchra*) (CDFW species of special concern)
- California horned lizard (*Phrynosoma coronatum blainvillii* and *Phrynosoma coronatum frontale*) (both CDFW species of special concern)
- Coast patch-nosed snake (*Salvadora hexalepis virgultea*) (CDFW species of special concern)
- Swainson's hawk (State threatened)
- Yellow warbler (*Dendroica petechia brewsteri*) (CDFW species of special concern)
- White-tailed kite (CDFW fully protected)

- American peregrine falcon (State endangered, CDFW fully protected, federally delisted)
- Yellow-breasted chat (*Icteria virens*) (CDFW species of special concern)
- Loggerhead shrike (CDFW species of special concern)
- Warbling vireo (*Vireo gilvus*) (locally sensitive)
- Townsend's big-eared bat (*Corynorhinus townsendii pallescens*) (CDFW species of special concern)

Moderate Potential to Occur

- California red-legged frog (federally threatened, CDFW species of special concern)
- Pallid bat (CDFW species of special concern)
- Ringtail (CDFW fully protected)
- Spotted bat (CDFW species of special concern)
- San Diego desert woodrat (CDFW species of special concern)
- Big free-tailed bat (CDFW species of special concern)
- American badger (CDFW species of special concern)
- Southern California rufous-crowned sparrow (CDFW watch list)
- Raptors

The California red-legged frog, two-striped garter snake, Pacific pond turtle, and ringtail have been identified in the vicinity of the Study Area in previous studies (ERA 2008a and Padre 2012, personal communication with Joddi Leipner 2013) and the San Diego desert woodrat is known from several nearby localities and woodrat nests (although not confirmed to species) have been identified in the vicinity of the Proposed Action Area (ERA 2008a). Species dependent on standing water and areas of thick riparian vegetation, such as the California red-legged frog, Pacific pond turtle and two striped garter snake, are no longer anticipated to utilize the Study Area in a significant way because of the permitted removal of the pre-existing breeding habitat and reduction of riparian habitat within and adjacent to Pila Creek as a result of the Tajiguas Landfill Reconfiguration Project. The small areas of riparian vegetation remaining would likely not be sufficient to support species that require this type of habitat for forage and cover; however, they may be present as transients in the area due to the presence of known populations and available breeding habitat in neighboring canyons and the potential dispersal distances for the species.

In general, direct impacts to sensitive wildlife species may include mortality, disruption of nesting/denning activities, and permanent loss of habitat due to construction activities within the Proposed Action Area. Indirect impacts include increased human presence, noise, dust; soil erosion, runoff, night lighting, traffic, litter, and pollutants into adjacent wildlife habitat which could compromise normal wildlife activities and breeding behavior and result in avoidance or abandonment of foraging/and or breeding habitat adjacent to the Proposed Action Area.

Under CEQA guidelines, permanent and temporary impacts to threatened and/or endangered wildlife and CDFW fully protected species such as ringtail would typically be considered significant and unavoidable because these species are considered rare or facing extinction by CDFW. Permanent and temporary impacts to CDFW species of special concern and locally sensitive species are generally not considered significant because the impacts are not expected to reduce the wildlife

populations below self-sustaining levels as the animals would be able to radiate into areas with substantial habitat outside of the Proposed Action Area. Based on the species that would be most likely to utilize the habitat within the Proposed Action Area and the relatively small amount of impacts to areas of native vegetation, impacts and effects to sensitive wildlife are not anticipated to be significant. The species with a moderate to high potential to occur within the Proposed Action Area are evaluated in detail below. The evaluation is based on the available surrounding habitat and their respective mobility.

California Red-legged Frog

California red-legged frogs have been known to occur within the immediate vicinity of the Proposed Action Area (ERA 2008a and Padre 2012), primarily within Pila Creek prior to its channelization and within the in-channel sedimentation basins prior to their removal. Under measures detailed in the EIR for the Tajiguas Landfill Reconfiguration Project (County 2009) and included in the USFWS Biological Opinion for that project (USFWS 2009b), California red-legged frogs identified within the Reconfiguration Project boundary during monitoring surveys are relocated to Arroyo Quemado on the Baron Ranch property to the east of the Landfill. However, the authority to relocate frogs is tied to the Biological Opinion for the USACE Section 404 permit for that specific project and authorization for take to move frogs is only permitted for Reconfiguration Project activities and will expire when that project is completed. Compensation for the loss of California red-legged frog habitat at the Landfill as a result of the Reconfiguration Project has been provided through habitat restoration and enhancements at Baron Ranch and through the proposed protection in-perpetuity of approximately 30 acres of occupied habitat in the Arroyo Quemado watershed..

As a result of the Landfill Reconfiguration Project, breeding habitat, and permanent or semi-permanent water sources suitable for California red-legged frogs have been removed. Upland habitat surrounding these former locations has also been significantly modified. Since the removal of the in-channel sedimentation basins, reconstruction and modification of the North sedimentation basin (formerly the out-of-channel basin), removal of seeps within Pila Creek, and the channelization of Pila Creek, California red-legged frogs have not been observed at the Landfill during surveys conducted during 2012/2013 rainy season; the last observation of California red-legged frog occurred on April 19, 2012 (Padre 2012; personal communication with Joddi Leipner 2013).

The Proposed Action would directly and permanently remove a small amount of upland native vegetation on the western ridge of Cañada de la Pila that California red-legged frogs may pass through during their movement from one source of water to another. It is recognized that California red-legged frogs may travel through various habitat types when dispersing to and from breeding habitat without apparent regard to vegetation type or topography (Bulger et al. 2003). The removal of this native vegetation would provide a small amount of additional exposed ground for frogs to cross during overland movement, increasing the chances of predation. Because of the lack of permanent or semi-permanent water in these areas, the frogs would only be expected as transients.

Impacts to the California red-legged frog would be considered less-than-significant considering the very low likelihood of the presence of a California red-legged frog within these upland areas and the small amount of native vegetation removal for the Proposed Action. The avoidance and minimization measures as described in Mitigation Measure **BIO-3** are recommended for the Proposed Action as part of the general protection measures for all potential sensitive species.

Ringtail

The ringtail has not been directly detected within the Study Area. However, the species was evaluated to have a moderate potential to occur in the Proposed Action Area within or immediately adjacent to

native habitat based on a detection of the species within Cañada de la Pila during studies conducted for the Expansion EIR (County 2002a), known distribution of the species, and suitable habitat within the Study Area, as discussed in Section 3.4.3.1. The Proposed Action would directly and permanently eliminate a small area (1.07 acres) of habitat suitable for foraging, breeding, and natal denning locations, which may include rock recesses, tree hollows, logs, snags, abandoned burrows, or woodrat nests, during clearing, grubbing, and infrastructure construction within the Proposed Action Area. Because this species is mobile and can move out of the Proposed Action Area during construction and suitable habitat for this species is available on remaining undisturbed areas of the Landfill property and on adjacent properties, direct and indirect impacts to this species during clearing and grubbing are not anticipated unless clearing and grubbing occurs during the breeding and natal denning period (February through August) when the species is less mobile. Any permanent or temporary impacts of occupied natal dens or direct mortality of individual ringtail during clearing and grubbing and landfill construction would be considered adverse and significant. With the implementation of Mitigation Measure **BIO-4**, and considering the relatively small area of impact for this wider ranging species, potential impacts to ringtail would be reduced to a less-than-significant level.

San Diego Desert Woodrat

Potential nests of the San Diego desert woodrat have been detected as part of previous biological surveys in the immediate vicinity of the Proposed Action Area. The species was evaluated to have a moderate potential to occur in rock crevices in mature chaparral in the vicinity of the Study Area based on known distribution of the species, suitable habitat, and detection of this species within the vicinity of the Study Area as discussed in Section 3.4.3.1. The Proposed Action would directly and permanently eliminate a small area (1.07 acres) of nesting and foraging habitat for this species during clearing, grubbing, and infrastructure construction within the Proposed Action Area. Direct and indirect impacts to woodrats and their nesting locations would be potentially significant but can be minimized through implementation of Mitigation Measure **BIO-5**. With the actions described in this Mitigation Measure, and considering the relatively small area of impact to native vegetation, impacts to San Diego desert wood rat would be reduced to a less-than-significant level.

American Badger

The American badger has not been detected within the Proposed Action Area; however, this species was evaluated to have a moderate potential to occur within the Proposed Action Area based on known distribution of the species and suitable habitat within the Study Area as discussed in Section 3.4.3.1. The Proposed Action would directly and permanently eliminate a small area (1.07 acres) of foraging, breeding, and natal denning locations such as open sage scrub and chaparral habitats during clearing, grubbing, and infrastructure construction within the Proposed Action Area. Because this species is mobile and can move out of the Proposed Action Area during construction, direct and indirect impacts to this species during clearing and grubbing are not anticipated unless clearing and grubbing occurs during the natal denning period (March through August) when the species is less mobile. Any permanent or temporary impacts of occupied natal dens or direct mortality of individual badgers during clearing, grubbing and construction would be considered adverse and significant. With the implementation of Mitigation Measure **BIO-4**, and considering the relatively small area of impact for this wider ranging species, potential impacts to American badger would be reduced to a less-than-significant level.

Bats

The following three bats listed as CDFW species of special concern were evaluated for their potential to occur within the Study Area and Proposed Action Area as discussed in Section 3.4.3.1: pallid bat,, spotted bat, and big free-tailed bat. Focused surveys for bats have not been conducted within the

Study Area. These bats, were determined to have a moderate potential to roost and/or forage within the Study Area based on known distribution and habitat preference of the species. In general, habitat modifications resulting from implementation of the Reconfiguration Project, particularly the reduction of available surface water at the Landfill, and the elimination of the riparian corridor in the lower portion of the Pila Creek drainage have diminished the potential that these bats would utilize the Proposed Action Area.

The Proposed Action would result in direct permanent impacts to a small area of rock outcrop within the utility corridor to the proposed Well 6 site. The rock outcrop is part of a rock cliff face that occurs along a ridge perpendicular to the channelized portion of Pila Creek. Because the area of rock outcrop that would be impacted is low to the ground and close to the active disturbance of the Landfill, it is unlikely that it would serve as a location for bat day roosting as day roost sites are typically more cryptic and protected. Higher parts of the rock outcrop or trees with cavities within the Study Area may be more suitable as bat day roost locations. The rock outcrop may be used for night roosts, which are resting areas between foraging flights. While bats are not likely to roost in the Proposed Action Area and no known roosts are present within the Study Area, construction may result in indirect temporary or permanent impacts to bats within the Study Area, particularly sensitive maternal roosts, due to disturbance from noise and increased human activity. Such impacts would be considered adverse and significant. With the implementation of Mitigation Measure **BIO-6**, and considering the relatively small area of impact for these wider ranging species, potential impacts to bats would be reduced to a less-than-significant level.

Raptors and Migratory Birds

Raptors were evaluated for their potential to occur within the Study Area and Proposed Action Area and none were considered to have the potential to nest within the Proposed Action Area due to the absence of trees or other nesting habitat. However, raptors do have the potential to nest in the Study Area and surrounding, including the red-tailed hawk and great horned owl, which have been observed near the Proposed Action Area (Hunt and Associates 2001, Padre 2008, ERA 2008a).

The Proposed Action would not result in the removal of any trees that could provide potential nesting opportunities; therefore no direct impacts would occur from implementation of the Proposed Action. Indirect impacts to raptors that may be nesting in trees in the adjacent undisturbed areas can be avoided through implementation of Mitigation Measure **BIO-2**. With the implementation of these measures, and considering the relatively small area of impact for these wider ranging species, impacts to raptors would be reduced to less than significant.

The Proposed Action would result in the removal of vegetation that could provide potential nesting opportunities for other migratory birds, including sensitive species such as the southern California rufous-crowned sparrow. Damage or removal of active nests by removal of vegetation or the abandonment of an active nest due to construction activity during the nesting season (February 1 through August 15) would be considered adverse and significant. Direct and indirect impacts to nesting birds can be avoided through the implementation of Mitigation Measure **BIO-2**. With the implementation of these measures, and considering the relatively small area of available nesting habitat impacted, impacts to other migratory bird species would be reduced to a less-than-significant level.

5.2.4 Construction Impacts to Habitat Connectivity and Wildlife Corridors

No impacts to habitat connectivity and wildlife corridors are expected to result from construction of the Proposed Action. The land within the Landfill is composed of steep graded hillsides, dirt and paved roads, ruderal areas devoid of vegetation, and other outbuildings associated with active Landfill

operations. These developed and active portions of the Tajiguas Landfill provide little value to resident and transitory wildlife. The majority of the land to the north, east, and west of the Landfill is considered a wildlife travel route because it provides habitat for wildlife moving between the coastal foothills within Cañada de la Pila and the Santa Ynez Mountains north of the Study Area. Because Highway 101, the Union Pacific Railroad, and the existing Tajiguas Landfill constrain this travel route, wildlife traveling through and adjacent to the Study Area must use the culverts under Highway 101 and the Union Pacific Railroad, the roads and ruderal areas associated with the Landfill, and/or avoid the Landfill via the adjacent ridgelines to the east and west. Wildlife would continue to use these areas during construction of the Proposed Action.

Construction of the Proposed Action (i.e., the additional development and noise resulting from construction activities) would incrementally encroach on the wildlife travel routes; however, because of the current disturbances within the travel routes (i.e., the existing Landfill and access roads) and the access to the adjacent coastal canyons of Arroyo Hondo to the west and Arroyo Quemado and Baron Ranch to the east, which provide higher quality and relatively unobstructed resources for wildlife movement, implementation of the Proposed Action would not result in significant impacts to the wildlife travel route. In addition, habitat restoration activities occurring at Baron Ranch as mitigation for impacts from the Tajiguas Landfill Reconfiguration Project are resulting in beneficial impacts to wildlife travel routes by enhancing the cover along and immediately adjacent to Arroyo Quemado, which provides relatively unobstructed connectivity between the coastal foothills and the Santa Ynez Mountains.

5.3 Operational Impacts to Common Vegetation Communities and Wildlife

5.3.1 Operational Impacts to Common Vegetation Communities

Operation of the RRP will occur in developed areas and within developed roads. There would therefore be no impact to common or sensitive vegetation communities.

5.3.2 Operational Impacts to Common Wildlife

Operation of the RRP will result in indirect and permanent impacts to wildlife primarily due to the increase in the amount and duration of human activity at the Landfill. The MRF and ADF will require the presence of additional personnel and will be operated 24 hours per day, seven days per week. Waste delivery would only occur during the existing Landfill operating hours, however MRF processing, operation of the ADF and energy facility, and off-site transport of recyclable materials would occur during the evening. Increased driving activities at night could also result in increased mortality to wildlife from vehicle strikes. Vehicles driving off road and vehicles driving during rainy conditions may also increase the potential for animal strikes at the Landfill.

Increased human activity, lighting, and noise may result in more secretive species further avoiding areas of active operations within the Proposed Action Area, particularly at night. Conversely, the night lighting may attract additional insects that could be preyed upon by nocturnal species such as bats. MSW and SSOW will be off-loaded and contained within the enclosed MRF and ADF, respectively, and, as such, will not provide an additional attractant to opportunistic nocturnal species such as the striped skunk (*Mephitis mephitis*), common raccoon (*Procyon lotor*), and Virginia opossum (*Didelphis virginiana*), which may prey on other sensitive wildlife, or diurnal opportunists such as gulls, though they are currently controlled under a falconry program.

Although operational impacts to common wildlife are expected to be less-than-significant, implementation of the avoidance and minimization measures described in Mitigation Measure **BIO-3** are recommended and will further ensure that wildlife are not impacted to the extent possible.

5.4 Operational Impacts to Sensitive Biological Resources

5.4.1 Operational Impacts to Sensitive Vegetation Communities and Plants

Similar to common vegetation communities, there would be no direct impacts to sensitive vegetation communities and sensitive plants as a result of operational activities of the RRP. The RRP will operate in developed areas and on developed roads. The increase in human activity including personnel and vehicles would not have an impact on sensitive vegetation communities and sensitive plants.

5.4.2 Operational Impacts to Sensitive Wildlife

Operational impacts to sensitive wildlife would be the same as common wildlife with the additional considerations for the species discussed below.

California Red-legged Frog

As noted above, California red-legged frogs have not been observed at the landfill since April 2012. California red-legged frogs are present in Arroyo Quemado and Arroyo Hondo and the landfill is within the dispersal distance from these two known locations. Due to the developed nature of the majority of the Proposed Action Area and the lack of breeding habitat on the landfill, California red-legged frogs are not expected to permanently inhabit the Proposed Action Area. However, there is a small potential that California red-legged frogs may be present as a transient. California red-legged frogs make most of their overland dispersal movements and are most active on rainy or otherwise particularly wet nights. No night-time activities currently occur at the landfill. With implementation of the project, night-time activities would increase at the operations deck area in association with operation of the MRF and ADF, and there would be use of the paved roads between the landfill entrance and the operations deck by employees and for transport of commodities from the MRF. California red-legged frogs have not been observed in the areas of the proposed MRF and AD facilities or on the paved roads between the landfill entrance and the operations deck during past night-time surveys. However, when aquatic habitat was present in the back canyon area (prior to implementation of the Reconfiguration Project) frogs were infrequently observed on the on unpaved back canyon roads north of the operations deck. While the potential for California red-legged frogs to be present is considered low, particularly on the operations deck and areas and roads south of the operations deck, if present increased human activity at night, particularly driving may result in direct and permanent effects (crushing) to individual frogs.

California red-legged frogs were previously found in ponded water in the back canyon sedimentation basins and localized seeps in Pila Creek. The in-channel basins and the seeps in Pila Creek were removed and the North Sedimentation Basin was modified with a skimmer system to minimize the duration of ponding and limit the potential for creating artificial aquatic habitat that might be suitable for California red-legged frogs as part of the Reconfiguration Project. The North Sedimentation Basin is continually managed as the Landfill's primary water quality best management practice for sediment removal and its constant operation precludes all but transient usage of the basin during and immediately following rain events as there is not permanent standing water in the basin. The Proposed Action will marginally supplement water flow into Pila Creek and/or the Landfill North Sedimentation Basin during rain events due to additional runoff from the operations deck and releases from the Composting Area Runoff Collection Tank. Because the supplemental water will only be introduced when wet conditions already exist, either during storm events or immediately following storm events, this is not expected to result in additional usage of the Proposed Action Area by California red-legged frogs.

With the previous permitted removal of the prior breeding habitat and absence of the California red-legged frog population from the Landfill, the location of the proposed facilities outside of the back

canyon area where frogs were previously primarily observed, the low likelihood of a transient California red-legged frog to be in the operations deck area and implementation of the avoidance and minimization measures described in Mitigation Measure **BIO-3**, operational impacts to California red-legged frog will be reduced to a less-than-significant level.

Sensitive Mammals Including Ringtail, San Diego Desert Woodrat, and American Badger

As discussed above, operational impacts to wildlife are expected to result from increased usage of the Proposed Project Area during continual operation of the MRF and ADF. However, with the implementation the avoidance and minimization measures described in Mitigation Measure **BIO-3**, **BIO-4**, and **BIO-5** and due to the mobility of these species and likely preference to utilize the undisturbed habitat in the areas surrounding the Landfill, operational impacts are expected to be less than significant.

Bats

More bats may utilize the Proposed Action Area as they forage for insects attracted to the nighttime lighting. However, based on the mobility of bats, they would not be likely to be negatively affected by operation of the RRP and the increase in food source would be a beneficial effect of the Proposed Action.

Raptors and Other Sensitive Birds

With the exception of owls, the raptors and other sensitive birds with the potential to occur within the Proposed Action Area are diurnal and, based on their high level of mobility they are not likely to be affected by night operation of the RRP. Operational impacts for these species would be the same as common wildlife species.

5.4.3 Operational Impacts to Habitat Connectivity and Wildlife Corridors

No impacts to habitat connectivity and wildlife corridors are expected to result from the operation of the Proposed Action. The land within the Landfill is composed of steep graded hillsides, dirt and paved roads, ruderal areas devoid of vegetation, and other outbuildings associated with existing active Landfill operations. These developed and active portions of the Tajiguas Landfill provide little value to resident and transitory wildlife. Available habitat and wildlife corridors in the vicinity of the Proposed Action are described in Section 5.2.4. Wildlife would be expected to continue to use these areas during the operation of the Proposed Action in the same manner as they are currently utilized given the nature of existing active Landfill operations.

