

4.3 Biological Resources

4.3.1 Thresholds of Significance

4.3.1.1 *Riparian Habitat and Other Sensitive Natural Communities*

The Proposed Project would result in a significant adverse biological impact if the following would occur:

1. Project-related grading, clearing, construction or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 in the County Biological Guidelines, excluding those without a mitigation ratio) on or off the Project site.
2. Any of the following would occur to or within jurisdictional wetlands and/or riparian habitats as defined by the Corps, CDFW, and County: vegetation removal; grading; obstruction or diversion of water flow; adverse change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; road crossing construction; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause an adverse change in native species composition, diversity and abundance.
3. The Project would draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of three feet or more from historical low groundwater levels.
4. The Project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive habitat over the long term. Issues to be addressed include: increasing human access or predation or competition from domestic animals, pests or exotic species; altering natural drainage; and increasing noise and/or nighttime lighting to a level above ambient that has been shown to adversely affect sensitive habitats.
5. The Project does not include a wetland buffer adequate to protect the functions and values of existing wetlands.

Guideline Nos. 1 through 5 are adapted from the County's Guidelines for Determining Significance for Biological Resources (dated September 15, 2010). The guidelines address the removal of native or naturalized habitat or jurisdictional areas through Project-related activities that could directly affect habitat and plant and/or animal species located therein, as well as species diversity, foraging, breeding and access. These guidelines are consistent with Appendix G of the CEQA Guidelines and policies of ongoing local and regional habitat planning and management efforts such as the NCCP.

4.3.1.2 Special Status Species

The Proposed Project would result in a significant adverse biological effect if any of the following would occur:

6. The Project would impact one or more individuals of a species listed as federally or state endangered or threatened.
7. The Project would impact an on-site population of a County List A or B plant species, County Group 1 animal species or State Species of Special Concern.
8. The Project would impact the local long-term survival of a County List C or D plant species or a County Group 2 animal species.
9. The Project may impact arroyo toad aestivation, foraging or breeding habitat.
10. The Project would impact golden eagle habitat.
11. The Project would result in a loss of functional foraging habitat for raptors.
12. The Project would impact the viability of a core wildlife area, defined as a large block of habitat (typically 500 acres or more not limited to Project boundaries, though smaller areas with particularly valuable resources also may be considered a core wildlife area) that supports a viable population of a sensitive wildlife species or supports multiple wildlife species.
13. The Project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive species over the long term. Issues to be addressed include: increasing human access or predation or competition from domestic animals, pests, or exotic species; altering natural drainage; and increasing noise and/or nighttime lighting to a level above ambient that has been shown to adversely affect sensitive species.
14. The Project would impact occupied burrowing owl habitat.
15. The project would impact occupied cactus wren habitat, or formerly occupied coastal cactus wren habitat that has been burned by wildfire.
16. The project would impact occupied Hermes copper habitat.
17. The project would impact nesting success of the following sensitive bird species through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction.
 - Coastal cactus wren
 - Coastal California gnatcatcher
 - Least Bell's vireo

- Southwestern willow flycatcher
- Tree-nesting raptors
- Ground-nesting raptors
- Golden eagle
- Light-footed clapper rail

Guideline Nos. 6 through 14 are based on the County Guidelines for Determining Significance for Biological Resources (dated September 15, 2010). All of the County, State and Federal requirements identified in the guidelines include goals and objectives intended to protect (among other issues) sensitive species. The Project is required to comply with the County's BMO State and Federal ESAs, and associated regulations and standards, which also are background sources for these guidelines. These guidelines also address raptor species' regular use of both native and non-native grassland habitats for foraging. These species are protected under the Fish and Game Code (FGC) Sections 3500 – 3516 and the protection of grasslands for raptor foraging is addressed in the MSCP. The agencies responsible for enforcing these laws and regulations are lead and responsible agencies with respect to this EIR, including the County, USFWS and CDFW. These agencies and/or the laws and regulations they enforce are specifically referenced in Appendix G: Environmental Checklist Form of the CEQA Guidelines, which indicates that impacts to the biological resources protected by these agencies may constitute a significant environmental impact.

Criteria identified in Guideline No. 13 are intended to protect open space from edge effects related to development, with such effects potentially extending several hundred feet into open space preserves. Such effects are addressed through the NCCP and can result in significant direct changes to species composition, diversity and abundance, as well as indirect effects that can vary widely depending on the nature of development and adjacent resources. Noise and artificial lighting, for example, can affect foraging and breeding habits of all types of species, including moths (an important prey source for bats), nesting birds and nocturnal mammals. Edge effects also can adversely impact the availability of resources such as water or prey species and can change habitat suitability by altering (for example) moisture or vegetation conditions. Due to their potential to affect large areas of preserved open space, edge effects have been subject to substantial analysis in multiple species recovery plans, reports, technical journals and scientific conferences. Universally accepted standards for addressing edge effects have not been generated due to the variability in site-specific conditions. The criteria identified for potential Project-related edge effects in Guideline No. 13 were therefore generated on the basis of both local conditions and commonly accepted practices in the biological community.

Guideline Nos. 15 through 17 are based on the County Guidelines for Determining Significance for Biological Resources (dated September 15, 2010). Many cactus patches occupied by the coastal cactus wren were burned during the 2003 and 2007 wildfires in San Diego County, and Guideline No. 15 is a part of the effort to protect and restore coastal cactus wren habitat. Guideline No. 16 is based on the status of the Hermes copper under CEQA Sec. 15380. Although it is not state or federally listed, the County has determined that the Hermes copper meets the definition of endangered under CEQA based on the loss of populations due to development and wildfire, and the review of published and unpublished literature. Guideline No. 17 addresses the potential loss of offspring for particularly sensitive birds. Any direct or indirect impacts that might affect the nesting success of these species would be significant.

4.3.1.3 Wildlife Movement

The Proposed Project would result in a significant adverse biological effect if the following would occur:

18. The Project would impede wildlife access to foraging habitat, breeding habitat, water sources or other areas necessary for their reproduction.
19. The Project would substantially interfere with connectivity between blocks of habitat or would potentially block or substantially interfere with a local or regional wildlife corridor or linkage.
20. The Project would create artificial wildlife corridors that do not follow natural movement patterns.
21. The Project would increase noise and/or nighttime lighting in a wildlife corridor or linkage to levels likely to affect the behavior of the animals identified in a site-specific analysis of wildlife movement.
22. The Project does not maintain an adequate width for an existing wildlife corridor or linkage and/or would further constrain an already narrow corridor through activities such as (but not limited to) reduction of corridor width, removal of available vegetative cover, placement of incompatible uses adjacent to it and placement of barriers in the movement path.
23. The Project does not maintain adequate visual continuity (i.e., long lines-of-sight) within wildlife corridors or linkage.

Criteria related to wildlife movement corridors identified in Guideline Nos. 18 through 23 are intended to protect such areas due to their critical role in species survival. Appendix G of the CEQA Guidelines indicates that a project could have a significant impact if it would “interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors.” Wildlife movement corridors and linkages accommodate a number of essential activities for species viability, including foraging, juvenile dispersal, genetic flow, migration, and colonization. Without adequate movement areas to provide for these ecological needs, other efforts to protect wildlife are undermined, and the probability of species extirpation from a specific locale and eventual extinction may be substantially increased. Because of the importance of adequate wildlife movement corridors and linkages, they have been subject to substantial analysis in conservation biology literature. Despite this intensive study, however, universally accepted standards for maintaining corridors have not been generated due to the inherent variability in regional and local biological conditions and requirements. Optimal criteria for individual wildlife movement areas are instead based on site-specific factors, such as function (e.g., to accommodate regional linkage or local movement), individual species needs, and the type and quality of habitats present. The criteria identified in Guideline Nos. 18 through 23 incorporate the use of site-specific factors, pursuant to principles established by the conservation biology community.

4.3.1.4 Local Policies, Ordinances and Adopted Plans

A significant impact to biological resources would occur if the Proposed Project would:

28. The Project does not conform to goals and requirements outlined in any applicable Habitat Conservation Plan, Habitat Management Plan, Special Area Management Plan, Watershed Plan or similar regional planning effort.
29. For lands within the MSCP, the Project would not minimize impacts to BRCAs, as defined in the BMO.
30. The Project would preclude connectivity between areas of high habitat values, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.
31. The Project does not maintain existing movement corridors and/or habitat linkages as defined by the BMO.
32. The Project does not avoid impacts to MSCP narrow endemic species and would impact core populations of narrow endemics.
33. The Project would reduce the likelihood of survival and recovery of listed species in the wild.
34. The Project would result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (FGC).
35. The Project would result in the take of eagles, eagle eggs or any part of an eagle (Bald and Golden Eagle Protection Act [BGEPA]).

Note that Guideline Nos. 24 through 27 were determined to be not applicable to the Proposed Project. All of the Federal and State requirements identified in Guideline Nos. 28 through 35 include goals and objectives intended to protect (among other issues) sensitive species and habitats. Compliance with the referenced laws and regulations is required and is related to biological resources. Guideline Nos. 24 through 35 address required conformance with local ordinances and adopted plans, as listed in the County's Guidelines for Determining Significance of Biological Resources. CEQA and the County EIR Format and General Content Requirements support the inclusion of an evaluation of compliance with applicable regulations within the EIR.

4.3.2 Proposed Project

4.3.2.1 Analysis of Project Effects and Determination as to Significance

Riparian Habitat and Other Sensitive Natural Communities (Guideline Nos. 1 through 5)

Vegetation Communities

Impacts to vegetation communities from implementation of all four phases of the Proposed Project are shown on Figure 4.3-1, *Impacts to Vegetation Communities*. The Proposed Project would result

in direct impacts (i.e., permanent habitat removal and isolation of an adjacent open space parcel) to approximately 98.7 acres of sensitive vegetation (Tiers I through III¹), including 0.27 acre of cismontane alkali marsh (Impact BI-1), 0.06 acre of tamarisk scrub (BI-2), 0.01 acre of disturbed wetland (BI-3), 0.5 acre of native grassland (BI-4), 66.7 acres of Diegan coastal sage scrub including disturbed (BI-5) and 31.1 acres of non-native grassland (BI-6). Please see Figure 4.3-1 and Table 4.3-1, *Impacts to Vegetation Communities*). Impacts to these vegetation communities are considered significant because Guideline No. 1 would be exceeded.

In addition, 9.3 acres of disturbed habitat would be affected upon implementation of the Proposed Project. Disturbed habitat is not a sensitive vegetation community; therefore, impacts to disturbed habitat would be less than significant.

Jurisdictional Areas

Impacts to Corps jurisdictional areas resulting from Proposed Project implementation include 0.28 acre of wetlands and 0.16 acre of non-wetland Waters of the U.S. (Figure 4.3-2a, *Impacts to Corps Jurisdictional Areas*, and Table 4.3-2, *Impacts to Jurisdictional Areas*). Impacts to Corps jurisdictional areas would be significant because Guideline No. 2 would be exceeded. (Impact BI-7)

Impacts to RWQCB jurisdictional areas resulting from Proposed Project implementation include 0.28 acre of wetlands and 0.21 acre of streambed, pond, and intermittent pond (Figure 4.3-2b, *Impacts to RWQCB Jurisdictional Areas*, and Table 4.3-2). Impacts to RWQCB jurisdictional areas would be significant because Guideline No. 2 would be exceeded. (Impact BI-8)

Impacts to CDFW jurisdictional areas resulting from Proposed Project implementation include 0.34 acre of CDFW wetlands, which are also County RPO wetlands, and 0.19 acre of streambed and pond (Figure 4.3-2c, *Impacts to CDFW Jurisdictional Areas*, Figure 4.3-2d, *Impacts to County RPO Wetlands*, and Table 4.3-2). Impacts to CDFW jurisdictional areas would be significant because Guideline No. 2 would be exceeded. (Impact BI-9) Impacts to County RPO wetlands would not be significant because the project is exempt from the RPO.

Groundwater Table

No groundwater withdrawals or activities that could result in lowering of the groundwater table are proposed. As discussed in the Subchapter 4.2 of this EIR, the static water level is approximately 300 feet below ground surface at the well site near the northern impact footprint boundary, which is above the proposed maximum excavation depth, but below the rooting depth of plants observed on site. In addition, excavation would be terminated at (or slightly below) the level where significant inflow of groundwater occurs; therefore, no impact to the groundwater table would occur because conditions under Guideline No. 3 would not occur.

¹ The County MSCP Subarea Plan habitat classification system identifies habitats as Tier I (most sensitive) through Tier IV (least sensitive), according to their rarity and ecological importance.

Indirect Impacts

The Proposed Project would include a permanent fence along the outside edge of extraction areas that would help keep people out of the adjacent open space, and access restriction/trespass signs would be placed along the western and southern boundaries of the open space and along Otay Truck Trail. The fencing will be six-foot tall galvanized chain link. In addition, an increase in domestic pets is not anticipated given that the Proposed Project consists of mineral extraction activities and not a residential subdivision. Nonetheless, given that the Proposed Project would increase the number of people near the open space, potential indirect impacts associated with human access could be significant pursuant to Guideline No. 4. (Impact BI-10)

Invasive, non-native plants could colonize areas disturbed by construction and could potentially spread into open space. The Proposed Project would include restoration of slopes in the development footprint adjacent to the proposed open space with a native plant biological buffer to minimize this potential effect. In addition, upon completion of the Proposed Project, in areas not adjacent to open space, pad areas would be revegetated with native or non-invasive non-native species that would minimize the chance for colonization and spread of invasive species into the open space. Nonetheless, potential indirect impacts associated with invasive plant species could be significant pursuant to Guideline No. 4. (Impact BI-11)

No indirect impacts to vegetation communities associated with increased nighttime lighting and/or noise would occur pursuant to Guideline No. 4; however, indirect lighting and noise impacts to wildlife are discussed below under Guideline No. 13.

Wetland Buffers

Since the Proposed Project is exempt from the RPO (see Subsection 3.3.1.3), and no wetland buffer is required, no impact to wetland buffers would occur pursuant to Guideline No. 5.

Special Status Species (Guideline Nos. 6 through 14)

Sensitive Plant Species

The Proposed Project would remove five listed and/or County Group A or B species from the impact footprint through clearing and grading: Otay tarplant, variegated dudleya, San Diego goldenstar, San Diego barrel cactus and San Diego marsh-elder (Figure 4.3-3, *Federal, State and County (List A and B) Sensitive Plant Species/Impacts*, and Table 4.3-3, *Sensitive Plant Species Analysis*).

Otay Tarplant

Approximately 30 individuals of Otay tarplant would be removed during implementation of the Proposed Project. A population of 97 individuals occurs immediately south of the Project site according to the California Natural Diversity Database (CNDDB; CDFW 2006), a population of 30 individuals occurs immediately west of the Project site (EDAW 2001a) and approximately 800 individuals occur in six locations within grasslands southeast of the Project site (EDAW 2001a; Figure 4.3-4, *Regional Otay Tarplant, Variegated Dudleya and San Diego Barrel Cactus Locations*). In addition, a population in excess of 730,000 individuals occurs within and

adjacent to Johnson Canyon located within the Lonestar Ridge project site approximately two miles west of the Project site and north of Brown Field (HELIX 2006). The Johnson Canyon population represents the second largest known Otay tarplant population in California and is proposed for preservation under the City of San Diego MSCP. The Project site supports 23.27 acres of potential habitat for Otay tarplant, of which 16.69 acres would be removed during clearing and grading. The Project also would result in removal of approximately 105.5 acres of Otay tarplant critical habitat. Impacts to Otay tarplant and its critical habitat would be significant because Guideline No. 6 would be exceeded. (Impact BI-12)

Variegated Dudleya

Implementation of the Proposed Project would remove approximately 120 variegated dudleya individuals. An additional 4,867 individual variegated dudleya occur within the remainder of the Project site and would be conserved. In addition, approximately 6,100 individuals of variegated dudleya occur in six locations within grasslands in the region (EDAW 2001a), and approximately 68,650 individuals of variegated dudleya occur within the Lonestar Ridge project site located approximately two miles west of the Project site, representing one of the largest known populations of this species (HELIX 2006; Figure 4.3-4). Therefore, the Proposed Project would remove 2.4 percent of this species within the Project site and approximately 0.15 percent of the population in the region. The Proposed Project would also remove 13.06 acres of the 61.71 acres of potential habitat that occur on site. Project impacts to variegated dudleya would be significant because Guideline No. 7 would be exceeded. (Impact BI-13)

San Diego Goldenstar

Approximately 1,214 individuals of San Diego goldenstar would be removed by the Proposed Project. An additional 11,174 individual San Diego goldenstar would be conserved within the Project site. This species was observed in high densities within grassland and sage scrub habitats in the region. Though population estimates were impossible to quantify due to their high numbers, it is assumed that at least 200,000 individuals occur within the region (EDAW 2001a). Given that this species is an annual, only the data from the HELIX surveys are used in this report as data from the EDAW survey is duplicative. The Proposed Project would remove approximately 9.8 percent of the approximately 12,388 individual San Diego goldenstar within the Project site and approximately 0.5 percent of the regional population of this County List A plant species would be removed as a result of Proposed Project implementation. The site includes 82.53 acres of potential San Diego goldenstar habitat, of which 13.06 acres would be removed. Project impacts to San Diego goldenstar would be significant because Guideline No. 7 would be exceeded. (Impact BI-14)

San Diego Barrel Cactus

Approximately 171 individuals of San Diego barrel cactus (50.7 percent) on site would be removed by the Proposed Project and 25 individuals (100 percent) in the off-site parcel would be removed upon implementation of the Proposed Project. An additional 166 San Diego barrel cactus would be conserved within the Project site. Approximately 700 San Diego barrel cactus occur throughout the sage scrub and chaparral communities in the eastern portions of the region (EDAW 2001a; Figure 4.3-4). Combining the on-site and off-site impacts, approximately 54.1 percent of

362 individual San Diego barrel cactus would be removed within the Project site. In accordance with the BMO, these impacts to San Diego barrel cactus would be significant because Guideline No. 7 would be exceeded. (Impact BI-15)

San Diego Marsh-elder

The Proposed Project would remove approximately 142 individuals of San Diego marsh-elder. An additional 148 San Diego marsh-elder individuals occur within the Project site and would be conserved. Approximately 2,000 San Diego marsh-elder individuals occur in drainages throughout the region (EDAW 2001a). Approximately 49 percent of the 290 San Diego marsh-elder within the Project site would be removed upon implementation of the Proposed Project. In accordance with the BMO, impacts to San Diego Marsh-elder would be significant because Guideline No. 7 would be exceeded. (Impact BI-16)

Other Sensitive Plant Species

No impacts to Dunn's mariposa lily, Tecate cypress, Gander's pitcher sage, Munz's sage, Orcutt's bird's beak, or summer holly would occur upon implementation of the Proposed Project.

