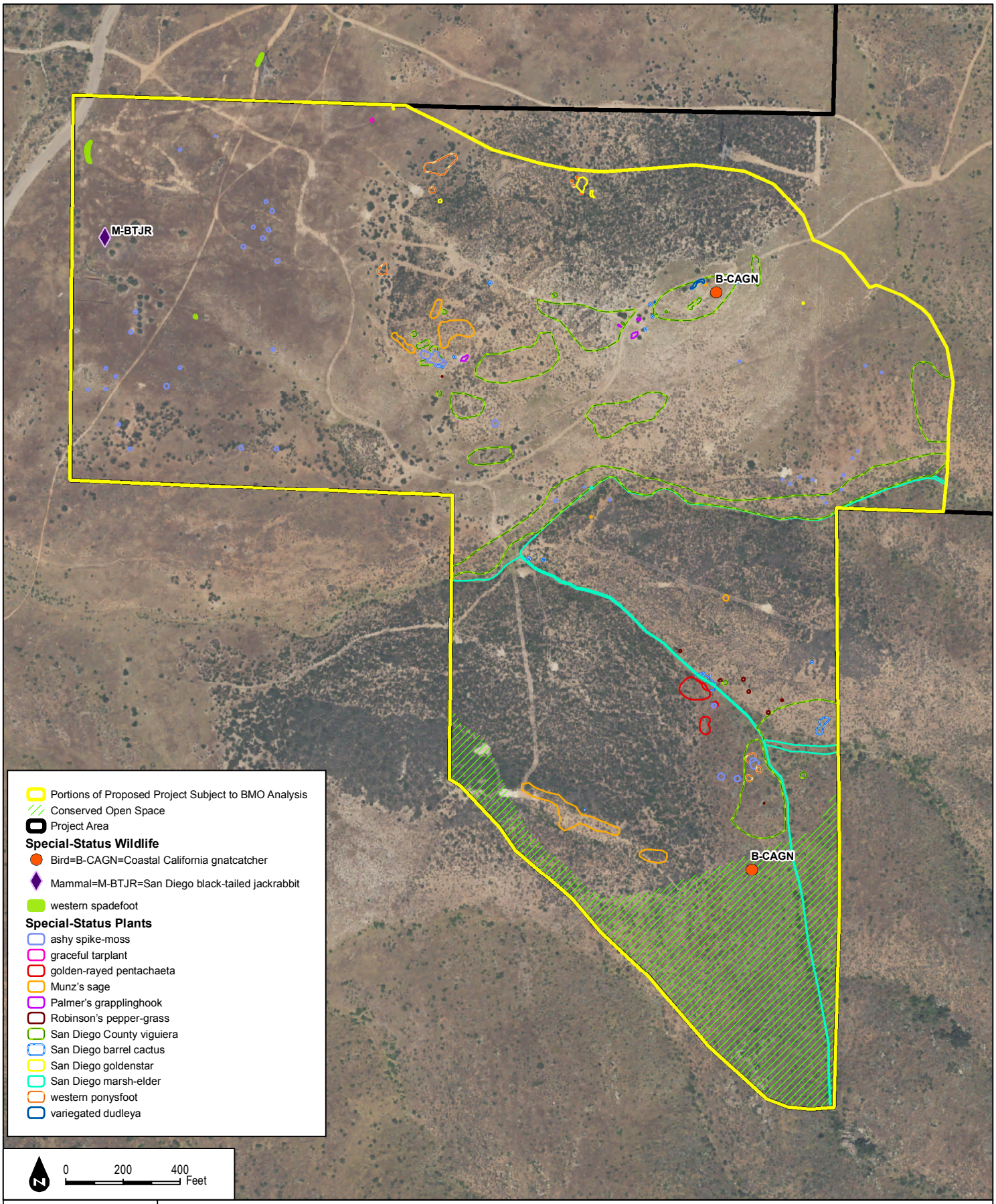

DUDEK

SOURCE: NAIP 2016; Hunsaker 2017

FIGURE 6b

Special-Status Species Occurrences

Otay Ranch Village 14 and Planning Areas 16/19

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Although the two small populations of variegated dudleya within PV3 are not considered core populations per the Otay Ranch RMP, variegated dudleya is a narrow endemic species; therefore, a mitigation ratio of 3:1 is proposed. Mitigation would consist of translocating the existing populations through soil block salvage and placing them within areas of temporarily impacted Otay Ranch RMP Preserve within the Proposed Project or restoring disturbed areas within the Otay Ranch RMP Preserve and translocating the existing populations to this site. To achieve a 3:1 preservation goal, additional variegated dudleya individuals would be planted at the translocation site. Translocation of the existing populations along with planting of additional individuals would result in no net loss of variegated dudleya populations within PV3 (more information is in Section 2.4.1).

Discussion in the Context of the Otay Ranch RMP: Translocation and additional plantings within the MSCP/Otay Ranch RMP Preserve minimize impacts to this narrow endemic species. The Otay Ranch RMP states that variegated dudleya populations are either widespread throughout Otay Ranch or represented by large, localized populations. At the time of approval, the Otay Ranch RMP Preserve was anticipated to preserve approximately 75% of this species' on-site distribution within Otay Ranch, and the population observed within PV3 was not included within the Preserve boundary. Table 3-5 of the MSCP Plan states, "This species will be covered by the MSCP because 56% of major populations and 75% of known localities will be conserved. This species is on the MSCP [County Subarea Plan]'s list of narrow endemics, and therefore participating jurisdictions must specify in their subarea plans additional conservation measures for the species."

Findings: One narrow endemic species, variegated dudleya, was observed within PV3 during the original surveys conducted in support of the Otay Ranch RMP and the updated surveys conducted for the Proposed Project. No other narrow endemic plant or wildlife species were observed within PV1, PV2, or PV3. The two small populations (10 and 25 plants, respectively) of variegated dudleya within the PV3 Development Footprint do not represent core populations. Avoidance of variegated dudleya within PV3 is not feasible due to the reasons discussed previously. Impacts to variegated dudleya within PV3 would be mitigated at a 3:1 ratio through both translocation and additional plantings, resulting in no net loss of the population and minimization of impacts. Thus, the proposed development of PV1, PV2, and PV3 would be consistent with this criterion.

7. ***Preserve the biological integrity of linkages between BRCAs.***

Discussion Specific to PV1, PV2, and PV3: The linkages identified in the MSCP Plan are based on the *Baldwin Otay Ranch Wildlife Corridors Studies Report* (Wildlife Corridors Studies Report) (Ogden 1992). The wildlife corridor study identified two BRCA overlapping the Project Area. There are no identified linkages within or surrounding PV1, PV2, and PV3. PV1, PV2, and PV3 and the immediately surrounding areas are currently undeveloped, with

the exception of the adjacent existing Proctor Valley Road, which means that wildlife can move freely throughout the landscape. The wildlife corridor study identified specific local and regional corridors, which are not included in the boundaries of PV1, PV2, or PV3, used by wildlife. While wildlife may currently move throughout PV1, PV2, and PV3, these three parcels are not considered habitat linkages. Additionally, the MSCP Plan provides designated BRCA and linkages, which are appropriate for this analysis, on Figure 2-2.