Operation of the Proposed Action (i.e., the additional development and night lighting activities) would incrementally encroach on the wildlife travel routes; however, because of the current disturbances within the travel routes (i.e., the existing Landfill and access roads) and the available access to the adjacent coastal canyons of Arroyo Hondo to the west and Arroyo Quemado and Baron Ranch to the east, which provide higher quality and relatively unobstructed resources for wildlife movement, implementation of the Proposed Action would not result in significant impacts to wildlife travel routes. In addition, habitat restoration activities occurring at Baron Ranch as mitigation for impacts from the Tajiguas Landfill Reconfiguration Project are resulting in beneficial impacts to wildlife travel routes by enhancing the cover along and immediately adjacent to Arroyo Quemado, which provides relatively unobstructed connectivity between the coastal foothills and the Santa Ynez Mountains.

5.5 Impacts of Optional Element Comingled Source Separated Recyclables

The optional CSSR element would add an additional 10,000 square-feet to the MRF facility. This increase would occur within the existing Proposed Action Area. Additionally, the number of employees on the site would increase by 20 during the day and there would be additional deliveries of materials and transport of materials offsite after they were sorted and processed. Because these increases will occur within analyzed Proposed Action Area and all of the operational activities would occur during the day in previously disturbed areas there would be no additional direct impacts to biological resources. With the addition of 20 employees and their associated traffic and daily activities there would be a marginal increase in human disturbance to wildlife however it would be small and not considered significant.

5.6 Extension of Landfill Life Impacts

The Proposed Action would delay complete closure of the landfill by approximately 10 years. Although phased closure activities including restoration of areas to native habitat will occur during this time, landfill operational activities will continue. Disposal activities would continue to occur in areas analyzed in the prior EIRs and no new disturbance or direct biological impacts (i.e., habitat or sensitive plant species removal) would occur due to the potential extension of the landfill life. However indirect impacts such as those discussed in Section 1.2.1.1 (Impacts 2, 5, 6 and 8) and in Section 1.2.1.2 (Impact 5) associated with the continued noise, dust, equipment operations and human activity at the site would continue with the extended life.

5.7 Cumulative Impacts

This section addresses the cumulative effects of activities within and adjacent to the Proposed Action Area. Under Section 15355 of the CEQA Guidelines, cumulative effects are defined as two or more individual effects that, when analyzed together, result in increased environmental impacts.

In the Gaviota Coast region, several projects have been proposed, consisting primarily of various housing developments. Development of these projects may decrease the amount of available nesting and foraging habitat for many wildlife species and could add to the increase of non-native plant species to the surrounding area.

Development of these residence sites, coupled with the loss of habitat in the Proposed Action Area, will invariably add to the incremental loss of potential foraging and nesting areas, may disrupt movement patterns for a number wildlife species known to occur in the area, and may impact sensitive plant communities and individuals. However, removal of native vegetation in the Proposed Action Area will be minimal and on the edge of previously-disturbed areas. In addition, mitigation measures proposed in this document and those that have previously been implemented to offset impacts from previous actions at the Landfill were designed not only to offset Landfill expansion and reconfiguration impacts but also to increase potential nesting and foraging sites by adding to the overall quality of the habitat in the vicinity of the Landfill. Thus, with the implementation of the proposed mitigation measures, prior implementation of mitigation measures for Landfill expansion and reconfiguration, and the small amount of additional impacts, the contribution of the Proposed Action to cumulative biological impacts would not be considerable.

6.0 Mitigation Measures

The following sections discuss proposed mitigation and avoidance and minimization measures that would be required to ensure that potentially significant impacts to biological resources, including sensitive plants and wildlife, are reduced to a less than significant level.

6.1 Mitigation for Indirect Impacts to Sensitive Vegetation Communities

Implementation of the Proposed Action will not result in significant impacts to common vegetation communities, including *Ceanothus megacarpus* chaparral and Venturan coastal sage scrub, as described in Section 5.1. A substantial amount of mitigation has been performed for the removal of these vegetation communities during the Tajiguas Landfill Expansion and Reconfiguration Project. Therefore, no additional mitigation will be required to compensate for the loss of a small amount (1.07 acres) of common native vegetation at the periphery of existing Landfill operations.

The following measures will be implemented to mitigate for potential indirect impacts to sensitive vegetation communities adjacent to the Project Action Area, two of which, **BIO-1(b)** and **BIO-1(c)**, are currently being implemented as mitigation measures from the Final Subsequent EIR (08EIR-00000-00007) for the Tajiguas Landfill Reconfiguration Project (County 2009).

MM BIO-1(a): Minimize Impacts to Adjacent Habitats. To prevent inadvertent damage to native vegetation outside of the Proposed Action Area, the construction disturbance area shall be clearly delineated on the project construction plans and in the field by staking, fencing, or equivalent methods. Field delineation shall occur prior to beginning ground-disturbing activities or vegetation removal.

MM BIO-1(b): Control of Highly Invasive Plants. RRWMD shall monitor the project area and, where feasible, control infestations of plants identified as highly invasive by the California Invasive Plant Council. Invasive plants shall not be used in the erosion control hydroseed mix.

MM BIO-1(c): Dust Control. Throughout construction, areas of exposed soil within the Proposed Action Area will be periodically wetted to prevent excessive fugitive dust from drifting into adjacent areas.

MM BIO-1(d): Erosion Control. In portions of the Proposed Action Area in which excessive erosion may occur, soil will be stabilized through the use of appropriate measures such as silt fencing, straw wattles, and/or hydroseeding.

6.2 Mitigation for Impacts to Wildlife

While impacts to most common wildlife from implementation of the Proposed Action are not expected to be significant, nesting birds, including raptors, within or in the vicinity of the Proposed Action Area may be directly or indirectly affected by construction activities. Due to their protection under the MBTA and Section 3503.5 of the California Fish and Game Code, such impacts would be considered significant. However, with the implementation of the following mitigation measures, impacts will be reduced to a less-than-significant level:

MM BIO-2: Avoidance of Disturbance to Nesting Migratory Birds.

- a) Clearing and grubbing of areas of native habitat or areas immediately adjacent to native habitat shall avoid the migratory bird and raptor breeding season (February 1 to August 15).
- b) If construction in these areas cannot be avoided during this period, a nest survey within the area of impact and a 200 foot buffer for passerines and any available raptor nesting areas within 500 feet shall be conducted by a qualified biologist no earlier than 14 days and no later than 5 days prior to any native habitat removal or ground disturbance to determine if any nests are present.
- c) If an active nest is discovered during the survey a buffer of 200 feet for migratory birds or 500 feet for raptors (or as determined by the biologist based on a field assessment) would be established around the nest. No construction activity may occur within this buffer area until a biologist determines that the fledglings are adequately independent from the adults.

6.3 Mitigation for Impacts to Sensitive Wildlife

Pursuant to Mitigation Measures, BIO-9 and BIO-10 from the Final EIR (01-EIR-05) for the Tajiguas Landfill Expansion Project (County 2002a) and BIO-7 from the Final Subsequent EIR (08EIR-00000-00007) for the Tajiguas Landfill Reconfiguration Project (County 2009), the following mitigation (as modified) shall be implemented to minimize disturbance to resident and transitory sensitive wildlife species during operation of the MRF, ADF, Composting Area, and associated facilities:

MM BIO 3: General Avoidance and Minimization Measures for All Sensitive Wildlife

- a) Lighting used on the Tajiguas RRP facilities shall be of low intensity, low glare design and shall be hooded to direct the light downward and prevent spill-over onto adjacent undisturbed habitat areas.
- b) Use of artificial lighting shall be minimized and used on an as-needed basis.
- c) To reduce hazards to wildlife that may ingest or become trapped by debris, portable fences shall continue to be used to limit the spread of litter on the working face of the landfill and around the RRP facilities.
- d) Litter shall be collected on a regular basis.
- e) Vehicles travelling on the Landfill shall observe posted speed limits at all times.
- f) Nighttime travel will be limited to established paved roads and parking areas.
- g) Nighttime vehicle access and operational activities shall be limited to paved areas surrounding and south of the MRF and ADF. Access to back canyon area of the Landfill Property will be restricted to day time hours, unless access is required by landfill personnel in response to an emergency.
- h) Worker environmental awareness training will be provided to all personnel. That includes information on potential sensitive resources within the Proposed Action Area prior to project implementation.
- i) Prior to implementation of the Proposed Action in previously undisturbed areas, the area scheduled for clearing shall be surveyed by a qualified biologist familiar with all of the sensitive species with potential to occur within the Proposed Project. In the event that sensitive species are identified, a buffer around the individual will be established and the individual will be monitored until it leaves the construction area.

- j) Construction will occur during daytime hours.
- k) A biologist will monitor construction activities during initial ground disturbance in previously undisturbed native plant communities. The biologist will have the authority to stop work and will immediately contact the RRWMD and other appropriate agencies if unintended effects to sensitive species occur.

Ringtail and American Badger

Pursuant to MM BIO-8 from the Final SEIR (08EIR-00000-00007) for Tajiguas Landfill Reconfiguration Project (County 2009), the following mitigation will be required to reduce potential impacts to ringtail and American badger to below a level of significance should these species occur within the Proposed Action Area during the Proposed Action.

MM BIO-4: Ringtail and American Badger Avoidance and Minimization Measures

- a) If possible, avoid construction in previously-undisturbed chaparral habitat during the breeding and natal denning period for ringtail and American Badger (February – August).
- b) If construction cannot be avoided in chaparral habitat during the breeding and natal denning period, prior to clearing and grubbing of such habitat, the area shall be surveyed for ringtail and American badger.
- c) If a ringtail or badger den is observed, a qualified biologist shall monitor the den to determine if it is an active or an abandoned den. If the den is determined to be active, a 300-foot buffer shall be established around the den in which no construction activity may occur until a biologist determines that the young have vacated the den.
- d) In the event the biologist determines that the den is not active, a biologist shall dismantle the den immediately and the Proposed Action can be initiated.

San Diego Desert Woodrat

The following mitigation, pursuant to MM BIO-5 from the Final EIR (01-EIR-05) for Tajiguas Landfill Expansion Project (County 2002a, as modified in December 5, 2006) and MM BIO-7 from the Final Subsequent EIR (08EIR-00000-00007) for Tajiguas Landfill Reconfiguration Project (County 2009), will be required to reduce potential impacts to San Diego desert woodrat to below a level of significance, should the species occur within the Proposed Action Area during the Proposed Action. The following measures are a modification of the previous requirement but still reduce the impacts to the woodrat.

MM BIO-5: San Diego Desert Woodrat Relocation

- a) Prior to initial clearing and grubbing in areas of previously-undisturbed native habitat, the area shall be surveyed for the San Diego desert woodrat.
- b) Prior to initiation of construction, any woodrat nests considered active would be dismantled to entice occupants to leave the area and build new nests outside of the Proposed Action Area. Dismantling is recommended during the fall, following the breeding season to minimize the potential to affect reproduction and/or cause increased mortality to the species.

Bats

The following mitigation shall be required to avoid potential impacts to bats (i.e., pallid bat, spotted bat, and big free-tailed bat) to below a level of significance should the species occur within the Proposed Action Area during the Proposed Action.

MM BIO-6: Avoidance of Bat Maternity Colonies

- a) Construction of the Proposed Action in the vicinity of potential bat habitat such as trees and rock outcrops shall not be conducted between May 1 and August 15 to avoid impacts to bat maternity colonies unless a bat survey conducted by a qualified biologist is completed to determine presence or absence of maternity colonies. Bat surveys would be conducted no longer than a week prior to any construction in the vicinity of such habitat.
- b) If no maternity colonies are observed, construction can proceed without restriction.
- c) If active bat maternity colonies are discovered during the survey, a buffer of 500 feet will be established around the bat maternity colonies. No construction activity may occur within this buffer area until a biologist determines that the fledglings are independent of the nest.

7.0 Alternatives

Seven potential alternatives were identified for detailed analysis and, as required under Section 15126.6(e) of the State CEQA Guidelines, a No Project Alternative was included in the analysis. The alternatives include:

- No Project Alternative;
- Urban Area MRF Alternative 1 (MarBorg Industries MRF);
- Urban Area MRF Alternative 2 (South Coast Recycling and Transfer Station [SCRSTS] MRF);
- Off-site Aerobic Composting;
- Tajiguas Landfill Expansion;
- Waste Export to Simi Valley Landfill and Recycling Center; and
- Waste Export to the Santa Maria Integrated Waste Management Facility (Santa Maria IWMF).

Where appropriate, this section identifies the biological resources with regards to these alternatives and discusses potential impacts resulting from the Proposed Action at each. The analysis of effects and impacts were considered using the same definitions provided under Section 4.0 of this report.

7.1 Survey Methods

Assessment of each of these alternatives included a desktop analysis of biological resources. Literature and data reviews were conducted to evaluate the alternative locations and identify potential current and historic sensitive biological resources. This background research included a review of historic and current aerial photographs and USGS topographic maps and, where appropriate, a query of the CNDDDB to identify known occurrences of sensitive natural communities, plant species, and wildlife species at the two locations where MRF construction is proposed, the MarBorg Industries and SCRSTS facilities. In addition, existing permits and environmental documentation for existing or planned facilities were reviewed for information relevant to the Proposed Action. These documents included the following:

- Final Mitigated Negative Declaration for the MarBorg C&D Recycling and Transfer Facility – MST2002-00472 (City of Santa Barbara 2003);
- Final Study Checklist/Negative Declaration for the MarBorg C&D Recycling and Transfer Facility Permit Increase (County 2006b);
- Final Environmental Impact Report –SCRSTS (Fugro-McClelland [West], Inc. 1993);
- Santa Maria IWMF Final EIR (Rincon 2010); and
- Simi Valley Landfill and Recycling Center Expansion Project Final EIR (Ventura County 2010)

7.2 No Project Alternative

The No Project Alternative would maintain the status quo at the Tajiguas Landfill and not result in additional impacts to biological resources. Impacts related to previous activities at the Landfill have been described in previous environmental documents (County 2002a; 2009) and actions have been

taken to mitigate for these impacts. Based on a No Project Alternative, no additional mitigation would be required with regards to biological resources. However, in the absence of implementing the proposed Tajiguas RRP, another alternative such as expansion of the Tajiguas Landfill or waste exportation would need to be implemented in order to provide for continued disposal of MSW from the public participant's communities. Each of those alternatives results in additional environmental impacts as discussed below.

7.3 Urban Area MRF Alternative 1 (MarBorg Industries MRF)

This Alternative would involve construction and operation of the proposed MRF component of the RRP (including processing of CSSR) at a site owned by MarBorg Industries at the east corner of Quinientos and Calle Cesar Chavez located in the City of Santa Barbara (street address 620 Quinientos Street, Santa Barbara, California 93103). As with the Proposed Project, the AD facility and Composting Area would be located at the Tajiguas Landfill, with disposal of residual waste also at the Landfill.

7.3.1 Existing Conditions

The MRF would be constructed on several parcels, owned by MarBorg Industries, within an urbanized area zoned for Light Manufacturing. The 4.19-acre site, which has previously established artificial fill and has been graded flat and paved, is currently developed with approximately 11,000 square-feet of structures. Current uses of the proposed site include a 1.1-acre green waste chipping and inert materials processing facility, a concrete batch plant for ready-mix concrete, vehicle and equipment storage, and inert materials storage. A concrete, paving, and asphalt contractor also leases part of the property. Surrounding land uses include storage, offices, and other light industrial and/or commercial uses.

The site does not support native vegetation communities or wildlife habitat, but does have some ornamental vegetation within and around the perimeter of the property, including several large eucalyptus (*Eucalyptus* sp.) trees planted in a row and smaller individual trees along the streets on the perimeter.

7.3.1.1 Sensitive Biological Resources

Based on a CNDDDB query of the USGS 7.5-minute Santa Barbara quadrangle, in which the Alternative is located, and five surrounding quadrangles (San Marcos Pass, Little Pine Mountain, Hildreth Peak, Goleta, and Carpinteria), 52 sensitive species (30 plants and 22 animals) are known to occur in the area, as presented in Appendices C and D. Based on these species' habitat requirements, the site conditions described above, surrounding land uses, and ongoing industrial operations, only the western mastiff (*Eumops perotis californicus*) bat and big free-tailed bat have a low potential to occur on the property.

The ornamental trees on the MarBorg property may provide nesting habitat for urbanized birds habituated to high levels of disturbance. The eucalyptus trees adjacent to the large covered building may be utilized by common raptors, such as red-tailed hawks or red-shouldered hawks (*Buteo lineatus*), for roosting or nesting.

7.3.2 Impacts of the Alternative Action

As noted above, the MarBorg facility does not support native habitat, wetlands, or migration corridors and special status plants and/or wildlife species are not expected to occur on the property. Based on the urban surroundings and lack of resources within the facility, wildlife that may be present on the property would likely be highly mobile, present only as transients, and habituated to the high level of

disturbance in the area. Construction of the MRF would occur entirely within existing disturbed areas. As such, construction and operation of the MRF at the MarBorg facility would not result in impacts to special status species or sensitive habitats and mitigation with regards to those resources would not be required.

Because the ornamental trees on the MarBorg property have the potential to be utilized as nesting habitat by birds, including raptors in the eucalyptus trees, direct impacts to these trees would be significant if nesting were occurring. Indirect impacts are unlikely due to the fact that birds nesting on the property under the current conditions would already be habituated to the high levels of activity and noise produced by existing operations. Direct impacts to nesting birds can be avoided through avoiding construction during the nesting season, conducting pre-construction surveys within nesting period to determine presence or absence of nesting birds, and/or establishing a 500-foot no-activity buffer around any existing raptor nests and a 200-foot buffer for all other nesting species during the nesting season. With the implementation of these measures, and considering the relatively small area of available nesting habitat impacted, impacts to nesting birds would be reduced to a less-than-significant level.

The construction of only the ADF and Composting Area at the Tajiguas Landfill would result in less additional disturbance to areas that are already heavily disturbed than the Proposed Action; however impacts to areas of native vegetation would still occur with the construction of the infrastructure necessary to support the ADF and Composting Area. Based on this disturbance and the potential for sensitive biological resources to occur in the vicinity of the Landfill as described above, impacts associated with the construction of the ADF and Composting Area would be similar to those described for the Proposed Action and require the implementation of similar mitigation measures.

7.4 Urban Area MRF Alternative 2 (SCRTS MRF)

This Alternative would involve construction and operation of the MRF component of the RRP at the existing County-owned and -operated SCRTS site located at 4430 Calle Real in Santa Barbara, California. Under this Alternative the MRF would be integrated with the existing solid waste operations at the SCRTS site. As with the Proposed Project, the AD facility and Composting Area would be located at the Tajiguas Landfill, with disposal of residual waste also at the Landfill.

7.4.1 Existing Conditions

The SCRTS has been in operation since 1967 and a portion of the site overlays the closed Foothill Landfill, which operated from the 1940s to 1967. The SCRTS operations area is located on 8.3 acres in the central portion of a larger 143.48-acre publicly owned parcel (APN 059-140-023) and, with the exception of small storage trailers, administration buildings/trailers and maintenance and tire shops, the site is uncovered and all waste handling occurs outdoors. The larger parcel contains other public and non-profit uses (e.g., County Road Yard, a Corporation Yard which serves General Services and Flood Control, Growing Solutions Restoration Education Institute, a non-profit native plant nursery, and Hearts Therapeutic Equestrian Center, a non-profit therapeutic riding program). A portion (approximately 7 acres) of the larger parcel encompassing the closed Foothill Landfill, has been the subject of a grant funded native plant restoration project. Land uses bordering the 143.48-acre parcel include the Santa Barbara County Jail, Santa Barbara County Health and Social Services and training buildings, and the El Sueno Road residential neighborhood to the east.