Remaining Sensitive Plant Species

Implementation of the Proposed Project would remove the following County Group C or D plant species from the impact footprint: San Diego needlegrass, western dichondra, southwestern spiny rush, San Diego sunflower and ashy spike-moss (the latter two species occur on the off-site Otay Crossings Commerce Park parcel; Figure 4.3-5, *County (List D) Sensitive Plant Species /Impacts*. San Diego needlegrass, western dichondra, southwestern spiny rush, San Diego sunflower, and ashy spike-moss are all known to occur in numerous locations in the area, including within the proposed open space and in preserved habitat to the north and east of the site, ensuring their local long-term survival regardless of the impacts of the Proposed Project. While removal of these sensitive species may be potentially adverse to the local populations within the Project impact footprint, the Project-related impacts would not affect the regional long-term survival of these species because they are all known to occur in numerous locations in the area, including within the proposed Otay Hills Conservation Area and in preserved habitat to the north and east of the site, ensuring their local long-term survival regardless of the impacts of the Proposed Project; therefore, under Guideline Nos. 7 and 8, impacts to these species would be less than significant. In addition, no impacts to Coulter's matilija poppy or Palmer's grappinghook would occur.

Sensitive Animal Species

The Proposed Project would directly and/or indirectly affect all 19 sensitive animal species observed or detected within the Project site.

Quino Checkerspot Butterfly

The Proposed Project would result in removal to 5 of 57 (or 8.8 percent) locations where QCB were observed within the Project site (Figure 4.3-6a, *Impacts to Quino Checkerspot Butterfly [QCB] and Host Plant Locations*, and Table 4.3-4, *Sensitive Animal Species Analysis*). In addition, implementation of the Proposed Project would remove (on and off site) 104.9 acres of occupied

QCB habitat and 97.8 acres of QCB critical habitat. Based on the protocol for identifying occupied habitat described in the draft Conservation Policy Paper for the QCB Amendment to the MSCP dated 2009, 410.7 of the 414.4 acres (project site and off-site parcel) is considered to be occupied. The Proposed Project configuration would preserve the most prominent hilltop and southerly ridge within the Project site and provide for long-term management and preservation of QCB habitat within a large area of preserved habitat. The Proposed Project also would remove three moderate host plant locations totaling approximately 13,752 dwarf plantain individuals which represent 1 percent of the dwarf plantain on the project site. Therefore, impacts to QCB and its critical habitat would be significant because Guideline No. 6 would be exceeded. (Impact BI-17)

Coastal California Gnatcatcher

The Proposed Project would remove one pair (20 percent) of the five pairs of CAGN observed/detected within the Project site (Figure 4.3-6b, *Impacts to Sensitive Animal Species [except QCB]*, and Table 4.3-4). The Project would also remove 64.2 acres of CAGN habitat (Diegan coastal sage scrub [including disturbed] on site; an additional 1.0 acre would be impact neutral). The Proposed Project would also remove 2.5 acres of CAGN habitat off site where the CAGN was not observed. In addition, implementation of the Proposed Project would remove 77.1 acres of CAGN critical habitat on and off site (an additional 0.9 acre would be impact neutral). Therefore, impacts to CAGN and its critical habitat would be significant because Guideline Nos. 6 and 12 would be exceeded. (Impact BI-18)

Burrowing Owl

One location where burrowing owl was observed would be removed upon implementation of the Proposed Project (Figure 4.3-6b and Table 4.3-4). In addition, the Project would impact 31.1 acres of non-native grassland and 0.5 acre of native grassland, which are burrowing owl habitats. Implementation of the Proposed Project would result in a significant impact to burrowing owl, as any impact to this species or its habitat would be considered detrimental to its regional long-term survival. This impact to burrowing owl would be significant because Guideline Nos. 7 and 14 would be exceeded. (Impact BI-19)

Golden Eagle

One golden eagle was observed flying over the Project site (Figure 4.3-6b). The Project site lies within an established golden eagle territory. Although a portion of the Project site is within reported foraging habitat of a pair known to nest in O’Neal Canyon, telemetry data to date suggests that the pair primarily uses areas east of the Project site. Specifically, one female golden eagle was monitored with radio telemetry by the U.S. Geological Survey in 2015 (Tracy et. al. 2016). No data was collected in 2016 (Tracy et. al. 2017). The data shows scattered data points within the western portion of the proposed open space, with the large majority of the data points occurring in the very eastern edge of proposed open space and undeveloped lands to the east (Figure 4.9-7, *Biotelemetry Data for Captured Golden Eagles*). The closest known nest location is approximately 1.2 miles from the Proposed Project footprint (Wildlife Research Institute 2005) and is not within line of site due to existing topography. This topographic separation will minimize noise and activity impacts at the nest location. Impacts resulting from implementation of the Proposed Project would not occur within one mile of an existing golden eagle nest (Table 4.3-4); therefore,

no direct impacts would occur to nesting locations of this species. Impacts to approximately 98.3 acres of foraging habitat (native grassland, Diegan coastal sage scrub [including disturbed] and non-native grassland) for golden eagles (as well as other raptors) would occur (an additional 2.4 acres would be impact neutral). Impacts to golden eagle (and other raptor) foraging habitat would be significant under Guideline Nos. 10 and 11. (Impact BI-20)

Remaining Sensitive Animal Species

The Proposed Project would result in permanent direct removal of potential habitat of or locations where the following sensitive animal species were observed or detected: coast horned lizard, Belding's orange-throated whiptail, coastal rosy boa, coast patch-nosed snake, coastal whiptail (including on the off-site Otay Crossings Commerce Park parcel), southern California rufous-crowned sparrow, loggerhead shrike, grasshopper sparrow, California horned lark, Cooper's hawk, mountain lion, and San Diego black-tailed jackrabbit (Figure 4.3-6b). Under Guideline No. 7, direct impacts to these species would be significant. (Impact BI-21)

No impacts to locations where the following six sensitive animal species were observed or detected would occur: red-diamond rattlesnake, Bell's sage sparrow, turkey vulture, northern harrier, barn owl and southern mule deer would occur upon Project implementation, although there is the potential for these species to utilize the impact footprint. Pursuant to Guideline Nos. 7 and 8, direct impacts to these species habitat would be significant (Impact BI-21).

Some animals such as snakes and mammals may get into the excavated quarry pit, and due to its steep sides, may not be able to exit. In addition, some animals, including burrowing owls, are known to use open pipes, culverts, excavated holes or other burrow-like structures and may be attracted to the development footprint where they could be injured or killed. Such direct impacts would be significant to sensitive animals pursuant to Guideline Nos. 7 and 8. (Impact BI-22)

The Proposed Project site does not support arroyo toad aestivation, foraging or breeding habitat. Accordingly, no impact to arroyo toad habitat would occur pursuant to Guideline No. 9.

Indirect Impacts

Potential indirect impacts from Project implementation could include noise, night lighting, domestic animals and colonization of invasive species and fugitive dust.

Noise

Noise from such sources as grading, grubbing, vehicular traffic, and extraction and processing activities (includes blasting) would be an impact to local wildlife. Construction of the facility, aggregate extraction and processing operations would require the daily use of heavy equipment that would elevate existing noise levels within the Project site. Noise-related impacts would be significant if sensitive species (such as CAGNs) were displaced from their nests and failed to successfully rear offspring.

A noise analysis, prepared by HELIX (2014), determined that the 60 dBA L_{EQ} resulting from the processing plant operations and extraction activities (phase 2a through 2c) would extend out past the ultimate Project impact footprint at distances of between 12 and 875 feet. This determination

was derived from existing and proposed topography and modeling using the known noise level of various extraction equipment. Excavation activities would be located in only one location at any given time, rather than around the entire Project perimeter. The distance between operations and the 60 dBA L_{EQ} limit assumes that extractive equipment is operating immediately adjacent to the property line and no mitigating circumstances occur. Thus, the noise impacts would be localized and not spread across the entire area at one time. Also, excavation of the material would utilize a bench construction technique. This technique results in a shear working face after initial construction. These approximate 20- to 60-foot high slopes would act as a noise barrier when equipment is near the working face.

In order to determine potential indirect impact acreage to potential CAGN habitat (Diegan coastal sage scrub) from excavation activities, noise impacts were calculated based on taking three sample points at the edge of the Proposed Project footprint, extending out to the 60 dBA L_{EQ} noise contour, and calculating average Diegan coastal sage scrub (including disturbed) acreage outside the Project footprint but within the 60 dBA L_{EQ} noise contour. This indirect noise impact is estimated to be approximately 20.6 acres of potential CAGN habitat (Degan coastal sage scrub [including disturbed]) for the processing plant only. The noise impact is expected to be the same (20.6 acres) for other species that use coastal sage scrub on site, including Bell's sage sparrow, loggerhead shrike, Southern California rufous-crowned sparrow, and California horned lark since 60 dBA L_{EQ} is used as a guideline for all passerine species. A significant noise impact is not expected to affect burrowing owl, northern harrier, turkey vulture, or barn owl since their usage of the site is quite limited (each of these species was observed only one time in all of the surveys of the site). A site assessment conducted by Thomas Dietsch of the USFWS on July 27, 2016 confirmed that based on the location of the golden eagle nest, the existing topography between the nest and the proposed quarry site would shield the nest from direct line of site and noise impacts from the quarry; therefore, a significant noise impact to golden eagle is not expected since the site is not within 4,000 feet of a golden eagle nest nor within a heavy foraging area for the O'Neal Canyon eagle pair.

Project construction could impact the nesting success of CAGN, tree-nesting raptors, and ground-nesting raptors, all of which have the potential to nest on and/or in the immediate vicinity of impact areas. Noise from such sources as clearing, grading, and blasting could result in an impact to wildlife. Noise-related impacts would be considered significant if sensitive species (such as coastal California gnatcatcher and raptors) were displaced from their nests and failed to successfully rear offspring. Raptors or other sensitive bird species nesting within any area impacted by noise exceeding 60 dB L_{EQ} or ambient could be significantly impacted. If coastal California gnatcatchers, burrowing owls, or tree-nesting raptors are nesting within 500 feet of the impact area, or northern harriers are nesting within 900 feet of the impact area, effects resulting from construction noise could be significant. These temporary indirect noise impacts would be significant because Guideline Nos. 13 and 17 would be exceeded. (Impact BI-23)

Regarding noise impacts to QCB, HELIX consulted with QCB expert Dennis Murphy, Ph.D., whose opinion is that beyond the concussion zone (presumed to be fairly limited), noise or vibration would likely not be an issue for QCB (Murphy, pers. comm. 2009). The concussion area would be limited because the blast occurs below ground; thus, noise impacts to QCB are not anticipated.

Night Lighting

Night lighting on native habitats can prevent nocturnal wildlife from using an area. There is potential for night lighting at staging areas during construction or during operations for security purposes for the Proposed Project. It is anticipated by the Project Applicant that some operational activities would occur at night. Equipment maintenance and export of material would potentially occur 24 hours per day in emergency situations. Otherwise, normal hours of operation for processing activities would occur from 5:00 a.m. to 10:00 p.m., which may require lighting during the earliest and/or latest times. Additionally, artifact light from nearby existing industrial or commercial activities may occur within the Project site. Night lighting could cause an increased loss in native wildlife as it could provide nocturnal predators with an unnatural advantage over their prey. All proposed Project-related lighting would be required to adhere to Division 9 of the San Diego County LPC. One entry light would be located at the site perimeter, adjacent to the street providing access to the Project (within a light industrial/commercial district). Other lights would be located interior to the site, with lights focused on areas of activity, and not onto off-site locales. Lights would primarily be attached to stationary plant equipment. Lighting within the Project impact footprint adjacent to preserved habitat would be of the lowest illumination allowed for human safety, selectively placed, and shielded and directed away from preserved habitat to ensure that no light would spill beyond the boundary of the Project impact footprint. As such, **impacts from night lighting would be less than significant** because Guideline No. 13 would not be exceeded.

Domestic Animals and Colonization of Invasive Species

As discussed above in Section 4.3.2, *Proposed Project*, the Proposed Project would include a 6-foot chain link fence along the outside edge of extraction areas that would help keep people out of the adjacent open space, and access restriction/trespass signs would be placed along the western and southern boundaries of the open space. In addition, an increase in domestic pets is not anticipated given that the Proposed Project consists of mineral extraction activities and not a residential subdivision. Nonetheless, potential indirect impacts associated with human access could be significant pursuant to Guideline No. 13. (Impact BI-10)

As previously stated, invasive, non-native plants could colonize areas disturbed by construction and could potentially spread into open space. Therefore, potential indirect impacts associated with invasive plant species could be significant pursuant to Guideline No. 13. (Impact BI-11)

Fugitive Dust

Fugitive dust produced by construction and extraction operations has the potential to disperse onto preserved vegetation, which may reduce the overall vigor of individual plants by reducing their photosynthetic capabilities and increasing their susceptibility to pests or disease. This in turn could affect animals dependent on these plants (e.g., QCB or seed-eating rodents). Fugitive dust also may make plants unsuitable as habitat for insects and birds. Breeding birds and mammals may temporarily or permanently leave their territories to avoid construction and/or extraction operations, which could lead to reduced reproductive success and increased mortality. As part of the Project design measures, active construction and extraction areas as well as unpaved surfaces would be watered every three hours pursuant to APCD Rule 55 to minimize dust generation and

loaded trucks would be top-watered to prevent roadway dust. Compliance with APCD permits requires the use of best available control technology that ensures a relatively emission- and dust-free operation (refer to Subsection 4.6.2.1, *Analysis of Project Effects and Determination as to Significance*, in the Air Quality section, for more discussion). As such, impacts from fugitive dust would be less than significant as Guideline No. 13 would not be exceeded.

Cactus Wren Habitat

The Proposed Project site does not support occupied coastal cactus wren habitat. As such, Guideline No. 15 would not be exceeded, and no significant impact would occur.

Hermes Copper Butterfly Habitat

The Proposed Project site has only scattered individual host plants (spiny redberry [*Rhamnus crocea*]) and does not support occupied Hermes copper Butterfly habitat. As such, Guideline No. 16 would not be exceeded, and no significant impact would occur.

Wildlife Movement (Guideline Nos. 18 through 23)

The Proposed Project would directly impact nesting/foraging habitats of several sensitive animal species, and construction activity and extraction operations are expected to impede local wildlife movement slightly given that extraction operations would occur over many years; however, the Project is designed to maintain connectivity of preserved habitats in open space on site with connections to off-site vacant lands. Fencing of the extraction operation will direct wildlife away from the quarry and towards open space. Land surrounding the Proposed Project to the north and east is undeveloped and contributes to a larger habitat area for several animal species. These animal species can still use most habitats on site and will still have access to water sources, foraging and breeding habitats off site without restriction with the Project. These areas provide a substantial nearby area for nesting/foraging; therefore, impacts to wildlife access would be less than significant pursuant to Guideline No. 18.

The Project site is not part of a regional corridor or linkage (see Section 1.4.8, *Habitat Connectivity, Wildlife Corridors, and Nursery Sites*, of Appendix E to this EIR) but is part of a large contiguous block of open space that can support wide-ranging species and may act as a core wildlife area. The Proposed Project is designed to maintain connectivity of preserved habitats in the 304.6-acre mitigation area with off-site vacant lands to the north and east. Therefore, the site would not interfere substantially with connectivity between blocks of habitats. Pursuant to Guideline No. 19, impacts to habitat connectivity would be less than significant. Impacts associated with artificial wildlife corridors would be less than significant pursuant to Guideline No. 20. Impacts associated with noise and night lighting with regard to wildlife movement would not occur pursuant to Guideline No. 21. Finally, there would be no impacts associated with the narrowing of wildlife corridors (Guideline No. 22) or relating to visual continuity within wildlife corridors or linkages (Guideline No. 23).

Local Policies, Ordinances and Adopted Plans (Guideline Nos. 28 through 35)

Impacts to sensitive plant and animal species would be mitigated, as appropriate. The Proposed Project exceeds the 20 percent encroachment limit set by the BMO for two plant species

(San Diego barrel cactus and San Diego marsh-elder), and thus needs an exception to the BMO avoidance criterion under Section 86.509(b). The Proposed Project qualifies for exceptions to the BMO avoidance criterion for those two plant species because the applicant has spent several years working with County staff and the Wildlife Agencies on an adequate biological mitigation strategy to address sensitive biological habitat on the Proposed Project site. The applicant proposes to fund implementation of an RMP that includes measures to protect and enhance the preserved and relocated populations of San Diego barrel cactus and San Diego marsh-elder. The Proposed Project's mitigation would therefore be considered consistent with the goals of the BMO and MSCP for these species (see sections 2.1.4 and 2.1.5 of the BTR [Appendix E]). Accordingly, the Proposed Project would conform to goals and requirements outlined in the Subarea Plan, and, pursuant to Guideline No. 28, no impact associated with the conformance of goals and requirements of the County Subarea Plan would occur.

Although habitat located within the Project site qualifies as a BRCA (as defined by the BMO), the Project has been designed to minimize removal of habitat within the BRCA to the maximum extent practicable. The Project removal of habitat and sensitive species have been reduced and minimized through many iterations of Project design over many years of working with the County and wildlife agencies. The Proposed Project habitat removal has been reduced from 210 acres in the original proposal to 102.7 acres with the Proposed Project, and the most significant populations of QCB, variegated dudleya, San Diego goldenstar and Otay tarplant have been avoided. Habitat removal for all other covered species have also been significantly reduced by the revised footprint. Therefore, pursuant to Guideline No. 29, impacts to the BRCA would be minimized and less than significant.

Construction activity and extraction operations would not impact any regional wildlife corridors or linkages, nor would the Project preclude connectivity between areas of high habitat values. The Proposed Project is designed to maintain connectivity of preserved habitats on site with connections to off-site vacant lands. Accordingly, the site would continue to provide regional landscape level conservation function. In addition, mitigation for impacts to sensitive vegetation communities would include the preservation of 304.6 acres of habitat on site. Therefore, pursuant to Guideline Nos. 30 and 31, impacts to habitat connectivity/linkages and regional wildlife corridors would be less than significant.

The Proposed Project would avoid direct impacts to two County narrow endemic plant/animal species that have been observed on site (Dunn's mariposa lily and golden eagle). Therefore, pursuant to Guideline No. 32, no direct impact to Dunn's mariposa lily or golden eagle would occur. There would be a removal of foraging habitat for the golden eagle. However, two narrow endemic plant species (Otay tarplant and variegated dudleya) and two narrow endemic animal species (QCB and burrowing owl) that occur on site would be impacted. It should be noted that the Project has been substantially redesigned to minimize impacts to QCB. Nonetheless, pursuant to Guideline No. 32, significant impacts to Otay tarplant, variegated dudleya, QCB and burrowing owl (MSCP narrow endemic species) would occur. (Impact BI-24)

Individuals or locations of three listed species (Otay tarplant, QCB and CAGN) would be removed by Project implementation. These impacts, however, would not reduce the likelihood of survival and recovery of these species in the wild due to the small number of individuals/locations to be removed and the presence of these species within the proposed open space. Therefore, pursuant

to Guideline No. 33, impacts associated with the survival and recovery of listed species would be less than significant.