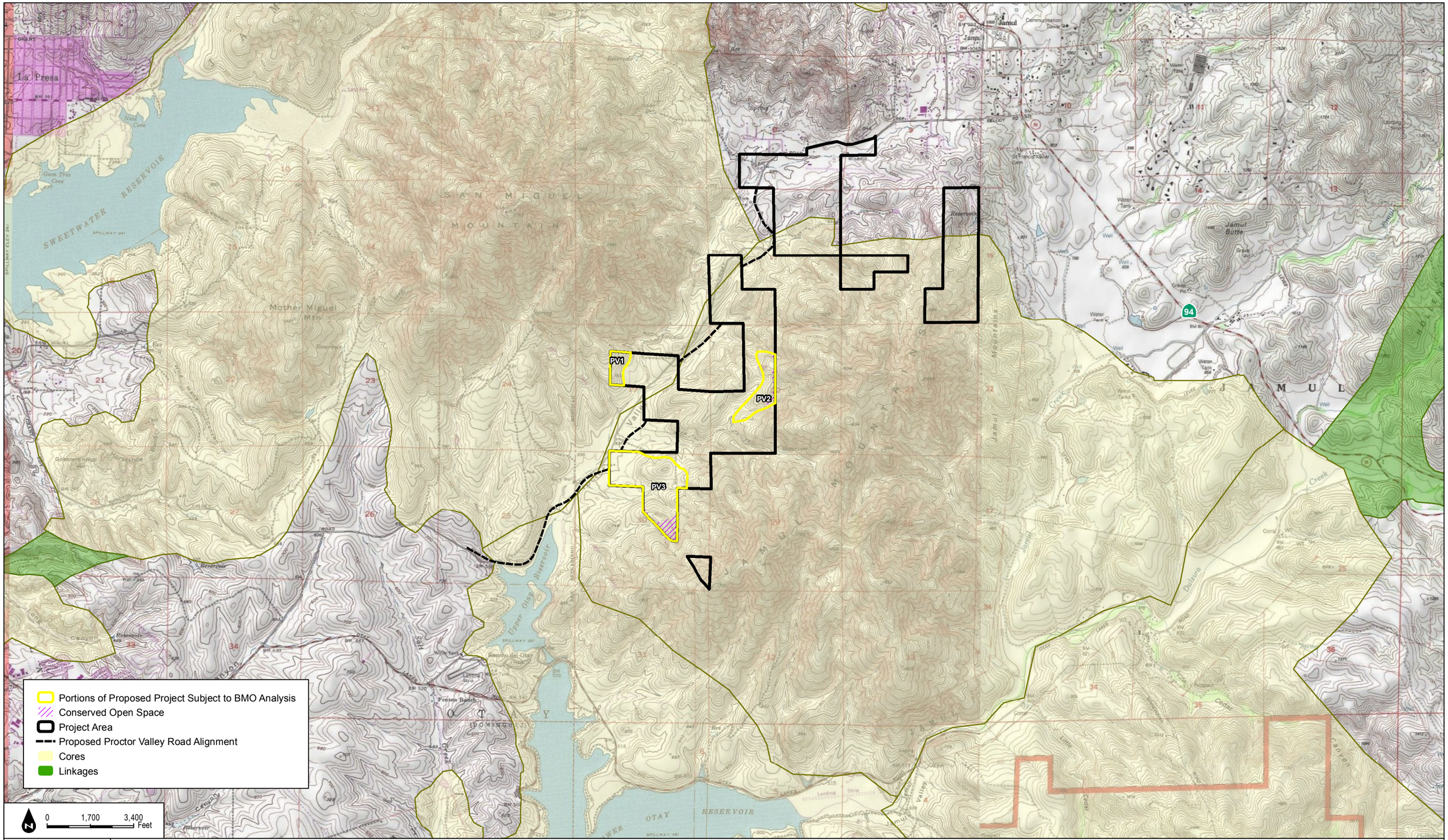
Because PV1, PV2, and PV3 would be consistent with the originally designated Otay Ranch GDP/SRP and Otay Ranch RMP Preserve boundaries, development of these three areas would not impact identified habitat linkages.

Discussion in the Context of the Otay Ranch RMP: The wildlife corridor study identified specific local and regional corridors used by wildlife that would be maintained in the Otay Ranch RMP Preserve. There are no linkages within or surrounding the Village 14 and Planning Area 16/19 Project Area as identified on Figure 2-2 of the MSCP Plan. The designated Otay Ranch RMP Preserve areas adjacent to and surrounding PV1, PV2, and PV3 provide for wildlife corridors and movement to those linkages but are not identified linkages in the MSCP Plan.

Findings: As shown on Figure 7, Biological Resource Core Area, PV1, PV2, and PV3 do not contribute directly to the defined linkages as identified in the MSCP Plan. Thus, the proposed development on these three parcels would not impede existing linkages or otherwise compromise their functionality.

8. ***Achieve the conservation goals for Covered Species and habitats.***

   A total of three MSCP Covered plant species have been observed within PV2 and PV3: San Diego goldenstar, variegated dudleya, and San Diego barrel cactus. Additionally, one MSCP Covered wildlife species, coastal California gnatcatcher, has been observed within PV1, PV2, and PV3, and nine additional MSCP species have a high potential to occur (Table 4). The following text discusses these species and how PV1, PV2, and PV3 achieve conservation goals for Covered Species and their habitats. The conservation goals for Covered Species are presented in Table 3-5 of the MSCP Plan.



SOURCE: Hunsaker 2017; SANGIS 2016

FIGURE 7

Biological Resource Core Area

DUDEK

Otay Ranch Village 14 and Planning Areas 16/19

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Discussion of Covered Plant Species Specific to PV1, PV2, and PV3: Development within PV3 would result in direct impacts to three Covered plant species: San Diego goldenstar, variegated dudleya, and San Diego barrel cactus. Development of PV1 would result in impacts to designated critical habitat for spreading navarretia (*Navarretia fossalis*) (Table 3), which is also a Covered Species. However, no individual spreading navarretia plants were observed within PV1, PV2, or PV3; therefore, there are no impacts to this species, mitigation is not required, and this species is not discussed further. There are no Covered plant species present within PV1 or PV2.

San Diego Goldenstar: A total of 17 San Diego goldenstar plants would be impacted in PV3. The conservation goal for this species as described in Table 3-5 of the MSCP Plan states that 8 of 11 major populations of San Diego goldenstar (73% of major populations) and 38% of grasslands within the MSCP Plan area would be conserved. This species is found in large quantities throughout the Project Area (approximately 4,952 individuals). The plant populations within PV3 would not be considered major populations since they are small and separate from the larger populations. In addition, these populations are not designated as major populations within the MSCP Area (SANDAG 2018). While PV1, PV2, and PV3 do not provide specifically for the preservation of San Diego goldenstar, the Proposed Project's contribution to the Otay Ranch RMP Preserve through on-site conveyance would preserve 2,902 individuals of the species, and an additional 688 individuals would be preserved through Conserved Open Space. Another 577 individuals within non-graded LDA would not be impacted by the Proposed Project (Table 3). However, to ensure no net loss of these populations, mitigation in the form of translocation of the existing populations, along with additional plantings, would be provided within Conserved Open Space in PV3. Therefore, the Proposed Project contributes to the overall conservation goals outlined for San Diego goldenstar.

Variegated Dudleya: Two populations (25 and 10 plants, respectively) of variegated dudleya would be impacted in PV3. Table 3-5 of the MSCP Plan states that 56% of major populations and 75% of known localities of variegated dudleya within the MSCP Plan area would be conserved. These populations are not designated as major populations within the MSCP Area (SANDAG 2018). Although PV1, PV2, and PV3 do not contribute to the overall conservation goals of the MSCP Plan by preserving additional populations of this species, to ensure that there are no net losses of this narrow endemic species, mitigation in the form of translocation of the existing populations, along with additional plantings, would be provided within Conserved Open Space in PV3. Therefore, with the proposed mitigation, development within PV3 would contribute to the overall conservation goals for variegated dudleya.

San Diego Barrel Cactus: A total of 36 San Diego barrel cactus individuals would be impacted in PV3. Table 3-5 of the MSCP Plan states that 81% of major populations within the

MSCP Plan area would be conserved. Table 3-5 also lists specific percentages for subareas; however, Otay Ranch is not listed as a subarea. These populations are not designated as major populations within the MSCP Plan (SANDAG 2018). While PV1, PV2, and PV3 do not provide specifically for the preservation of San Diego barrel cactus, the Proposed Project's contribution to the Otay Ranch RMP Preserve through on-site conveyance would preserve two individuals. To ensure that there is no net losses of this species, mitigation in the form of translocation of the existing populations, along with additional plantings, would be provided. Therefore, with the proposed mitigation, development within PV3 would contribute to the overall conservation goals for San Diego barrel cactus.

Discussion of Covered Plant Species in the Context of the Otay Ranch RMP: The Otay Ranch RMP outlines objectives and policies for the preservation of sensitive plant species within Otay Ranch (Policies 2.6 and 2.7, City of Chula Vista and County of San Diego 1996). Preservation goals for select sensitive plant species are identified and outlined within these policies, which apply Ranch-wide (City of Chula Vista and County of San Diego 1996). The percentage of populations retained within the Otay Ranch RMP Preserve includes the population estimates at the time of Otay Ranch RMP approval. Because the Proposed Project, which includes PV1, PV2, and PV3, conforms to the original Otay Ranch GDP/SRP boundary, any populations recorded within the portions of Otay Ranch RMP Preserve within the Project Area would contribute to attainment of the Ranch-wide Otay Ranch RMP conservation goals. Ranch-wide, the Otay Ranch RMP requires preservation of a minimum of 75% of the Otay Ranch populations of San Diego barrel cactus, 75% of the Otay Ranch populations of variegated dudleya, and 54% of the Otay Ranch populations of San Diego goldenstar. Pursuant to the Otay Ranch RMP, the Proposed Project, which includes PV1, PV2, and PV3, is not required to meet the Ranch-wide standard. Rather, the Otay Ranch RMP Preserve Conveyance Obligation satisfies the conservation goals. In addition, impacts to populations of variegated dudleya and San Diego barrel cactus were identified in the Otay Ranch RMP, which is incorporated to the MSCP Plan. As shown on Figure 6, Sheet 2, of the Otay Ranch RMP, populations of these species observed within the same general location as those identified in the update surveys conducted for the site. Therefore, it can be assumed that the conservation goals outlined in the Otay Ranch RMP anticipated impacts to these species as a part of the Proposed Project and specifically development of PV3.

Discussion of Covered Wildlife Species Specific to PV1, PV2, and PV3: PV1, PV2, PV3, or the Proposed Project as a whole do not contain key regional populations of Covered wildlife species. However, there is a high potential for some Covered wildlife species to occur on PV1, PV2, and PV3 (Table 4), and one Covered Species, coastal California gnatcatcher, was observed in PV3 (Figure 6).