The portion of the SCRTS site on which the proposed MRF would be constructed is paved and has little vegetation or wildlife habitat. There is some ornamental vegetation interspersed throughout the site and around the site perimeter, including several planted coast live oak trees on the slope to the west of the facility. The relatively steep slope to the north-northwest of the existing facility supports

sparse coastal sage scrub consisting primarily of California sagebrush with an understory of non-native annual grasses.

7.4.1.1 Sensitive Biological Resources

Based on a CNDDDB query of the USGS 7.5-minute Goleta quadrangle, in which this Alternative is located, and five surrounding quadrangles (Lake Cachuma, San Marcos Pass, Little Pine Mountain, Dos Pueblos Canyon, and Santa Barbara), 99 sensitive species (50 plants and 49 animals) and one sensitive vegetation community are known to occur in the area, as described in Appendices F and G. Based on these species' habitat requirements, the site conditions described above, surrounding land uses, and ongoing industrial operations, the majority of sensitive plant and wildlife species known to occur in the area are not expected to occur on or in the immediate vicinity of the site. As summarized in Appendices E and F, several plants have a moderate potential to occur within the small area of coastal sage scrub habitat on the slope to the north-northwest of the SCRSTS facility and some animals have a low potential to occur on or near the site, generally as transients. Animals with some potential to occur include a number of bats and raptors, San Diego desert woodrat, loggerhead shrike, California horned lark, grasshopper sparrow, and Southern California rufous-crowned sparrow.

As noted above, there are several coast live oak trees on the slope to the west of the SCRSTS facility that were planted as a part of a Small Business Association Grant awarded to the County. The genetic origin of these trees is not known. The County of Santa Barbara Environmental Thresholds and Guidelines Manual (County 2008) considers native specimen trees to be important and impacts to these trees can be potentially significant. Native specimen trees are defined for biological assessment purposes, as mature trees that are healthy and structurally sound and have grown into the natural stature particular to the species. The significance evaluation is done on a case-by-case basis and considers tree size, numbers, location, relationship to habitat, and other relevant features for each project. In general, the loss of 10 percent or more of the trees of biological value on a project site is considered potentially significant.

The ornamental and planted oak trees on the SCRSTS property may also provide nesting habitat for birds habituated to higher levels of disturbance.

7.4.2 Impacts of the Alternative Action

As noted above, the SCRSTS facility does not support extensive native habitat, wetlands, or migration corridors and special status plants and/or wildlife species are generally not expected to occur on the property. Based on the urban surroundings and lack of resources within the facility, wildlife that may be present on the property would likely be highly mobile, present only as transients, and habituated to the high level of disturbance in the area. The coastal sage scrub habitat located adjacent to the facility may also be utilized by such wildlife, though the slope on which it occurs is quite steep, which would lessen the chances of permanent occupation. Construction of the MRF would occur mostly within existing disturbed areas, except for the grading of the slope to the west of the current facility and the removal of the planted oak trees. Based on these factors, construction and operation of the MRF at the SCRSTS facility would not result in significant impacts to special status species or sensitive habitats and mitigation with regards to those resources would not be required.

As a component of the MRF, the slope to the west of the existing SCRSTS facility, on which coast live oak trees have been planted as part of the landscaping, would be graded to construct two biofilters. Based on a review of project plans and aerial photography, this would result in the removal of up to 16 of these oak trees, some of which may meet the requirements to be considered trees of biological value and/or specimen trees by the County. These trees are isolated from other coast live oak native communities, are surrounded by SCRSTS facility activities, and the understory of these trees is subject

to routine mowing. This reduces the biological value of these trees and would therefore not qualify as significant t by the County Guidelines (County 2008).

Because the ornamental and oak trees on the SCRTS property have the potential to be utilized as nesting habitat by birds, direct impacts to these trees would be significant if nesting were occurring. Indirect impacts are unlikely due to the fact that birds nesting on the property under the current conditions would already be habituated to the high levels of activity and noise produced by existing operations, though this would need to be confirmed by a qualified biologist on a case-by-case basis. Direct impacts to nesting birds can be avoided through avoiding construction during the nesting season, conducting pre-construction surveys within nesting period to determine presence or absence of nesting birds, and/or establishing a 500-foot and 200-foot no-activity buffer for raptors and common nesting species respectively, around any existing nests during the nesting season. With the implementation of these measures, and considering the relatively small area of available nesting habitat impacted, impacts to nesting birds would be reduced to a less-than-significant level.

The construction of only the ADF and Composting Area at the Tajiguas Landfill would result in less additional disturbance to areas that are already heavily disturbed than the Proposed Action; however impacts to areas of native vegetation would still occur with the construction of the infrastructure necessary to support the ADF and Composting Area. Based on this disturbance and the potential for sensitive biological resources to occur in the vicinity of the Landfill as described above, impacts associated with the construction of the ADF and Composting Area would be similar to those described for the Proposed Action and require the implementation of similar mitigation measures.

7.5 Off-site Aerobic Composting

This Alternative would involve processing organic wasted recovered in the MRF using open air aerobic composting methods at Engel & Gray's existing composting facility in the City of Santa Maria, instead of enclosed dry fermentation anaerobic digestion at the Tajiguas Landfill. Similar to the proposed project, the MRF would be located at the Tajiguas Landfill, with disposal of residual waste also at the Landfill.

7.5.1 Existing Conditions

The Engel & Gray facility is comprised of two parcels (APNs 113-120-17, -21) on a 40.15-acre portion of the 161-acre City of Santa Maria Wastewater Treatment Plant (WWTP) facility. The site is located approximately 0.3 mile south of the State Route 166/Ray Road intersection, and about 2.5 miles west of residential areas located at Black Road. The composting facility is situated adjacent to, and immediately west of the developed portion of the WWTP site. Surrounding land uses are agricultural lands (row crops), and the City's WWTP immediately to the east. Currently, about 26 acres of the 40-acre site is used for composting operations, but this area will be expanded by 2 to 6 acres in spring 2013 (personal communication with the facility operator, Bob Engel, 2013).

Based on a review of aerial photography, the site is heavily disturbed by ongoing composting operations and no native vegetation or trees are present within the facility or surrounding area. Based on this lack of habitat, it is unlikely that this Alternative site would support sensitive biological resources.

7.5.2 Impacts of the Alternative Action

As noted above, the Engel & Gray facility does not support native habitat, wetlands, or migration corridors and is not expected to be utilized by sensitive plant or wildlife species. Common wildlife may be present on the site; however, based on the lack of resources, such wildlife would be expected to

occur only as transients and would likely be habituated to the high level of disturbance in the area. Composting would occur within existing disturbed areas and would not substantially alter existing composting activities. As such, impacts to biological resources from composting at the Engel & Gray facility would not be significant and mitigation would not be required.

The construction of only the MRF facility at the Tajiguas Landfill would result in less additional disturbance to areas that are already heavily disturbed than the Proposed Action; however impacts to areas of native vegetation would still occur with the construction of the infrastructure necessary to support the MRF. Based on this disturbance and the potential for sensitive biological resources to occur in the vicinity of the Landfill as described in Section 3.4, impacts associated with the construction of the MRF would be similar to those described for the Proposed Action and require the implementation of similar mitigation measures.

7.6 Tajiguas Landfill Expansion

This Alternative would involve expansion of the Tajiguas Landfill to extend its life by at least 10 years from the currently projected closure in approximately 2026 to approximately 2036. The expansion would provide additional disposal capacity to extend its life as compared to the RRP, which would reduce the quantity of material being disposed through the recovery of additional recyclable materials and organics and utilize the permitted capacity to achieve the same extension of Landfill life. The Landfill Expansion Alternative has been designed to preserve the existing North Sedimentation Basin and to avoid additional impacts to the Pila Creek channel upstream of where the creek is now concrete-lined.

The Landfill would be expanded both vertically and horizontally to provide the additional waste disposal capacity, extending the Landfill footprint in the back canyon area of the property in the area of the Landfill Reconfiguration Project that was approved in 2009. The expansion would consist of approximately 38 acres of vertical expansion of the existing landfill waste footprint, approximately 14 acres of horizontal expansion within previously disturbed areas of the Landfill property, and approximately 1 acre of new disturbance.

To accommodate the Landfill expansion, additional soil would be needed for daily, intermediate, and final cover. This cover material would be obtained by expanding the North Borrow/Stockpile area by approximately 12 additional acres, to the west of the existing borrow/stockpile footprint. This North Borrow/Stockpile area was included in the analysis of the Tajiguas Landfill Expansion Project (County 2002a) and will be summarized here.

7.6.1 Existing Conditions

Existing conditions and potential biological resources at the Landfill and in the vicinity have been described extensively above in the discussion of the Proposed Action and in the Tajiguas Expansion Project EIR (County 2002a) and the Subsequent Tajiguas Reconfiguration EIR (County 2009). Similar resources would be expected to occur within the footprint and immediate surroundings of this Alternative. The North Borrow/Stockpile area consists of approximately 9.6 acres of primarily *Ceanothus megacarpus* chaparral. Approximately 20 percent of the area (2.4 acres) is Coast live oak woodland. An additional 1 acre of degraded Venturan coastal sage scrub which occurs as an isolated patch surrounded by existing disturbed landfill areas would also be impacted. None of these vegetation communities are considered sensitive. Sensitive plants and wildlife found in these habitats would be similar to those described for the Proposed Project and are presented and discussed in Section 3.4 and Appendices B and C.

7.6.2 Impacts of the Alternative Action

The majority of the impacts from implementation of this Alternative would be to areas that are already disturbed, with the exception of the expansion of the North Borrow/Stockpile area and 1 acre of degraded Venturan coastal sage scrub. This expansion would result in the removal of native habitat; primarily *Ceanothus megacarpus* chaparral, Venturan coastal sage scrub, and Coast live oak woodland.

Overall, potential impacts to sensitive species would be similar to those described for the Proposed Action, though they would likely be more significant due to the higher level of disturbance to native habitat associated with this Alternative. In addition, this Alternative would also result in the removal of protected oak trees, which would likely exceed the permitting threshold under the County's Deciduous Oak Tree Protection and Regeneration ordinance.

A similar configuration of the North Borrow/Stockpile area was analyzed in the 2002 Landfill Expansion Project EIR (County 2002a) The EIR found that "the northern portion of the landfill site contains small-scale habitat diversity in the form of small seeps and rock outcrops. These types of microhabitats are favored by several of the sensitive plant species listed in Table 3.4-2 (*of that document*). Loss of this type of habitat diversity cannot be mitigated by a restoration and revegetation effort once the landfill has closed. The proposed project would also eliminate chaparral and oak woodland habitat for three sensitive plant species that occur on the Vaqueros Sandstone in chaparral and oak woodland: Plummer's baccharis, Hoffmann's nightshade, and Santa Barbara honeysuckle. These are considered to be significant and unavoidable impacts (Class I). Revegetation associated with final closure will include mitigation measures and will mitigate these impacts to the extent practicable. Residual impacts would be significant."

This Alternative would result in the loss of approximately 20-30 coast live oak trees. Although the exact number of trees has not been determined. This impact would be considered unavoidable and significant (Class I). Although this impact could potentially be reduced through the implementation of a tree replacement program, residual impacts would remain significant.

Additionally, the 2002 Landfill Expansion Project EIR found that the increased use of the northern portion of the landfill and the loss of the buffer area between intensive human activities and native habitats would potentially reduce the use of these habitats by several sensitive bird and mammal species that occur in the foothills including the American badger, ringtail, and raptors as well as other species. This loss of a buffer area could cause abandonment of foraging and/ or breeding habitat and could lead to avoidance of the area. Over the expected 10-year operation of this alternative this would be a significant impact.

Removal of chaparral habitat may also directly impact the sensitive San Diego woodrat, which has less mobility than other larger mammals, and may also impact other sensitive species if they are denning in the community during clearing or grubbing. Impacts to sensitive species in these habitats would be considered significant but could be mitigated with pre-activity surveys and appropriate timing of den removals.

Nesting birds would potentially be impacted under this Alternative. Bird surveys prior to initial ground clearing and/or timing of ground clearing outside of the bird nesting season could reduce this impact to less than significant.

7.7 Waste Export to Simi Valley Landfill and Recycling Center

This Alternative would involve transportation of all MSW generated in the Tajiguas Landfill washed to the proposed Simi Valley Landfill and Recycling Center (SVLRC) when the Tajiguas Landfill reaches its permitted capacity in approximately 2026. The SVLRC is located at 2801 Madera Road, Simi Valley, California, approximately 65 miles from the City of Santa Barbara.

7.7.1 Existing Conditions

Information on the biological setting and biological impacts of the SVLRC are included in the SVLRC Expansion Project Final EIR (Ventura County 2010) and are summarized below. The SVLRC Expansion Project Final EIR (Ventura County 2010) was completed in 2010 to evaluate the impacts associated with expanding the SVLRC's waste disposal area to accommodate an increased amount of MSW. The SVLRC's boundary is proposed to be expanded to encompass 887 acres within which the waste disposal area would be expanded north and west from its current permitted location to encompass 186 acres of additional waste disposal area and to increase the total capacity of the landfill from 43.5 to 123.1 million cubic yards.

The SVLRC site is located entirely within unincorporated Ventura County, northwest of and adjacent to the City of Simi Valley and SR-118. The project area is within the western transverse range subdivision of the California Floristic Province. The native vegetation and wildlife habitat on the proposed SVLRC expansion area is composed primarily of grassland, sage scrub, and chamise chaparral. Brea and Alamos canyons east and west of the project site contain riparian corridors with aquatic and wetland habitat, coast live oak woodland, and riparian woodlands with willows and mulefat. Three locally important plant species have been observed during biological studies of the expansion area and surrounding property, including Plummer's mariposa lily, Catalina mariposa lily, and southwestern spiny rush. The proposed project area is located within an area designated as critical habitat for the coastal California gnatcatcher. Additionally, the site supports approximately 18 locally important wildlife species that are resident or regular visitors to the project site and are also classified as California Species of Special Concern, California Fully Protected Species, or listed on the CDFG watchlist.

7.7.2 Impacts of the Alternative Action

If this alternative were selected, disposal of the Public Participant's MSW would contribute to the construction and operational biological impacts identified in the Final EIR. These impacts and their significance are summarized below from the executive summary of the Final EIR:

Impacts on biological resources were evaluated by determining the potential for the proposed project to adversely affect: endangered, threatened, or rare plant or wildlife species; wetland habitat; migration corridors; or locally important species or communities. No federally or state listed plants are known or believed to occur on-site; however, limited potentially suitable habitat may be present within the project site for several listed species including Braunton's milk vetch (*Astragalus brauntonii*), San Fernando Valley spineflower (*Choisanthe parryi* var. *ferandina*), or Lyon's pentachaeta (*Pentachaeta lyonii*). Impacts to these species, if present, would be significant. Implementation of Mitigation Measure BIO-1 would reduce these potentially significant impacts to less than significant. The proposed project would result in the removal of 249.4 acres of sage scrub habitat, and could affect the coastal California gnatcatcher, a federally listed bird species, if present. Impacts to the coastal California gnatcatcher would be significant, but feasibly mitigated

by Mitigation Measure BIO-2, requiring protocol surveys for costal California gnatcatcher to be conducted prior to project-related removal of coastal scrub habitat. Construction of the proposed project could also result in adverse impacts to nesting birds, which are protected under federal and state regulations. Impacts to nesting birds would be significant, but feasibly mitigated by Mitigation Measure BIO-3, requiring either that vegetation removal activities be conducted outside of bird breeding season (February 1 through August 15) or that pre-grading surveys be conducted prior to ground disturbing activities in the vicinity of suitable nesting habitat for resident or migratory bird species. Implementation of these mitigation measures would reduce impacts on biological resources to less than significant.

Proposed project construction would also result in the permanent removal of approximately 0.05 acre of marsh vegetation associated with two seeps in the southern part of the expansion area. Mitigation Measure BIO-4 would ensure that the removed wetland habitat would be mitigated to less than significant. Construction and operation of the proposed project would result in indirect impacts to Alamos and Brea Canyons resulting from sediment washing into these areas from exposed surfaces adjacent to active landfill areas. Since, the proposed project would require permits to control stormwater during both construction (General Construction National Pollutant Discharge Elimination System [NPDES] permit) and operations (Industrial Activities Storm Water General NPDES Permit) and measures would be built into the project to control stormwater and sediment movement during operations, indirect impacts on offsite wetlands would be less than significant.

Construction and operational activities could adversely affect wildlife migration in Brea and Alamos canyons in a variety of ways including: impeding access from Brea to Alamos Canyons causing wildlife to move across busy highways; increasing noise and nighttime lighting; and impacting adjacent vegetation and wildlife habitat. Implementation of Mitigation Measures BIO-5, vector control methods, BIO-6, habitat enhancements in and adjacent to the Alamos Canyon wildlife corridor, BIO-7, habitat enhancements along the channel in Alamos Canyon, BIO-8, improvements or enhancements to the Alamos Canyon crossings and BIO-9, would ensure that significant impacts to wildlife migration would be less than significant.

Construction and operational activities would result in a substantial direct reduction in population and direct long-term loss and degradation of habitat of two locally important plant species, Plummer's mariposa lily and Catalina mariposa lily. Mitigation Measures BIO-6 and BIO-7 would reduce significant impacts to these two locally important plant species. In addition, locally important wildlife species known to be residents or regular visitors to the SVLRC site and vicinity and locally important raptor species known to forage within the project would experience a substantial loss of foraging and breeding habitat (252.2 acres of native and 14 naturalized vegetation and habitat would be lost as a result of landfill development, 198.9 of these acres would be permanently lost). Populations of species having smaller home ranges would also be reduced as a result of the habitat loss. Mitigation Measure BIO-3 and

Mitigation Measures BIO-12 and BIO-14 would reduce significant impacts to locally important wildlife to less than significant.

Direct losses of over 252.1 acres of these habitats, including sage scrub (91.1 acres), chamise chaparral (8.1 acres), grassland (152.7 acres), and coast live oak woodland (0.2 acres) as a result of landfill expansion represent a substantial reduction in these locally important communities, a long-term direct impact. In addition to the direct loss of these locally important communities, expansion of the landfill would contribute to the degradation of habitat quality in adjacent areas due to off-site effects as well as introduction and spread of invasive non-native species in the project vicinity of the landfill. Examples include tree tobacco (*Nicotiana glauca*), Russian-thistle (*Salsola tragus*), fountain grass (*Pennisetum setaceum*), and bull thistle (*Cirsium vulgare*). Mitigation Measures BIO-13 and BIO-14 would reduce significant impacts on locally important plant and wildlife communities to less than significant.

7.8 Waste Export to the Santa Maria Integrated Waste Management Facility

This Alternative would involve transportation of all MSW generated in the Tajiguas Landfill washed to the proposed Santa Maria IWMF when the Tajiguas Landfill reaches its permitted capacity in approximately 2026. The Santa Maria IWMF is proposed to be located on a 1,774-acre site on the Los Flores Ranch property, approximately 7 miles south of the Santa Maria city center (approximately 70 miles from the City of Santa Barbara) and 1 mile east of U.S. Highway 101.

7.8.1 Existing Conditions

The City of Santa Maria plans to construct a new Class III MSW landfill (Santa Maria IWMF) to replace the existing Santa Maria Regional Landfill. The Santa Maria IWMF Facility Final EIR (Rincon 2010) was completed in April 2010, the Santa Maria City Council has approved the project, and a solid waste facility permit has been issued from CalRecycle; however, additional regulatory permits are pending.

The proposed project would span two adjacent canyons and have a 286-acre refuse footprint, though the total project area, including the perimeter of disturbance associated with the landfill, soil stockpile areas, and associated infrastructure, is approximately 617 acres. Surrounding land uses include open space, existing oil fields, and a few scattered rural residences (Rincon 2010).

Vegetation on the Santa Maria IWMF site consists of grassland, coastal scrub, oak woodland, riparian, and wetland habitat types, as well as ruderal or disturbed areas resulting from years of oil and gas exploration and livestock grazing. Unnamed, ephemeral drainages occur within the project site, which are tributaries to Cat Canyon Creek, Bradley Canyon Creek, and Orcutt Creek, and several sensitive plant and animal species are known to occur or have the potential to occur on the project site as described in the Final EIR (Rincon 2010).