Implementation of the Proposed Project could potentially result in the killing of migratory birds or destruction of active bird nests and/or eggs (all of which are protected by the FGC). Accordingly, pursuant to Guideline No. 34, significant impacts to migratory birds would occur. (Impact BI-25)

As previously discussed, the Project site lies within an established golden eagle territory. The closest known nest location is from O’Neal Canyon, which is approximately 1.2 miles from the development footprint (Wynn, pers. comm. 2014; Wildlife Research Institute 2005). Implementation of the Proposed Project would not result in the take of eagles, eagle eggs, or any part of an eagle. Accordingly, pursuant to Guideline No. 35, impacts to eagles would be less than significant.

4.3.2.2 Significance of Impacts Prior to Mitigation

The following significant impacts related to biological resources would occur with Project implementation prior to implementation of Project mitigation measures:

Riparian Habitat and Other Sensitive Natural Communities

- Impact BI-1 Implementation of the Proposed Project would result in removal of 0.27 acre of cismontane alkali marsh.
- Impact BI-2 Implementation of the Proposed Project would result in removal of 0.06 acre of tamarisk scrub.
- Impact BI-3 Implementation of the Proposed Project would result in removal of 0.01 acre of disturbed wetland.
- Impact BI-4 Implementation of the Proposed Project would result in removal of 0.5 acre of native grassland.
- Impact BI-5 Implementation of the Proposed Project would result in removal of 66.7 acres of Diegan coastal sage scrub (including disturbed).
- Impact BI-6 Implementation of the Proposed Project would result in removal of 31.1 acres of non-native grassland.
- Impact BI-7 Implementation of the Proposed Project would result in removal of 0.44 acre of Corps jurisdictional areas.
- Impact BI-8 Implementation of the Proposed Project would result in removal of 0.49 acre of RWQCB jurisdictional areas.
- Impact BI-9 Implementation of the Proposed Project would result in removal of 0.53 acre of CDFW jurisdictional areas.

Impact BI-10 Implementation of the Proposed Project could result in indirect impacts associated with human access into adjacent open space that will be dedicated to the County to protect sensitive habitats.

Impact BI-11 Implementation of the Proposed Project could result in indirect impacts associated with the colonization and spread of invasive plant species into open space that will be dedicated to the County to protect sensitive habitats.

Special Status Species

Impact BI-12 Approximately 30 individuals of Otay tarplant would be removed by the Proposed Project. The Project would also result in impacts to 16.69 acres of potential habitat and 105.5 acres of Otay tarplant critical habitat.

Impact BI-13 Approximately 120 individuals of variegated dudleya and 13.06 acres of potential habitat would be removed by the Proposed Project.

Impact BI-14 Approximately 1,214 individuals of San Diego goldenstar and 13.06 acres of potential habitat would be removed by the Proposed Project.

Impact BI-15 Approximately 196 individuals of San Diego barrel cactus would be removed by the Proposed Project.

Impact BI-16 Approximately 142 individuals of San Diego marsh-elder would be removed by the Proposed Project.

Impact BI-17 Five locations where QCB were observed would be removed by the Proposed Project. The Project would also impact 104.9 acres of QCB occupied habitat and 97.8 acres of QCB critical habitat. In addition, the Proposed Project would impact three moderate host plant locations totaling approximately 13,752 dwarf plantain individuals, which represents one percent of the dwarf plantain on the Project site.

Impact BI-18 One pair of CAGN that was observed/detected would be removed by the Proposed Project. The Project would also impact 66.7 acres of CAGN habitat (Diegan coastal sage scrub [including disturbed]). In addition, 77.1 acres of CAGN critical habitat would be removed within the Project site.

Impact BI-19 One location where burrowing owl was observed would be removed by the Proposed Project. In addition, the Project would impact 31.6 acres of burrowing owl habitat (native and non-native grasslands).

Impact BI-20 Approximately 98.7 acres of foraging habitat for golden eagles and other raptors (comprised of Diegan coastal sage scrub and grasslands) would be removed by implementation of the Proposed Project.

Impact BI-21 The Proposed Project would directly impact locations where coast horned lizard, coastal whiptail, southern California rufous-crowned sparrow, loggerhead shrike, grasshopper sparrow, California horned lark and San Diego black-tailed jackrabbit

were observed or detected. In addition, although not observed on site (or within the off-site parcel), Belding's orange-throated whiptail is assumed to be present within the Project site and impacts to this species are anticipated.

- Impact BI-22 Implementation of the Proposed Project may cause some animals to get into the excavated quarry pit, and not be able to exit. In addition, some animals, including burrowing owls, are known to use open pipes, culverts, excavated holes or other burrow-like structures and may be attracted to the development footprint where they could be injured or killed.
- Impact BI-23 Noise from construction, vehicular traffic, and extraction and processing activities (including blasting) may impact nesting CAGN if noise at the nest exceeds 60 dBA LEQ. In addition, indirect noise impacts to 20.6 acres of potential CAGN habitat (Diegan coastal sage scrub [including disturbed]) would occur as a result of the Proposed Project.

Local Policies, Ordinances and Adopted Plans

- Impact BI-24 Implementation of the Proposed Project would significantly impact four narrow endemic species: Otay tarplant, variegated dudleya, QCB and burrowing owl.
- Impact BI-25 Implementation of the Proposed Project could potentially result in the killing of migratory birds or destruction of active bird nests and/or eggs.

4.3.2.3 Mitigation Measures

The Proposed Project would significantly impact sensitive vegetation communities, plant and animal species, and jurisdictional areas through direct loss and could cause significant indirect impacts. Mitigation ratios used below are from the BMO. Mitigation measures shall be finalized through consultation with the resource agencies and County as part of the required regulatory processes. Evidence shall be demonstrated that all applicable Federal and State wetland and endangered species permits have been obtained. Mitigation for removal of vegetation communities (Table 4.3-5, *Impacts and Mitigation for Sensitive Vegetation Communities*) shall be implemented prior to or concurrently with impacts, as appropriate. Indirect impacts shall be avoided or mitigated through implementation of mitigation measures prior to the adverse effect.

The proposed mitigation measures are consistent with the requirements of the MSCP and the Subarea Plan, as detailed in the BTR. The adequacy of protection for each species is discussed in detail in the BTR. The proposed preserve design for the Project is focused on preservation of adequate QCB habitat in a defensible reserve design as the first priority. In addition, the Proposed Project is anticipated to preserve substantial acreage with prior CAGN sightings.

Riparian Habitat and Other Sensitive Natural Communities

- M-BI-1 Mitigation for removal of 0.27 acre of cismontane alkali marsh (BI-1) shall occur at a 3:1 ratio (Table 4.3-5) through on- or off-site creation, restoration and/or enhancement of 0.81 acre of wetland or riparian habitat, or alternative mitigation acceptable to the County and resource agencies prior to commencement of construction of extraction

operation support facilities or extraction operations. At least 0.27 acre of the mitigation shall be habitat creation to ensure no-net-loss of wetlands. Mitigation for cismontane alkali marsh shall occur as follows:

Prior to the clearing of habitat and commencement of construction of extraction operation support facilities or extraction operations for the Proposed Project, the applicant shall either: (1) purchase wetland habitat credits, (2) identify (and acquire, if necessary) appropriate habitat within the County and prepare a wetland restoration plan, or (3) identify and provide alternative mitigation acceptable to the County, the Corps, RWQCB, and CDFW. Such alternative mitigation could include financial or in-kind contributions to a larger restoration or enhancement project. The wetland restoration plan would require written approval from the Corps, RWQCB, CDFW, and County. In addition, a bond shall be provided to the County prior to habitat clearing and commencement of construction of extraction operation support facilities or extraction operations to cover 120 percent of any restoration plan implementation costs. A biological open space easement shall be placed over all areas used for wetland mitigation and an endowment provided for management in perpetuity. This shall be in addition to the biological open space proposed for areas preserved on site and its associated endowment.

- M-BI-2 Mitigation for removal of 0.06 acre of tamarisk scrub (BI-2) shall occur at a 1:1 ratio (Table 4.3-5) through on- or off-site creation of 0.06 acre of wetland or riparian habitat, or alternative mitigation acceptable to the County and resource agencies prior to commencement of construction of extraction operation support facilities or extraction operations. Mitigation for tamarisk scrub shall occur as follows:

Prior to the clearing of habitat and commencement of construction of extraction operation support facilities or extraction operations for the Proposed Project, the applicant shall either: (1) purchase wetland habitat credits, (2) identify (and acquire, if necessary) appropriate habitat within the County and prepare a wetland restoration plan, or (3) identify and provide alternative mitigation acceptable to the County, the Corps, RWQCB, and CDFW. Such alternative mitigation could include financial or in-kind contributions to a larger restoration or enhancement project. The wetland restoration plan would require written approval from the Corps, RWQCB, CDFW, and County. In addition, a bond shall be provided to the County prior to habitat clearing and commencement of construction of extraction operation support facilities or extraction operations to cover 120 percent of any restoration plan implementation costs. A biological open space easement shall be placed over all areas used for wetland mitigation and an endowment provided for management in perpetuity. This shall be in addition to the biological open space proposed for areas preserved on site and its associated endowment.

- M-BI-3 Mitigation for removal of 0.01 acre of disturbed wetland (BI-3) shall occur at a 1:1 ratio (Table 4.3-5) through on- or off-site creation of 0.01 acre of wetland or riparian habitat, or alternative mitigation acceptable to the County and resource agencies prior to commencement of construction of extraction operation support facilities or extraction operations. Mitigation for disturbed wetland shall occur as follows:

Prior to the clearing of habitat and commencement of construction of extraction operation support facilities or extraction operations for the Proposed Project, the applicant shall either: (1) purchase wetland habitat credits, (2) identify (and acquire, if necessary) appropriate habitat within the County and prepare a wetland restoration plan, or (3) identify and provide alternative mitigation acceptable to the County, the Corps, RWQCB, and CDFW. Such alternative mitigation could include financial or in-kind contributions to a larger restoration or enhancement project. The wetland restoration plan would require written approval from the Corps, RWQCB, CDFW, and County. In addition, a bond shall be provided to the County prior to habitat clearing and commencement of construction of extraction operation support facilities or extraction operations to cover 120 percent of any restoration plan implementation costs. A biological open space easement shall be placed over all areas used for wetland mitigation and an endowment provided for management in perpetuity. This shall be in addition to the biological open space proposed for areas preserved on site and its associated endowment.

M-BI-4 Mitigation for removal of 0.5 acre of native grassland (BI-4) shall occur at a 2:1 ratio (Table 4.3-5) through preservation of 0.7 acre of native grassland within the Project site and off-site acquisition of 0.3 acre of suitable habitat prior to commencement of construction of extraction operation support facilities or extraction operations.

M-BI-5 Mitigation for removal of 66.7 acres of Diegan coastal sage scrub (including disturbed) (BI-5) shall be mitigated at a 1.5:1 ratio (Table 4.3-5) through preservation of 100.1 acre of Diegan coastal sage scrub (including disturbed) within the Project site.

In addition, the indirect noise impact to 20.6 acres of potential CAGN habitat (Degan coastal sage scrub [including disturbed]) as a result of Proposed Project implementation (refer to Impact BI-23) shall be mitigated at a 1:1 ratio through preservation of an additional 20.6 acres of Degan coastal sage scrub (including disturbed) within the Project site (refer to Mitigation Measure M-BI-23).

Therefore, required preservation of Degan coastal sage scrub (including disturbed) shall total 120.7 acres within the Project site prior to commencement of construction of extraction operation support facilities or extraction operations.

M-BI-6 Mitigation for removal of 31.1 acres of non-native grassland (BI-6) shall occur at a 1:1 ratio (Table 4.3-5) through preservation of 16.1 acres of non-native grassland on site and 15.0 acres of grassland at an off-site location or through purchase of credits at an approved conservation bank consistent with the Burrowing Owl Strategy.

M-BI-7 Fill of 0.21 acre of Corps jurisdictional cismontane alkali marsh, 0.01 acre of disturbed wetland, and 0.06 acre of tamarisk scrub (BI-7) shall be mitigated at 1:1 and 3:1 ratios according to M-BI-1, M-BI-2, and M-BI-3. Fill of 0.16 acre of Corps jurisdictional non-vegetated Waters of the U.S. (BI-7) shall be mitigated at a 1:1 ratio or alternative mitigation acceptable to the County and resource agencies prior to commencement of construction of extraction operation support facilities or extraction operations (Table 4.3-6, *Impacts and Mitigation for Jurisdictional Areas*).

Prior to commencement of construction of extraction operation support facilities or extraction operations for the Proposed Project, the Project applicant shall either (1) purchase Waters of the U.S. credits, (2) identify (and acquire, if necessary) appropriate habitat within the County and prepare a wetland/waters restoration plan for creation/enhancement, or (3) identify and provide alternative mitigation acceptable to the County, the Corps, RWQCB, and CDFW. Such alternative mitigation could include financial or in-kind contributions to a larger restoration or enhancement project. The wetland restoration plan would require written approval from the Corps, RWQCB, CDFW and County. In addition, a bond shall be provided to the County to cover 120 percent of any revegetation costs prior to commencement of construction of extraction operation support facilities or extraction operations. A biological open space easement shall be placed over all areas used for wetland mitigation and an endowment provided for management in perpetuity in addition to the biological open space proposed for areas preserved within the Project site and associated endowment.

- M-BI-8 Removal of 0.21 acre of RWQCB jurisdictional cismontane alkali marsh, 0.01 acre of disturbed wetland, and 0.06 acre of tamarisk scrub (BI-8) shall be mitigated at 1:1 and 3:1 ratios according to M-BI-1, M-BI-2, and M-BI-3. Impacts to 0.21 acre of RWQCB jurisdictional streambed, pond, and intermittent pond (BI-8) shall be mitigated at a 1:1 ratio (including the mitigation already provided by M-BI-7) or alternative mitigation acceptable to the County and resource agencies prior to commencement of construction of extraction operation support facilities or extraction operations (Table 4.3-6, *Impacts and Mitigation for Jurisdictional Areas*).
- M-BI-9 Removal of 0.27 acre of CDFW jurisdictional cismontane alkali marsh, 0.01 acre of disturbed wetland, and 0.06 acre of tamarisk scrub (BI-9) shall be mitigated at 1:1 and 3:1 ratios according to M-BI-1, M-BI-2, and M-BI-3. Impacts to 0.19 acre of CDFW jurisdictional streambed and pond (BI-9) shall be mitigated at a 1:1 ratio (including the mitigation already provided by M-BI-7 and M-BI-8) or alternative mitigation acceptable to the County and resource agencies prior to commencement of construction of extraction operation support facilities or extraction operations (Table 4.3-6, *Impacts and Mitigation for Jurisdictional Areas*).
- M-BI-10 Temporary construction staking or fencing shall be erected under the supervision of a qualified biologist at or outside the edge of the impact areas where they interface with natural areas to address indirect impacts associated with human access into adjacent open space that will be dedicated to the County to protect sensitive habitats (BI-10). This fencing shall be erected prior to commencement of brushing or grading activities or extraction activities and shall demarcate areas where human and equipment access and disturbance from grading are prohibited. Upon placement of the permanent boundary fence following initial brush clearing, monitoring adjacent to project open space may cease. Staging areas shall be restricted to approved impact areas only.

In addition, the Project applicant shall dedicate 304.6 acres (including 133.1 acres as mitigation for removal of sensitive vegetation communities associated with the Proposed Project as well as an additional 166.8 acres in excess of the required amount to meet mitigation obligations for impacts to QCB habitat; Table 4.3-5) of biological

open space on site for impacts resulting from the Proposed Project prior to the clearing of habitat and commencement of construction of extraction operation support facilities or extraction operations. The biological open space shall be managed by a conservation entity (to be approved by the County and resource agencies prior to commencement of habitat clearing and construction of extraction operation support facilities or extraction operations) that would be responsible for implementing an RMP. An RMP shall be prepared that clearly describes biological open space management. The RMP includes stewardship measures, including but not limited to, fencing and signs upkeep, trespass restriction and debris removal. The applicant shall offer evidence to the County and resource agencies that an endowment has been provided to the conservation entity to manage the land in perpetuity. This endowment amount shall be determined through the use of Property Analysis Record (PAR) or similar method.

Pets/domestic animals and unauthorized Proposed Project personnel shall not be allowed within the biological open space. As part of the RMP, permanent signage shall be posted every 500 feet along western and southern boundaries and on both sides of the portion of Otay Truck Trail that traverses the open space, and at locations of any unauthorized trails entering the open space. All signs shall be corrosion-resistant (e.g., steel), measure at minimum 12 by 18 inches in size, be posted on a metal post at least three feet above ground level and provide notice in both English and Spanish that the area is restricted. The signs shall state the following:

Sensitive Environmental Resources
Area Restricted by Easement
Entry without express written permission
from the County of San Diego is prohibited.
To report a violation or for more information
about easement restrictions and exceptions
contact the County of San Diego,
Department of Planning & Development Services
Ref. PDS2004-3300-04-004
Phone Number: (858) 694-2960

- M-BI-11 To avoid the colonization and spread of invasive plant species into open space, the biological open space shall be actively monitored, maintained, and managed in accordance with the RMP (HELIX 2008). The RMP (discussed in M-BI-10, above) shall ensure, for example, that access is restricted and invasive plant species (BI-11) are monitored and controlled.

Upon completion of the Proposed Project, final grading to establish the final landform, application of topsoil resources, and revegetation with native species (Seed Mix A) will occur for slope areas according to the Otay Hills Project Revegetation Plan (Sheet 7 of the Reclamation Plan [EnviroMINE 2019b]). The Project description already includes restoration of slopes adjacent to proposed open space with a native plant biological buffer (Seed Mix B) to help prevent the spread of any invasive plant species into open space.

A hydroseed mix incorporating only native species (Seed Mix B) shall be used following extraction activities for all slope areas that are a biological buffer adjacent to open space. Weed control shall be provided for these areas according to the Otay Hills Project Revegetation Plan (Sheet 7 of the Reclamation Plan [EnviroMINE 2019b]).