Table 3
Summary of Direct Impacts to and Mitigation for Covered Plant Species
Within the Proposed Project (Including PV2 and PV3)

Species	Regulatory Status: Federal/State/ County/CRPR	Approximate Number of Individuals within Project Area	Approximate Number of Individuals Impacted (Project Area[a]/PV2 and PV3[b])	Approximate Number of Non-Impacted Individuals				Mitigation Requirements
				Non-Graded LDA	*Conserved Open Space*	*Designated Preserve*	*Non-graded Total*	
San Diego goldenstar (*Bloomeria clevelandii)*	None/None/Covered, Group A/1B.1	4,952	786, 17 of which are in PV3	577	688	2,902	4,167	None. Mitigated through preservation of populations within the Otay Ranch RMP Preserve.
Variegated dudleya (*Dudleya variegata)*	None/None/Covered, Group A, Narrow Endemic/ 1B.2	35	35, all of which are in PV3	—	—	—	—	3:1 mitigation to impact ratio. Mitigation consists of translocation and additional plantings.
Spreading navarretia (*Navarretia fossalis)*	FT/None/Covered, Group A/1B.1	Critical habitat	11.4 acres, 4 acres of which are in PV2	—	—	17.0	17.02	None. Species not observed and not expected to occur.
San Diego barrel cactus (*Ferocactus viridescens)*	None/None/Covered, Group B/2B.1	50	48, 36 of which are in PV3	—	—	2	2	2:1 mitigation to impact ratio. Mitigation consists of translocation and additional plantings.

CRPR = California Rare Plant Rank; LDA = Limited Development Area; RMP = Resource Management Plan
Federal Designations
FT: federally threatened
County Designations
Covered: Covered Species under the MSCP Plan
Group A: Plants rare, threatened or endangered in California and elsewhere

Narrow Endemic: As defined in the Biological Mitigation Ordinance, those plant species listed on Attachment E of document No. 0769999 on file with the Clerk of the Board.
Group B: Plants rare, threatened or endangered in California but more common elsewhere
CRPR
1B: Plants rare, threatened, or endangered in California and elsewhere
2B: Plants rare, threatened, or endangered in California but more common elsewhere
Threat Ranks
0.1: Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
0.2: Moderately threatened in California (20%–80% of occurrences threatened/moderate degree and immediacy of threat)

[a] Project Area impacts include impacts within designated development and Preserve, as well as portions of impacts within the LDA.

[b] Impacts to rare plants include impacts within the permanent and temporary footprints.

Table 4
Permanent Impacts to MSCP Covered Wildlife Species Present within the Development Footprint of the Proposed Project (Which Includes PV1, PV2, and PV3) or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/State/ MSCP/County Group	Basis for Impact Evaluation	Total Project Area Development Footprint Impacts[a] (acres)	Non-impacted Project Area		Additional Otay Ranch RMP Preserve Conveyance[b] (acres)
				Conserved Open Space and Non-Graded LDA (acres)	*Otay Ranch RMP Preserve (acres)*	
orangethroat whiptail (*Aspidoscelis hyperythra*)	USFWS: None CDFW: SSC MSCP: Covered County: Group 2	High potential to occur. There are 1,239.0 acres of modeled habitat within the Project Area. Modeled habitat for this species includes chamise chaparral, disturbed chamise chaparral, coastal sage scrub, disturbed coastal sage scrub, disturbed habitat, eucalyptus woodland, mulefat scrub, oak riparian forest, and southern mixed chaparral.	724.8 (174.5 in PV1, PV2, and PV3)	145.7 (20.1 of Conserved Open Space in PV2 and PV3)	388.0	350.1
Blainville's horned lizard (*Phrynosoma blainvillii*)	USFWS: None CDFW: SSC MSCP: Covered County: Group 2	Observed within the Otay Ranch Village 14 Development Footprint and Preserve within Planning Area 16 but not specifically within PV1, PV2, or PV3. There are 1,328.7 acres of modeled habitat within the Project Area. Modeled habitat for this species includes chamise chaparral, disturbed chamise chaparral, coastal sage scrub, disturbed coastal	788.6 (175.3 in PV1, PV2, and PV3)	145.3 (20.1 of Conserved Open Space in PV2 and PV3)	415.7	350.1

Table 4
Permanent Impacts to MSCP Covered Wildlife Species Present within the Development Footprint of the Proposed Project (Which Includes PV1, PV2, and PV3) or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/State/ MSCP/County Group	Basis for Impact Evaluation	Total Project Area Development Footprint Impacts[a] (acres)	Non-impacted Project Area		Additional Otay Ranch RMP Preserve Conveyance[b] (acres)
				Conserved Open Space and Non-Graded LDA (acres)	*Otay Ranch RMP Preserve (acres)*	
		sage scrub, disturbed habitat, eucalyptus woodland, mulefat scrub, oak riparian forest, non-native grassland, and southern mixed chaparral.				
Cooper's hawk (*Accipiter cooperii*) (nesting)	USFWS: None CDFW: WL MSCP: Covered County: Group 1	Observed within the Project Area but not specifically within PV1, PV2, or PV3. There is 3.6 acres of modeled nesting habitat and 1,336.5 acres of modeled foraging habitat within the Project Area. Nesting modeled habitat for this species includes eucalyptus woodland and oak riparian forest. Foraging modeled habitat for this species includes chamise chaparral, cismontane alkali marsh, coastal sage scrub, disturbed chamise chaparral, disturbed coastal sage scrub, eucalyptus woodland, mulefat scrub, oak riparian forest, non-native grassland, and southern mixed chaparral.	0.2 nesting; 789.7 foraging (0 nesting; 175.3 foraging in PV1, PV2, and PV3)	0 nesting; 145.4 foraging (20.1 of Conserved Open Space in PV2 and PV3)	3.5 nesting; 422.6 foraging	350.1
Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)	USFWS: None CDFW: WL MSCP: Covered County: Group 1	Observed within the Project Area but not specifically within PV1, PV2, or PV3. There are 1,325.1 acres of modeled nesting/foraging habitat within the Project Area. Nesting and foraging modeled habitat for this species includes chamise chaparral, disturbed chamise chaparral, coastal sage scrub, disturbed coastal sage scrub, mulefat scrub, non-native grassland, and southern mixed chaparral.	788.4 (175.3 in PV1, PV2, and PV3)	145.3 (20.1 of Conserved Open Space in PV2 and PV3)	412.2	350.1

Table 4
Permanent Impacts to MSCP Covered Wildlife Species Present within the Development Footprint of the Proposed Project (Which Includes PV1, PV2, and PV3) or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/State/ MSCP/County Group	Basis for Impact Evaluation	Total Project Area Development Footprint Impacts[a] (acres)	Non-impacted Project Area		Additional Otay Ranch RMP Preserve Conveyance[b] (acres)
				Conserved Open Space and Non-Graded LDA (acres)	*Otay Ranch RMP Preserve (acres)*	
golden eagle (*Aquila chrysaetos*) (nesting and wintering)	USFWS: BCC CDFW: FP, WL MSCP: Covered County: Group 1	Observed within the Project Area but not specifically within PV1, PV2, or PV3. There are 1,325.5 acres of modeled foraging habitat within the Project Area. Foraging modeled habitat for this species includes coastal sage scrub (including disturbed and Baccharis dominated), chamise chaparral (including disturbed), southern mixed chaparral, and non-native grassland. These vegetation communities are based on the MSCP definition of foraging habitat and the crosswalk with the Project Area specific data.	789.4 foraging (175.3 in PV1, PV2, and PV3)	145.3 foraging (20.1 of Conserved Open Space in PV2 and PV3)	411.5 foraging	350.1
burrowing owl (*Athene cunicularia*) (burrow sites and some wintering sites)	USFWS: BCC CDFW: SSC MSCP: Covered County: Group 1	Direct observations of these species did not occur during focused surveys. Incidental sighting of white wash, feathers, and pellets were observed at one specific location in the central portion of the Project Area during rare plant surveys (not within PV1, PV2, or PV3). There are 115.3 acres of burrowing owl survey areas mapped within the Project Area based on the burrowing owl habitat assessment.	71.8 (0 in PV1, PV2, and PV3)	0.4 (0 in PV1, PV2, and PV3)	29.6	350.1
coastal California gnatcatcher (*Polioptila californica californica*)	USFWS: FT CDFW: SSC MSCP: Covered County: Group 1	Observed within the Project Area, including PV3. There are 1,113.7 acres of modeled nesting/foraging habitat within the Project Area. Nesting and foraging modeled habitat for this species includes chamise chaparral, disturbed chamise chaparral, coastal sage scrub, disturbed coastal sage scrub, mulefat scrub,	691.8 (174.5 in PV1, PV2, and PV3)	116.2 (20.1 of Conserved Open Space in PV2 and PV3)	325.0	350.1