Habitat types occurring within the proposed Santa Maria IWMF site include Non-native grassland, Coast live oak woodland, Coastal scrub, Central maritime chaparral, Riparian, Ruderal, Valley needlegrass grassland, Mulefat scrub, and wetlands. These habitats comprised 617.4 areas with non-native grassland comprising approximately half of the acreage. Three of the habitat types are listed as special status plant communities by the CDFW: Central maritime chaparral, Central Coast arroyo willow forest, and Valley needlegrass grassland. Rare plant surveys detected Mesa horkelia (*Horkelia cuneata* ssp. *puberula*) and La Purisima manzanita (*Arctostaphylos purissima*), which are both

CNPS List 1B special status plant species as identified. The following special status animal species were detected during the surveys:

Blainville's horned lizard (*Phrynosoma blainvillii* = *P. coronatum frontale*), western spadefoot (*Spea hammondi*), California horned lark (*Eremophila alpestris actia*), Cooper's hawk (*Accipiter cooperii*), golden eagle (*Aquila chrysaetos*), ferruginous hawk (*Buteo regalis*), northern harrier (*Circus cyaneus*), prairie falcon (*Falco mexicanus*), Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), and monarch butterfly (*Danaus plexippus*) (Table IV.C-5 (of the Final EIR)). Each of these species was observed on the project site. Individual monarch butterflies were observed, but only winter roost sites are considered sensitive and are not present on-site. Burrows that could be used by the burrowing owl and American badger were observed, but no individuals of these species were seen. Other special status species that could potentially occur but were not observed during the surveys, or are unlikely to occur, include: California legless lizard, California tiger salamander (*Ambystoma californiense*), loggerhead shrike (*Lanius ludovicianus*), merlin (*Falco columbarius*), sharp-shinned hawk (*Accipiter striatus*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), western red bat (*Lasiurus blossevillii*), and vernal pool fairy shrimp (*Branchinecta lynchi*). On the project site, small ephemeral areas of standing water do not appear suitable to support the successful breeding of species such as the California tiger salamander (*Ambystoma californiense*).

7.8.2 Impacts of the Alternative Action

If this alternative were selected, disposal of the Public Participant's MSW would contribute to the construction and operational biological impacts identified in the Final EIR. These impacts and their significance are summarized below.

The Final EIR found that:

Significant and unavoidable impacts of the proposed IWMF include the removal of oak trees, impacts to wildlife corridors, and cumulative impacts to biological resources. Impacts to vernal pool fairy shrimp were also determined to be significant and unavoidable. Significant but mitigable impacts were determined for special status habitats, wetlands and drainages, special status plant species, and other special status animal species. Impacts to common habitats and California tiger salamander were determined to be less than significant.

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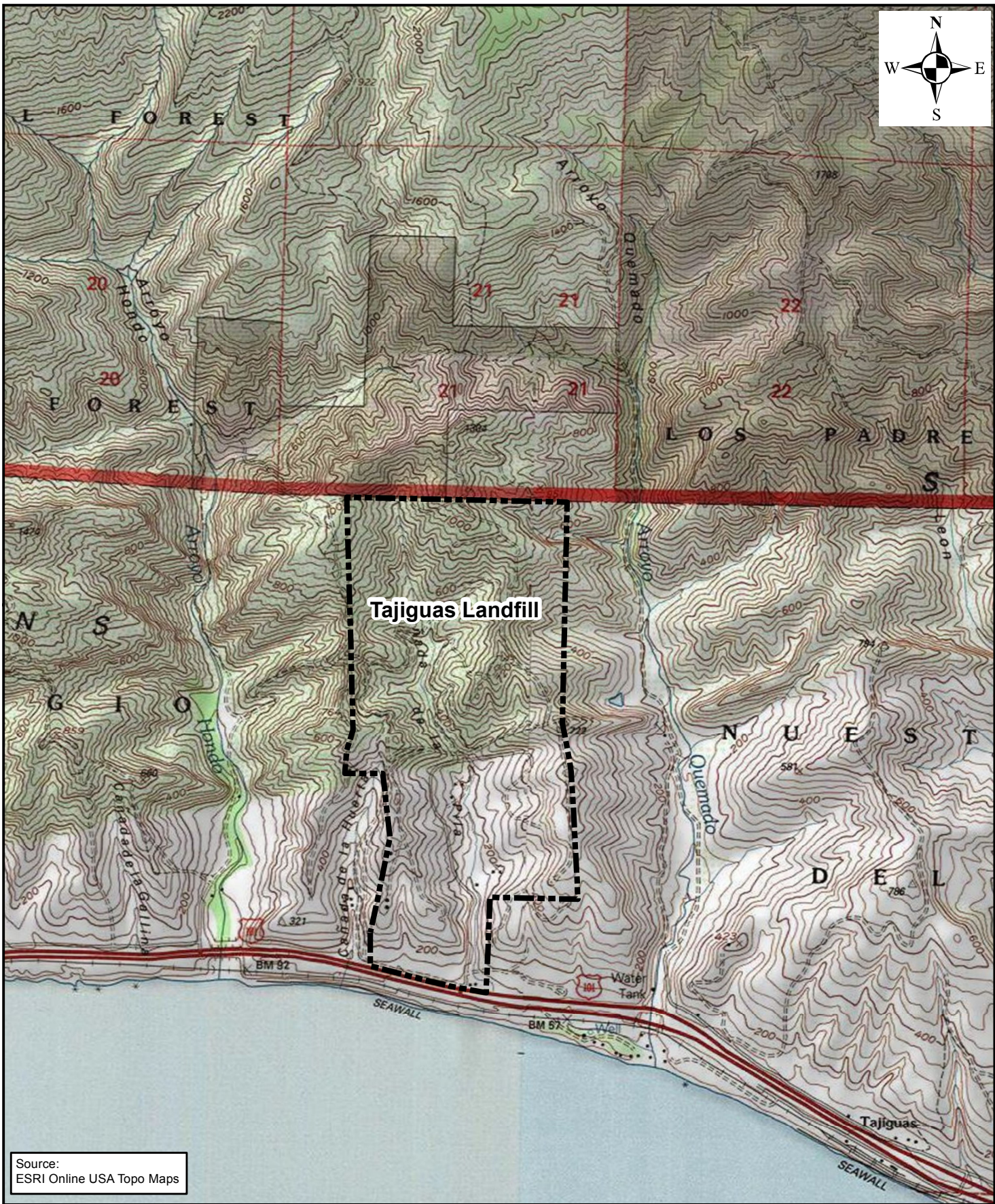
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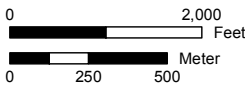


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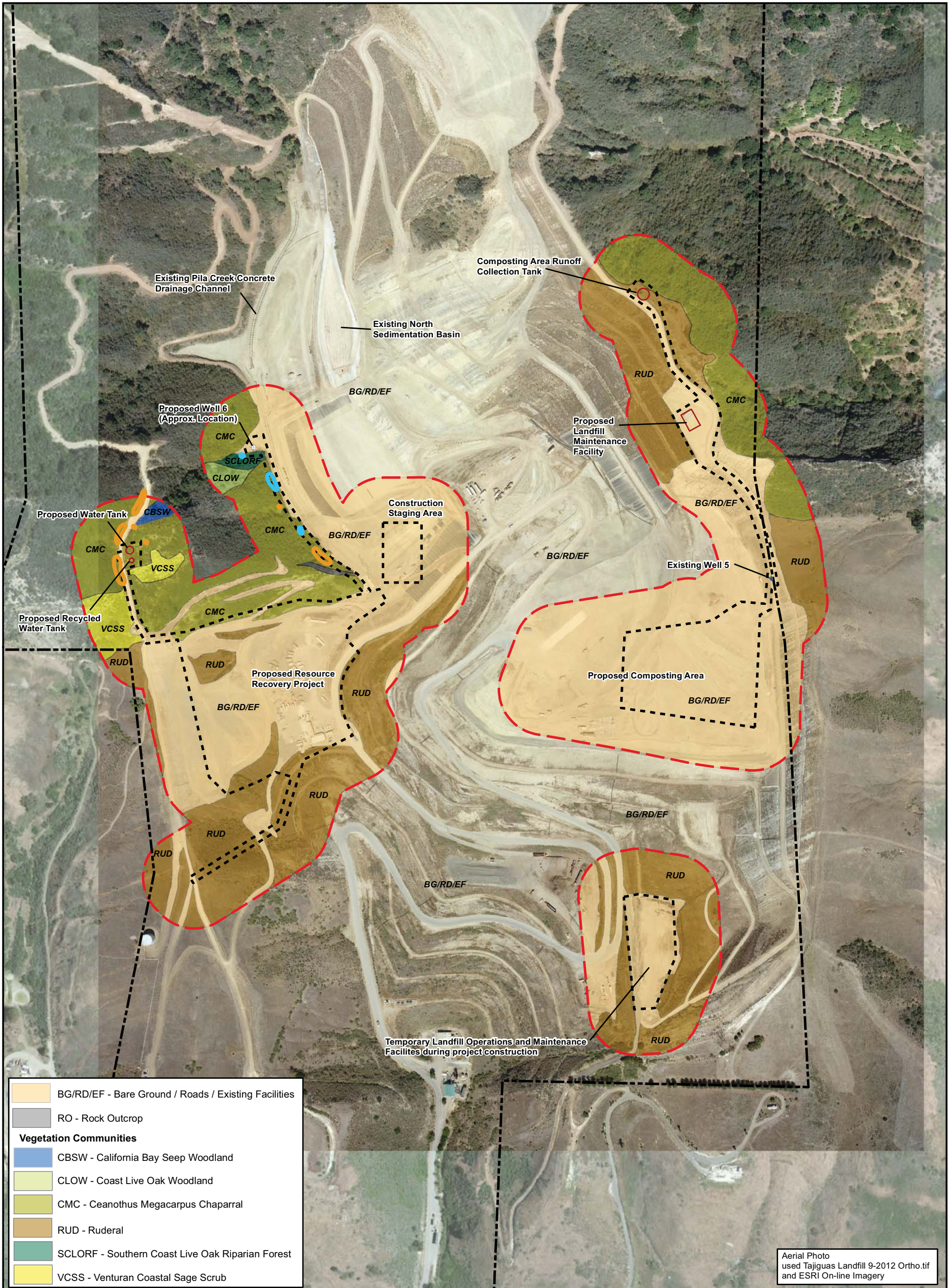
**Tajiguas Resource
Recovery Project**

**Figure 1
Site Location Map**



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| | |
|-------------------------------|--|
| | BG/RD/EF - Bare Ground / Roads / Existing Facilities |
| | RO - Rock Outcrop |
| Vegetation Communities | |
| | CBSW - California Bay Seep Woodland |
| | CLOW - Coast Live Oak Woodland |
| | CMC - Ceanothus Megacarpus Chaparral |
| | RUD - Ruderal |
| | SCLORF - Southern Coast Live Oak Riparian Forest |
| | VCSS - Venturan Coastal Sage Scrub |

Aerial Photo used Tajiguas Landfill 9-2012 Ortho.tif and ESRI On-line Imagery

AECOM

Tajiguas Resource Recovery Project

Figure 2
Vegetation Communities and Rare Plant Locations in Study Area

7/29/2013

0 210 420 Feet
0 70 140 Meter

N

Legend

--- Tajiguas Landfill Property Boundary

--- Proposed Action Area

--- 200 ft Buffer Study Area

Rare Plant Species

Plummer's Baccharis

Santa Barbara Honeysuckle

Monterey Tulare
San Luis Obispo Kern
Santa Barbara Ventura Los Angeles

Appendix A

Sensitive Plant Species Known or Potentially Occurring within the Study Area

Appendix A Sensitive Plant Species Known or Potentially Occurring within the Study Area

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|------------------------------------|----------------------|---------------------------------|---------------------|--|---|
| <i>Antirrhinum nuttallianum</i> | Nuttall's snapdragon | None | Locally sensitive | Annual herb found in coastal sage scrub, chaparral, dunes, and rocky or disturbed places at elevations of 0-1,400 meters. | Moderate potential to occur in coastal sage scrub and chaparral within Study Area; suitable habitat present. |
| <i>Aphanisma blitoides</i> | Aphanisma | None | List 1B | Annual herb found in coastal bluff scrub, coastal sage scrub, and sandy soils at elevations of 0-100 meters. | Not detected during 2008 rare plant surveys (ERA 2008a) or during previous surveys (Hunt and Associates 2001). Not expected to occur within the Study Area, no known historical records. |
| <i>Arctostaphylos refugioensis</i> | Refugio manzanita | None | List 1B | Evergreen shrub found in chaparral and sandstone soils. Blooms December-May at elevations of 300-820 meters. | Outside of elevation range. Not expected to occur in Study Area. |
| <i>Aristida adscensionis</i> | Triple-awned grass | None | Locally sensitive | Annual herb found in coastal sage scrub, open, dry habitats, rocky sites, and shrubland at elevations of 0-1,400 meters. | Not detected during 2008 rare plant surveys (ERA 2008a) or during previous surveys (Hunt and Associates 2001). Low to moderate potential to occur in chaparral and rock outcrops within Study Area; suitable habitat present. |
| <i>Atriplex coulteri</i> | Coulter's saltbush | None | List 1B | Perennial herb found in coastal bluff scrub, coastal dunes, coastal sage scrub, valley and foothill grassland, ocean bluffs, ridgetops, and alkaline or clay soils. Blooms March-October; at elevations of 3-460 meters. | Not expected to occur within Study Area; marginally suitable habitat and soils, no known historical records along Gaviota Coast. Not detected during rare plant survey (ERA 2008a) or during previous surveys (County 2002a). |

Appendix A Sensitive Plant Species Known or Potentially Occurring within the Study Area

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|---|---------------------------|---------------------------------|------------------------------------|--|--|
| <i>Atriplex serenana</i> <i>var. davidsonii</i> | Davidson's saltscale | None | List 1B | Annual herb found in coastal bluff scrub, coastal scrub, and alkaline soil. Blooms April-October at elevations of 3-250 meters. | Low to moderate potential to occur in coastal scrub; moderately suitable habitat present, known historical records in vicinity of Study Area. Not detected during rare plant survey (ERA 2008a). |
| <i>Baccharis plummerae</i> ssp. <i>plummerae</i> | Plummer's baccharis | None | List 4 and Locally sensitive | Deciduous shrub found in coast live oak woodland, coastal scrub, chaparral and rocky soils. Blooms May-October at elevations of 50-480 meters. | Present within Study Area; suitable habitat and soils present, found in Cañada de la Pila during previous surveys (County 2001, ERA 2008a). |
| <i>Calandrinia breweri</i> | Brewer's calandrinia | None | List 4 | Annual found in grasslands, disturbed places, burns, open coastal sage scrub, and sandy to loamy soils at elevations of 0-1,200 meters. | Not detected during 2008 rare plant surveys (ERA 2008a) or during previous surveys (Hunt and Associates 2001). Low potential to occur in coastal sage scrub; marginally suitable habitat present. |
| <i>Calochortus catalinae</i> | Catalina mariposa lily | None | List 4 | Bulb found in open grassland or shrubland, and in heavy soils at elevations of 0-700 meters. | Detected in West Borrow Area during 2009 surveys (Padre 2009). Not detected during 2008 rare plant surveys (ERA 2008a) or during previous surveys (Hunt and Associates 2001). Moderate potential to occur in open coastal sage scrub within Study Area; marginally suitable habitat present. |

Appendix A Sensitive Plant Species Known or Potentially Occurring within the Study Area

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|--|---------------------------------|---------------------------------|---------------------|--|---|
| <i>Calochortus weedii</i> var. <i>vestus</i> | Late-flowered mariposa lily | None | List 1B | Perennial herb found in chaparral, cismontane woodland, riparian woodland and serpentine soils. Blooms June-August at elevations of 275-900 meters. | Not detected during 2008 rare plant surveys (ERA 2008a). Moderate potential to occur in areas of native vegetation within Study Area; suitable habitat present, known historical records in vicinity of Study Area. |
| <i>Calystegia collina</i> ssp. <i>venusta</i> | Couth Coast Range morning glory | None | List 4 | Perennial rhizome found in open grassy or rocky places or oak-pine woods in serpentine soils at elevations 0-600 meters. | Not expected to occur within Study Area; marginally suitable habitat present. Not observed in surveys for Expansion and Reconfiguration EIRs (County 2002a and 2008, respectively). |
| <i>Centromadia parryi</i> ssp. <i>australis</i> (= <i>Hemizonia parryi</i> ssp. <i>australis</i>) | Southern tarplant | None | List 1B | Annual herb found in marshes and swamp margins, valley and foothill grassland, and vernal pools, often in disturbed sites near the coast. Blooms May-November at elevations of 0 - 425 meters. | Not expected to occur within Study Area; no suitable habitat and soils present. Not observed in surveys for Expansion and Reconfiguration EIRs (County 2002a and 2008, respectively). |
| <i>Cheilanthes cooperae</i> | Cooper's lip fern | None | Locally sensitive | Rhizome found in limestone crevices at elevation 100-800 meters. | Not detected during rare plant surveys in 2008 (ERA 2008a) or any surveys for Expansion EIR (County 2002a). Low to moderate potential to occur within Study Area. |

Appendix A Sensitive Plant Species Known or Potentially Occurring within the Study Area

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|---|--------------------|---------------------------------|---------------------|--|--|
| <i>Cornus sericea</i> <i>ssp. occidentalis</i> | Creek dogwood | None | Locally sensitive | Perennial shrub found in moist habitats, seeps, riparian at elevations 0-2,500 meters. | Not expected to occur within Study Area. Not detected during 2008 rare plant surveys (ERA 2008a) or during previous surveys (Hunt and Associates 2001); would have been apparent if present. |
| <i>Deinandra</i> <i>increscens</i> ssp. <i>villosa</i> (= <i>Hemizonia</i> <i>increscens</i> ssp. <i>villosa</i>) | Gaviota tarplant | SE/FE | List 1B | Annual herb found in coastal sage scrub, valley and foothill grassland, coastal terraces near Gaviota in sandy blowouts amid sandy loam soil. Blooms June-September at elevations of 300-500 meters. | Not expected to occur within Study Area; Study Area outside of known species range. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |
| <i>Dichondra</i> <i>occidentalis</i> | Western dichondra | None | List 4 | Perennial found in slopes, headlands, under shrubs, coastal sage scrub, chaparral, woodland, grassland at elevations of 50-500 meters. | Not expected to occur within Study Area; marginally suitable habitat present. No records in Gaviota area. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |
| <i>Dudleya</i> <i>blochmaniae</i> ssp. <i>blochmaniae</i> | Blochman's dudleya | None | List 1B | Perennial found in open, coastal bluff scrub, coastal sage scrub, and grassland in rocky slopes, and serpentine or clay-dominated soils at elevations of 0-450 meters. | Not expected to occur within Study Area. No historical records in the vicinity. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |

Appendix A Sensitive Plant Species Known or Potentially Occurring within the Study Area

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|--|--------------------------|---------------------------------|---------------------|---|--|
| <i>Erigeron sanctarum</i> | Saint's daisy | None | List 4 | Perennial herb found in coastal scrub, chaparral or woodland in sandy soils at elevations of 0-300 meters. | Low to moderate potential to occur in chaparral within Study Area; marginally suitable habitat present. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |
| <i>Eriodictyon capitatum</i> | Lompoc yerba santa | SR/FE | List 1B | Evergreen shrub found in closed-cone coniferous forest, chaparral, sandy soils. Blooms May-August at elevations of 40-900 meters. | Not expected to occur within Study Area; Study Area outside of known species range. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |
| <i>Erysimum insulare</i> ssp. <i>suffrutescens</i> | Suffrutescent wallflower | None | List 4 | Perennial or subshrub found in coastal dunes and cliffs in sandy soils at elevations of 0-300 meters. | Not expected to occur within the Study Area; no suitable habitat present. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |
| <i>Galium cliftonsmithii</i> | Santa Barbara bedstraw | None | List 4 | Perennial found in light shade, upper parts of canyons to ocean at elevations of 200-1,220 meters. | Low potential to occur along the canyon tops within Study Area; marginally suitable habitat present. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |

Appendix A Sensitive Plant Species Known or Potentially Occurring within the Study Area

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|---|----------------------------------|---------------------------------|---------------------|--|---|
| <i>Horkelia cuneata</i> ssp. <i>puberula</i> | Mesa horkelia | None | List 1B | Perennial herb found in chaparral, cismontane woodland and coastal scrub in sandy or gravelly soils. Blooms February-July at elevations of 70-810 meters. | Moderate potential to occur in areas of native vegetation within Study Area; suitable habitat present, known historical records in vicinity of Study Area. <i>Horkelia cuneata</i> found during plant surveys 2008 (ERA 2008a); characteristics of ssp. indistinct. |
| <i>Juglans californica</i> var. <i>californica</i> | Southern California black walnut | None | List 4 | Shrub/tree found in slopes and canyons, as well as riparian woodland at elevations of 50-900 meters. | Not expected to occur. |
| <i>Lasthenia conjugens</i> | Contra Costa goldfields | FE | List 1B | Perennial herb found in valley and foothill grassland, vernal pools, swales, and low depressions in open grassy areas in mesic soils. Blooms March-June at elevations of 0-470 meters. | Not expected to occur within Study Area; no suitable habitat or soils. No historical records in vicinity of Study Area. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |
| <i>Lepidium virginicum</i> var. <i>robinsonii</i> | Robinson's peppergrass | None | List 1B | Annual herb found in coastal sage scrub and chaparral. Blooms January-July at elevations of 1-885 meters. | Moderate potential to occur in areas of native vegetation Study Area; suitable habitat present. |
| <i>Lilium humboldtii</i> ssp. <i>ocellatum</i> | Ocellated Humboldt lily | None | List 4 | Bulb found in yellow-pine forest and openings, as well as oak canyons at elevations of 0-1,800 meters. | Low potential to occur in small area of coast live oak riparian forest within the Study Area. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |

Appendix A Sensitive Plant Species Known or Potentially Occurring within the Study Area

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|---|---------------------------|---------------------------------|-------------------------------|--|--|
| <i>Lonicera subspicata subspicata</i> | Santa Barbara honeysuckle | None | List 1B and Locally sensitive | Evergreen shrub found in chaparral, coast live oak woodland, and coastal scrub. Blooms May-August at elevations of 35-1,000 meters. | Present within Study Area. Found in Cañada de la Pila during previous surveys (Hunt 2001 and ERA 2008a). |
| <i>Malacothrix saxatilis</i> var. <i>saxatilis</i> | Cliff aster | None | List 4 | Rhizomatous herb that hybridizes with common <i>M. s. var. tenuifolia</i> (therefore, also considered sensitive). It is found in coastal scrub and blooms March-September at elevations of 3-200 meters. | Moderate potential to occur in coastal sage scrub in Study Area. <i>M. s. var. tenuifolia</i> was found in Cañada de la Pila during previous surveys (ERA 2008a) (also considered sensitive due to hybridization). |
| <i>Mimulus aurantiacus</i> (= <i>Diplacus lompocense</i>) var. <i>lompocense</i> | Lompoc monkeyflower | None | Locally sensitive | Subshrub/shrub found in rocky hillsides, cliffs, canyon slopes, disturbed areas, border of chaparral, and open forest at elevations of 0-1,600 meters. Easily hybridizes. | Moderate potential to occur in areas of native vegetation within Study Area; suitable habitat present. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |
| <i>Polygala cornuta</i> var. <i>fishiae</i> | Fish's milkwort | None | List 4 | Perennial shrub often from rhizomes found in chaparral and oak woodland at elevations of 100-1,100 meters. | Low potential to occur within the Study Area. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |
| <i>Quercus dumosa</i> | Nuttall's scrub oak | None | List 1B | Evergreen shrub found in closed-cone coniferous forest, coastal chaparral, coastal sage scrub, and sandy and clay loam soils. Blooms February-April at elevations of 15-400 meters. | Low to moderate potential to occur in chaparral/sage scrub habitat in Study Area. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |

Appendix A Sensitive Plant Species Known or Potentially Occurring within the Study Area

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|---|------------------------|---------------------------------|---------------------|--|---|
| <i>Ribes amarum</i> <i>ssp. hoffmannii</i> | Bitter gooseberry | None | List 3 | Found in foothill woodland and chaparral elevations of <1,600 meters. | Moderate potential to occur in appropriate habitats within Study Area. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |
| <i>Ribes sanguineum</i> <i>var. glutinosum</i> | Pink-flowering currant | None | Locally sensitive | Shrub found in many habitats at elevations of < 1,000 meters. | Moderate potential to occur within the project site near Well 6, adjacent to Pila Creek. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |
| <i>Sanicula hoffmannii</i> | Hoffmann's sanicle | None | List 4 | Perennial herb found in shrubby coastal hills and pine woodland at elevations of 80-300 meters. | Low potential to occur within the Study Area in undisturbed oak woodland. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |
| <i>Scrophularia atrata</i> | Black-flowered figwort | None | List 1B | Perennial herb found in closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, riparian scrub, and sandy soils and diatomaceous shales. Blooms March-July at elevations of 10-500 meters. | Moderate potential to occur in areas of native vegetation within Study Area; suitable habitat and soils present, known historical records in vicinity of Study Area. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |

Appendix A Sensitive Plant Species Known or Potentially Occurring within the Study Area

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|--|-------------------------|---------------------------------|---------------------|---|---|
| <i>Senecio aphanactis</i> | Rayless ragwort | None | List 2 | Annual herb found in chaparral, cismontane woodland, and coastal sage scrub. blooms January–April at elevations of 15-800 meters. | Moderate potential to occur in areas of native vegetation within Study Area; suitable habitat and soils present. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |
| <i>Solanum xanti</i> var. <i>hoffmannii</i> | Hoffmann's nightshade | None | Locally sensitive | Perennial herb found in coast live oak woodland and chaparral. Currently not recognized as a variety under the Jepson Manual. Is considered a synonym of <i>Solanum xanti</i> . | Moderate potential to occur in areas of native vegetation within Study Area; suitable habitat and soils present. Recorded just west of Pila Creek during 2008 surveys for rare plants (ERA 2008a). |
| <i>Thelypteris puberula</i> var. <i>sonorensis</i> | Sonoran maiden fern | None | List 2 | Rhizomatous herb (rhizomatous) found in meadows, streams, seeps, and fertile soils. Blooms January-September at elevations of 50-610 meters. | Moderate potential to occur in coast live oak riparian woodland habitat adjacent to proposed Well 6; suitable habitat and soils present, known historical records in vicinity of study area. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |
| <i>Thermopsis macrophylla</i> var. <i>agnina</i> | Santa Ynez false-lupine | SR | List 1B | Rhizomatous herb (rhizomatous) found in chaparral and disturbed areas in sandy and granitic soils. Blooms April-June at elevations of 425-1,400 meters. | Not expected to occur within study area; study area outside of known elevation range, known historical records in vicinity of Study Area. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |

Appendix A Sensitive Plant Species Known or Potentially Occurring within the Study Area

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|--|-------------|--------------------------|-------------------|---|--|
| <i>Zygadenus fremontii</i> var. <i>inezianus</i> | Camas lily | None | Locally sensitive | Perennial from bulb found in grassy or wooded slopes, and outcrops at elevations of <1,000 meters. | Low potential to occur in open chaparral and grassy slopes of the Study Area. Not observed in surveys for Expansion or Reconfiguration EIRs (County 2002a and 2009, respectively). |
| <p><u>STATUS CODES</u></p> <p><u>Federal and State Designations:</u></p> <p>FE: Federally listed, endangered FT: Federally listed, threatened SE: State-listed, endangered ST: State-listed, threatened SR: State-listed, rare</p> <p><u>California Native Plant Society (CNPS) Designations:</u></p> <p>List 1B: Species rare, threatened, or endangered in California and throughout their range. These species are eligible for State listing. List 2: Species rare, threatened, or endangered in California but more common elsewhere throughout their range. These species are eligible for State listing. List 3: Species for which more information is needed (watch list). List 4: A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations</p> <p><u>Other Designations:</u></p> <p>Locally Sensitive: Sensitive Plants of Santa Barbara County (Wiskowski 1988)</p> | | | | <p><u>POTENTIAL FOR OCCURRENCE</u></p> <p>Not Expected to Occur – No current or historical records cite the species’ occurrence in or near the survey area, and the habitats and/or soils associated with the species do not occur in or near the survey area.</p> <p>Low Potential to Occur – No current or historical records cite the species’ occurrence in or near the survey area, and the habitats and/or soils associated with the species are low in quality or suitability, are disturbed, or do not occur in or near the survey area.</p> <p>Moderate Potential to Occur – Either a historical record cites the species’ occurrence in or near the survey area, or the habitats and/or soils associated with the species are of moderate quality or suitability and occur in or near the survey area.</p> <p>High Potential to Occur – A historical record cites the species occurrence in or near the survey area, and the habitats and/or soils strongly associated with the species occur in or near the survey area.</p> <p>Present – Species was observed during the current survey within survey area.</p> | |

Appendix B

Sensitive Wildlife Species Known or Potentially Occurring within the Study Area

Appendix B Sensitive Wildlife Species Known or Potentially Occurring within the Study Area

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|------------------------------------|-----------------------------------|----------------------------|--|---|
| INSECTS | | | | |
| <i>Danaus plexippus</i> | Monarch butterfly | Locally sensitive (roosts) | Roosts in trees, including eucalyptus, willow, sycamore, cottonwood, and coast live oak trees. | Low potential to roost in the Study Area; roosting habitat lacking. |
| <i>Timema cristinae</i> | Santa Ynez Mountain walking stick | Locally sensitive | Occurs in perennial and intermittent streams and ponds. | Not expected to occur in the Study Area. Pila Creek no longer presents suitable habitat in the vicinity of the Study Area. |
| FISH | | | | |
| <i>Eucyclogobius newberryi</i> | Tidewater goby | CSC/FE | Occurs in brackish water habitats, shallow lagoons, lower stream reaches. | Not expected to occur within Study Area. Known historical records in adjacent watersheds but Pila Creek no longer presents suitable habitat in the vicinity of the Study Area. |
| <i>Oncorhynchus mykiss irideus</i> | Southern steelhead | CSC/FE | Populations are listed in southern California evolutionary significant unit, Santa Maria south to extent of range. | Not expected to occur within Study Area. Pila Creek no longer presents suitable habitat in the vicinity of the Study Area. |
| AMPHIBIANS | | | | |
| <i>Taricha torosa torosa</i> | Coast Range newt | CSC | Found under rocks, in or under logs, and in rodent burrows in or near streams, ponds, and reservoirs. | Low potential to occur as a transient within the Study Area due to the lack of sufficient water flow and habitat within Pila Creek. No known records within the vicinity of the Landfill. |

Appendix B Sensitive Wildlife Species Known or Potentially Occurring within the Study Area

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|---|----------------------------|--------------------------|--|---|
| <i>Rana aurora draytonii</i> | California red-legged frog | CSC/FT | Found in lowland and foothills in or near permanent water with dense shrubby or emergent riparian vegetation. | Known to occur and has been observed within Pila Creek and adjacent areas. However, has low potential to occur in the Study Area as a rare transient due to recent changes to Pila Creek and sedimentation basins on the Landfill that have reduced/eliminated areas of suitable habitat for the species. |
| REPTILES | | | | |
| <i>Anniella pulchra pulchra</i> | Silvery legless lizard | CSC | Found in herbaceous layers with loose soil in coastal scrub, chaparral, and open riparian. Prefers dunes and sandy washes near moist soil. | Low potential to occur within the Study Area; moderately suitable habitat present. |
| <i>Clemmys marmorata pallida</i> | Southwestern pond turtle | CSC | Inhabits permanent or nearly permanent waters. | Not expected. No water in the Study Area. |
| <i>Phrynosoma coronatum blainvillii</i> | Coast horned lizard | CSC | Found in chaparral, coastal sage scrub with fine, loose soil. Partially dependent on harvester ants for forage. | Low potential to occur within Study Area because of the lack of suitable habitat. |
| <i>Phrynosoma coronatum frontale</i> | California horned lizard | CSC | Found in chaparral, coastal sage scrub with fine, loose soil. Partially dependent on harvester ants for forage. | Low potential to occur within Study Area because of the lack of suitable habitat. |
| <i>Salvadora hexalepis virgultea</i> | Coast patch-nosed snake | CSC | Found in grasslands, chaparral, sagebrush, desert scrub, in sandy and rocky areas. | Low potential to occur within Study Area because of the lack of suitable habitat. |

Appendix B Sensitive Wildlife Species Known or Potentially Occurring within the Study Area

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|-------------------------------------|--|-----------------------|---|--|
| <i>Thamnophis hammondi</i> | Two-striped garter snake | CSC | Found in coastal California from vicinity of Salinas south to Baja California. Is highly aquatic and is found in or near permanent water sources often along streams with rocky beds and riparian growth. | Previously observed within Pila Creek (ERA 2008a). However, has low potential to occur in Study Area because suitable habitat has been removed from Pila Creek. |
| BIRDS | | | | |
| <i>Accipiter cooperii</i> | Cooper's hawk | WL | Nests in woodlands, primarily riparian areas and canyon bottoms, and coast live oaks. | Moderate potential to forage and nest in the vicinity of the Study Area based on the presence of suitable habitat. However, potential is somewhat reduced due to the removal of much of the riparian and woodland habitat within and adjacent to Pila Creek in the vicinity of the Study Area. |
| <i>Accipiter striatus</i> | Sharp-shinned hawk | WL | Occurs in open deciduous woodlands, forests, edges, parks, residential areas. Is a migrant and winter visitor. | Moderate potential to forage and winter in the vicinity of the Study Area based on the presence of suitable habitat. However, potential somewhat reduced due to the removal of much of the riparian and woodland habitat within and adjacent to Pila Creek in the vicinity of the Study Area. Not expected to nest within Study Area because species does not breed in region. |
| <i>Aimophila ruficeps canescens</i> | Southern California rufous-crowned sparrow | WL | Is a resident in California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and form patches. | Moderate potential to occur within the coastal sage scrub and chaparral based on known historical occurrences in the vicinity of the Study Area and moderately suitable habitat. |
| <i>Ammodramus savannarum</i> | Grasshopper sparrow | CSC/Locally sensitive | Found in grasslands, scrub habitats, and agricultural areas. | Not expected to occur in the Study Area based on availability of suitable habitat and historical data for the region. |

Appendix B Sensitive Wildlife Species Known or Potentially Occurring within the Study Area

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|--|---|--------------------------|---|---|
| <i>Aquila chrysaetos</i> | Golden eagle | WL/CFP/ BGEPA | Requires vast foraging areas in grassland, broken chaparral, or sage scrub. Nest in cliffs and boulders. Is an uncommon resident. | Not expected to occur within Study Area; no suitable nesting habitat and marginally suitable foraging habitat. |
| <i>Buteo regalis</i> | Ferruginous hawk | WL | Is an uncommon fall transient and winter migrant. Forages in open grassland, sagebrush flats, and low foothills and fringes of pinyon-juniper habitats. | Low potential to occur within Study Area due to marginally suitable foraging habitat. |
| <i>Buteo swainsonii</i> | Swainson's hawk | ST | Found in plains, range, open hills, sparse trees. Is an uncommon spring migrant. | Low potential to occur within Study Area due to marginally suitable foraging habitat. |
| <i>Charadrius alexandrinus nivosus</i> | Western snowy plover (coastal population) | FT/CSC | Relies on sandy beaches, and salt pond levees. Needs friable soils for nesting. | Not expected to occur in the Study Area based on availability of suitable habitat and historical data for the region. |
| <i>Circus cyaneus</i> | Northern harrier | CSC | Found in coastal lowland, marshes, grassland, agricultural fields. Is a migrant and winter resident, and a rare summer resident. | Not expected to nest within Study Area; no suitable nesting habitat and marginally suitable foraging habitat. |
| <i>Dendroica petechia brewsteri</i> | Yellow warbler | CSC | Breeding is restricted to riparian woodland. Is a spring and fall migrant, localized summer resident, and a rare winter visitor. | Low potential to nest in the vicinity of the Study Area. Suitable habitat is present; however, recent elimination of much of the riparian and woodland areas within and adjacent to Pila Creek reduce the potential that this species would utilize the area. |
| <i>Elanus leucurus</i> | White-tailed kite | CFP | Nests in riparian woodland, oaks, sycamores. Forages in open, grassy areas. Is a year-round resident. | Low potential to nest and forage within the woodland and riparian habitats within the Study Area due to marginally suitable habitat. |

Appendix B Sensitive Wildlife Species Known or Potentially Occurring within the Study Area

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|-----------------------------------|---------------------------|--------------------------|--|---|
| <i>Eremophila alpestris actia</i> | California horned lark | WL | Found in sandy shores, mesas, disturbed areas, grasslands, agricultural lands, and sparse sage scrub. | Low potential to occur within Study Area. May forage in ruderal and disturbed habitat but unlikely to nest. |
| <i>Falco columbarius</i> | Merlin | WL | Is a rare winter visitor. Found in grasslands, agricultural fields, occasionally mud flats. | Low potential to forage and winter within Study Area based on availability of suitable habitat and historical data for the region. |
| <i>Falco mexicanus</i> | Prairie falcon | WL | Found in grassland, agricultural fields, and desert scrub. Is an uncommon winter resident. Is a breeding resident. | Low potential to occur in the Study Area based on availability of suitable habitat and historical data for the region. |
| <i>Falco peregrinus anatum</i> | American peregrine falcon | SE/CFP/FDL | Found in open coastal areas and mud flats. Rare inland. Is a rare fall and winter resident, casual in late spring and early summer. No local breeding populations have been confirmed. | Low potential to occur in the Study Area based on availability of suitable habitat and historical data for the region. |
| <i>Haliaeetus leucocephalus</i> | Bald eagle | SE/CFP/FDL/BGEPA | Found in rivers and lakes. Is a rare winter visitor and rare fall migrant. Feed mainly on fish. | Not expected to occur within Study Area; no suitable habitat. |
| <i>Icteria virens</i> | Yellow-breasted chat | CSC | Found in dense riparian woodland. Is a localized summer resident. | Low potential to nest in the vicinity of the Study Area. Suitable habitat is present; however, recent elimination of much of the riparian and woodland areas within and adjacent to Pila Creek reduce the potential that this species would utilize the area. |
| <i>Lanius ludovicianus</i> | Loggerhead shrike | CSC | Found in open foraging areas near scattered bushes and low trees. | Low potential to occur within Study Area based on availability of suitable habitat and historical data for the region. |

Appendix B Sensitive Wildlife Species Known or Potentially Occurring within the Study Area

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|--|--------------------------|--------------------------|---|---|
| <i>Pandion haliaetus</i> | Osprey | WL | Found in coast and lowland lakes, rarely in foothills and mountain lakes. Is an uncommon fall/winter resident, rare in spring and summer. Fish are the primary prey item. | Low potential to forage and winter within the Study Area based on availability of suitable habitat and historical data for the region. |
| <i>Pelecanus occidentalis californicus</i> | California brown pelican | SE/CFP/FE | Found in coastal salt water and open ocean. Is a rare vagrant inland, and a non-breeding year-round visitor. | Not expected to occur within Study Area; no suitable habitat. |
| <i>Riparia riparia</i> | Bank swallow | ST | Nests in river banks and coastal bluffs within breeding range. | Potential to occur in the Study Area only as rare migrant, based on current status of this species in the region. |
| <i>Vireo bellii pusillus</i> | Least Bell's vireo | FE/SE | Breeding is restricted to riparian woodland. Is a spring and fall migrant. | Not expected to nest within the Study Area due to lack of suitable habitat. Low potential to occur as rare migrant within the woodland and riparian habitats within the Study Area. |
| MAMMALS | | | | |
| <i>Antrozous pallidus</i> | Pallid bat | CSC | Found in arid deserts and grasslands, as well as shallow caves, crevices, rock outcrops, buildings, and tree cavities, especially near water. Colonial. Uses audible echolocation signal. | Moderate potential to roost and forage within Study Area based on availability of suitable habitat and historical data for the region. Rock outcrops and tree cavities provide suitable roosting locations. |
| <i>Bassariscus astutus</i> | Ringtail | CFP | Found in cliffs, rocky ravines, and chaparral communities. | Moderate potential to occur in the Study Area. Tracks of this species have been observed during previous surveys within the Landfill (Hunt and Associates 2001). |