Special Status Species

- M-BI-12 Removal of 105.5 acres of Otay tarplant critical habitat (BI-12) shall be mitigated with preservation of 93.8 acres of Otay tarplant critical habitat within the Project site. Removal of 16.69 acres of suitable habitat and 30 individual plants (BI-12) are being mitigated through preservation of 6.58 acres of suitable habitat which includes preservation of 510 (94 percent) of the Otay tarplant individuals. In addition, seeds will be collected from the Otay tarplant in the impact area and spread within suitable habitat in the proposed open space prior to Phase 2a (Appendix C of HELIX 2018b).
- M-BI-13 Removal of 120 of 4,987 individuals of variegated dudleya (BI-13) shall be mitigated by preservation of 4,867 individuals in accordance with Section 86.507 of the BMO. Removal of 13.06 acres of suitable habitat are being mitigated through preservation of 48.65 acres of suitable habitat. Additionally, the variegated dudleya in the impact area will be salvaged by collecting the soil crust in the area where the 120 dudleya were observed and translocating to the proposed open space prior to phase 2b (Appendix C of HELIX 2018b).
- M-BI-14 Removal of 1,214 individuals of San Diego goldenstar (BI-14) shall be mitigated by translocation of the impacted individuals to an appropriate on-site location. The goldenstar translocation would be subject to the Otay Hills Project Translocation Plan (Appendix C of HELIX 2018b). Proof of recordation of an open space easement on site shall be required prior to commencement of habitat clearing and construction of extraction operation support facilities or extraction operations. The San Diego goldenstar component of the Otay Hills Project Translocation Plan (Appendix C of HELIX 2018b) shall be implemented as follows: All San Diego goldenstar corms that are located within each phase shall be translocated prior to implementation of mining activities within that phase.
- Phase 1 – at least 400 corms
 - Phase 2a – at least 813 corms
 - Phase 2b – at least 1 corm
- Removal of 13.06 acres of suitable habitat are being mitigated through preservation of 69.46 acres of suitable habitat. The Project would preserve 11,174 individuals (90.2 percent of the population on the Project site and five of the six primary populations) of San Diego goldenstar.
- M-BI-15 Removal of 196 of 362 individuals of San Diego barrel cactus (BI-15) shall be mitigated at a 2:1 ratio in accordance with Section 86.507 of the BMO. Mitigation shall consist of salvage of the 196 San Diego barrel cactus impacted on and off site and relocation of these individuals to areas of suitable habitat within the Project site, as well

as planting of an additional 196 San Diego barrel cactus on site consistent with the Otay Hills Project Translocation Plan (Appendix C of HELIX 2018b).. Mitigation for San Diego barrel cactus shall be implemented by phase as follows:

- Prior to Phase 2a, 44 individuals of San Diego barrel cactus shall be translocated to the open space and an additional 44 individuals shall be planted.
- Prior to Phase 2b, 18 individuals of San Diego barrel cactus shall be translocated to the open space and an additional 18 individuals shall be planted.
- Prior to Phase 2c, 134 individuals of San Diego barrel cactus shall be translocated to the open space and an additional 134 individuals shall be planted.

Proof of recordation of the open space easement within the Project site, and implementation of the barrel cactus component of the Otay Hills Project Translocation Plan shall be required prior to commencement of construction of extraction operation support facilities or extraction operations. The barrel cactus component of the Otay Hills Project Translocation Plan shall be implemented within one year of commencement of construction of extraction operation support facilities or extraction operations.

- M-BI-16 Removal of 142 of 290 individuals of San Diego marsh-elder (BI-16) shall be mitigated at a 2:1 ratio in accordance with Section 86.507 of the BMO. Mitigation shall include planting of 284 San Diego marsh-elder individuals in appropriate habitat within the proposed open space. The applicant shall fund implementation of an RMP that includes measures to protect and enhance the preserved or created populations.
- M-BI-17 Removal of five locations where QCB were observed, 104.9 acres of QCB occupied habitat, and 97.8 acres of QCB critical habitat (BI-17) shall be mitigated by preservation of 52 locations where QCB were observed and by preservation of 304.6 acres of biological open space within the Project site, of which 303.5 acres are considered occupied by the QCB and 304.4 acres are QCB critical habitat. Funding for long-term management of an additional 61 acres within the AMA that also supports QCB host plants, QCB locations and occupied QCB habitat will be provided by the Project. If the QCB is not covered under the MSCP at the time of Project approval, effects on the species shall be subject to review and approval by the USFWS as part of the Section 7 or 10(a) consultation process.
- M-BI-18 Removal of one pair of CAGN, 66.7 acres of CAGN habitat, and 77.1 acres of CAGN critical habitat (BI-18) shall be mitigated through preservation of four pairs and 218.9 acres of CAGN habitat (Diegan coastal sage scrub) on site, of which 185.0 acres are CAGN critical habitat. Prior to Project implementation, preconstruction surveys to demonstrate CAGN absence from the development footprint shall be required pursuant to USFWS protocol if clearing occurs during the breeding season (March 15 to August 15).

M-BI-19 Removal of one location where a burrowing owl was observed in 2001 (BI-19) shall be mitigated by conducting a preconstruction survey before habitat clearing in each Project phase consistent with the Strategy for Mitigating Impacts to Burrowing Owls in the Unincorporated County. If a burrowing owl(s) is sighted within the development footprint, the resource agencies and County shall immediately be notified to determine the appropriate steps to take. If, for example, an active burrow is present, impacts to this species may be minimized by the active or passive translocation of the owl, outside of the breeding season or once the young have fledged, to a suitable area on the Proposed Project site that supports nesting and foraging habitat. A Burrowing Owl Translocation Plan, which may include installation of a minimum of two artificial burrows for every burrow impacted, would be prepared and submitted to the resource agencies and County for review and approval in accordance with the CDFW Staff Report on Burrowing Owl Mitigation (2012).

Removal of burrowing owl habitat (BI-19) shall be mitigated by preservation of 16.1 acres of non-native grassland on site and 15.0 acres of grassland at an off-site location or through purchase of credits at an approved conservation bank consistent with the Burrowing Owl Strategy (see Mitigation Measure M-BI-6), as well as preservation of 0.7 acre of native grassland within the Project site and off-site acquisition of 0.3 acre of suitable habitat (see Mitigation Measure M-BI-4).

M-BI-20 Removal of approximately 98.7 acres of foraging habitat for golden eagles and other raptors (BI-20) shall be mitigated by preservation of grasslands and Diegan coastal sage scrub (see Mitigation Measures M-BI-4 through M- BI-6).

M-BI-21 Implementation of Mitigation Measures M-BI-4 through M-BI-6, M-BI-10, and M-BI-11 shall mitigate removal of coast horned lizard, coastal whiptail, southern California rufous-crowned sparrow, loggerhead shrike, grasshopper sparrow, California horned lark, San Diego black-tailed jackrabbit, Belding's orange-throated whiptail, red-diamond rattlesnake, Bell's sage sparrow, turkey vulture, northern harrier, barn owl and southern mule deer habitat (BI-21).

M-BI-22 Impacts from potential entrapment in the development footprint and injury or death to sensitive animal species (BI-22) shall be mitigated by the following measures:

- Deterrent measures may include, but are not limited to, ensuring that the ends of all pipes and culverts are covered when they are not being used, and covering rubble piles, dirt piles, ditches and berms that occur within the development footprint when they are not being regularly disturbed by quarry activities.
- Ponds and pits containing water shall be fenced or otherwise surrounded/covered to prevent wildlife access. Fencing shall be secured at the ground or buried to prevent animals digging underneath and shall be wrapped around the base with a durable finer mesh material to prevent small mammal, reptile and amphibian entry.

- Potential solutions to prevent trapped wildlife within ponds, pits or trenches shall be implemented and may include, but are not limited to, attaching textured liner material to create escape ramps, or depending on the configuration of the trapping hazard, earthen ramps, floating rafts or ladders may be appropriate solutions.
- During the initial clearing of each phase, the biological monitor will check implementation of nuisance minimization measures and conduct regular searches for wildlife in these areas. During regular plant operation, the project proponent will be responsible for attractive nuisance minimization measures, with annual compliance checks by a biological monitor.

M-BI-23 Indirect impacts to 20.6 acres of CAGN habitat (Diegan coastal sage scrub [including disturbed], [BI-23]) from noise shall be mitigated through the preservation of 20.6 acres of Diegan coastal sage scrub on site (included within the 218.9 acres to be preserved under Mitigation Measure M-BI-18).

Direct noise-related impacts to sensitive nesting species, such as the CAGN, tree-nesting raptors, or ground-nesting raptors, would be mitigated by conducting a preconstruction survey to demonstrate absence of such species from areas where effects resulting from construction noise could be significant. Tree-nesting raptor absence from the 500-foot buffer shall be required if habitat clearing is to occur during the tree-nesting raptor breeding season (January 15 to July 15). A preconstruction survey of the 900-foot buffer shall be required if habitat clearing is to occur during the ground-nesting raptor breeding season (February 1 to July 15).

In addition, the following measures shall be required in the MUP to minimize potential adverse noise effects to CAGN and its habitat:

- No jaw crusher shall be operated within 350 feet of the closest property line or biological open space boundary.
- No screen shall be operated within 165 feet of the closest property line or biological open space boundary.
- No vertical crusher shall be operated within 85 feet of the closest property line or biological open space boundary.
- All cone crushers used in the aggregate crushing process shall be shielded with noise controls. The barriers shall start at ground level and extend to at least a minimum of one-foot higher than the direct line of sight between any portion of the shielded equipment and any suitable habitat areas to the east of the Project site.
- All vertical crushers used in the aggregate crushing process shall be shielded with noise control barriers. The barriers shall extend to the ground or at least two feet below the crusher if it is an elevated unit and extend to at least a

minimum of one foot higher than the direct line of sight between any portion of the shielded equipment and any suitable habitat areas to the east of the site.

- All aggregate screens shall use synthetic screen elements (note this does not apply to recycled materials, which may utilize steel screens).
- All sound attenuation fence/walls shall be solid and constructed of masonry, wood, plastic, fiberglass, steel or a combination of those materials, with no cracks or gaps, through or below the wall. (Conveyor belting is an excellent noise shielding material to allow a flexible barrier or provide lower skirts.) Any seams or cracks must be filled or caulked. If wood is used, it can be tongue-and-groove and must be at least one-inch total thickness or have a surface density of at least 3.5 pounds per square foot. Any door(s) or gate(s) must be designed with overlapping closures on the bottom and sides and meet the minimum specifications of the wall materials described above. The gate(s) may be of one-inch thick or better wood, solid-sheet metal of at least 18-gauge metal, or an exterior-grade solid-core steel door with prefabricated door jambs.
- If a cone crusher is used in the Asphaltic Concrete Plant, it shall be shielded with a barrier as described above in the fourth bulleted item.
- If a portable plant is used for occasional processing of recycled materials, the unit shall only be used in the area south of the main plant. The unit shall never be positioned closer than 500 feet to the eastern or southern excavation boundary or the southern boundary of the normal equipment areas to control additional noise impacts to the east.

Local Policies, Ordinances and Adopted Plans

M-BI-24 Removal of Otay tarplant, variegated dudleya, QCB and burrowing owl (BI-24) shall be mitigated through implementation of Mitigation Measures M- BI-12, M-BI-13, M-BI-17 and M-BI-19, respectively.

M-BI-25 In order to avoid potential killing of migratory birds or destruction of active bird nests and/or eggs (BI-25), and to ensure compliance with FGC Sections 3500 – 3516, clearing of native vegetation shall occur outside of the breeding season of most avian species (February 1 through September 15). Clearing during the breeding season of FGC-protected species could occur if it is determined that no nesting birds (or birds displaying breeding or nesting behavior) are present immediately prior to clearing. A pre-construction survey shall be conducted three days prior to clearing or grading activities to determine if breeding or nesting avian species occur within impact areas.

4.3.2.4 Conclusion

Implementation of the Proposed Project would result in significant removal of the following sensitive vegetation communities: cismontane alkali marsh, native grassland, Diegan coastal sage scrub (including disturbed) and non-native grassland. There would be significant impacts to

jurisdictional areas as a result of Proposed Project implementation. Impacts to Otay tarplant, variegated dudleya, San Diego goldenstar, San Diego barrel cactus and San Diego marsh-elder would be significant. Impacts to QCB, CAGN and burrowing owl, as well as raptor foraging habitat also would be significant. Potentially significant indirect impacts were identified from human access and colonization of invasive plant species within adjacent open space, as well as noise from Project construction and operation.

Removal of sensitive vegetation communities would be mitigated by implementation of the HCP which includes dedication and preservation of 304.6 acres of open space (including 133.1 acres as mitigation for removal of sensitive vegetation communities associated with the Proposed Project as well as an additional 166.8 acres in excess to this mitigation to meet mitigation obligations for impacts to QCB habitat) within the Project site habitat prior to extraction activities. Mitigation for removal of sensitive plant species would occur through implementation of the HCP which includes preservation within the Project site, translocation, on-site restoration and off-site acquisition of suitable habitat, as appropriate. Mitigation for impacts to sensitive animal species would occur through implementation of the HCP which includes preservation of habitat within the Project site and off-site acquisition of suitable habitat, as appropriate. Increased noise could have a significant effect on avian species (including sensitive and FGC species) if not mitigated. Such impacts would be mitigated by installation of a noise barrier or enclosure surrounding the processing plant, as well as standard restrictions on grading, clearing, blasting and extraction activities. With implementation of the mitigation measures listed above for significant impacts to sensitive biological resources, pursuant to the regulations and requirements of the USFWS, Corps, CDFW and County, all direct and indirect impacts would be mitigated to less than significant levels.

4.3.3 Extraction to Natural Grade Alternative (Phase 1 and Phase 2)

4.3.3.1 Analysis of Project Effects and Determination as to Significance

Riparian Habitat and Other Sensitive Natural Communities (Guideline Nos. 1 through 5)

The Extraction to Natural Grade Alternative would result in disturbance of the same area as the Proposed Project; therefore, impacts to sensitive natural communities would be similar to those described above for the Proposed Project. This alternative, similar to the Proposed Project, would result in removal of approximately 98.7 acres of sensitive vegetation, including cismontane alkali marsh, native grassland, Diegan coastal sage scrub (including disturbed) and non-native grassland (refer to Figure 4.3-1 and Table 4.3-1). Impacts to these vegetation communities are considered significant. (Impacts BI-1 through BI-6)

Similarly, impacts to Corps and CDFW jurisdictional areas would be the same as the Proposed Project. Impacts to Corps and CDFW jurisdictional areas would be significant. (Impacts BI-7 and BI-9)

Under the Extraction to Natural Grade Alternative, excavation would occur at a much shallower depth than the Proposed Project and would not approach the groundwater table. Similar to the Proposed Project, this alternative would not impact the groundwater table.

The Extraction to Natural Grade Alternative, similar to the Proposed Project, could result in indirect impacts associated with human access and colonization and spread of invasive plant

species into adjacent open space. These potential indirect impacts could be significant. (Impacts BI-10 and BI-11)

Special Status Species (Guideline Nos. 6 through 14)

Sensitive Plant Species

Approximately 30 individuals of Otay tarplant would be removed during implementation of this alternative, similar to the Proposed Project. In addition, this alternative also would result in impacts to approximately 105.5 acres of Otay tarplant critical habitat. Impacts to Otay tarplant and its critical habitat would be significant. (Impact BI-12)

Similar to the Proposed Project, approximately 120 individuals of variegated dudleya would be removed by this alternative. This equates to approximately 2.4 percent of the 4,987 individual variegated dudleya within the Project site being removed. In accordance with the BMO, these impacts to variegated dudleya would be significant. (Impact BI-13)

This alternative, similar to the Proposed Project, would impact approximately 1,214 individuals of San Diego goldenstar. This equates to approximately 9.8 percent of the 12,388 San Diego goldenstar within the Project site being removed. In accordance with the BMO, impacts to San Diego goldenstar would be significant. (Impact BI-14)

Similar to the Proposed Project, this alternative would impact approximately 171 individuals of San Diego barrel cactus. This equates to approximately 50.7 percent of the 337 individual San Diego barrel cactus within the Project site being removed. An additional 25 individuals would be removed off site. In accordance with the BMO, these impacts to San Diego barrel cactus would be significant. (Impact BI-15)

The Extraction to Natural Grade Alternative, similar to the Proposed Project, would impact approximately 142 individuals of San Diego marsh-elder. This equates to approximately 49 percent of the 290 San Diego marsh-elder within the Project site being removed. In accordance with the BMO, impacts to San Diego marsh-elder would be significant. (Impact BI-16)

Under the Extraction to Natural Grade Alternative, similar to the Proposed Project, impacts to San Diego needlegrass, western dichondra, southwestern spiny rush, San Diego sunflower and ashy spike-moss would be less than significant.

Similar to the Proposed Project, no impacts to Dunn's mariposa lily, Tecate cypress, Gander's pitcher sage, Munz's sage, Orcutt's bird's beak, summer holly, Coulter's matilija poppy or Palmer's grapplinghook would occur under this alternative.

Sensitive Animal Species

The Extraction to Natural Grade Alternative, similar to the Proposed Project, would result in removal of 5 of 57 (or 8.8 percent) locations where QCB were observed within the Project site. In addition, this alternative would remove 108.3 acres of suitable QCB habitat and 97.8 acres of QCB critical habitat. Impacts to QCB and its habitat (including critical habitat) would be significant. (Impact BI-17)

Similar to the Proposed Project, this alternative would impact one pair (20 percent) of the five pairs of CAGN observed/detected within the Project site. The alternative would also impact 66.7 acres of CAGN habitat (Diegan coastal sage scrub [including disturbed]). In addition, implementation of this alternative would impact 77.1 acres of CAGN critical habitat. Impacts to CAGN and its habitat (including critical habitat) would be significant. (Impact BI-18)

One location where burrowing owl was observed would be removed upon implementation of the Extraction to Natural Grade Alternative, similar to the Proposed Project. The alternative would also impact 31.1 acres of burrowing owl habitat (native and non-native grasslands). Impacts to burrowing owl and its habitat would be significant. (Impact BI-19)

Similar to the Proposed Project, under this alternative, impacts to approximately 98.7 acres of golden eagle (and other raptor) foraging habitat would be significant. (Impact BI-20)

Similar to the Proposed Project, this alternative would directly impact locations where coast horned lizard, coastal whiptail, southern California rufous-crowned sparrow, loggerhead shrike, grasshopper sparrow, California horned lark and San Diego black-tailed jackrabbit were observed/detected. In addition, although not observed on site (or within the off-site parcel), Belding's orange-throated whiptail is assumed to be present within the Project site and impacts to this species could occur. Impacts to these species would be significant. (Impact BI-21)

No impacts to locations where red-diamond rattlesnake, Bell's sage sparrow, turkey vulture, northern harrier, barn owl and southern mule deer were observed or detected would occur upon implementation of this alternative, similar to the Proposed Project, although there is the potential for these species to utilize the impact footprint. Impacts to these species would be significant. (Impact BI-21).

Similar to the Proposed Project, under this alternative, some animals may get into the excavated quarry pit, and due to its steep sides, may not be able to exit. In addition, some animals are known to use open pipes, culverts, excavated holes or other burrow-like structures and may be attracted to the development footprint where they could be injured or killed. Such impacts would be significant to sensitive animals. (Impact BI-22)

The Project site does not support arroyo toad aestivation, foraging or breeding habitat. Accordingly, no impact to arroyo toad habitat would occur under this alternative (similar to the Proposed Project).

Indirect Impacts

Under this alternative, similar to the Proposed Project, noise from construction and operation activities may impact nesting CAGN if noise at the nest exceeds 60 dBA L_{EQ}. In addition, indirect noise impacts to 20.6 acres of potential CAGN habitat (Diegan coastal sage scrub [including disturbed]) would occur. Temporary indirect noise impacts to CAGN and potential CAGN habitat would be significant. (Impact BI-23)

Similar to the Proposed Project, all proposed lighting under this alternative would be required to adhere to Division 9 of the San Diego County LPC and would be of the lowest illumination allowed for human safety, selectively placed, and shielded and directed away from preserved habitat to

ensure that no light would spill beyond the boundary of the Project impact footprint. Accordingly, impacts from night lighting would be less than significant.

Impacts from fugitive dust would be less than significant under this alternative, similar to the Proposed Project, as Project design measures and compliance with APCD permits would minimize dust generation.