Table 4
Permanent Impacts to MSCP Covered Wildlife Species Present within the Development Footprint of the Proposed Project (Which Includes PV1, PV2, and PV3) or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/State/ MSCP/County Group	Basis for Impact Evaluation	Total Project Area Development Footprint Impacts[a] (acres)	Non-impacted Project Area		Additional Otay Ranch RMP Preserve Conveyance[b] (acres)
				Conserved Open Space and Non-Graded LDA (acres)	*Otay Ranch RMP Preserve (acres)*	
		and southern mixed chaparral.				
western bluebird (*Sialia mexicana*)	USFWS: None CDFW: None MSCP: Covered County: Group 2	Observed within the Project Area but not within PV1, PV2, or PV3. There are 943.4 acres of modeled foraging habitat within the Project Area. Nesting and foraging modeled habitat for this species includes coastal sage scrub, disturbed coastal sage scrub, disturbed habitat, eucalyptus woodland, mulefat scrub, oak riparian forest, and non-native grassland.	543.1 (110 in PV1, PV2, and PV3)	106.6 (20.1 of Conserved Open Space in PV2 and PV3)	307.8	350.1
mule deer (*Odocoileus hemionus*)	USFWS: None CDFW: None MSCP: Covered County: Group 2	Observed within the Project Area. There are 1,267.1 acres of modeled habitat within the Project Area. Modeled habitat for this species includes chamise chaparral, cismontane alkali marsh, coastal sage scrub, developed, disturbed chamise chaparral, disturbed coastal sage scrub, disturbed habitat, eucalyptus woodland, mulefat scrub, oak riparian forest, non-native grassland, and southern mixed chaparral.	801.0 (175.3 in PV1, PV2, and PV3)	117.4 (20.1 of Conserved Open Space in PV2 and PV3)	370.6	350.1
Cougar (*Puma concolor*)	USFWS: None CDFW: None MSCP: Covered County: Group 2	Observed within the Project Area (indirect observation of scat) but not within PV1, PV2, or PV3. There are 1,043.4 acres of modeled habitat within the Project Area. Modeled habitat for this species includes chamise chaparral, disturbed chamise chaparral, coastal sage scrub, disturbed coastal sage scrub, disturbed habitat, eucalyptus woodland,	558.3 (175.3 in PV1, PV2, and PV3)	135.3 (20.1 of Conserved Open Space in PV2 and PV3)	363.8	350.1

Table 4
Permanent Impacts to MSCP Covered Wildlife Species Present within the Development Footprint of the Proposed Project (Which Includes PV1, PV2, and PV3) or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal/State/ MSCP/County Group	Basis for Impact Evaluation	Total Project Area Development Footprint Impacts[a] (acres)	Non-impacted Project Area		Additional Otay Ranch RMP Preserve Conveyance[b] (acres)
				Conserved Open Space and Non-Graded LDA (acres)	*Otay Ranch RMP Preserve (acres)*	
		mulefat scrub, oak riparian forest, non-native grassland, and southern mixed chaparral.				
American badger (*Taxidea taxus*)	USFWS: None CDFW: SSC MSCP: Covered County: Group 2	Observed within the Project Area by sign only but not within PV1, PV2, or PV3. There are 940.6 acres of modeled habitat within the Project Area. Modeled habitat for this species includes coastal sage scrub, chamise, disturbed chamise chaparral, disturbed coastal sage scrub, disturbed habitat, mulefat scrub, and non-native grassland.	543.7 (175.3 in PV1, PV2, and PV3)	106.6 (20.1 of Conserved Open Space in PV2 and PV3)	304.3	350.1

Notes: CDFW = California Department of Fish and Wildlife; LDA = Limited Development Area; MSCP = Multiple Species Conservation Program; RMP = Resource Management Plan; USFWS = U.S. Fish and Wildlife Service

[a] Acreages in parentheses are impacts associated with PV1, PV2, and PV3.

[b] The 350.1 acres of additional Otay Ranch RMP Preserve conveyance is not guaranteed to provide habitat for these species, particularly for burrowing owl, which has more specific requirements than the presence of habitat.

Status Legend
Federal
BCC: Bird of Conservation Concern
FT: Federally Threatened
State
SSC: Species of Special Concern
WL: Watch List
FP: Fully Protected
MSCP
Covered: Covered species under the MSCP Plan
County
Group 1
Group 2

Impacts specifically associated with PV1, PV2, and PV3 are also provided in Table 4. Impacts to covered wildlife species that are known to occur, or those that have a high potential to occur, within the entire Project Area, are also outlined in Table 4. Table 4 also provides data regarding on-site preservation of habitat. Impacts and Preserve acreage for the entire Project Area are included in this analysis to provide the context for the BMO analysis of PV1, PV2, and PV3. Conservation goals, as outlined in Table 3-5 of the MSCP Plan, for each of the covered wildlife species listed in Table 4 were reviewed to ensure that the development of PV1, PV2, and PV3 would not impede the conservation goals.

Orangethroat Whiptail: Orangethroat whiptail (*Aspidoscelis hyperythra*) was not observed within PV1, PV2, or PV3; however, there is high potential for this species to occur. A total of 174.5 acres of modeled habitat for orangethroat whiptail would be impacted by development in PV1, PV2, and PV3, and 20.1 acres of modeled habitat would be preserved as Conserved Open Space. The conservation goals within the MSCP Plan outline preservation of known locations and potential habitat. Because PV1, PV2, and PV3 do not encroach into the 11,375-acre hardline Otay Ranch RMP Preserve (which is a component of the MSCP Preserve), and the Proposed Project would meet its conveyance requirements, development of these three parcels would not impeded the conservation goals for this species as outlined in Table 3-5 of the MSCP Plan.

Blainville's Horned Lizard: Blainville's horned lizard (*Phrynosoma blainvillii*) has a high potential to occur in PV1, PV2, and PV3. A total of 175.3 acres of modeled habitat for Blainville's horned lizard would be impacted by development in PV1, PV2, and PV3, and 20.1 acres of modeled habitat would be preserved as Conserved Open Space. The conservation goals within the MSCP Plan outline preservation of known locations and potential habitat. Because PV1, PV2, and PV3 do not encroach into the 11,375-acre hardline Otay Ranch RMP Preserve (which is a component of the MSCP Preserve), and the Proposed Project would meet its conveyance requirements, development of these three parcels would not impeded the conservation goals for this species as outlined in Table 3-5 of the MSCP Plan.

Cooper's Hawk: A Cooper's hawk (*Accipiter cooperii*) was observed flying overhead during biological surveys in 2014, but since much of the Project Area is likely used by this species, the observations were not mapped. This species has a high potential to forage within PV1, PV2, and PV3; however, these areas do not contain suitable nesting habitat. A total of 175.3 acres of modeled habitat for Copper's hawk would be impacted by development in PV1, PV2, and PV3, and 20.1 acres of modeled habitat would be preserved as Conserved Open Space. The conservation goals within the MSCP Plan outline preservation of known locations and potential habitat (both foraging and nesting). Because

PV1, PV2, and PV3 do not encroach into the 11,375-acre hardline Otay Ranch RMP Preserve (which is a component of the MSCP Preserve), and the Proposed Project would meet its conveyance requirements, development of these three parcels would not impeded the conservation goals for this species as outlined in Table 3-5 of the MSCP Plan.

Southern California Rufous-Crowned Sparrow: Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) was not observed in PV1, PV2, or PV3. Based on observations in coastal sage scrub habitat elsewhere in the Proposed Project, there is a high potential for this species to occur in these parcels. A total of 175.3 acres of modeled habitat for this species would be impacted by development in PV1, PV2, and PV3. A total of 20.1 acres of modeled habitat would be preserved as Conserved Open Space. The conservation goals within the MSCP Plan outline preservation of known locations and potential habitat. Because PV1, PV2, and PV3 do not encroach into the 11,375-acre hardline Otay Ranch RMP Preserve (which is a component of the MSCP Preserve), and the Proposed Project would meet its conveyance requirements, development of these three parcels would not impeded the conservation goals for this species as outlined in Table 3-5 of the MSCP Plan.

Golden Eagle: Golden eagle (*Aquila chrysaetos*) was not observed within PV1, PV2, or PV3. There is a high potential for this species to forage in these parcels. A total of 175.3 acres of modeled foraging habitat for this species would be impacted by development in PV1, PV2, and PV3. A total of 20.1 acres of modeled habitat would be preserved as Conserved Open Space within PV2 and PV3.

Table 3-5 of the MSCP Plan and the County's Section 10 permit require that approved development avoid lethal take of any golden eagle and human disturbance of any active golden eagle nest. In addition, approved development projects must maintain a 4,000-foot disturbance avoidance buffer around any active golden eagle nest within Preserve lands. PV1, PV2, and PV3 are not within 4,000 feet of an active golden eagle nest. Although the historical known golden eagle nest locations and the artificial nest locations are located within 4,000 feet of PV1,[2] these features are no longer occupied. Since the Proposed Project, which includes PV1, PV2, and PV3, remains within the designated Otay Ranch RMP Preserve and Development Footprint, development of these parcels would not result in loss of golden eagle foraging habitat beyond that described in Table 3-5 of the MSCP

[2] Coarse measurements based on best-guess approximations of these historical nest locations places them within 3,065–3,541 feet from the nearest Project impact boundary (i.e., the nearest point where Project development would result in at least temporary human disturbance) (H.T. Harvey & Associates 2017).