Appendix B Sensitive Wildlife Species Known or Potentially Occurring within the Study Area

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|---|--------------------------|--------------------------|--|--|
| <i>Corynorhinus townsendii pallescens</i> | Townsend's big-eared bat | CSC | Roosts in the open hanging from walls and ceilings. Roosting sites are a limiting factor. Is extremely sensitive to human disturbance. | Low potential to roost and forage within Study Area based on availability of suitable habitat and historical data for the region. Rock outcrops provide suitable roosting locations. Regular activity at the Landfill reduces likelihood of this species utilizing the site. |
| <i>Euderma maculatum</i> | Spotted bat | CSC | Has a wide variety of habitats including caves, crevices, trees. Uses audible echolocation signal. | Moderate potential to roost and forage within Study Area based on availability of suitable habitat and historical data for the region. Rock outcrops and tree cavities provide suitable roosting locations. |
| <i>Neotoma lepida intermedia</i> | San Diego desert woodrat | CSC | Found in coastal scrub of southern California from San Diego County to San Luis Obispo County. Moderate to dense canopies are preferred. Is particularly abundant in rock outcrops rocky cliffs. | High potential to in the Study Area. The nearest known occurrence is on Union Pacific Railroad Property within the Tajiguas Quadrangle. |
| <i>Nyctinomops macrotis</i> | Big free-tailed bat | CSC | Found in rugged, rocky terrain. Roosts in crevices, buildings, caves, and tree holes. | Moderate potential to roost and forage within Study Area based on availability of suitable habitat and historical data for the region. Rock outcrops and tree cavities provide suitable roosting locations. |
| <i>Taxidea taxus</i> | American badger | CSC | Is most abundant in drier open stages of most shrub, forest, and herbaceous habitats. | Moderate to high potential to occur in the Study Area based on availability of suitable habitat and historical data for the region. |

Appendix B Sensitive Wildlife Species Known or Potentially Occurring within the Study Area

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|---|-------------|-------------------|---|--------------------------|
| <p><u>STATUS CODES</u></p> <p><u>Federal and State Designations:</u></p> <p>FE: Federally listed Endangered</p> <p>FT: Federally listed Threatened</p> <p>FDL: Federally Delisted</p> <p>ST: State-listed Threatened</p> <p>SE: State-listed Endangered</p> <p>BGEPA: Bald and Golden Eagle Protection Act</p> <p><u>Other Designations:</u></p> <p>CFP: California fully protected species</p> <p>CSC: CDFW species of special concern</p> <p>WL: CDFW watch list</p> <p>Locally Sensitive: Considered sensitive by County Guidelines</p> | | | <p><u>Potential for Occurrence:</u></p> <p>Not Expected to Occur – No current or historical records cite the species’ occurrence in or near the survey area, and the habitats associated with the species do not occur in or near the survey area.</p> <p>Low Potential to Occur – No current or historical records cite the species’ occurrence in or near the survey area, and the habitats associated with the species are low in quality or suitability, are disturbed, or do not occur in or near the survey area.</p> <p>Moderate Potential to Occur – Either a historical record cites the species’ occurrence in or near the survey area, or the habitats associated with the species are of moderate quality or suitability and occur in or near the survey area.</p> <p>High Potential to Occur – A historical record cites the species occurrence in or near the survey area, and the habitats strongly associated with the species occur in or near the survey area.</p> <p>Known to Occur – Species was observed during the current survey within survey area.</p> | |

Appendix C

Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 1 (MarBorg Industries MRF)

Appendix C Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 1

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|---|-----------------------------|---------------------------------|---------------------|---|---|
| <i>Anomobryum julaceum</i> | Slender silver moss | None | List 2B | Brows on damp rocks and soil and acidic substrates. Usually seen on roadcuts. Most often found in broadleaved upland forest, lower montane coniferous forest, and north coast coniferous forest from 100-1,000 meters. | Not expected to occur. No habitat present and site is heavily and continuously disturbed. |
| <i>Arctostaphylos refugioensis</i> | Refugio manzanita | None | List 1B | Evergreen shrub found in chaparral and sandstone soils. Blooms December-May at elevations of 300-820 meters. | Not expected to occur. No habitat present and site is outside of elevation range. |
| <i>Atriplex coulteri</i> | Coulter's saltbush | None | List 1B | Perennial herb found in coastal bluff scrub, coastal dunes, coastal sage scrub, valley and foothill grassland, ocean bluffs, ridgetops, and alkaline or clay soils. Blooms March-October at elevations of 3-460 meters. | Not expected to occur. No habitat present and site is heavily and continuously disturbed. |
| <i>Atriplex serenana</i> var. <i>davidsonii</i> | Davidson's saltscale | None | List 1B | Annual herb found in coastal bluff scrub, coastal scrub, and alkaline soil. Blooms April-October at elevations of 3-250 meters. | Not expected to occur. No habitat present and site is heavily and continuously disturbed. |
| <i>Calochortus fimbriatus</i> | Late-flowered mariposa lily | None | List 1B | Perennial herb found in chaparral, cismontane woodland, riparian woodland, and serpentine soils. Blooms June-August at elevations of 275-900 meters. | Not expected to occur. No habitat present and site is outside of elevation range. |

Appendix C Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 1

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|---|-----------------------------|---------------------------------|---------------------|---|---|
| <i>Calystegia sepium</i> <i>ssp. binghamiae</i> | Santa Barbara morning-glory | USFS-S | 1B.1 | Perennial rhizomatous herb that has been historically associated with wetland and marshy places, but possibly in drier situations as well. Possibly prefers silty loam and alkaline soils. Can be found in coastal marshes and swamps, alluvial riparian scrub (alluvial), and blooms from April-May. | Not expected to occur. No habitat present and site is heavily and continuously disturbed. |
| <i>Centromadia parryi</i> <i>ssp. australis</i> (= <i>Hemizonia parryi</i> <i>ssp. australis</i>) | Southern tarplant | None | List 1B | Annual herb found in marshes and swamp margins, valley and foothill grassland, and vernal pools, often in disturbed sites near the coast. Blooms May-November at elevations of 0-425 meters. | Not expected to occur. No habitat present and site is heavily and continuously disturbed. |
| <i>Delphinium umbraculorum</i> | Umbrella larkspur | BLM-S | List 1B | Perennial herb that blooms from April-June in Cismontane woodland between 400-1,600 meters. | Not expected to occur. No habitat present and site is outside of elevation range. |
| <i>Eriodictyon capitatum</i> | Lompoc yerba santa | SR/FE | List 1B | Evergreen shrub found in closed-cone coniferous forest, chaparral, sandy soils. Blooms May-August at elevations of 40-900 meters. | Not expected to occur. No habitat present and site is heavily and continuously disturbed. |
| <i>Fritillaria ojaiensis</i> | Ojai fritillary | BLM-S | List 1B | Perennial bulbiferous herb that grows on rocky substrates in mesic broadleaved upland forest, chaparral, and lower montane coniferous forest from 300-998 meters. Blooms from February- May. | Not expected to occur. No habitat present and site is outside of elevation range. |

Appendix C Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 1

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|---|-------------------------|---------------------------------|---------------------|--|---|
| <i>Hordeum intercedens</i> | Vernal barley | None | List 3 | Annual herb that grows in coastal dunes, coastal scrub, valley and foothill grasslands and vernal pools at elevations from 5-1,000 meters. Blooms March-June. | Not expected to occur. No habitat present and site is heavily and continuously disturbed. |
| <i>Horkelia cuneata</i> <i>ssp. puberula</i> | Mesa horkelia | None | List 1B | Perennial herb found in chaparral, cismontane woodland and coastal scrub in sandy or gravelly soils at elevations of 70-810 meters. Blooms February-July. | Not expected to occur. No habitat present and site is outside of elevation range. |
| <i>Juncus luciensis</i> | Santa Lucia dwarf rush | None | List 1B | Annual herb that grows in Chaparral, Great Basin scrub, lower montane coniferous forest, meadows and seeps, and vernal pools between 300-2,040 meters. Blooms April-July. | Not expected to occur. No habitat present and site is outside of elevation range. |
| <i>Lasthenia conjugens</i> | Contra Costa goldfields | FE | List 1B | Perennial herb found in valley and foothill grassland, vernal pools, swales, low depressions in open grassy areas, and mesic soils at elevations of 0-470 meters. Blooms March-June. | Not expected to occur. No habitat present and site is heavily and continuously disturbed. |
| <i>Lasthenia glabrata</i> <i>ssp. coulteri</i> | Coulter's goldfields | BLM-S | List 1B | Annual herb that grows in coastal salt marshes and swamps, playas, valley and foothill grasslands, and vernal pools up to 1,220 meters. Blooms from February-June. | Not expected to occur. No habitat present and site is heavily and continuously disturbed. |

Appendix C Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 1

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|--|---------------------------|---------------------------------|-------------------------------|--|---|
| <i>Layia heterotricha</i> | Pale-yellow layia | BLM-S | List 1B | An annual herb that grows in alkaline or clay soils in Cismontane woodland, coastal scrub, Pinyon and juniper woodland, and valley and foothill grassland between 300-1,705 meters. Blooms March-June. | Not expected to occur. No habitat present and site is outside of elevation range. |
| <i>Lonicera subspicata</i> var. <i>subspicata</i> | Santa Barbara honeysuckle | None | List 1B and Locally sensitive | Evergreen shrub found in chaparral, coast live oak woodland and coastal scrub at elevations of 35-1,000 meters. Blooms May-August. | Not expected to occur. No habitat present and site is heavily and continuously disturbed. |
| <i>Malacothrix saxatilis</i> var. <i>arachnoidea</i> | Carmel Valley malacothrix | BLM-S | List 1B | Perennial rhizomatous herb that grows on rocky substrate in chaparral and coastal scrub occurring between 25-1,036 meters elevation. Blooms from March-December. | Not expected to occur. No habitat present and site is heavily and continuously disturbed. |
| <i>Micripus amphiboles</i> | Mt. Diablo cottonweed | None | List 3 | Annual herb that grows in broadleafed upland forest, chaparral, cismontane woodland, and valley and foothill grassland from 45-825 meters. Blooms March - May. | None. No habitat present and site is outside of elevation range. |
| <i>Monardella hypoleuca</i> ssp. <i>hypoleuca</i> | White-veined monardella | None | List 1B | Perennial rhizomatous herb that grows in chaparral and cismontane woodlands between 300-1,190 meters. Blooms June-August. | Not expected to occur. No habitat present and site is outside of elevation range. |

Appendix C Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 1

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|--|--------------------------------|---------------------------------|---------------------|--|---|
| <i>Monolopia congdonii</i> | San Joaquin woollythreads | FE | List 1B | Annual herb found in chenopod scrub and valley and foothill grassland from 60-800 meters. Blooms February-May. | Not expected to occur. No habitat present and site is outside of elevation range. |
| <i>Nasturtium gambelii</i> | Gambel's water cress | FE/ST USFS-S | List 1B | Perennial rhizomatous herb that grows in freshwater or brackish marshes and swamps from 5-330 meters. Blooms from April-October. | Not expected to occur. No habitat present and site is heavily and continuously disturbed. |
| <i>Phacelia ramosissima</i> var. <i>austolitoralis</i> | South coast branching phacelia | None | List 3 | Perennial herb that grows in chaparral, coastal dunes, coastal scrub, marshes and swamps between 5-300 meters. Blooms March-August. | Not expected to occur. No habitat present and site is heavily and continuously disturbed. |
| <i>Pseudognaphalium leucocephalum</i> | White rabbit-tobacco | None | List 2 | Perennial herb that grows in chaparral, cismontane woodland, coastal scrub, and riparian woodland from 0-2,100 meters. Blooms August-November. | Not expected to occur. No habitat present and site is heavily and continuously disturbed. |
| <i>Quercus dumosa</i> | Nuttall's scrub oak | None | List 1B | Evergreen shrub that grows in closed-cone coniferous forest, coastal chaparral, coastal sage scrub, sandy and clay loam soils, between 15-400 meters. Blooms February-April. | Not expected to occur. No habitat present and site is heavily and continuously disturbed. |
| <i>Ribes amarum</i> var. <i>hoffmannii</i> | Bitter gooseberry | None | List 3 | Perennial deciduous shrub that grows in chaparral, riparian woodland, foothill woodland, and chaparral, up to 1,600 meters. Blooms from March-April. | Not expected to occur. No habitat present and site is heavily and continuously disturbed. |

Appendix C Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 1

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|--|-------------------------|---------------------------------|---------------------|---|---|
| <i>Scrophularia atrata</i> | Black-flowered figwort | None | List 1B | Perennial herb that grows on sandy soils and diatomaceous shales in closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, and riparian scrub, between 10-500 meters. Blooms March-July. | Not expected to occur. No habitat present and site is heavily and continuously disturbed. |
| <i>Suaeda esteroa</i> | Estuary seablite | None | List 1B | Perennial herb found in marsh & swamp, coastal salt marsh, and wetland habitats below 5 meters. Blooms May-January. | Not expected to occur. No habitat present and site is heavily and continuously disturbed. |
| <i>Thelypteris puberula</i> var. <i>sonorensis</i> | Sonoran maiden fern | None | List 2 | Rhizomatous herb (rhizomatous) found in meadows, streams, seeps, and fertile soils at elevations of 50-610 meters. Blooms January-September. | Not expected to occur. No habitat present and site is outside of elevation range. |
| <i>Thermopsis macrophylla</i> | Santa Ynez false-lupine | SR | List 1B | Rhizomatous herb found in chaparral, disturbed areas, sandy and granitic soils from elevations of 425-1,400 meters. Blooms April-June. | Not expected to occur. No habitat present and site is outside of elevation range. |

Appendix C Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 1

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|---|-------------|--------------------------|--------------|---|--------------------------|
| <p><u>STATUS CODES</u></p> <p><u>Federal and State Designations:</u></p> <p>FE: Federally listed, endangered FT: Federally listed, threatened SE: State-listed, endangered ST: State-listed, threatened SR: State-listed, rare BLM-S: Bureau of Land Management designated Sensitive Species USFS-S: United States Forest Service designated Sensitive Species</p> <p><u>California Native Plant Society (CNPS) Designations:</u></p> <p>List 1B: Species rare, threatened, or endangered in California and throughout their range. These species are eligible for State listing. List 2: Species rare, threatened, or endangered in California but more common elsewhere throughout their range. These species are eligible for State listing. List 3: Species for which more information is needed (watch list). List 4: A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.</p> <p><u>Other Designations:</u></p> <p>Locally Sensitive: Sensitive Plants of Santa Barbara County (Wiskowski 1988)</p> | | | | <p><u>POTENTIAL FOR OCCURRENCE</u></p> <p>Not Expected to Occur – No current or historical records cite the species' occurrence in or near the survey area, and the habitats and/or soils associated with the species do not occur in or near the survey area.</p> <p>Low Potential to Occur – No current or historical records cite the species' occurrence in or near the survey area, and the habitats and/or soils associated with the species are low in quality or suitability, are disturbed, or do not occur in or near the survey area.</p> <p>Moderate Potential to Occur – Either a historical record cites the species' occurrence in or near the survey area, or the habitats and/or soils associated with the species are of moderate quality or suitability and occur in or near the survey area.</p> <p>High Potential to Occur – A historical record cites the species occurrence in or near the survey area, and the habitats and/or soils strongly associated with the species occur in or near the survey area.</p> <p>Known to Occur – Species was observed during the current survey within survey area.</p> <p><u>SOURCE</u></p> <p>CNDDDB and CNPS database searches of USGS 7.5-minute topographic quads – Santa Barbara, San Marcos Pass, Little Pine Mountain, Hildreth Peak, Goleta, Santa Barbara, and Carpinteria.</p> | |

Appendix D

Sensitive Wildlife Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 1 (MarBorg Industries MRF)

Appendix D Sensitive Wildlife Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|--------------------------------------|---|----------------------------|--|--|
| INVERTEBRATES | | | | |
| <i>Cicindela hirticollis gravida</i> | Sandy beach tiger beetle | Locally sensitive | Occurs in coastal dune habitat. | Not expected to occur. No dune habitat present. |
| <i>Coelus globosus</i> | Globose dune beetle | Locally sensitive | Occurs in coastal dune habitat. | Not expected to occur. No dune habitat present. |
| <i>Danaus plexippus</i> | Monarch butterfly | Locally sensitive (roosts) | Roosts in trees consisting of eucalyptus, willow, sycamore, cottonwood, and coast live oak trees. | Not expected to occur. Due to the high level of disturbance, monarchs are not expected to roost in the eucalyptus trees present on the site. |
| <i>Tryonia imitator</i> | Mimic tryonia (=California brackishwater snail) | Locally sensitive | Occurs in aquatic environments including brackish marsh, estuary, lagoon, marsh and swamp, salt marsh, and wetland habitats. | Not expected to occur. No aquatic habitat present. |
| FISH | | | | |
| <i>Eucyclogobius newberryi</i> | Tidewater goby | CSC/FE | Occurs in brackish water habitats, shallow lagoons, lower stream reaches. | Not expected to occur. No aquatic habitat present. |
| <i>Oncorhynchus mykiss irideus</i> | Southern steelhead | CSC/FE | Populations are listed in southern California evolutionary significant unit, from Santa Maria south to extent of range. | Not expected to occur. No aquatic habitat present. |
| AMPHIBIANS | | | | |

Appendix D Sensitive Wildlife Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|----------------------------------|-----------------------------|--------------------------|--|--|
| <i>Anaxyrus californicus</i> | Arroyo toad | CSC/FE | Occurs in areas around seasonal pools and streams with sandy channels bordered by sandy terraces. Requires shallow breeding pools with a minimum of silt and absence of predatory fish for the successful development of tadpoles. | Not expected to occur. No aquatic habitat present. |
| <i>Rana boylei</i> | Foothill yellow-legged frog | CSC/BLM-S | Occurs in aquatic habitats and is usually found near water in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian forest and riparian woodland habitat from sea level to 2,040 meters. | Not expected to occur. No aquatic habitat present. |
| <i>Rana draytonii</i> | California red-legged frog | CSC/FT | Occurs in lowland and foothills in or near permanent water with dense shrubby or emergent riparian vegetation. | Not expected to occur. No aquatic habitat present. |
| REPTILES | | | | |
| <i>Clemmys marmorata pallida</i> | Southwestern pond turtle | CSC | Inhabits permanent or nearly permanent waters. | Not expected to occur. No aquatic habitat present. |
| <i>Thamnophis hammondi</i> | Two-striped garter snake | CSC | Occurs in coastal California from vicinity of Salinas south to Baja California. Is highly aquatic and found in or near permanent water sources often along streams with rocky beds and riparian growth. | Not expected to occur. No aquatic habitat present. |