Wildlife Movement (Guideline Nos. 15 through 20)

As with the Proposed Project, implementation of the Extraction to Natural Grade Alternative would result in less than significant impacts to wildlife corridors because Guideline Nos. 15 through 20 would not be exceeded.

Local Policies, Ordinances and Adopted Plans (Guideline Nos. 28 through 35)

Impacts to sensitive plant and animal species would be mitigated, as appropriate, and this alternative, similar to the Proposed Project, qualifies for exceptions to the BMO avoidance criterion for two plant species (San Diego barrel cactus and San Diego marsh-elder). Accordingly, this alternative would conform to goals and requirements outlined in the Subarea Plan, and no impact associated with the conformance of goals and requirements of the County Subarea Plan would occur.

Although habitat located within the Project site qualifies as a BRCA (as defined by the BMO), this alternative, similar to the Proposed Project, has been designed to minimize impacts to habitat within the BRCA to the maximum extent practicable. Therefore, impacts to the BRCA would be minimized and less than significant.

Construction activity and extraction operations would not impact any regional wildlife corridors or linkages, nor would this alternative, similar to the Proposed Project, preclude connectivity between areas of high habitat values. Therefore, impacts to habitat connectivity/linkages and regional wildlife corridors would be less than significant.

Three narrow endemic plant species (Otay tarplant, Dunn's mariposa lily and variegated dudleya) and three narrow endemic animal species (QCB, burrowing owl and golden eagle) occur within the Project site. Similar to the Proposed Project, significant impacts to Otay tarplant, QCB and burrowing owl would occur under this alternative. (Impact BI-24)

Impacts associated with the survival and recovery of listed species would be less than significant under this alternative, similar to the Proposed Project.

Implementation of the Extraction to Natural Grade Alternative could potentially result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (FGC). This would result in a significant impact. (Impact BI-25)

Implementation of this alternative, similar to the Proposed Project, would not result in the take of eagles, eagle eggs, or any part of an eagle. Accordingly, impacts to eagles would be less than significant.

4.3.3.2 Significance of Impacts Prior to Mitigation

Significant impacts associated with the Extraction to Natural Grade Alternative would be similar to those described for the Proposed Project in Subsection 4.3.2.3.

4.3.3.3 Mitigation Measures

Impacted biological resources under the Extraction to Natural Grade Alternative would be subject to the same mitigation measures as those described for the Proposed Project in Subsection 4.3.2.4.

4.3.3.4 Conclusion

Implementation of the Extraction to Natural Grade Alternative would result in significant impacts to the following sensitive vegetation communities: cismontane alkali marsh, native grassland, Diegan coastal sage scrub (including disturbed) and non-native grassland. There would be significant impacts to jurisdictional areas as a result of implementation of this alternative. Impacts to Otay tarplant, variegated dudleya, San Diego goldenstar, San Diego barrel cactus and San Diego marsh-elder would be significant. Impacts to QCB, CAGN, raptor foraging, and burrowing owl also would be significant. Potentially significant indirect impacts were also identified. All of these significant impacts would be mitigated to below a level of significance through implementation of Mitigation Measures M-BI-1 through M-BI-25.

4.3.4 Extraction to Varying Depth Alternative

4.3.4.1 Analysis of Project Effects and Determination as to Significance

Riparian Habitat and Other Sensitive Natural Communities (Guideline Nos. 1 through 5)

The Extraction to Varying Depth Alternative would result in disturbance of the same area as the Proposed Project; therefore, impacts to sensitive natural communities would be to the same as those described above for the Proposed Project. This alternative, similar to the Proposed Project, would result in removal of approximately 98.7 acres of sensitive vegetation, including cismontane alkali marsh, native grassland, Diegan coastal sage scrub (including disturbed) and non-native grassland (refer to Figure 4.3-1 and Table 4.3-1). Impacts to these vegetation communities are considered significant. (Impacts BI-1 through BI-6)

Similarly, impacts to Corps and CDFW jurisdictional areas would be the same as the Proposed Project. Impacts to Corps and CDFW jurisdictional areas would be significant. (Impacts BI-7 and BI-9)

Similar to the Proposed Project, this alternative would not impact the groundwater table.

The Extraction to Varying Depth Alternative, similar to the Proposed Project, could result in indirect impacts associated with human access and colonization and spread of invasive plant species into adjacent open space. These potential indirect impacts could be significant. (Impacts BI-10 and BI-11)

This alternative, like the Proposed Project, would be exempt from the RPO; therefore, no impact to wetland buffers would occur.

Special Status Species (Guideline Nos. 6 through 14)

Sensitive Plant Species

Approximately 30 individuals of Otay tarplant would be removed during implementation of this alternative, similar to the Proposed Project. In addition, this alternative also would result in impacts to approximately 105.5 acres of Otay tarplant critical habitat. Impacts to Otay tarplant and its critical habitat would be significant. (Impact BI-12)

Similar to the Proposed Project, approximately 120 individuals of variegated dudleya would be removed by this alternative. This equates to approximately 2.4 percent of the 4,987 individual variegated dudleya within the Project site being removed. In accordance with the BMO, these impacts to variegated dudleya would be significant. (Impact BI-13)

This alternative, similar to the Proposed Project, would impact approximately 1,214 individuals of San Diego goldenstar. This equates to approximately 9.8 percent of the 12,388 San Diego goldenstar within the Project site being removed. In accordance with the BMO, impacts to San Diego goldenstar would be significant. (Impact BI-14)

Similar to the Proposed Project, this alternative would impact approximately 171 individuals of San Diego barrel cactus. This equates to approximately 50.7 percent of the 337 individual San Diego barrel cactus within the Project site being removed. An additional 25 individuals would be removed off site. In accordance with the BMO, these impacts to San Diego barrel cactus would be significant. (Impact BI-15)

The Extraction to Varying Depth Alternative, similar to the Proposed Project, would impact approximately 142 individuals of San Diego marsh-elder. This equates to approximately 49 percent of the 290 San Diego marsh-elder within the Project site being removed. In accordance with the BMO, impacts to San Diego marsh-elder would be significant. (Impact BI-16)

Under the Extraction to Varying Depth Alternative, similar to the Proposed Project, impacts to San Diego needlegrass, western dichondra, southwestern spiny rush, San Diego sunflower and ashy spike-moss would be less than significant.

Similar to the Proposed Project, no impacts to Dunn's mariposa lily, Tecate cypress, Gander's pitcher sage, Munz's sage, Orcutt's bird's beak, summer holly, Coulter's matilija poppy or Palmer's grapplinghook would occur under this alternative.

Sensitive Animal Species

The Extraction to Varying Depth Alternative, similar to the Proposed Project, would result in impacts to 5 of 57 (or 9 percent) locations where QCB were observed within the Project site. In addition, this alternative would impact 104.9 acres of suitable QCB habitat and 97.8 acres of QCB critical habitat. Impacts to QCB and its habitat (including critical habitat) would be significant. (Impact BI-17)

Similar to the Proposed Project, this alternative would impact one pair (20 percent) of the five pairs of CAGN observed/detected within the Project site. The alternative would also impact 66.7 acres of CAGN habitat (Diegan coastal sage scrub [including disturbed]). In addition, implementation of this alternative would impact 77.1 acres of CAGN critical habitat. Impacts to CAGN and its habitat (including critical habitat) would be significant. (Impact BI-18)

One location where burrowing owl was observed would be removed upon implementation of the Extraction to Varying Depth Alternative, similar to the Proposed Project. The alternative would also impact 31.1 acres of burrowing owl habitat (native and non-native grasslands). Impacts to burrowing owl and its habitat would be significant. (Impact BI-19)

Similar to the Proposed Project, under this alternative, impacts to approximately 98.7 acres of golden eagle (and other raptor) foraging habitat would be significant. (Impact BI-20)

Similar to the Proposed Project, this alternative would directly impact locations where coast horned lizard, coastal whiptail, southern California rufous-crowned sparrow, loggerhead shrike, grasshopper sparrow, California horned lark and San Diego black-tailed jackrabbit were observed/detected. In addition, although not observed on site (or within the off-site parcel), Belding's orange-throated whiptail is assumed to be present within the Project site and impacts to this species could occur. Impacts to these species would be significant. (Impact BI-21)

No impacts to locations where red-diamond rattlesnake, Bell's sage sparrow, turkey vulture, northern harrier, barn owl and southern mule deer were observed or detected would occur upon implementation of this alternative, although there is the potential for these species to utilize the impact footprint similar to the Proposed Project. Impacts to these species would be significant. (Impact BI-21)

Similar to the Proposed Project, under this alternative, some animals may get into the excavated quarry pit, and due to its steep sides, may not be able to exit. In addition, some animals are known to use open pipes, culverts, excavated holes or other burrow-like structures and may be attracted to the development footprint where they could be injured or killed. Such impacts would be significant to sensitive animals. (Impact BI-22)

The Project site does not support arroyo toad aestivation, foraging or breeding habitat. Accordingly, no impact to arroyo toad habitat would occur under this alternative (similar to the Proposed Project).

Indirect Impacts

Under this alternative, similar to the Proposed Project, noise from construction and operation activities may impact nesting CAGN if noise at the nest exceeds 60 dBA L_{EQ}. In addition, indirect noise impacts to 20.6 acres of potential CAGN habitat (Diegan coastal sage scrub [including disturbed]) would occur. Temporary indirect noise impacts to CAGN and potential CAGN habitat would be significant. (Impact BI-23)

Similar to the Proposed Project, all proposed lighting under this alternative would be required to adhere to Division 9 of the San Diego County LPC and would be of the lowest illumination allowed for human safety, selectively placed, and shielded and directed away from preserved habitat to

ensure that no light would spill beyond the boundary of the Project impact footprint. Accordingly, impacts from night lighting would be less than significant.

Impacts from fugitive dust would be less than significant under this alternative, similar to the Proposed Project, as Project design measures and compliance with APCD permits would minimize dust generation.

Wildlife Movement (Guideline Nos. 15 through 20)

As with the Proposed Project, implementation of the Extraction to Varying Depth Alternative would result in less than significant impacts to wildlife corridors because Guideline Nos. 15 through 20 would not be exceeded.

Local Policies, Ordinances and Adopted Plans (Guideline Nos. 28 through 35)

Impacts to sensitive plant and animal species would be mitigated, as appropriate, and this alternative, similar to the Proposed Project, qualifies for exceptions to the BMO avoidance criterion for two plant species (San Diego barrel cactus and San Diego marsh-elder). Accordingly, this alternative would conform to goals and requirements outlined in the Subarea Plan, and no impact associated with the conformance of goals and requirements of the County Subarea Plan would occur.

Although habitat located within the Project site qualifies as a BRCA (as defined by the BMO), this alternative, similar to the Proposed Project, has been designed to minimize impacts to habitat within the BRCA to the maximum extent practicable. Therefore, impacts to the BRCA would be minimized and less than significant.

Construction activity and extraction operations would not impact any regional wildlife corridors or linkages, nor would this alternative, similar to the Proposed Project, preclude connectivity between areas of high habitat values. Therefore, impacts to habitat connectivity/linkages and regional wildlife corridors would be less than significant.

Three narrow endemic plant species (Otay tarplant, Dunn's mariposa lily and variegated dudleya) and three narrow endemic animal species (QCB, burrowing owl and golden eagle) occur within the Project site. Similar to the Proposed Project, significant impacts to Otay tarplant, QCB and burrowing owl would occur under this alternative. (Impact BI-24)

Impacts associated with the survival and recovery of listed species would be less than significant under this alternative, similar to the Proposed Project.

Implementation of the Extraction to Varying Depth Alternative could potentially result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (FGC). This would result in a significant impact. (Impact BI-25)

Implementation of this alternative, similar to the Proposed Project, would not result in the take of eagles, eagle eggs, or any part of an eagle. Accordingly, impacts to eagles would be less than significant.

4.3.4.2 Significance of Impacts Prior to Mitigation

Significant impacts associated with the Extraction to Varying Depth Alternative would be the same as those described for the Proposed Project in Subsection 4.3.2.3.

4.3.4.3 Mitigation Measures

Impacted biological resources under the Extraction to Varying Depth Alternative would be subject to the same mitigation measures as those described for the Proposed Project in Subsection 4.3.2.4.

4.3.4.4 Conclusion

Implementation of the Extraction to Varying Depth Alternative would result in significant impacts to the following sensitive vegetation communities: cismontane alkali marsh, native grassland, Diegan coastal sage scrub (including disturbed) and non-native grassland. There would be significant impacts to jurisdictional areas as a result of implementation of this alternative. Impacts to Otay tarplant, variegated dudleya, San Diego goldenstar, San Diego barrel cactus and San Diego marsh-elder would be significant. Impacts to QCB, CAGN, raptor foraging, and burrowing owl also would be significant. Potentially significant indirect impacts were also identified. All of these significant impacts would be mitigated to below a level of significance through implementation of Mitigation Measures M-BI-1 through M-BI-25.

4.3.5 No Project/Existing Plan Alternative

4.3.5.1 Analysis of Project Effects and Determination as to Significance

Up to approximately 122 acres of vegetation would be directly affected upon implementation of the No Project/Existing Plan Alternative based on full development of the 62-acre Mixed Industrial area and partial development of the 254-acre Rural Residential area. A development footprint of approximately 60 acres was determined for the Rural Residential area based on a 5-acre impact footprint for each of the 12 homes allowed by the density in that area. The vegetation impacted could potentially include any of the vegetation types within the Proposed Project site: mule fat scrub, cismontane alkali marsh, southern interior cypress forest, disturbed wetland, tamarisk scrub, native grassland, Diegan coastal sage scrub (including disturbed), coastal sage-chaparral scrub, chamise chaparral, southern mixed chaparral, non native grassland, and disturbed habitat; however, specific impacts to individual vegetation communities, sensitive plant and animal species, jurisdictional areas and wildlife movement are not available for this alternative because no specific development plan exists for this alternative. Indirect impacts under this alternative would be similar to those discussed for the Proposed Project.

4.3.5.2 Significance of Impacts Prior to Mitigation

Depending of the specifics of the development associated with the No Project/Existing Plan Alternative, there is potential for significant impacts to biological resources, which would be similar to those described for the Proposed Project in Subsection 4.3.2.3.

4.3.5.3 *Mitigation Measures*

Specific impacts to vegetation communities, sensitive plant and animal species, jurisdictional areas and wildlife movement cannot be calculated or determined for this alternative. Mitigation measures would use the same ratios to mitigate for impacts to sensitive vegetation communities, jurisdictional areas and sensitive plant species as those provided for the Proposed Project. Additionally, mitigation measures for impacts to sensitive animal species and indirect impacts would be similar to those provided for the Proposed Project.

4.3.5.4 *Conclusion*

Implementation of the No Project/Existing Plan Alternative would likely result in significant impacts to sensitive vegetation communities, sensitive plant and animal species and possibly jurisdictional areas. In addition, potentially significant indirect impacts also would occur. Without a development plan, however, specific impacts and mitigation measures cannot be determined.

4.3.6 *No Project Alternative*

4.3.6.1 *Analysis of Project Effects and Determination as to Significance*

The No Project Alternative assumes that the site would not be used for aggregate extraction or mixed industrial and rural residential uses, but rather would remain undeveloped for the foreseeable future. The existing management of the site would continue, which includes the use of the unpaved roads by Border Patrol and recreational users, and establishment of the proposed Otay Hills Conservation Area and associated management of biological open space would not occur. Funding for management of the AMA would not be provided. While there would be no take of listed animals under this alternative, it is worth noting that uses of unpaved roads could disturb existing vegetation, and invasive plants could continue to spread on the site. Nonetheless, under this alternative, no new impacts to biological resources would occur.

4.3.6.2 *Significance of Impacts Prior to Mitigation*

Under this alternative, no impacts to biological resources would occur.

4.3.6.3 *Mitigation Measures*

Because no impacts to biological resources would occur under this alternative, no mitigation measures would be required.

4.3.6.4 *Conclusion*

The No Project Alternative would not result in any direct or indirect impacts to biological resources. Therefore, no mitigation would be required.

Table 4.3-1
IMPACTS TO VEGETATION COMMUNITIES

Vegetation Community/Habitat ¹	Tier ²	On Site (acre) ³	Off Site (acre) ³	Total (acre) ³	Impact Neutral (acre) ³
Mule fat scrub (63310)	I	0.00	0.00	0.00	0.00
Cismontane alkali marsh (52310)	I	0.27	0.00	0.27	0.00
Southern interior cypress forest (83330)	I	0.00	0.00	0.00	0.00
Tamarisk scrub (63810)	I	0.06	0.00	0.06	0.00
Disturbed wetland (11200)	I	0.01	0.00	0.01	0.00
Native grassland (42100)	I	0.5	0.0	0.5	0.0
Diegan coastal sage scrub (including disturbed; 32500)	II	64.2	2.5	66.7	1.0
Coastal sage-chaparral scrub (37G00)	II	0.0	0.0	0.0	0.0
Chamise chaparral (37200)	III	0.0	0.0	0.0	0.0
Southern mixed chaparral (37120)	III	0.0	0.0	0.0	0.0
Non-native grassland (42220)	III	29.1	2.0	31.1	0.2
Disturbed habitat (11300)	IV	8.5	0.2	8.7	1.2
Developed land (12000)	IV	<0.1	0.0	<0.1	0.0
TOTAL		102.7	4.7	107.4	2.4

Source: HELIX 2016

¹ Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).

² Tiers refer to County MSCP Subarea Plan habitat classification system.

³ Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats are rounded to the nearest 0.01; thus, totals reflect rounding.

Table 4.3-2
IMPACTS TO JURISDICTIONAL AREAS (acre[s])

Habitat	CORPS	RWQCB	CDFW	County
Wetlands				
Cismontane alkali marsh	0.21	0.21	0.27	0.27
Disturbed wetland	0.01	0.01	0.01	0.01
Tamarisk scrub	0.06	0.06	0.06	0.06
Subtotal	0.28	0.28	0.34	0.34
Non-wetlands				
Drainage/Streambed	0.14	0.18	0.17	0.00
Pond	0.02	0.02	0.02	
Intermittent pond	0.00	0.01	0.00	
Subtotal	0.16	0.21	0.19	
TOTAL	0.44	0.49	0.53	0.34

Source: HELIX 2016

Table 4.3-3
SENSITIVE PLANT SPECIES ANALYSIS

Species	Status	Existing On Site	Total in Development Footprint	Preserved On Site	Percent Preserved On Site	Comments on Distribution On Site**
Otay tarplant (<i>Deinandra conjugens</i>)	FT/SE MSCP NE County List A Designated CH*	540	30	510	94.4	Found in four primary populations on site.
Dunn's mariposa lily (<i>Calochortus dunnii</i>)	--/SR MSCP NE County List A	2	0	2	100	Not common on site. Few individuals on Parcel B.
Variegated dudleya (<i>Dudleya variegata</i>)	MSCP NE County List A	4,987	120	4,867	97.6	Limited mostly to Parcel A and small spot locations in other areas. Occurs in six primary populations on site.
San Diego goldenstar (<i>Bloomeria [Muilla] clevelandii</i>)	MSCP Covered County List A	12,388	1,214	11,174	90.2	Occurs on north-facing slopes on Parcel A, west of Parcel A, Parcel C and Parcel E. Occurs in 6 primary populations on site.
Summer holly (<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>)	County List A	8	0	8	100	Occurs in the eastern portion of Parcel A.
Gander's pitcher sage (<i>Lepechinia ganderi</i>)	MSCP NE County List A	92	0	92	100	Found on Parcel C during 2011 surveys.
San Diego barrel cactus (<i>Ferocactus viridescens</i>)	MSCP Covered County List B	337 (25 more in the off-site parcel)	171 (25 more in the off-site parcel)	166	49.3 (0 in the off-site parcel)	Relatively common on south-facing slopes on site. Also present on the off-site Otay Crossings Commerce Park parcel.