Plan. A full analysis regarding golden eagle habitat is provided in Appendix C of the Biological Resources Technical Report prepared for the Proposed Project. Importantly, several of the Take Authorized Areas (identified for future development in the MSCP Plan and MSCP County Subarea Plan) located within the MSCP County Subarea Plan area have been converted entirely to MSCP Preserve. These areas include Hidden Valley Estates, Las Montanas, Otay Ranch Village 15, and Daley Ranch, and each include suitable golden eagle foraging habitat that was expected to be developed but would now be preserved.

Development of PV1, PV2, and PV3 would not have a significant impact on golden eagle because such development would (1) not cause lethal take of the species, (2) not disturb any active golden eagle nest, and (3) not place human activity within 4,000 feet of any active golden eagle nest located inside the MSCP Preserve. In addition, as discussed previously, the Proposed Project, which includes PV1, PV2, and PV3, would be consistent with the MSCP Plan's assumptions regarding preservation of golden eagle foraging habitat (total preservation of 53% for the MSCP Plan and 54% for the MSCP County Subarea Plan).

Burrowing Owl: In 2014, a habitat assessment and focused surveys for burrowing owl were conducted for the Project Area as required in Table 3-5 of the MSCP Plan. During these surveys, no burrowing owl or sign were observed in PV1, PV2, or PV3. In 2015, burrowing owl sign consisting of white wash, feathers, and pellets were observed at one specific location in the central portion of the Project Area (outside of PV1, PV2, and PV3) during rare plant surveys. Development of PV1, PV2, and PV3 would not result in impacts to mapped burrowing owl habitat. The conservation goals within the MSCP Plan outline preservation of known locations and preservation of both known and potential habitat. Because PV1, PV2, and PV3 do not encroach into the 11,375-acre hardline Otay Ranch RMP Preserve (which is a component of the MSCP Preserve), the Proposed Project would meet its conveyance requirements, and there are no known locations of burrowing owl within the Development Footprint, development of these three parcels would not impeded the conservation goals for this species as outlined in Table 3-5 of the MSCP Plan.

Coastal California Gnatcatcher: Development within PV3 would result in direct impacts to habitat associated with one male coastal California gnatcatcher (Figure 6). This male was observed along the edge of the development and Preserve boundary, and it is likely that the surrounding area of coastal sage scrub within the Otay Ranch RMP Preserve supports this individual. A pair of coastal California gnatcatcher was observed within Conserved Open Space within PV3, but it would not be directly impacted because

it is located in Conserved Open Space and would be protected by a biological open space easement or conveyed to the Otay Ranch RMP Preserve. In addition, 174.5 acres of modeled habitat for this species would be impacted by development in PV1, PV2, and PV3, and 20.1 acres of modeled habitat would be preserved as Conserved Open Space. Conservation provided through implementation and conformance with the Otay Ranch RMP and BMO habitat mitigation requirement would provide mitigation for direct impacts to Covered sensitive species, including coastal California gnatcatcher, to reduce impacts to a less-than-significant level.

The conservation goals within the MSCP County Subarea Plan outline preservation of both known and potential habitat, as well as core areas where the species occurs and known locations. As a condition of coverage, Table 3-5 of the MSCP County Subarea Plan states, "No cleaning of occupied habitat within the cities' MHPAs [Multiple Habitat Planning Areas] and within the County's Biological Resource Core Areas may occur between March 1 and August 15" (County of San Diego 1997). PV3, as part of the Proposed Project, includes mitigation measures that would reduce impacts to any special-status bird species occurring within the development. Those measures include biological monitoring to prevent disturbance outside of the limits of grading, temporary construction fencing, and noise-reduction measures during the nesting season. Specific to coastal California gnatcatcher, no clearing, grading, or grubbing activities may occur within habitat identified by a qualified biologist as being occupied by coastal California gnatcatcher during the nesting season for the species (February 15 to August 15, annually). If construction occurs during the nesting season, a nesting survey for coastal California gnatcatcher shall be conducted prior to the onset of construction. Construction may occur if active breeding territories can be avoided, and construction activities can be managed to limit noise levels in occupied habitat within 500 feet of the Proposed Project, or noise attenuation measures, such as temporary sound walls, would be implemented to reduce noise levels below 60 A-weighted decibels (dBA) equivalent sound level (L_{eq}) or below existing ambient noise levels (whichever is greater).

Development of PV1, PV2, and PV3 would not impeded the conservation goals for coastal California gnatcatcher as outlined in Table 3-5 of the MSCP Plan for the following reasons: (1) PV1, PV2, and PV3 do not encroach into the 11,375-acre hardline Otay Ranch RMP Preserve (which is a component of the MSCP Preserve); (2) the Proposed Project would meet its conveyance and BMO mitigation requirements; (3) one pair would be preserved within Conserved Open Space; and (4) mitigation measures that would reduce impacts to any special-status bird species occurring within the development have been incorporated.

Western Bluebird: Western bluebird (*Sialia mexicana*) was not observed within PV1, PV2, or PV3 during surveys conducted within the Project Area. There is a high potential for this species to occur in these parcels. A total of 110 acres of modeled habitat for this species would be impacted by development in PV1, PV2, and PV3, and 20.1 acres of modeled habitat would be preserved as Conserved Open Space. The conservation goals within the MSCP Plan outline preservation of potential habitat. Because PV1, PV2, and PV3 do not encroach into the 11,375-acre hardline Otay Ranch RMP Preserve (which is a component of the MSCP Preserve), and the Proposed Project would meet its conveyance requirements, development of these three parcels would not impeded the conservation goals for this species as outlined in Table 3-5 of the MSCP Plan.

Mule Deer: Mule deer (*Odocoileus hemionus*) was not observed within PV1, PV2, or PV3 during surveys conducted within the Project Area. There is a high potential for this species to occur in these parcels. A total of 175.3 acres of modeled habitat for this species would be impacted by development in PV1, PV2, and PV3, and 20.1 acres of modeled habitat would be preserved as Conserved Open Space. The conservation goals within the MSCP Plan outline preservation of BRCAs and associated linkages. PV2 and PV3 are located within the Jamul Mountains BRCA (also identified as BRCA 6 in the MSCP Plan), and PV1 is located within the Sweetwater Reservoir/San Miguel Mountain/Sweetwater River BRCA (BRCA 7), both of which are included in the conservation goals. Because PV1, PV2, and PV3 do not encroach into the 11,375-acre hardline Otay Ranch RMP Preserve (which is a component of the MSCP Preserve), and the Proposed Project would meet its conveyance requirements, development of these three parcels do not impeded the conservation goals for this species as outlined in Table 3-5 of the MSCP Plan. In addition, the Proposed Project would include four wildlife crossings outside the boundaries of PV1, PV2, and PV3, which would help ensure that this species can continue to move throughout the BRCAs as associated linkages.

Cougar: Cougar (*Puma concolor*) sign was not observed within PV1, PV2, or PV3 during surveys conducted within the Project Area. There is a high potential for this species to occur in these parcels. A total of 175.3 acres of modeled habitat for this species would be impacted by development in PV1, PV2, and PV3, and 20.1 acres of modeled habitat would be preserved as Conserved Open Space. Similar to mule deer, the conservation goals within the MSCP Plan outline preservation of BRCAs and associated linkages, and BRCAs 6 and 7 are included in the goals for this species. Because PV1, PV2, and PV3 do not encroach into the 11,375-acre hardline Otay Ranch RMP Preserve (which is a component of the MSCP Preserve), and the Proposed Project would meet its conveyance requirements, development of these three parcels would not impeded the

conservation goals for this species as outlined in Table 3-5 of the MSCP Plan. In addition, the Proposed Project would include four wildlife crossings outside the boundaries of PV1, PV2, and PV3, which would help to ensure that this species can continue to move throughout the BRCAs as associated linkages.

American Badger: American badger (*Taxidea taxus*) was not mapped specifically within PV1, PV2, or PV3. There is a high potential for this species to occur. A total of 175.3 acres of modeled habitat for this species would be impacted by development in PV1, PV2, and PV3, and 20.1 acres of modeled habitat would be preserved as Conserved Open Space. The conservation goals within the MSCP Plan outline preservation of potential habitat. Because PV1, PV2, and PV3 do not encroach into the 11,375-acre hardline Otay Ranch RMP Preserve (which is a component of the MSCP Preserve), and the Proposed Project would meet its conveyance requirements, development of these three parcels would not impeded the conservation goals for this species as outlined in Table 3-5 of the MSCP Plan.