Appendix D Sensitive Wildlife Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|--|---|-------------------|--|--|
| BIRDS | | | | |
| <i>Accipiter cooperii</i> | Cooper's hawk | WL | Nests in woodlands, primarily riparian areas and canyon bottoms, and coast live oaks. | Not expected to occur. No suitable nesting or foraging habitat present and site is heavily and continuously disturbed. |
| <i>Buteo regalis</i> | Ferruginous hawk | WL | Is an uncommon fall transient and winter migrant. Forages in open grassland, sagebrush flats, and low foothills and fringes of pinyon-juniper habitats. | Not expected to occur. No suitable nesting or foraging habitat present and site is heavily and continuously disturbed. |
| <i>Charadrius alexandrinus nivosus</i> | Western snowy plover (coastal population) | FT/CSC | Relies on sandy beaches, salt pond levees. Needs friable soils for nesting. | Not expected to occur. No habitat present. |
| <i>Elanus leucurus</i> | White-tailed kite | CFP | Nests in riparian woodland, oaks, sycamores. Forages in open, grassy areas. Is a year-round resident. | Not expected to occur. No riparian habitat present. |
| <i>Empidonax traillii extimus</i> | Southwestern willow flycatcher | FE/SE | Nests in dense riparian habitats with saturated soils, standing water, or nearby streams, pools, or cienegas. | Not expected to occur. No riparian habitat present. |
| <i>Gymnogyps californianus</i> | California condor | FE/SE | Foraging habitat occurs in the Coast Ranges, the Tehachapi Mountains, and the foothills of the Sierra Nevada including chaparral, open grassland and oak woodland. | Not expected to occur. No suitable nesting or foraging habitat present and site is heavily and continuously disturbed. |
| <i>Rallus longirostris levipes</i> | Light-footed clapper rail | FE/SE | Occurs in herbaceous wetland, specifically cordgrass-pickleweed saltmarsh, and wetlands. | Not expected to occur. No wetland habitat present. |
| <i>Riparia riparia</i> | Bank swallow | ST | Nests in river banks and coastal bluffs within breeding range. | Not expected to occur. No nesting or foraging habitat present and site is heavily and continuously disturbed. |

Appendix D Sensitive Wildlife Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|---|---------------------|-------------------|--|---|
| <i>Vireo bellii pusillus</i> | Least Bell's vireo | FE/SE | Breeding restricted to riparian woodland. Is a spring and fall migrant. | Not expected to occur. No riparian woodland habitat present and site is heavily and continuously disturbed |
| MAMMALS | | | | |
| <i>Eumops perotis californicus</i> | Western mastiff bat | CSC | Roosts in crevices on cliff faces, high buildings, and trees. Suitable habitat consists of extensive open areas with abundant roost locations nearby. Roosts alone or in small colonies. | Low potential. Potential roosting locations in buildings and eucalyptus trees present on the site. However, site is heavily and continuously disturbed. |
| <i>Nyctinomops macrotis</i> | Big free-tailed bat | CSC | Occurs in rugged, rocky terrain. Roost in crevices, buildings, caves and tree holes. | Low potential. Potential roosting locations in buildings and eucalyptus trees present on the site. However, site is heavily and continuously disturbed. |
| <p><u>STATUS CODES</u></p> <p><u>Federal and State Designations:</u></p> <p>FE = Federally listed Endangered</p> <p>FT = Federally listed Threatened</p> <p>FDL = Federally Delisted</p> <p>ST = State-listed Threatened</p> <p>SE = State-listed Endangered</p> <p>BGEPA = Bald and Golden Eagle Protection Act</p> <p><u>Other Designations</u></p> <p>CFP = California fully protected species</p> <p>CSC = CDFW species of special concern</p> <p>WL = CDFW watch list</p> | | | <p><u>Potential for Occurrence:</u></p> <p>Not Expected to Occur – No current or historical records cite the species' occurrence in or near the survey area, and the habitats associated with the species do not occur in or near the survey area.</p> <p>Low Potential to Occur – No current or historical records cite the species' occurrence in or near the survey area, and the habitats associated with the species are low in quality or suitability, are disturbed, or do not occur in or near the survey area.</p> <p>Moderate Potential to Occur – Either a historical record cites the species' occurrence in or near the survey area, or the habitats associated with the species are of moderate quality or suitability and occur in or near the survey area.</p> <p>High Potential to Occur – A historical record cites the species occurrence in or near the survey area, and the habitats strongly associated with the species occur in or near the survey area.</p> <p>Known to Occur – Species was observed during the current survey within survey area.</p> | |

Appendix E

Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2 (SCRTS MRF)

Appendix E Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2 (SCRTS MRF)

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|------------------------------------|----------------------|--------------------------|-------------------|---|--|
| <i>Anomobryum julaceum</i> | Slender silver moss | None | List 2B | Grows on damp rocks and soil and acidic substrates. Is usually seen on roadcuts and is most often found in broadleaved upland forest, lower montane coniferous forest, and north coast coniferous forest from 100-1,000 meters. | Not expected to occur. There is no suitable moist habitat present on the site. |
| <i>Antirrhinum nuttallianum</i> | Nuttall's snapdragon | None | Locally sensitive | Annual herb that grows in rocky or disturbed places in coastal sage scrub, chaparral, or dunes, up to 1,400 meters. Blooms May-July. | Moderate potential. The small area of coastal sage scrub adjacent to the facility would provide suitable habitat for this species. |
| <i>Aphanisma blitoides</i> | Aphanisma | None | List 1B | Annual herb found in sandy soils in coastal bluff scrub and coastal sage scrub, up to 100 meters. Blooms March-June. | Not expected to occur. There are no sandy soils within the small area of coastal sage scrub adjacent to the facility. |
| <i>Arctostaphylos refugioensis</i> | Refugio manzanita | None | List 1B | Evergreen shrub found in chaparral and sandstone soils at elevations of 300-820 meters. Blooms December-May. | Not expected to occur. The site is outside of this species' known elevation range. |
| <i>Aristida adscensionis</i> | Triple-awned grass | None | Locally sensitive | Annual herb found in coastal sage scrub, open, dry habitats, rocky sites, and shrubland at elevations of 0-1,400 meters. | Moderate potential. The small area of coastal sage scrub adjacent to the facility would provide suitable habitat for this species. |
| <i>Atriplex coulteri</i> | Coulter's saltbush | None | List 1B | Perennial herb found in coastal bluff scrub, coastal dunes, coastal sage scrub, valley and foothill grassland ocean bluffs, and ridgetops in alkaline or clay soils. Blooms March-October and is found at elevations of 3-460 meters. | Moderate potential. The small area of coastal sage scrub adjacent to the facility would provide suitable habitat for this species. |

Appendix E Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2 (SCRTS MRF)

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|---|-----------------------------|---------------------------------|------------------------------|--|--|
| <i>Atriplex serenana</i> var. <i> davidsonii</i> | Davidson's saltscale | None | List 1B | Annual herb found in coastal bluff scrub, coastal scrub, and alkaline soil at elevations of 3-250 meters. Blooms April-October. | Moderate potential. The small area of coastal sage scrub adjacent to the facility would provide suitable habitat for this species. |
| <i>Baccharis plummerae</i> ssp. <i>plummerae</i> | Plummer's baccharis | None | List 4 and Locally sensitive | Deciduous shrub found in coast live oak woodland, coastal scrub, chaparral and rocky soils at elevations of 50-480 meters. Blooms May-October. | Moderate potential. The small area of coastal sage scrub adjacent to the facility would provide suitable habitat for this species. |
| <i>Calandrinia breweri</i> | Brewer's calandrinia | None | List 4 | Annual herb found in grasslands, disturbed places, burns, open coastal sage scrub, and sandy to loamy soils at elevations of 0-1,200 meters. | Moderate potential. The small area of coastal sage scrub adjacent to the facility would provide suitable habitat for this species. |
| <i>Calochortus catalinae</i> | Catalina mariposa lily | None | List 4 Locally Sensitive | Bulb found in open grassland or shrubland, and heavy soils at elevations of 0-700 meters. | Moderate potential. The small area of coastal sage scrub adjacent to the facility would provide suitable habitat for this species. |
| <i>Calochortus weedii</i> var. <i>vestus</i> | Late-flowered mariposa lily | None | List 1B | Perennial herb found in chaparral, cismontane woodland, riparian woodland, and serpentine soils at elevations of 275-900 meters. Blooms June-August. | Not expected to occur. The site is outside of this species' known elevation range. |

Appendix E Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2 (SCRTS MRF)

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|--|---------------------------------|--------------------------|-------------------|--|--|
| <i>Calystegia sepium</i> <i>ssp. binghamiae</i> | Santa Barbara morning-glory | USFS-S | 1B.1 | A perennial rhizomatous herb that has been historically associated with wetland and marshy places, but may be found in possibly in drier situations as well. Possibly prefers silty loam and alkaline soils. Can be found in coastal marshes and swamps, alluvial riparian scrub (alluvial), and blooms April-May. | Not expected to occur. There is no suitable wetland/riparian habitat or soils present on the site. |
| <i>Calystegia collina</i> <i>ssp. venusta</i> | South Coast Range morning glory | None | List 4 | Perennial rhizome found in open grassy or rocky places or oak-pine woods, and serpentine soils at elevations of 0-600 meters. | Not expected to occur. There is no suitable habitat present on the site. |
| <i>Centromadia parryi</i> ssp. <i>australis</i> (= <i>Hemizonia parryi</i> ssp. <i>australis</i>) | Southern tarplant | None | List 1B | Annual herb found in marshes and swamp margins, valley and foothill grassland, vernal pools, often in disturbed sites near the coast at elevations of 0 - 425 meters. Blooms May-November. | Not expected to occur. There is no suitable habitat present on the site. |
| <i>Cheilanthes cooperae</i> | Mrs. Cooper's lip fern | None | Locally sensitive | Rhizome found in limestone crevices at elevations of 100-800 meters. | Not expected to occur. There is no exposed limestone present on the site. |
| <i>Cornus sericea</i> <i>ssp. occidentalis</i> (= <i>Cornus stolonifera</i> var. <i>californica</i>) | Western dogwood | None | Locally sensitive | Perennial shrub found in moist habitats, seeps, and riparian at elevations of 0-2,500 meters. | Not expected to occur. There is no suitable moist habitat present on the site. |

Appendix E Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2 (SCRTS MRF)

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|---|--------------------|---------------------------------|------------------------------|--|--|
| <i>Deinandra increscens</i> ssp. <i>villosa</i> (= <i>Hemizonia increscens</i> ssp. <i>villosa</i>) | Gaviota tarplant | SE/FE | List 1B Locally Sensitive | Annual herb found in coastal sage scrub, valley and foothill grassland; coastal terraces near Gaviota, and sandy blowouts amid sandy loam soil. Blooms June-September at elevations of 300-500 meters. | Not expected to occur. The site is outside of this species' known elevation range. |
| <i>Delphinium umbraculorum</i> | Umbrella larkspur | BLM-S | List 1B | Perennial herb that blooms from April-June in Cismontane woodland between 400-1,600 meters. | Not expected to occur. The site is outside of this species' known elevation range. |
| <i>Dichondra occidentalis</i> | Western dichondra | None | List 4 | Perennial found in slopes, headlands, under shrubs, coastal sage scrub, chaparral, woodland, grassland at elevations of 50-500 meters. Blooms from May-July. | Moderate potential. The small area of coastal sage scrub adjacent to the facility would provide suitable habitat for this species. |
| <i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i> | Blochman's dudleya | None | List 1B | Perennial; open, coastal bluff scrub, coastal sage scrub, grassland; rocky slopes, serpentine or clay-dominated soils; elevation 0-450 meters. Blooms from April-June. | Moderate potential. The small area of coastal sage scrub adjacent to the facility would provide suitable habitat for this species. |
| <i>Erigeron sanctarum</i> | Saint's daisy | None | List 4 | Perennial herb; coastal scrub, chaparral or woodland; sandy soils; elevation 0-300 meters. Blooms from March-July. | Moderate potential. The small area of coastal sage scrub adjacent to the facility would provide suitable habitat for this species. |
| <i>Eriodictyon capitatum</i> | Lompoc yerba santa | SR/FE | List 1B | Evergreen shrub; closed-cone coniferous forest, chaparral, sandy soils; blooms May-August; elevation 40-900 meters. | Not expected to occur. There are no sandy soils within the small area of coastal sage scrub adjacent to the facility. |

Appendix E Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2 (SCRTS MRF)

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|--|--|---------------------------------|---------------------|---|--|
| <i>Erysimum insulare</i> ssp. <i>suffrutescens</i> | Suffrutescent wallflower | None | List 4 | Perennial or subshrub found in coastal dunes and cliffs, and sandy soils at elevations of 0-300 meters. Blooms from March-July. | Not expected to occur. There are no sandy soils or suitable habitat present in the vicinity of the facility. |
| <i>Fritillaria ojaiensis</i> | Ojai fritillary | BLM-S | List 1B | Perennial bulbiferous herb that grows on rocky substrates in mesic broadleaved upland forest, chaparral, and lower montane coniferous forest from 300-998 meters. Blooms from February-May. | Not expected to occur. The site is outside of this species' known elevation range. |
| <i>Galium cliftonsmithii</i> | Santa Barbara bedstraw | None | List 4 | Perennial found in light shade, upper parts of canyons to ocean at elevations of 200-220 meters. Blooms from May-July. | Not expected to occur. The site is outside of this species' known elevation range. |
| <i>Horkelia cuneata</i> ssp. <i>puberula</i> | Mesa horkelia | None | List 1B | Perennial herb found in chaparral, cismontane woodland, coastal scrub, and in sandy or gravelly soils. Blooms February-July at elevations of 70-810 meters. | Moderate potential. The small area of coastal sage scrub adjacent to the facility would provide suitable habitat for this species. |
| <i>Juglans californica</i> var. <i>californica</i> | Southern California black walnut | None | List 4 | Perennial shrub or tree found in slopes and canyons, riparian woodland at s of elevation 50-900 meters. Bloom March-August. | Not expected to occur. There is no suitable habitat present on the site. |
| <i>Juncus luciensis</i> | Santa Lucia dwarf rush | None | List 1B | Annual herb that grows in chaparral, Great Basin scrub, lower montane coniferous forest, meadows and seeps, and vernal pools between elevations of 300-2,040 meters. Blooms April-July. | Not expected to occur. The site is outside of this species' known elevation range and there is no moist habitat present. |

Appendix E Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2 (SCRTS MRF)

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|---|-------------------------|---------------------------------|---------------------|---|--|
| <i>Lasthenia conjugens</i> | Contra Costa goldfields | FE | List 1B | Perennial herb found in valley and foothill grassland, vernal pools, swales, low depressions in open grassy areas and mesic soils. Blooms March-June at elevation 0-470 meters. | Not expected to occur. There is no suitable habitat or soils present on the site. |
| <i>Lasthenia glabrata</i> ssp. <i>coulteri</i> | Coulter's goldfields | BLM-S | List 1B | Annual herb that grows in coastal salt marshes and swamps, playas, valley and foothill grasslands, and vernal pools up to 1,220 meters. Blooms from February-June. | Not expected to occur. There is no suitable habitat present on the site. |
| <i>Layia heterotricha</i> | Pale-yellow layia | BLM-S | List 1B | An annual herb that grows in alkaline or clay soils in Cismontane woodland, coastal scrub, Pinyon and juniper woodland, and Valley and foothill grassland between 300-1,705 meters. Blooms March-June. | Not expected to occur. The site is outside of this species' known elevation range. |
| <i>Lepidium virginicum</i> var. <i>robinsonii</i> | Robinson's peppergrass | None | List 1B | An annual herb that grows in coastal sage scrub, and chaparral up to 885 meters. Blooms from January-July. | Moderate potential. The small area of coastal sage scrub adjacent to the facility would provide suitable habitat for this species. |
| <i>Lilium humboldtii</i> ssp. <i>ocellatum</i> | Ocellated Humboldt lily | None | List 4 | Perennial bulbiferous herb that grows in openings within chaparral, cismontane woodland, oak canyons, coastal scrub, lower montane coniferous forest, and riparian woodland from 30-1,800 meters. Blooms from March-August. | Moderate potential. The small area of coastal sage scrub adjacent to the facility would provide suitable habitat for this species. |

Appendix E Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2 (SCRTS MRF)

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|---|---------------------------|---------------------------------|-------------------------------|--|--|
| <i>Lonicera subspicata</i> var. <i>subspicata</i> | Santa Barbara honeysuckle | None | List 1B and Locally sensitive | Evergreen shrub found in chaparral, coast live oak woodland, coastal scrub. Blooms May-August at elevations of 35-1,000 meters. | Moderate potential. The small area of coastal sage scrub adjacent to the facility would provide suitable habitat for this species. |
| <i>Malacothrix saxatilis</i> var. <i>arachnoidea</i> | Carmel Valley malacothrix | BLM-S | List 1B | Perennial rhizomatous herb that grows on rocky substrate in chaparral and coastal scrub between elevations of 25-1036 meters. Blooms from March-December. | Moderate potential. The small area of coastal sage scrub adjacent to the facility would provide suitable habitat for this species. |
| <i>Malacothrix saxatilis</i> var. <i>saxatilis</i> | Cliff aster | None | List 4 | Rhizomatous herb that hybridizes with common <i>M. s. var. tenuifolia</i> (therefore, also considered sensitive). It is found in coastal scrub, and coastal bluff scrub between 3-200 meters. Blooms from March-September. | Moderate potential. The small area of coastal sage scrub adjacent to the facility would provide suitable habitat for this species. |
| <i>Mimulus aurantiacus</i> (= <i>Diplacus lompocense</i>) var. <i>lompocense</i> | Lompoc monkeyflower | None | Locally sensitive | Subshrub, shrub found in rocky hillsides, cliffs, canyon slopes, disturbed areas, and borders of chaparral, open forest. It easily hybridizes. Is found at elevations of 0-1,600 meters. | Low potential. The small area of coastal sage scrub adjacent to the facility may provide suitable habitat for this species. |
| <i>Nasturtium gambelii</i> | Gambel's water cress | FE/ST USFS-S | List 1B | A perennial rhizomatous herb that grows in freshwater or brackish marshes and swamps from 5-330 meters. Blooms from April-October. | Not expected to occur. There is no suitable moist habitat present on the site. |

Appendix E Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2 (SCRTS MRF)

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|---|------------------------|---------------------------------|---------------------|---|---|
| <i>Polygala cornuta</i> var. <i>fishiae</i> | Fish's milkwort | None | List 4 | A perennial deciduous shrub often from rhizomes that grows in chaparral, cismontane woodland, and riparian woodland, between elevations of 100-1,100 meters. Blooms May-August. | Low potential. The small area of coastal sage scrub adjacent to the facility may provide suitable habitat for this species. |
| <i>Quercus dumosa</i> | Nuttall's scrub oak | None | List 1B | An evergreen shrub that grows in closed-cone coniferous forest, coastal chaparral, coastal sage scrub, sandy and clay loam soils, between 15-400 meters. Blooms February-April. | Moderate potential. The small area of coastal sage scrub adjacent to the facility would provide suitable habitat for this species. |
| <i>Ribes amarum</i> var. <i>hoffmannii</i> | Bitter gooseberry | None | List 3 | A perennial deciduous shrub that grows in chaparral, riparian woodland, foothill woodland, and chaparral, up to 1,600 meters. Blooms March- April. | Low potential. The small area of coastal sage scrub adjacent to the facility may provide suitable habitat for this species. |
| <i>Ribes sanguineum</i> var. <i>glutinosum</i> | Pink-flowering currant | None | Locally sensitive | A shrub that occurs in many habitats below 1,000 meters. Blooms January-March. | Moderate potential. The small area of coastal sage scrub adjacent to the facility would provide suitable habitat for this species. |
| <i>Sanicula hoffmannii</i> | Hoffmann's sanicle | None | List 4 | A perennial herb that grows in shrubby coastal hills and pine woodlands between 80-300 meters. Blooms March-May. | Moderate potential. The small area of coastal sage scrub adjacent to the facility would provide suitable habitat for this species. |
| <i>Scrophularia atrata</i> | Black-flowered figwort | None | List 1B | Perennial herb that grows on sandy soils and diatomaceous shales in closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, and riparian scrub, between 10-500 meters. Blooms March-July. | Low potential. The small area of coastal sage scrub adjacent to the facility may provide suitable habitat for this species; however this area does not support sandy soils. |

Appendix E Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2 (SCRTS MRF)