Table 4.3-3 (cont.)
SENSITIVE PLANT SPECIES ANALYSIS

Species	Status	Existing On Site	Total in Development Footprint	Preserved On Site	Percent Preserved On Site	Comments on Distribution On Site
San Diego marsh-elder (<i>Iva hayesiana</i>)	County List B	290	142	148	51	Occurs in Parcel A.
Tecate cypress (<i>Hesperocyparis [Cupressus] forbesii</i>)	MSCP Covered County List A	78	0	78	100	Found in scattered locations on site.
Munz's sage (<i>Salvia munzii</i>)	County List B	3,915	0	3,915	100	Found abundantly on Parcel A, B, and E.
Orcutt's bird's beak (<i>Cordylanthus orcuttianus</i>)	MSCP Covered County List B	21	0	21	100	A small population was observed on Parcel B.
San Diego needlegrass (<i>Achnatherum diegoense</i>)	County List D	1,596	293	1,303	81.6	Occurs at western edge of Parcel A and in Parcel B.
Western dichondra (<i>Dichondra occidentalis</i>)	County List D	10	3	7	70	Sparsely located on Parcels A and B, and west of Parcel A.
Palmer's grapplinghook (<i>Harpagonella palmeri</i>)	County List D	100	0	100	100	Occurs in Parcel A.
Southwestern spiny rush (<i>Juncus acutus</i> ssp. <i>leopoldii</i>)	County List D	21	11	10	47.6	Occurs in the northwest corner of Parcel A.
Coulter's matilija poppy (<i>Romneya coulteri</i>)	County List D	56	0	56	100	Occurs in Parcel C.

Table 4.3-3 (cont.)
SENSITIVE PLANT SPECIES ANALYSIS

Species	Status	Existing On Site	Total in Development Footprint	Preserved On Site	Percent Preserved On Site	Comments on Distribution on Site
San Diego sunflower (<i>Viguiera laciniata</i>)	County List D	46,272 (50 more in the off-site parcel)	9,328 (50 more in the off-site parcel)	36,944	79.8 (0 in the off-site parcel)	Occurs on Parcels A, B, land west of Parcel A. and on off-site Otay Crossings Commerce Park parcel.
Ashy spike-moss (<i>Selaginella cinerascens</i>)	County List D	268 (2 more in the off-site parcel)	221 (2 more in the off-site parcel)	47	17.5 (0 in the off-site parcel)	Occurs on Parcel A and land west of Parcel A including the off-site Otay Crossings Commerce Park parcel.

Source: HELIX 2016

*Designated Critical Habitat occurs on site.

**Parcels A, B, C and E are shown on Figure 3.3-5b.

Table 4.3-4
SENSITIVE ANIMAL SPECIES ANALYSIS

Species	Status	Observed On Site ⁺	Total in Development Footprint ⁺	Preserved On Site ⁺	Percent Preserved On Site ⁺	Comments on Distribution On Site ⁴
Quino checkerspot butterfly (<i>Euphydryas editha quino</i>)	FE>-- County Group 1 Designated CH ¹	57 (409.5)	5 (104.9)	52 (304.6)	91 (74)	Observed throughout much of the site in 2001 and 2008; sightings of species occurred less often in other years.
Red-diamond rattlesnake (<i>Crotalus ruber ruber</i>)	--/SSC County Group 2	1 (392)	0 (96.3)	1 (295.4)	100 (75)	Observed in the Parcel A.
Coast horned lizard (<i>Phrynosoma blainvillii</i>)	--/SSC County Group 2 MSCP Covered	11 (392)	4 (96.3)	7 (295.4)	63.6 (75)	Observed in Parcels A, E, and west of Parcel A.
Belding's orange-throated whiptail (<i>Aspidoscelis hyperythra beldingi</i>)	--/SSC County Group 1 MSCP Covered	Assumed present throughout site (392)	Undetermined (96.3)	Undetermined (295.4)	75 percent based on preservation of 75 percent of suitable habitat (75)	Not observed but expected to occur over the entire site
Coastal whiptail (<i>Aspidoscelis tigris stejnegeri</i>)	--/-- County Group 2	9 (1 more in the off-site parcel) (392)	2 (1 more in the off-site parcel) (96.3)	7 (295.4)	77.8 (0 in the off-site parcel) (75)	Observed in Parcel A and west of Parcel A and on the off-site Otay Crossings Commerce Park parcel.
Coastal California gnatcatcher (<i>Polioptila californica californica</i>)	FT/SSC County Group 1 Designated CH ¹ MSCP Covered	5 pair (292)	1 pair (66.7)	4 pair (224.3)	80 (77)	Acreage reported is for Diegan coastal sage scrub and coastal sage-chaparral scrub. One pair observed in development footprint in 2011; four pairs observed in northeastern portion of the site.

Table 4.3-4 (cont.)
SENSITIVE ANIMAL SPECIES ANALYSIS

Species	Status	Observed On Site	Total in Development Footprint	Preserved On Site	Percent Preserved On Site	Comments on Distribution On Site
Burrowing owl (<i>Athene cunicularia</i>)	BCC/SSC County Group 1 MSCP Covered	1 ² (48.6)	1 ² (31.6)	0 (16.8)	0 (35)	1 sighting west of SDG&E easement by EDAW (2001a).
Golden eagle (<i>Aquila chrysaetos</i>)	BCC, BGEPA/ WL, Fully Protected County Group 1 MSCP Covered	1 (395.1)	0 ³ (98.3)	1 ⁵ (296.4)	100 (75)	A nesting pair reported in O'Neal Canyon east of the site. Site lies within the pair's territory, and the entire site and off-site Otay Crossings Commerce Park parcel is eagle foraging habitat. No direct impacts to the nesting site would occur.
Bell's sage sparrow (<i>Amphispiza belli belli</i>)	BCC/WL County Group 1	9 (392)	0 (96.3)	9 (295.4)	100 (75)	Observed/detected within central portion of Parcel A.
Loggerhead shrike (<i>Lanius ludovicianus</i>)	BCC/SSC County Group 1	13 (340.6)	3 (98.3)	10 (242.3)	76.9 (71)	Observed/detected in several locations within Parcel A and land west of Parcel A.
Grasshopper sparrow (<i>Ammodramus savannarum</i>)	--/SSC County Group 1	4 (48.6)	4 (31.6)	0 (16.8)	0 (35)	Observed/detected on land west of Parcel A.
Northern harrier (<i>Circus cyaneus</i>)	--/SSC County Group 1 MSCP Covered	1 (48.6)	0 (31.6)	1 ⁵ (16.8)	100 (35)	Observed flying overhead within Parcel A.
Southern California rufous-crowned sparrow (<i>Aimophila ruficeps canescens</i>)	County Group 1 MSCP Covered	22 (392)	5 (96.3)	17 (295.4)	77.3 (75)	Observed/detected within Parcel A, E, and west of Parcel A.

Table 4.3-4 (cont.)
SENSITIVE ANIMAL SPECIES ANALYSIS

Species	Status	Observed On Site	Total in Development Footprint	Preserved On Site	Percent Preserved On Site	Comments on Distribution On Site
California horned lark (<i>Eremophila alpestris actia</i>)	County Group 2	6 (48.6)	1 (31.6)	5 (16.8)	83.3 (35)	Observed/detected within Parcels A and B, and west of Parcel A.
Cooper's hawk (<i>Accipiter Cooperii</i>)	County Group 1 MSCP Covered	1 (395.1)	0 (98.7)	1 ⁵ (296.4)	100 (75)	Observed flying over the Project site during the 2012 Burrowing Owl Survey and Assumed present throughout site
Turkey vulture (<i>Cathartes aura</i>)	County Group 1	1 (395.1)	0 (98.3)	1 ⁵ (296.4)	100 (75)	Observed on Parcel A.
Common barn owl (<i>Tyto alba</i>)	County Group 2	1 (395.1)	0 (98.3)	1 (296.4)	100 (75)	Observed in Parcel A.
San Diego black-tailed jackrabbit (<i>Lepus californicus bennettii</i>)	--/SSC County Group 2	17 (392)	4 (96.3)	13 (295.4)	76.5 (75)	Observed/detected within Parcel A and west of Parcel A.
Southern mule deer (<i>Odocoileus hemionus fuliginata</i>)	County Group 2 MSCP Covered	1 (392)	0 (96.3)	1 (295.4)	100 (75)	Observed/detected within Parcel A.

Source: HELIX 2016

¹Numbers in () are in acres

¹ Designated Critical Habitat occurs on site.

² No burrowing owls were observed during 2012 protocol surveys.

³ No direct impacts to golden eagle would occur; however, impacts to foraging habitat would occur.

⁴ Parcels A through E are shown on Figure 3.3-5b.

⁵Represents acres of foraging habitat. No nest locations occur onsite.

Table 4.3-5
IMPACTS AND MITIGATION FOR SENSITIVE VEGETATION COMMUNITIES (acre[s])¹

Vegetation Community/ Habitat ²	Tier ³	Existing within Project Site	Impacts	Mitigation					
				Ratio ⁴	Required	Preserved within Project Site as Mitigation	Preserved in Excess of Mitigation	Required Restoration (on or off site) or Off-site Acquisition	Impact Neutral Areas within Project Site
Mule fat scrub (63310)	I	0.03	0.00	3:1 ⁵	0.00	0.00	0.03	0.00	0.00
Cismontane alkali marsh (52310)	I	0.34	0.27	3:1 ⁵	0.81	0.00	0.07	0.81	0.00
Southern interior cypress forest (83330)	I	0.5	0.00	3:1 ⁵	0.00	0.00	0.5	0.00	0.00
Tamarisk scrub (63810)	I	0.10	0.06	1:1	0.06	0.00	0.04	0.06	0.00
Disturbed wetland (11200)	I	0.01	0.01	1:1	0.01	0.00	0.00	0.01	0.00
Native grassland (42100)	I	1.2	0.5	2:1	1.0	0.7 ⁶	0.0	0.3 ⁶	0.0
Diegan coastal sage scrub (including disturbed; 32500) – direct impact	II	284.1 (plus 2.5 off site)	64.2 (plus 2.5 off site)	1.5:1	100.1	120.7 ⁷	98.2 ⁹	0.0	1.0
Diegan coastal sage scrub (including disturbed; 32500) – indirect noise impact to potential CAGN habitat			20.6 ⁸	1:1	20.6				
Coastal sage-chaparral scrub (37G00)	II	5.4	0.0	1:1	0.0	0.0	5.4	0.0	0.0
Chamise chaparral (37200)	III	14.8	0.0	1:1	0.0	0.0	14.8	0.0	0.0
Southern mixed chaparral (37120)	III	38.6	0.0	1:1	0.0	0.0	38.6	0.0	0.0

Table 4.3-5 (cont.)
IMPACTS AND MITIGATION FOR SENSITIVE VEGETATION COMMUNITIES (acre[s])¹

Vegetation Community/ Habitat ²	Tier ³	Existing within Project Site	Impacts	Mitigation					
				Ratio ⁴	Required	Preserved within Project Site as Mitigation	Preserved in Excess of Mitigation	Required Restoration (on or off site) or Off-site Acquisition	Impact Neutral Areas within Project Site
Non-native grassland (42220)	III	45.4 (plus 2.0 off site)	29.1 (plus 2.0 off site)	1:1	31.1	16.1 ⁸	0.0	15.0 ⁸	0.2
Disturbed habitat (11300)	IV	18.4 (plus 0.2 off site)	8.5 (plus 0.2 off site)	--	0.0	0.0	8.7	0.0	1.2
Developed land (12000)	IV	0.7	<0.1	--	0.0	0.0	0.7	0.0	0.0
TOTAL	414.4		127.9	--	153.68	137.6	166.93	16.18	2.4

Source: HELIX 2016

¹ Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats are rounded to the nearest 0.01; thus, totals reflect rounding.

² Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).

³ Tiers refer to County MSCP Subarea Plan habitat classification system.

⁴ Mitigation ratios assume that impacts and mitigation occur in BRCAs except for Corps and CDFW jurisdictional areas.

⁵ While the MSCP requires a mitigation ratio of less than 3:1 for impacts and mitigation sites assumed to be within BRCAs, wetland permitting through the Corps and CDFW is expected to result in 3:1 mitigation ratios.

⁶ Mitigation for impacts to native grassland to be met with preservation of 0.7 acre of native grassland and 0.3 acre of off-site acquisition of a Tier I habitat.

⁷ Mitigation for indirect noise impacts to habitat to be preserved in open space.

⁸ Impacts to non-native grassland to be mitigated at a 1:1 mitigation ratio according to the Burrowing Owl Strategy (County 2010b) with preservation of 16.1 acres of non-native grassland on site and 15.0 acres of non-native grassland at an off-site location or through purchase at an approved conservation bank.

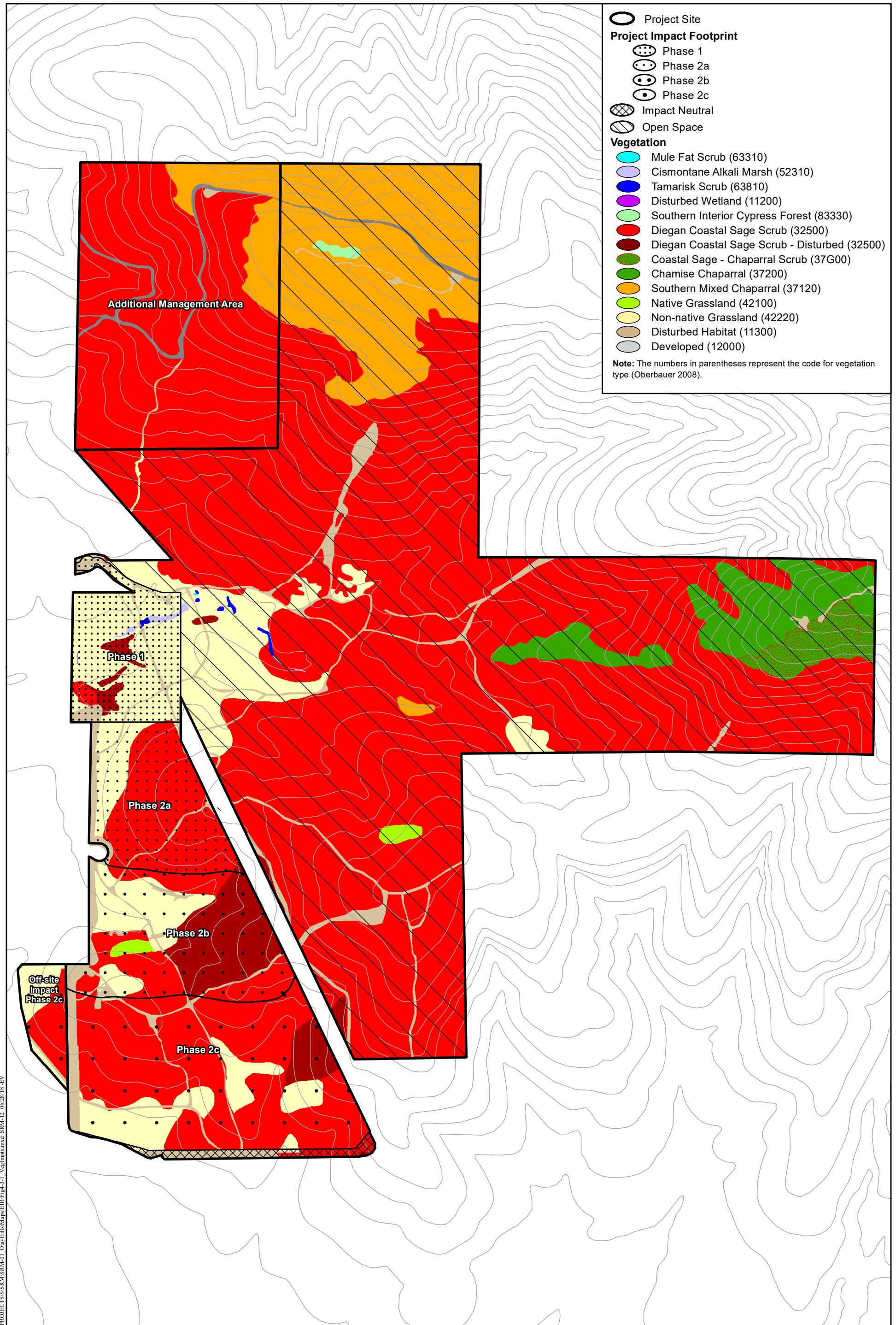
⁹ The 98.2 acres to be preserved in excess of the required mitigation for direct and indirect impacts to Diegan coastal sage scrub was calculated by adding the excess preserved Diegan coastal sage scrub (286.6 acres of existing habitat on site – 87.3 acres of impacts on site – 120.7 acres of required mitigation on site – 1.0 acre of on-site impact neutral area = 77.6 acres) plus the 20.6-acre area of Diegan coastal sage scrub that would be indirectly impacted.

Table 4.3-6 IMPACTS AND MITIGATION FOR JURISDICTIONAL AREAS (acre[s])*							
Habitat	Impacts			Mitigation Ratio	Mitigation Required		
	Corps	RWQCB	CDFW		Corps	RWQCB	CDFW
Wetlands							
Cismontane alkali marsh	0.21	0.21	0.27	3:1	0.63	0.63	0.81
Disturbed wetland	0.01	0.01	0.01	1:1	0.01	0.01	0.01
Tamarisk scrub	0.06	0.06	0.06	1:1	0.06	0.06	0.06
Subtotal	0.28	0.28	0.34	--	0.70	0.70	0.88
Non Wetlands							
Drainage/Streambed	0.14	0.18	0.17	1:1	0.14	0.18	0.17
Pond	0.02	0.02	0.02	1:1	0.02	0.02	0.02
Intermittent pond	0.00	0.01	0.00	1:1	0.00	0.01	0.00
Subtotal	0.16	0.21	0.19	--	0.16	0.21	0.19
TOTAL	0.44	0.49	0.53	--	0.86	0.91	1.07

Source: HELIX 2016

* Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).