Discussion of Covered Wildlife Species in the Context of the Otay Ranch RMP: The Otay Ranch RMP outlines objectives and policies for the preservation of sensitive wildlife species within Otay Ranch (Policies 2.5, 2.8, and 2.11). As stated in Section 3.3.3.7 of the MSCP County Subarea Plan, "all conditions and exceptions listed in the Otay Ranch approval documents, including the Resource Management Plan (Volume I) are hereby incorporated by reference, with respect to easement requirements, revegetation requirements, allowed facilities within the Preserve area, etc." Because the MSCP County Subarea Plan and Implementing Agreement incorporate the Otay Ranch RMP into the MSCP Preserve, any Otay Ranch project that participates in, and is consistent with, the MSCP Plan is deemed to have mitigated its California Environmental Quality Act impacts on any affected Covered Species.

Preservation goals for select sensitive wildlife species are identified and outlined within these policies, which apply Ranch-wide (City of Chula Vista and County of San Diego 1996). Ranch-wide, the Otay Ranch RMP requires preservation of a minimum of 52% of Otay Ranch populations of coastal California gnatcatcher, preservation of a minimum of 75% of Otay Ranch populations of wildlife species recognized as Category 2 candidate species by the U.S. Fish and Wildlife Service (USFWS) (see Table 5 of the Otay Ranch RMP), and preservation of raptor nesting, roosting, and foraging habitat. Since the RMP is a component of the MSCP County Subarea Plan, these ranch-wide goals are incorporated into the MSCP. As stated in Section 3.3.3.7 of the MSCP County Subarea Plan, "All conditions and exceptions listed in the Otay Ranch approval documents, including the Resource Management Plan (Volume I) are hereby incorporated by

reference, with respect to easement requirements, revegetation requirements, allowed facilities within the Preserve area, etc." (County of San Diego 1997).

The percentage of populations retained within the Otay Ranch RMP Preserve, as shown in Table 5 of the Otay Ranch RMP, includes the population estimates at the time of Otay Ranch RMP approval. Because the Proposed Project, which includes PV1, PV2, and PV3, conforms to the original Otay Ranch GDP/SRP boundary, any populations recorded within the portions of the Otay Ranch RMP Preserve within the Project Area would contribute to attainment of the Ranch-wide Otay Ranch RMP conservation goals. Pursuant to the Otay Ranch RMP, the Proposed Project, which includes PV1, PV2, and PV3, is not required to meet the Ranch-wide standard. Rather, the Otay Ranch RMP Preserve Conveyance Obligation satisfies the conservation goals. In the context of the Otay Ranch RMP Preserve conveyance, which is part of the MSCP Preserve, it is important to note the Proposed Project's habitat contribution with respect to individual species habitat as follows:

Orangethroat Whiptail: The Proposed Project would convey 388.0 acres of on-site suitable habitat for orangethroat whiptail to the Otay Ranch RMP Preserve, with an additional 145.7 acres designated as Conserved Open Space or non-graded LDA. There are 20.1 acres of suitable habitat within Conserved Open Space in PV2 and PV3. The conveyance requirement for the Proposed Project would result in an additional 353.1 acres of off-site habitat conveyed to the Otay Ranch RMP Preserve. It is highly likely that this off-site area would contain suitable habitat for orangethroat whiptail.

Blainville's Horned Lizard: The Proposed Project would convey 415.7 acres of on-site suitable habitat for Blainville's horned lizard to the Otay Ranch RMP Preserve with an additional 145.3 acres designated as Conserved Open Space or not impacted by the Proposed Project (i.e., non-impacted LDA). There are 20.1 acres of suitable habitat within Conserved Open Space in PV2 and PV3. The conveyance requirement for the Proposed Project would result in an additional 353.1 acres of off-site habitat conveyed to the Otay Ranch RMP Preserve. It is highly likely that this off-site area would contain suitable habitat for Blainville's horned lizard.

Cooper's Hawk: The Proposed Project would convey 422.6 acres of on-site foraging habitat and 3.5 acres of suitable nesting habitat for Cooper's hawk. An additional 145.4 acres of suitable foraging habitat is designated as Conserved Open Space or non-graded LDA. There are 20.1 acres of suitable habitat within Conserved Open Space in PV2 and PV3. The conveyance requirement for the Proposed Project would result in an additional 353.1 acres of off-site habitat conveyed to the Otay Ranch RMP Preserve. It is highly

likely that this off-site area would contain suitable foraging habitat for Cooper's hawk and may also contain some suitable nesting habitat.

Southern California Rufous-Crowned Sparrow: The Proposed Project would convey 412.2 acres of on-site suitable habitat for Southern California rufous-crowned sparrow to the Otay Ranch RMP Preserve, with an additional 145.3 acres designated as Conserved Open Space or non-graded LDA. There are 20.1 acres of suitable habitat within Conserved Open Space in PV2 and PV3. The conveyance requirement for the Proposed Project would result in an additional 353.1 acres of off-site habitat conveyed to the Otay Ranch RMP Preserve. It is highly likely that this off-site area would contain suitable habitat for Southern California rufous-crowned sparrow.

Golden Eagle: The Proposed Project would convey 411.5 acres of on-site foraging habitat for golden eagle to the Otay Ranch RMP Preserve, with an additional 145.3 acres designated as Conserved Open Space or non-graded LDA. There are 20.1 acres of suitable habitat within Conserved Open Space in PV2 and PV3. The conveyance requirement for the Proposed Project would result in an additional 353.1 acres of off-site habitat conveyed to the Otay Ranch RMP Preserve. It is highly likely that this off-site area would contain suitable foraging habitat for golden eagle.

Burrowing Owl: The Proposed Project would convey 29.6 acres of on-site suitable habitat for burrowing owl to the Otay Ranch RMP Preserve, with an additional 0.4 acres within non-graded LDA. There is no burrowing owl habitat within PV1, PV2, or PV3. The conveyance requirement for the Proposed Project would result in an additional 353.1 acres of off-site habitat conveyed to the Otay Ranch RMP Preserve. There is potential that this off-site area could contain suitable habitat for burrowing owl.

Coastal California Gnatcatcher: The Proposed Project would provide for the preservation of habitat surrounding three pairs of coastal California gnatcatcher. Specifically, within the Project Area boundaries, approximately 294 acres of coastal sage scrub would be conveyed to the Otay Ranch RMP Preserve, with an additional 18.2 acres of coastal sage scrub specifically located in PV2 and PV3 Conserved Open Space that could be conveyed to the Preserve in the future.[3] In order to meet the Otay Ranch RMP conveyance requirements, the Proposed Project must convey an additional 353.1 acres of land to the Otay Ranch RMP Preserve. Although the exact location and vegetation types are not known at this time, it is expected that these additional lands would provide habitat

[3] Approximately 18.2 acres of the total 20.1 acres of PV1, PV2, and PV3 Conserved Open Space is coastal sage scrub.

for the coastal California gnatcatcher. Much of the coastal sage scrub that would be conveyed to the Otay Ranch RMP Preserve is found in large patches within Village 14 and has been designated as very high habitat value.

Western Bluebird: The Proposed Project would convey 307.8 acres of on-site suitable habitat for western bluebird to the Otay Ranch RMP Preserve, with an additional 106.6 acres designated as Conserved Open Space or non-graded LDA. There are 20.1 acres of suitable habitat within Conserved Open Space in PV2 and PV3. The conveyance requirement for the Proposed Project would result in an additional 353.1 acres of off-site habitat conveyed to the Otay Ranch RMP Preserve. It is likely that this off-site area would contain suitable habitat for western bluebird.

Mule Deer: The Proposed Project would convey 370.6 acres of on-site suitable habitat for mule deer to the Otay Ranch RMP Preserve, with an additional 117.4 acres designated as Conserved Open Space non-graded LDA. There are 20.1 acres of suitable habitat within Conserved Open Space in PV2 and PV3. The conveyance requirement for the Proposed Project would result in an additional 353.1 acres of off-site habitat conveyed to the Otay Ranch RMP Preserve. It is highly likely that this off-site area would contain suitable habitat for mule deer.

Cougar: The Proposed Project would convey 363.8 acres of on-site suitable habitat for cougar to the Otay Ranch RMP Preserve, with an additional 135.3 acres designated as Conserved Open Space or non-graded LDA. There are 20.1 acres of suitable habitat within Conserved Open Space in PV2 and PV3. The conveyance requirement for the Proposed Project would result in an additional 353.1 acres of off-site habitat conveyed to the Otay Ranch RMP Preserve. It is highly likely that this off-site area would contain suitable habitat for cougars.

American Badger: The Proposed Project would convey 304.3 acres of on-site suitable habitat for American badger to the Otay Ranch RMP Preserve, with an additional 106.6 acres designated as Conserved Open Space or non-graded LDA. There are 20.1 acres of suitable habitat within Conserved Open Space in PV2 and PV3. The conveyance requirement for the Proposed Project would result in an additional 353.1 acres of off-site habitat conveyed to the Otay Ranch RMP Preserve. It is likely that this off-site area would contain suitable habitat for American badger.

Because PV1, PV2, and PV3 do not contain areas of designated Otay Ranch RMP Preserve, the conservation of Covered Species and their habitat would be satisfied by conveyance of habitat to the Otay Ranch RMP Preserve pursuant to the Otay Ranch RMP Preserve Conveyance Obligation.