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|--|-------------------------|---------------------------------|---------------------|--|--|
| <i>Senecio aphanactis</i> | Rayless ragwort | None | List 2 | Annual herb sometimes found on alkaline soils in chaparral, cismontane woodland, and coastal scrub between 15-800 meters. Blooms January-April. | Low potential. The small area of coastal sage scrub adjacent to the facility may provide suitable habitat for this species; however this area does not support alkaline soils. |
| <i>Solanum xanti</i> var. <i>hoffmannii</i> | Hoffmann's nightshade | None | Locally sensitive | Perennial herb found in coast live oak woodland, and chaparral. Currently not recognized as a variety under the Jepson Manual. Considered a synonym of <i>Solanum xanti</i> . Blooming period not found. | Low potential. The small area of coastal sage scrub adjacent to the facility may provide suitable habitat for this species. |
| <i>Suaeda esteroa</i> | Estuary seablite | none | List 1B | Perennial herb found in marsh and swamp, coastal salt marsh, and wetland habitats below 5 meters. Blooms May-January. | Not expected to occur. The site is outside of this species' known elevation range and there is no suitable moist habitat present. |
| <i>Thelypteris puberula</i> var. <i>sonorensis</i> | Sonoran maiden fern | None | List 2 | Rhizomatous herb (rhizomatous) found in meadows, streams, seeps, and fertile soils at elevations of 50-610 meters. Blooms January-September. | Not expected to occur. There is no suitable habitat or soils present on the site. |
| <i>Thermopsis macrophylla</i> var. <i>agnina</i> | Santa Ynez false-lupine | SR | List 1B | Rhizomatous herb found in chaparral, disturbed areas, sandy and granitic soils from 425-1,400 meters. Blooms April-June. | Not expected to occur. The site is outside of this species' known elevation range. |
| <i>Toxicoscordion fremontii</i> (formerly <i>Zigadenus fremontii</i> var. <i>inezianus</i>) | Camas lily | None | Locally sensitive | Perennial from bulb found in grassy or wooded slopes and outcrops at elevations below 1,000 meters. Blooming period not found. | Low potential. The small area of coastal sage scrub adjacent to the facility may provide suitable habitat for this species. |

Appendix E Sensitive Plant Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2 (SCRTS MRF)

| Scientific Name | Common Name | State and Federal Status | CNPS Listing | Habitat Associations/ Blooming Period | Potential for Occurrence |
|---|-------------|--------------------------|--------------|--|--------------------------|
| <p><u>STATUS CODES</u></p> <p><u>Federal and State Designations:</u></p> <p>FE: Federally listed, endangered FT: Federally listed, threatened SE: State-listed, endangered ST: State-listed, threatened SR: State-listed, rare BLM-S: Bureau of Land Management designated Sensitive Species USFS-S: United States Forest Service designated Sensitive Species</p> <p><u>California Native Plant Society (CNPS) Designations:</u></p> <p>List 1B: Species rare, threatened, or endangered in California and throughout their range. These species are eligible for State listing. List 2: Species rare, threatened, or endangered in California but more common elsewhere throughout their range. These species are eligible for State listing. List 3: Species for which more information is needed (watch list). List 4: A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.</p> <p><u>Other Designations:</u></p> <p>Locally Sensitive: Sensitive Plants of Santa Barbara County (Wiskowski 1988)</p> | | | | <p><u>POTENTIAL FOR OCCURRENCE</u></p> <p>Not Expected to Occur – No current or historical records cite the species' occurrence in or near the survey area, and the habitats and/or soils associated with the species do not occur in or near the survey area.</p> <p>Low Potential to Occur – No current or historical records cite the species' occurrence in or near the survey area, and the habitats and/or soils associated with the species are low in quality or suitability, are disturbed, or do not occur in or near the survey area.</p> <p>Moderate Potential to Occur – Either a historical record cites the species' occurrence in or near the survey area, or the habitats and/or soils associated with the species are of moderate quality or suitability and occur in or near the survey area.</p> <p>High Potential to Occur – A historical record cites the species occurrence in or near the survey area, and the habitats and/or soils strongly associated with the species occur in or near the survey area.</p> <p>Known to Occur – Species was observed during the current survey within survey area.</p> <p><u>SOURCE</u></p> <p>CNDDDB and CNPS database searches of USGS 7.5-minute topographic quads – Lake Cachuma, San Marcos Pass, Little Pine Mountain, Dos Pueblos Canyon, Goleta, and Santa Barbara.</p> | |

Appendix F

Sensitive Wildlife Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2 (SCRTS MRF)

Appendix F Sensitive Wildlife Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|--------------------------------------|---|----------------------------|--|---|
| INVERTEBRATES | | | | |
| <i>Cicindela hirticollis gravida</i> | Sandy beach tiger beetle | Locally sensitive | Occurs in coastal dune habitat. | Not expected to occur. There is no suitable dune habitat present at the site. |
| <i>Coelus globosus</i> | Globose dune beetle | Locally sensitive | Occurs in coastal dune habitat. | Not expected to occur. There is no suitable dune habitat present at the site. |
| <i>Danaus plexippus</i> | Monarch butterfly | Locally sensitive (roosts) | Roost trees consist of eucalyptus, willow, sycamore, cottonwood, and coast live oak trees. | Not expected to occur. The trees present on and in the immediate vicinity of the facility would not be suitable as roost sites. |
| <i>Timema cristinae</i> | Santa Ynez Mountain walking stick | Locally sensitive | Occurs in perennial and intermittent streams and ponds. | Not expected to occur. No stream or pond habitat occurs on the site. |
| <i>Tryonia imitator</i> | Mimic tryonia (=California brackishwater snail) | Locally sensitive | Occurs in aquatic environments including brackish marsh, estuary, lagoon, marsh and swamp, salt marsh, and wetland habitats. | Not expected to occur. No aquatic habitat present on the site. |
| FISH | | | | |
| <i>Eucyclogobius newberryi</i> | Tidewater goby | CSC/FE | Occurs in brackish water habitats, shallow lagoons, lower stream reaches. | Not expected to occur. No aquatic habitat present on the site. |
| <i>Oncorhynchus mykiss irideus</i> | Southern steelhead | CSC/FE | Populations are listed in southern California evolutionary significant unit, from Santa Maria south to extent of range. | Not expected to occur. No aquatic habitat present on the site. |

Appendix F Sensitive Wildlife Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|---|-----------------------------|-------------------|---|--|
| AMPHIBIANS | | | | |
| <i>Rana boylei</i> | Foothill yellow-legged frog | CSC/BLM-S | Occurs in aquatic environments, usually near water in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian forest and riparian woodland habitat from sea level to 2,040 meters. | Not expected to occur. No perennial aquatic habitat present on the site. |
| <i>Rana draytonii</i> | California red-legged frog | CSC/FT | Occurs in lowland and foothills in or near permanent water with dense shrubby or emergent riparian vegetation. | Not expected to occur. No perennial aquatic habitat present in the vicinity of the site. |
| <i>Taricha torosa torosa</i> | Coast Range newt | CSC | Occurs under rocks, in or under logs, and in rodent burrows in or near streams, ponds, and reservoirs. | Not expected to occur. No perennial aquatic habitat present in the vicinity of the site. |
| REPTILES | | | | |
| <i>Anniella pulchra</i> | Silvery legless lizard | CSC | Occurs in herbaceous layers with loose soil in coastal scrub, chaparral, and open riparian. Prefers dunes and sandy washes near moist soil. | Not expected to occur. Suitable loose soils are not present on the site. |
| <i>Clemmys marmorata pallida</i> | Southwestern pond turtle | CSC | Inhabits permanent or nearly permanent waters. | Not expected to occur. No aquatic habitat present on the site. |
| <i>Phrynosoma coronatum blainvillii</i> | Coast horned lizard | CSC | Occurs in chaparral, coastal sage scrub with fine, loose soil. Partially dependent on harvester ants for forage. | Not expected to occur. Suitable loose soils are not present on the site. |
| <i>Phrynosoma coronatum frontale</i> | California horned lizard | CSC | Occurs in chaparral, coastal sage scrub with fine, loose soil. Partially dependent on harvester ants for forage. | Not expected to occur. Suitable loose soils are not present on the site. |

Appendix F Sensitive Wildlife Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|--------------------------------------|--|--------------------------|---|--|
| <i>Salvadora hexalepis virgultea</i> | Coast patch-nosed snake | CSC | Occurs in grasslands, chaparral, sagebrush, desert scrub. Found in sandy and rocky areas. | Not expected to occur. Moderately suitable sagebrush habitat is present in the vicinity of the site; however, this vegetated area is steep and not ideal for this species. |
| <i>Thamnophis hammondi</i> | Two-striped garter snake | CSC | Occurs in coastal California from vicinity of Salinas south to Baja California. Highly aquatic, found in or near permanent water sources often along streams with rocky beds and riparian growth. | Not expected to occur. No aquatic habitat present in the vicinity of the site. |
| BIRDS | | | | |
| <i>Accipiter cooperii</i> | Cooper's hawk | WL | Nests in woodlands, primarily riparian areas and canyon bottoms, and coast live oaks | Low potential. This species would be unlikely to nest in the trees located in the vicinity of the site due to their relatively small size. However, it may forage in the vicinity and be present as a transient on or near the site. |
| <i>Accipiter striatus</i> | Sharp-shinned hawk | WL | Occurs in open deciduous woodlands, forests, edges, parks, residential areas. Occurs as a migrant and winter visitor. | Low potential. This species would be unlikely to nest in the trees located in the vicinity of the site due to their relatively small size. However, it may forage in the vicinity and be present as a transient on or near the site. |
| <i>Aimophila ruficeps canescens</i> | Southern California rufous-crowned sparrow | WL | Resident in California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and form patches. | Low potential to occur. There is marginally suitable coastal sage scrub habitat present in the vicinity of the site; however, this patch of habitat is relatively small and close to ongoing disturbance at the SCRTS facility. |

Appendix F Sensitive Wildlife Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|--|---|--------------------------|---|---|
| <i>Ammodramus savannarum</i> | Grasshopper sparrow | CSC/Locally sensitive | Occurs in grasslands, scrub habitats, and agricultural areas. | Low potential to occur. There is marginally suitable coastal sage scrub habitat present in the vicinity of the site; however, this patch of habitat is relatively small and close to ongoing disturbance at the SCRTS facility. |
| <i>Aquila chrysaetos</i> | Golden eagle | WL/CFP/BGEPA | Requires vast foraging areas in grassland, broken chaparral, or sage scrub. Nest in cliffs and boulders. Is an uncommon resident. | Not expected to occur. No suitable nesting or foraging habitat is present in the vicinity of the site. |
| <i>Buteo regalis</i> | Ferruginous hawk | WL | Is an uncommon fall transient and winter migrant. Forages in open grassland, sagebrush flats, and low foothills and fringes of pinyon-juniper habitats. | Low potential. There is suitable foraging habitat in the vicinity of, though not immediately adjacent to, the site and this species may be present as a transient on or near the site. |
| <i>Buteo swainsonii</i> | Swainson's hawk | ST | Occurs on plains, range, and open hills with sparse trees. Is an uncommon spring migrant. | Low potential. There is suitable foraging habitat in the vicinity of, though not immediately adjacent to, the site and this species may be present as a transient on or near the site. |
| <i>Charadrius alexandrinus nivosus</i> | Western snowy plover (coastal population) | FT/CSC | Relies on sandy beaches, salt pond levees; needs friable soils for nesting. | Not expected to occur. No suitable foraging or nesting habitat present in the vicinity of the site. |
| <i>Circus cyaneus</i> | Northern harrier | CSC | Occurs in coastal lowland, marshes, grassland, agricultural fields. Is a migrant and winter resident, rare summer resident. | Low potential. This species is not expected to nest in the vicinity of the site. No suitable nesting habitat and marginally suitable foraging habitat are present. |
| <i>Dendroica petechia brewsteri</i> | Yellow warbler | CSC | Breeding restricted to riparian woodland. Is a spring and fall migrant, localized summer resident, rare winter visitor. | Not expected to occur. No suitable nesting habitat is present in the vicinity of the site. Foraging habitat is marginal and close to areas subject to ongoing disturbance. |

Appendix F Sensitive Wildlife Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|-----------------------------------|--------------------------------|--------------------------|---|--|
| <i>Elanus leucurus</i> | White-tailed kite | CFP | Nests in riparian woodland, oaks, sycamores. Forages in open, grassy areas. Is a year-round resident. | Low potential. Due to the small size of the trees on site and their proximity to areas subject to ongoing disturbance, this species would not be expected to nest on or near the site. However, marginally suitable foraging habitat is present in the vicinity and the species may be present as a transient. |
| <i>Empidonax traillii extimus</i> | southwestern willow flycatcher | FE/SE | Nests in dense riparian habitats with saturated soils, standing water, or nearby streams, pools, or cienegas. | Not expected to occur. No suitable riparian nesting or foraging habitat is present in the vicinity of the site. |
| <i>Eremophila alpestris actia</i> | California horned lark | WL | Occurs in sandy shores, mesas, disturbed areas, grasslands, agricultural lands, sparse sage scrub. | Low potential. Marginally suitable habitat is present in the vicinity of the site; however, the ongoing disturbance at the SCRTS facility reduces the potential that this species would be present. |
| <i>Falco columbarius</i> | Merlin | WL | Occurs in grasslands, agricultural fields, and occasionally mud flats. Is a rare winter visitor. | Low potential. Marginally suitable habitat is present in the vicinity of the site; however, the ongoing disturbance at the SCRTS facility reduces the potential that this species would be present. |
| <i>Falco mexicanus</i> | Prairie falcon | WL | Occurs in grassland, agricultural fields, and desert scrub. Is an uncommon winter resident, and a rare breeding resident. | Low potential. Marginally suitable habitat is present in the vicinity of the site; however, the ongoing disturbance at the SCRTS facility reduces the potential that this species would be present. |
| <i>Falco peregrinus anatum</i> | American peregrine falcon | SE/CFP/FDL | Open coastal areas, mud flats. Rare inland. Rare fall and winter resident, casual in late spring and early summer. No local breeding populations confirmed. | Low potential. Marginally suitable habitat is present in the vicinity of the site; however, the ongoing disturbance at the SCRTS facility reduces the potential that this species would be present. |

Appendix F Sensitive Wildlife Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|--|---------------------------|--------------------------|--|---|
| <i>Gymnogyps californianus</i> | California condor | FE/SE | Foraging habitat occurs in the Coast Ranges, the Tehachapi Mountains, and the foothills of the Sierra Nevada including chaparral, open grassland and oak woodland. | Not expected to occur. No suitable nesting habitat and marginally suitable foraging habitat present in the vicinity of the site. |
| <i>Haliaeetus leucocephalus</i> | Bald eagle | SE/CFP/FDL/BGEPA | Occurs in rivers and lakes. Is a rare winter visitor and rare fall migrant. Feeds mainly on fish. | Not expected to occur. No suitable nesting or foraging habitat is present in the vicinity of the site. |
| <i>Icteria virens</i> | Yellow-breasted chat | CSC | Occurs in dense riparian woodland. Is a localized summer resident. | Not expected to occur. No suitable riparian nesting or foraging habitat is present in the vicinity of the site. |
| <i>Lanius ludovicianus</i> | Loggerhead shrike | CSC | Open foraging areas are near scattered bushes and low trees. | Low potential to occur. Marginally suitable habitat is present in the vicinity of the site; however, the ongoing disturbance at the SCRTS facility reduces the potential that this species would be present.. |
| <i>Pandion haliaetus</i> | Osprey | WL | Occurs in coast, lowland lakes, rarely foothills and mountain lakes. Is an uncommon fall/winter resident, rare in spring and summer. Fish are the primary prey item. | Not expected to occur. No suitable nesting or foraging habitat is present in the vicinity of the site. |
| <i>Pelecanus occidentalis californicus</i> | California brown pelican | SE/CFP/FE | Occurs in coastal salt water and open ocean. Is a rare vagrant inland. Non-breeding year-round visitor. | Not expected to occur. No suitable nesting or foraging habitat is present in the vicinity of the site. |
| <i>Rallus longirostris levipes</i> | light-footed clapper rail | FE/SE | Occurs in herbaceous wetland, specifically cordgrass-pickleweed saltmarsh, wetlands. | Not expected to occur. No suitable wetland habitat is present in the vicinity of the site. |

Appendix F Sensitive Wildlife Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|---|--------------------------|--------------------------|--|---|
| <i>Riparia riparia</i> | Bank swallow | ST | Nests in river banks and coastal bluffs within breeding range. | Not expected to occur. No suitable riparian nesting habitat is present in the vicinity of the site. |
| <i>Vireo bellii pusillus</i> | Least Bell's vireo | FE/SE | Breeding is restricted to riparian woodland. Is a spring and fall migrant. | Not expected to occur. No suitable riparian nesting or foraging habitat is present in the vicinity of the site. |
| <i>Vireo gilvus</i> | Warbling vireo | Locally sensitive | Occurs in riparian and oak woodlands. | Not expected to occur. No suitable riparian or oak woodland nesting or foraging habitat is present in the vicinity of the site. |
| MAMMALS | | | | |
| <i>Antrozous pallidus</i> | Pallid bat | CSC | Occurs in arid deserts and grasslands, shallow caves, crevices, rock outcrops, buildings, and tree cavities, especially near water. Lives in colonies. Uses audible echolocation signal. | Low potential. Buildings and trees present on the site may provide roosting locations; however, there is no water in the immediate vicinity and the SCRTS facility is subjected to high levels of regular disturbance |
| <i>Bassariscus astutus</i> | Ringtail | CFP | Occurs in cliffs, rocky ravines, and chaparral communities. | Not expected to occur. No suitable habitat present in the vicinity of the site. |
| <i>Corynorhinus townsendii pallescens</i> | Townsend's big-eared bat | CSC | Roosts in the open hanging from walls and ceilings. Roosting sites are a limiting factor. Is extremely sensitive to human disturbance. | Not expected to occur. The SCRTS facility is subjected to high levels of regular disturbance |
| <i>Euderma maculatum</i> | Spotted bat | CSC | Occurs in a wide variety of habitats, including caves, crevices, and trees. Uses audible echolocation signal. | Low potential. Trees present on the site may provide roosting locations; however, the SCRTS facility is subjected to high levels of regular disturbance |

Appendix F Sensitive Wildlife Species Known or Potentially Occurring in the Vicinity of Urban Area MRF Alternative 2

| Scientific Name | Common Name | State and Federal | Habitat Associations | Potential for Occurrence |
|--|--------------------------|-------------------|--|--|
| <i>Neotoma lepida intermedia</i> | San Diego desert woodrat | CSC | Occurs in coastal scrub of southern California from San Diego County to San Luis Obispo County. Moderate to dense canopies are preferred. Is particularly abundant in rock outcrops rocky cliffs. | Low potential. Marginally suitable habitat is present in the vicinity of the site, though not within potential areas of disturbance. This species may be present as a transient. |
| <i>Nyctinomops macrotis</i> | Big free-tailed bat | CSC | Occurs in rugged, rocky terrain. Roosts in crevices, buildings, caves, and tree holes. | Low potential. Buildings and trees present on the site may provide roosting locations; however, the SCRTS facility is subjected to high levels of regular disturbance |
| <i>Taxidea taxus</i> | American badger | CSC | Is most abundant in drier open stages of most shrub, forest, and herbaceous habitats. | Low potential. Marginally suitable habitat is present in the vicinity of the site, though not within potential areas of disturbance. This species may be present as a transient. |
| <p><u>STATUS CODES</u></p> <p><u>Federal and State Designations:</u></p> <p>FE = Federally listed Endangered FT = Federally listed Threatened FDL = Federally Delisted ST = State-listed Threatened SE = State-listed Endangered BGEPA = Bald and Golden Eagle Protection Act</p> <p><u>Other Designations</u></p> <p>CFP = California fully protected species CSC = CDFW species of special concern WL = CDFW watch list BLM-S = Bureau of Land Management Sensitive Species</p> | | | <p><u>Potential for Occurrence:</u></p> <p>Not Expected to Occur – No current or historical records cite the species’ occurrence in or near the survey area, and the habitats associated with the species do not occur in or near the survey area.</p> <p>Low Potential to Occur – No current or historical records cite the species’ occurrence in or near the survey area, and the habitats associated with the species are low in quality or suitability, are disturbed, or do not occur in or near the survey area.</p> <p>Moderate Potential to Occur – Either a historical record cites the species’ occurrence in or near the survey area, or the habitats associated with the species are of moderate quality or suitability and occur in or near the survey area.</p> <p>High Potential to Occur – A historical record cites the species occurrence in or near the survey area, and the habitats strongly associated with the species occur in or near the survey area.</p> <p>Known to Occur – Species was observed during the current survey within survey area.</p> | |