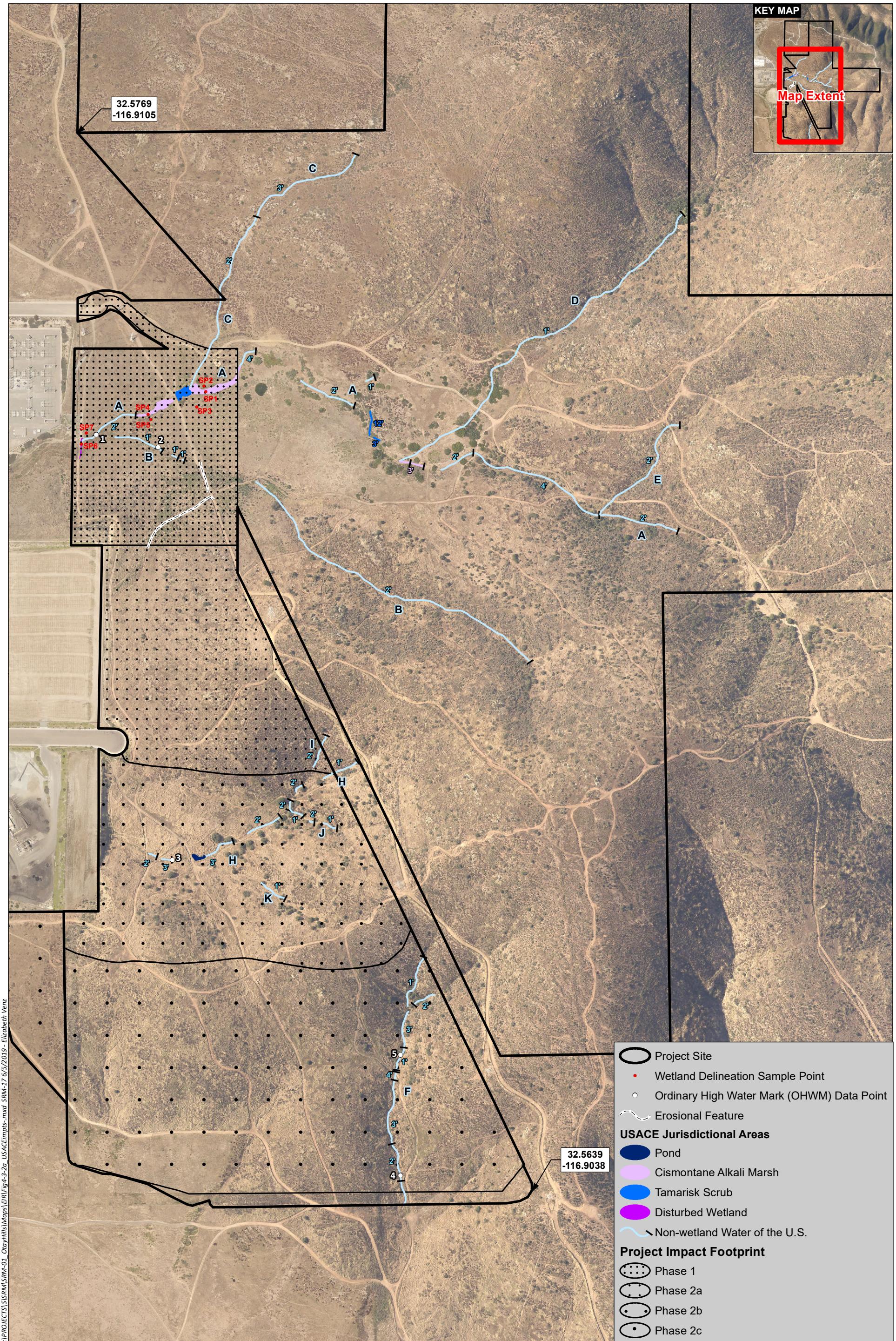
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Impacts to Vegetation Communities