Findings

Covered Plants: As discussed previously, development within PV3 would result in direct impacts to the following three plant species covered by the MSCP County Subarea Plan (Covered Species): San Diego goldenstar, variegated dudleya, and San Diego barrel cactus. Development in PV1 would result in impacts to USFWS-designated critical habitat for a fourth Covered Species, spreading navarretia; this species was not observed (Table 3; Figure 6).

Covered Wildlife: One Covered wildlife species, coastal California gnatcatcher, was observed within PV3 (Figure 6). In addition, PV1, PV2, and PV3 contain habitat that could support nine additional Covered wildlife species (Table 4), including golden eagle. Development of PV1, PV2, and PV3 would result in impacts to suitable habitat for all 10 Covered Species.

As PV1, PV2, and PV3 are governed by the conservation goals of the Otay Ranch RMP, which is incorporated into the MSCP Plan. Mitigation of impacts would be achieved through (1) conveyance to the Otay Ranch RMP Preserve as required by the Otay Ranch RMP Preserve Conveyance Obligation, (2) additional habitat-based mitigation required under this BMO analysis, (3) additional mitigation for impacts to variegated dudleya and San Diego barrel cactus, and (4) additional MSCP and RMP measures applied to coastal California gnatcatcher. Compliance with the Otay Ranch RMP Preserve Conveyance Obligation, coupled with additional mitigation for variegated dudleya, San Diego barrel cactus, golden eagle, and coastal California gnatcatcher, would meet the conservation goals for Covered Species and habitats outlined in Table 3-5 of the MSCP Plan and conservation goals in the Otay Ranch RMP. Thus, the proposed development of PV1, PV2, and PV3 would be consistent with this criterion.

2.2.5.2 Design Criteria for Linkages and Corridors (Attachment H)

Criterion 5 requires that PV1, PV2, and PV3 comply with the applicable MSCP design criteria outlined in Attachment H (Design Criteria for Linkages and Corridors) of the BMO. Attachment H outlines 11 design criteria developed to protect the biological values of linkages and corridors within the MSCP Plan boundaries. The BMO defines "linkage" as "an area of land which supports or contributes to the long-term movement of wildlife and genetic material," whereas a "corridor" is defined as "a specific route that is used for movement and migration of species. A corridor may be different from a 'Linkage' because it represents a smaller or narrower avenue for movement" (County of San Diego 2010, p. 14). The Otay Ranch RMP Preserve within the Proposed Project contains large blocks of habitat that support surrounding linkages as identified

in the Final MSCP (Figure 2-2, MSCP 1998). There are no MSCP-identified linkages within the Project Area, which includes PV1, PV2, and PV3. The following provides the criteria described in Attachment H and analyzes whether PV1, PV2, and PV3 conform to those criteria:

1. ***Habitat linkages as defined by the Biological Mitigation Ordinance, rather than just corridors, will be maintained.***

   Discussion: The linkages identified in the MSCP Plan are based on the Wildlife Corridors Studies Report (Ogden 1992). While the wildlife corridor study identified a BRCA overlapping the Project Area, there are no identified linkages within or surrounding the Project Area and specifically PV1, PV2, and PV3. The Project Area, which includes PV1, PV2, and PV3, is currently undeveloped, with the exception of the existing Proctor Valley Road. Wildlife can move freely throughout the Project Area and surrounding undeveloped landscape. The Wildlife Corridors Studies Report identified specific local and regional corridors used by wildlife in the region (Ogden 1992). While wildlife may move throughout PV1, PV2, and PV3, these three parcels are not considered habitat linkages. Additionally, the MSCP Plan provides designated BRCA and linkages, which are appropriate for this analysis, on Figure 2-2.

   The designated Otay Ranch RMP Preserve areas adjacent to and surrounding PV1, PV2, and PV3 provide for wildlife corridors and movement to those linkages but are not identified linkages in the MSCP Plan. Because PV1, PV2, and PV3 would be consistent with the originally designated Otay Ranch GDP/SRP and Otay Ranch RMP Preserve boundaries, development of these three areas is not expected to impede wildlife movement along identified habitat linkages.

   Findings: As shown on Figure 7, PV1, PV2, and PV3 do not contribute directly to the defined linkages as identified in the MSCP Plan. Thus, the proposed development on these three parcels would not impede existing linkages or otherwise compromise their functionality. The proposed development of PV1, PV2, and PV3 would be consistent with this criterion.

2. ***Existing movement corridors within linkages will be identified and maintained.***

   Discussion Specific to PV1, PV2, and PV3: As previously discussed, the MSCP Plan does not identify linkages within the Project Area, which includes PV1, PV2, and PV3. This discussion focuses on the movement corridors identified within the Project Area. The Wildlife Corridors Studies Report (Ogden 1992) identifies several local and regional wildlife corridors in the Project Area. Figure 8, Wildlife Corridor and Habitat Linkages, shows the locations of these corridors in conjunction with land ownership. Although landscapes in San Diego County have changed significantly over the last two decades, the corridors identified in this study are still viable and currently exist between

large areas of open lands. As shown in Figure 8, these corridors are given identifications and are primarily located within public lands that provide undeveloped areas connected to each other that support wildlife movement across the landscape, including movement between various reservoirs, creeks, and upland habitats. None of the corridors identified in the Wildlife Corridors Studies Report occur within PV1, PV2, or PV3; therefore, development of these areas would not impact the previously identified wildlife movement corridors.

Specifically, the regional corridor identified as regional corridor (R1) is located within the Otay Ranch RMP Preserve north of PV3. In accordance with the Otay Ranch GDP/SRP, R1 was designed to facilitate movement to adjacent BRCA, with a required minimum of 1,300 feet at the northwestern end to 2,200 feet at the southeastern end. As shown on Figure 8, PV2 and PV3 provide an approximately 1,700-foot corridor width at the northwestern end with an additional 100-foot buffer added by the Preserve Edge Plan for a total width of approximately 1,800 feet. At the southeastern end, the portion of the corridor in the area of PV3 is approximately 1,600 feet in width and, when combined with adjacent public lands, exceeds the 2,200-foot requirements of the Otay Ranch GDP/SRP and the Otay Ranch RMP. In short, the design of PV1, PV2, and PV3 respects and maintains the corridor requirements of the original approvals and protects the topographic and vegetative cover for the corridors. Development surrounding R1 has been sited so the entire canyon from rim-to-rim is protected from development. When the delineation of rim-to-rim topography is not obvious, there needs to be approximately 800 feet of width extending up each side of the ravine away from the center of the corridor, creating a 1,600-foot-wide corridor (Ogden 1992). In addition, development to the north and south of the corridor is located approximately 30 feet above the corridor and would not encroach into the corridor. A wildlife crossing would be provided to funnel wildlife under Proctor Valley Road.

The local corridor L4 is located to the east of PV1 and to the west of other Village 14 development. The Ogden wildlife corridor study states that this corridor is 500 to 700 feet wide. Development has been sited to maintain a corridor width between 800 and 900 feet wide. Another wildlife crossing would be provided where the access road crosses over the Proctor Valley drainage. The drainage would be contained within the corridor. The MSCP County Subarea Plan identifies the following requirements for wildlife corridors: if the minimum width of a corridor is 400 feet, it should be no longer than 500 feet; a width of greater than 1,000 feet is recommended for large mammals and birds; and corridors for bobcats (*Pelis rufus*), deer, and other large animals should reach rim-to-rim along drainages, especially if the topography is steep. Development surrounding R1 and L4 has been sited to be consistent with these requirements.

Discussion in the Context of the Otay Ranch RMP and Otay Ranch GDP/SRP: Additionally, as described in the Otay Ranch RMP, the original Otay Ranch GDP/SRP revised the Proctor Valley Development Footprint to resolve general Preserve design and wildlife habitat connectivity issues. After analyzing more than seven different land plan alternatives for the Proctor Valley Parcel, revisions to the original Otay Ranch New Town Plan application were made to identify and maintain wildlife movement within linkages as follows:

- Significant areas of development were eliminated from the proposed development in central Proctor Valley on both the northern and southern boundaries of the regional wildlife corridor.
- The proposed conference center in the middle of the Proctor Valley Parcel was eliminated to avoid any encroachment into the wildlife corridor.
- Development in the inverted L was eliminated from the ravine and moved back onto the ridgetop so that animals could access the ravine, which leads them northwest over the saddle and into the Sweetwater Reservoir.[4]
- The proposed housing along the ridgetop above the lake at the southern entrance to Proctor Valley and the southernmost portions of the proposed development bubble in central Proctor Valley were eliminated to reduce impacts to coastal sage scrub and the local wildlife corridor from Jamul Mountains to Proctor Valley.

These revisions were incorporated into the Otay Ranch GDP/SRP, and the Proctor Valley R1 was designed to become an extensive linkage, with a required minimum width of 1,300 feet at the northwestern end to 2,200 feet at the southeastern end. As shown on Figure 8, the design of the Development Footprint for PV1, PV2, and PV3 would be consistent with these requirements.