OTAY HILLS EIR

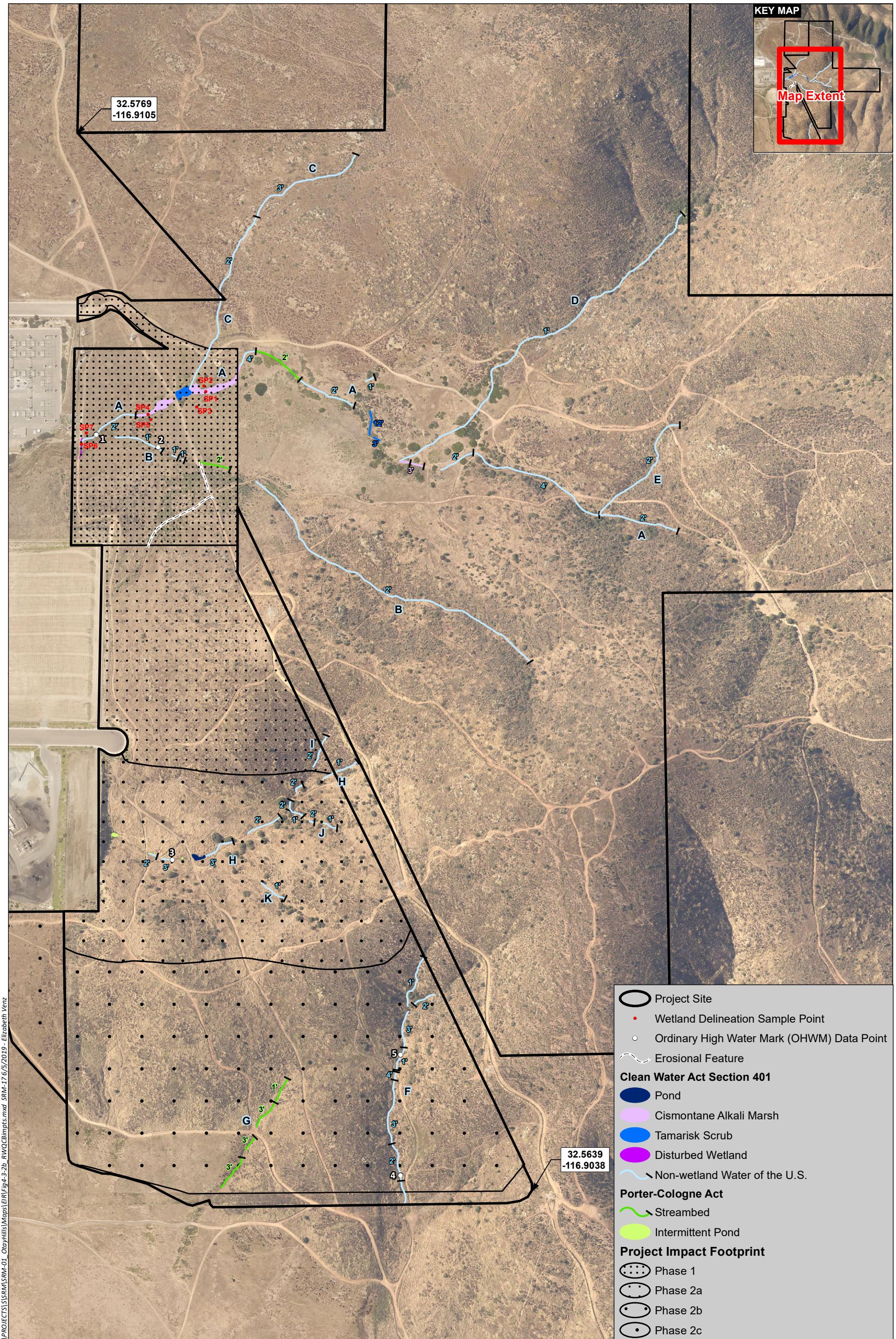
Figure 4.3-1



Impacts to Corps Jurisdictional Areas

OTAY HILLS EIR

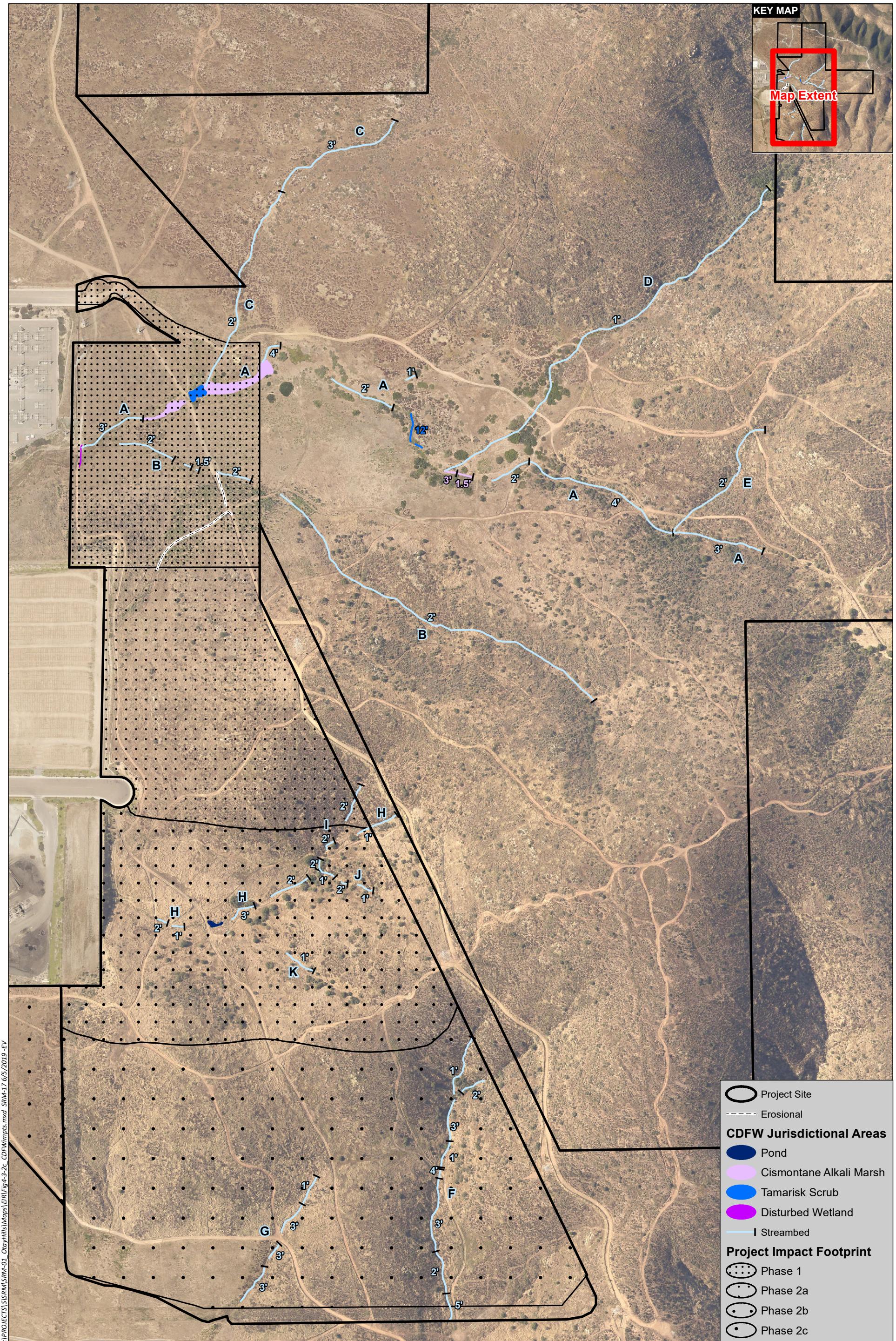
Figure 4.3-2a



Impacts to Regional Water Quality Control Board Jurisdictional Areas

OTAY HILLS EIR

Figure 4.3-2b

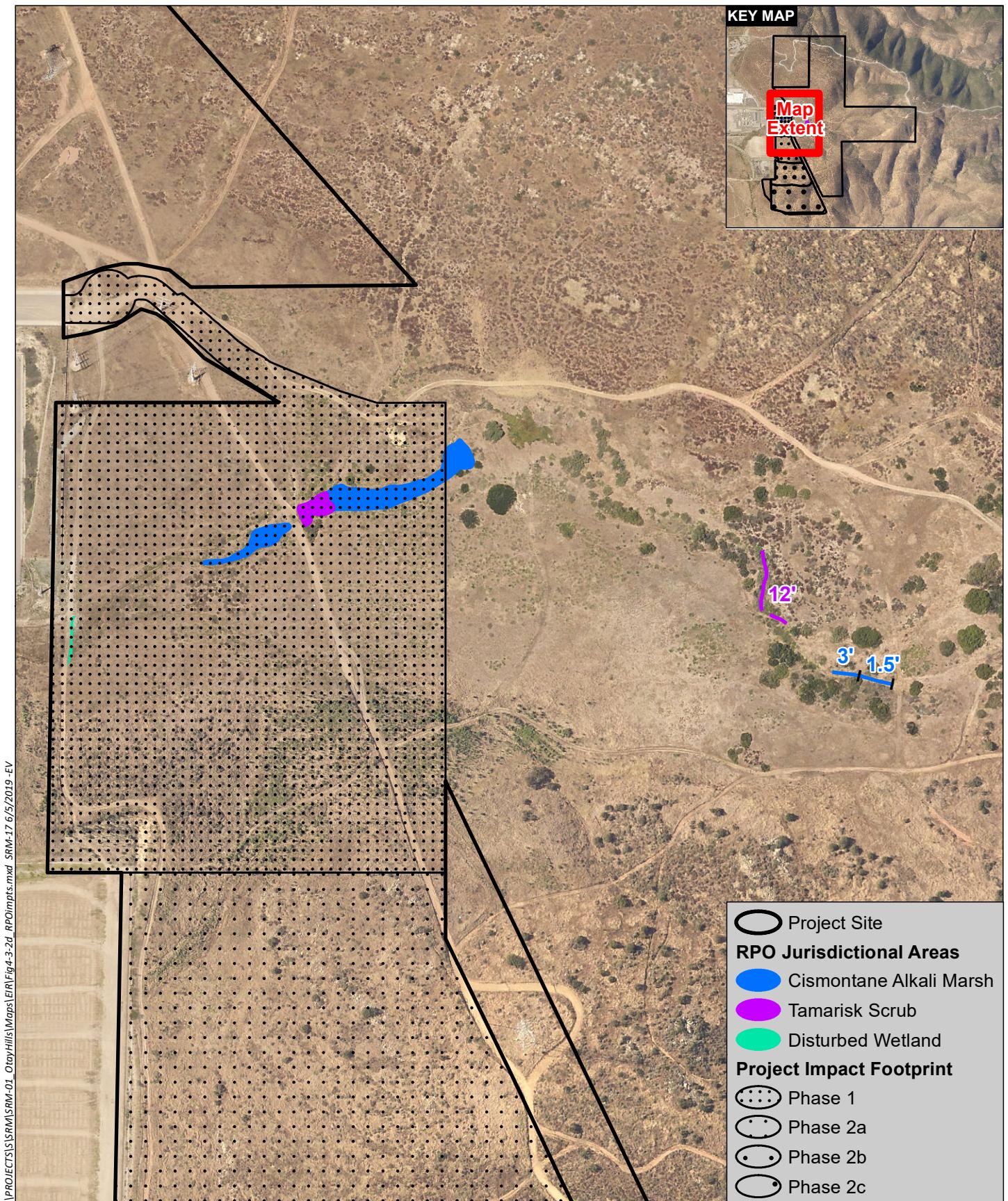


Impacts to CDFW Jurisdictional Areas

OTAY HILLS EIR

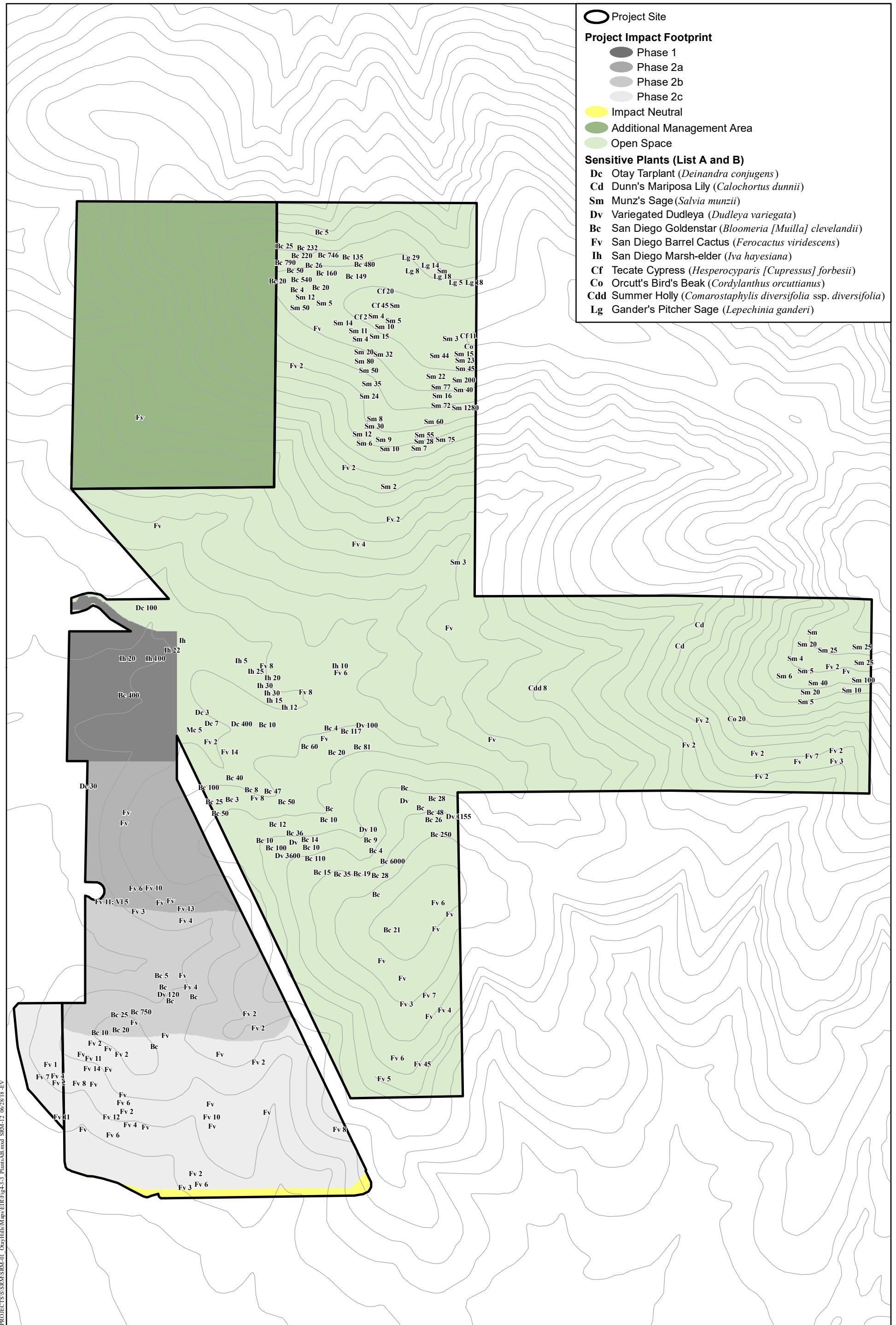
Figure 4.3-2c





Impacts to County RPO Wetlands

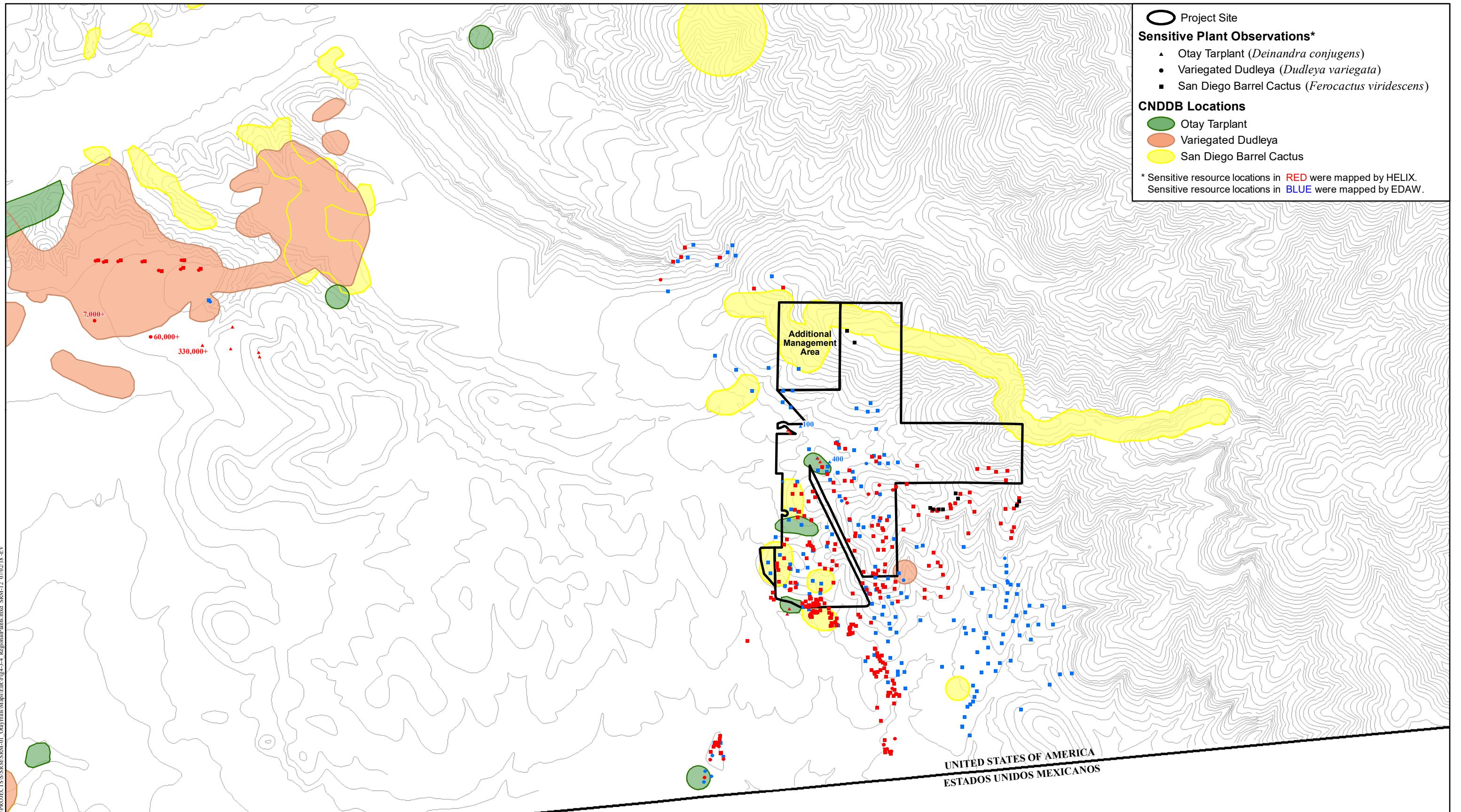
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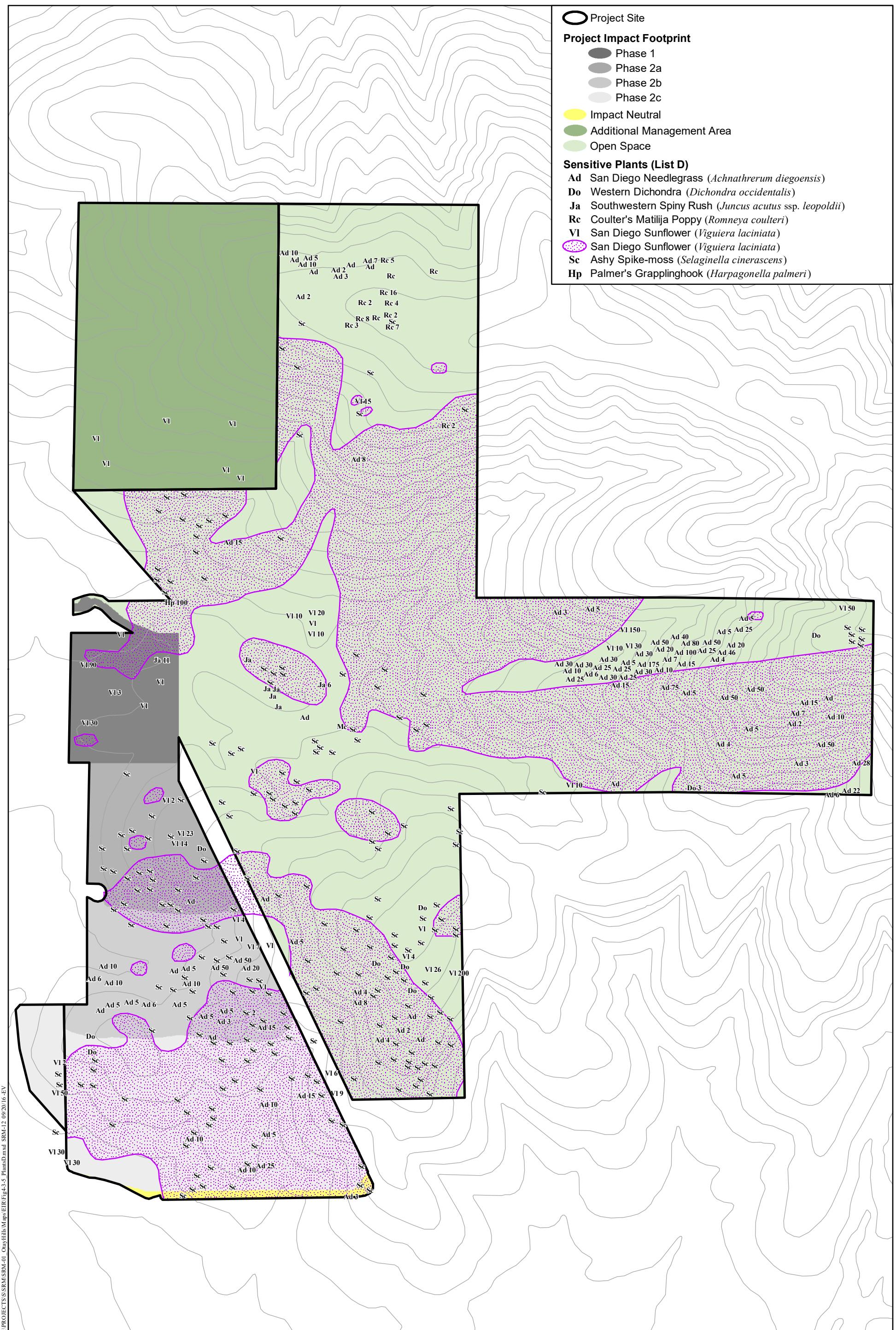
Federal, State, and County (List A and B) Sensitive Plant Species/Impacts

OTAY HILLS EIR

Figure 4.3-3

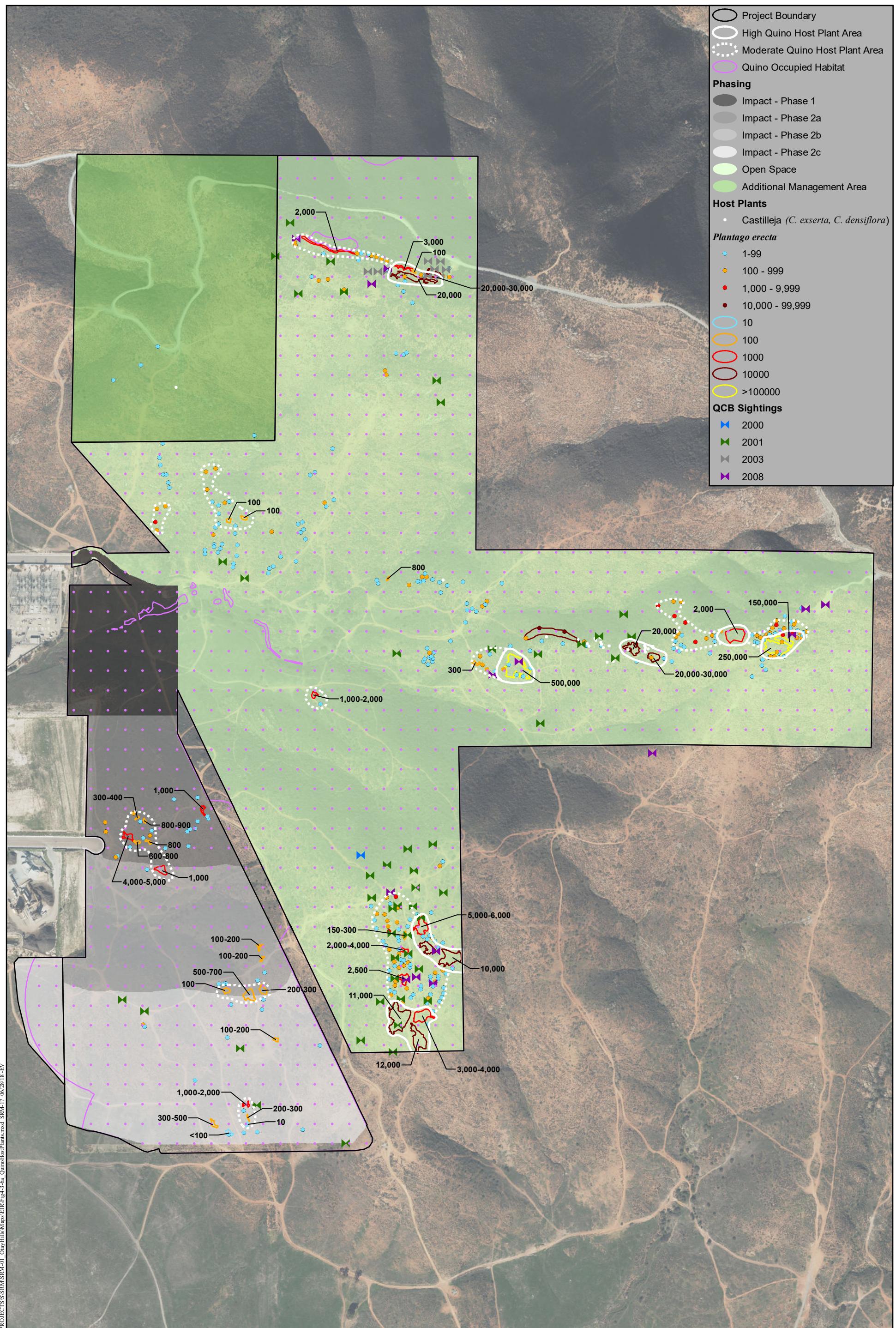


Regional Otay Tarplant, Variegated Dudleya, and San Diego Barrel Cactus Locations



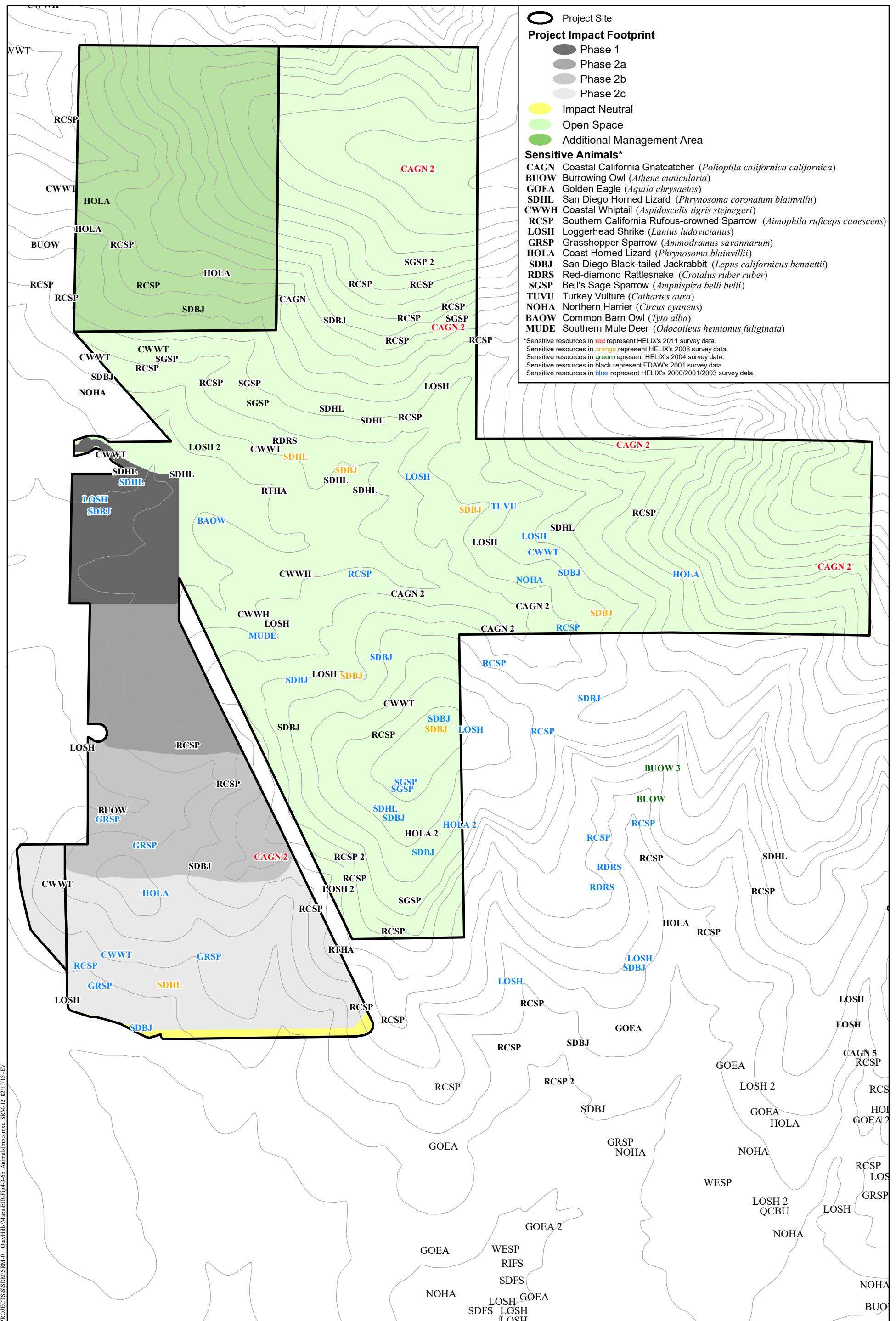
County (List D) Sensitive Plant Species/Impacts

OTAY HILLS EIR



Impacts to Quino Checkerspot Butterfly (QCB) and Host Plant Locations

OTAY HILLS EIR

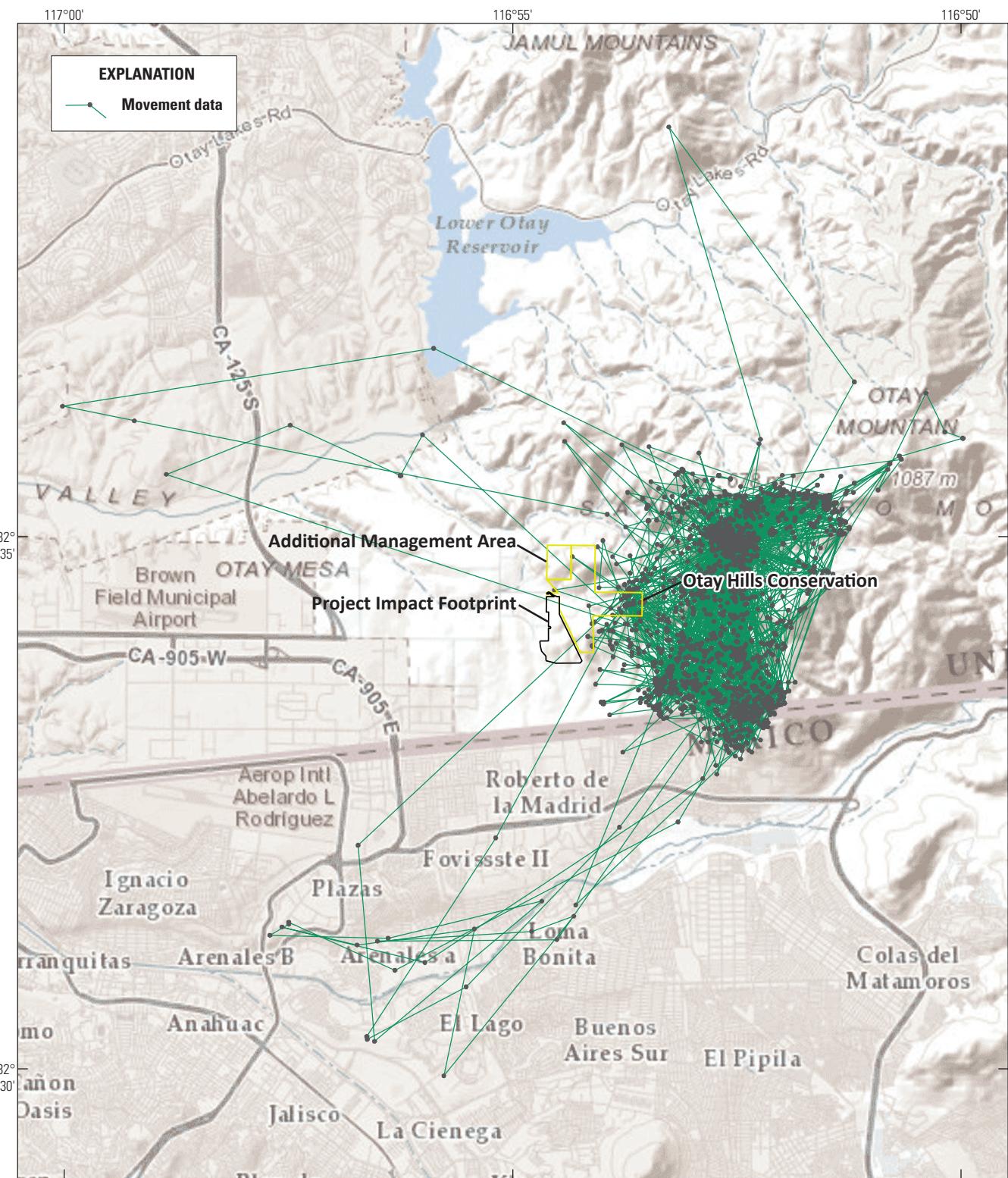


Impacts to Sensitive Animal Species (except QCB)

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Figure 4.3-6b





Biotelemetry Data for Captured Golden Eagles

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Figure 4.3-7