Findings: Existing movement corridors within linkages were identified in the Otay Ranch GDP/SRP technical documents, would be defined, established, maintained, and not impacted by the development of PV1, PV2, and PV3. Specifically, the Proposed Project as a whole would help ensure that the corridors identified in the Wildlife Corridors Studies Report are maintained by conveying habitat surrounding and including the identified corridors. Because PV1, PV2, and PV3, as well as the entire Proposed Project, would be consistent with the originally designated Otay Ranch GDP/SRP and Otay Ranch RMP Preserve boundaries, the functions and values of the movement areas identified in the Wildlife Corridors Studies Report (Ogden 1992), and the BRCAs

[4] The inverted L is not a part of this analysis and has been subsequently acquired for Preserve.

identified in the MSCP Plan, movement corridors would be maintained. Thus, the proposed development of PV1, PV2, and PV3 would be consistent with this criterion.

3. ***Corridors with good vegetative and/or topographic cover will be protected.***

   Discussion: As discussed in detail under the previous criterion, development of the Proposed Project, which includes PV1, PV2, and PV3, would be consistent with the originally designated Otay Ranch GDP/SRP and Otay Ranch Preserve boundaries and would maintain and protect the originally designated regional corridor (R1) and local corridor (L4), including the good vegetative (coastal sage scrub and chamise chaparral) and topographic cover (R1 corridor is located in a valley) for those corridors.

   For the Proposed Project, the on-site conveyed Preserve lands would support the linkages and corridors as described in Section 2.2.5.2. A total of 426.7 acres of land within the Project Area would be conveyed to the Otay Ranch RMP Preserve, of which 419.9 acres is native habitat. Approximately 11.2 acres of that habitat would be used for roads, which leaves 408.7 acres of coastal sage scrub, chaparral, and riparian vegetative cover within the Otay Ranch RMP Preserve lands.

   Findings: PV1, PV2, and PV3 do not function as or include wildlife corridors. However, two corridors are located adjacent to these areas (R1 and L4). Because the Development Footprint of PV1, PV2, and PV3 would be consistent with the designated Otay Ranch GDP/SRP and Otay Ranch RMP Preserve boundary, the functionality of the R1 and L4 corridors located within the Otay Ranch RMP Preserve is maintained; therefore, the good vegetative (i.e., coastal sage scrub, chaparral, and riparian vegetation) and/or topographic cover of the corridors would be protected. Thus, the proposed development of PV1, PV2, and PV3 would be consistent with this criterion.

4. ***Regional linkages that accommodate travel for a wide range of wildlife species, especially those linkages that support resident populations of wildlife, will be selected.***

   Discussion: The focal species chosen for the Wildlife Corridors Studies Report (Ogden 1992) include larger mammals such as mule deer, cougar, and bobcat and the following two bird species: coastal California gnatcatcher and coastal cactus wren *(Campylorhynchus brunneicapillus sandiegensis).* These five species were chosen as the focal species for the corridor study because they "naturally occur in low densities and that are unwilling or unable to cross large areas of developed or otherwise unfavorable habitat" (Ogden 1992). The corridor recommendations provided in the Wildlife Corridors Studies Report were based on the ability of the corridor to accommodate travel for these species. As previously stated, while there are no MSCP defined linkages within the Project Area (which includes PV1, PV2, and PV3), there is one regional corridor as

defined in the Wildlife Corridors Studies Report (R1). This regional corridor is the basis for evaluating PV1, PV2, and PV3 in conjunction with this criterion.

Even after development, the Project Area would accommodate travel for a wide range of wildlife species through R1 as follows: The Development Footprint would adhere to the required widths to protect that corridor; development would be located above the corridor and pulled back from the edge of the ridgetop; a minimum of a 100-foot buffer between development and Preserve would be included in the Development Footprint; and a wildlife crossing would be provided under Proctor Valley Road. In addition, the Proposed Project's design, including the design for development in PV1, PV2, and PV3, would be consistent with the Otay Ranch GDP/SRP and Otay Ranch RMP Preserve, which was based on the Wildlife Corridors Studies Report and designed specifically to preserve regional linkages.

Findings: PV1, PV2, and PV3 are not considered regional linkages or located adjacent to regional linkages as identified in the MSCP Plan. PV1, PV2, and PV3, as designed, would be consistent with the Otay Ranch GDP/SRP and Otay Ranch RMP Preserve. In addition, the Proposed Project design would include the recommendations for corridors described in the Wildlife Corridors Studies Report (Ogden 1992). Therefore, development of PV1, PV2, and PV3 would be consistent with this criterion.

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1,350 Feet

3,200 Feet

800 Feet

892 Feet

2,537 Feet

1,613 Feet

1,673 Feet

L4

L3

R1

R2

R7

Project Area
Proposed Proctor Valley Road Alignment
Otay Ranch Village 13
Public Lands
CDFW Owned Land
Wildlife Crossings

Proctor Valley Land Use
Otay Ranch Development Footprint
Otay Ranch RMP Preserve

Existing Wildlife Corridors
Major Local Corridor for Focal Mammal and Bird Species
Regional Corridor for Focal Mammal and Bird Species

Public Lands
BLM
CDFW
DOD
USFWS

0 1,150 2,300 Feet

Upper Otay Reservoir

DULZURA CREEK

SOURCE: USGS 7.5-minute Topographic Map; Hunsaker 2017; SANGIS 2003; OGDEN 1992

DUDEK

FIGURE 8
Wildlife Corridor and Habitat Linkages

Otay Ranch Village 14 and Planning Areas 16/19

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As shown on Figure 8, adjacent to PV2 and PV3, the Proposed Project provides a 1,700-foot corridor width for corridor R1 at the northwest end, with an additional100-foot buffer added by the Preserve Edge Plan for a total of 1,800 feet. At the southeast end, the portion of R1 corridor is approximately 1,600 feet and, when combined with surrounding public lands, exceeds the 2,200-foot requirements of the Otay Ranch GDP/SRP and the Otay Ranch RMP. The L4 corridor would be 800 to 900 feet wide, which is larger than the recommended 500 to 700 feet in the Wildlife Corridors Studies Report.

Findings: Development of PV1, PV2, and PV3 maintain the linkage width as specified in the Wildlife Corridors Studies Report (Ogden 1992). The corridor study recommends R1 maintain a width of 1,300 to 2,200 feet through Proctor Valley and that L4 maintains a width of 500 to 700 feet. The widths of the corridors were based on providing cover and passage for five species (three large mammals and two bird species). For the five focal wildlife species to use the regional and local corridors identified for Proctor Valley, the Proposed Project would provide a 1,700- to over 2,200-foot corridor (R1) and an 800- to 900-foot corridor (L4). Development of PV1, PV2, and PV3 would be consistent with this criterion.

5. ***If a corridor is relatively long, it must be wide enough for animals to hide in during the day. Generally, wide corridors are better than narrow ones. If narrow corridors are unavoidable, they should be relatively short. If the minimum width of a corridor is 400 feet, it should be no longer than 500 feet. A width of greater than 1,000 feet is recommended for large mammals and birds. Corridors for bobcats, deer, and other large animals should reach rim-to-rim along drainages, especially if the topography is steep.***

   Discussion: See Criteria 2 and 5 in this section, which provide detailed information regarding the widths of wildlife corridors R1 and L4, which are adjacent to PV1, PV2, and PV3. As stated in the Wildlife Corridors Studies Report, the overall length of R1 is over 6 miles long, with a varying width of 1,100 to 2,200 feet depending on topography. The Wildlife Corridors Studies Report does not provide a length for L4; however, based on maps provided of the corridor, it appears to be approximately 3 miles long. Within the confines of the Proposed Project, R1 is approximately 3,800 feet long, while L4 is approximately 1,480 feet long. As previously discussed, the Development Footprint for the Proposed Project, which includes PV1, PV2, and PV3, was designed based on the recommendations provided in the Wildlife Corridors Studies Report. The designated Development Footprint surrounding R1 provides a corridor greater than 1,000 feet to facilitate movement for large mammals and birds and also reaches rim-to-rim along the drainage. Within the Project Area, L4 is approximately 1,480 feet long and between 800

and 900 feet wide, which is less than the 2:1 length-to-width ratio required by the MSCP County Subarea Plan.

Findings: Existing movement corridors within linkages were identified in the Otay Ranch GDP/SRP technical documents and would be defined, established, maintained, and not impacted by the development of PV1, PV2, and PV3. Specifically, the Proposed Project as a whole would help ensure that the corridors identified in the Wildlife Corridors Studies Report are maintained by conveying habitat surrounding and including the identified corridors. Because PV1, PV2, and PV3, as well as the entire Proposed Project, would be consistent with the originally designated Otay Ranch GDP/SRP and Otay Ranch RMP Preserve boundaries, the functions and values of the movement areas identified in the Wildlife Corridors Studies Report (Ogden 1992) and the BRCAs identified in the MSCP Plan, movement corridors would be maintained at the recommend length and width. Thus, the proposed development of PV1, PV2, and PV3 would be consistent with this criterion.

6. ***Visual continuity (i.e., long lines-of-sight) will be provided within movement corridors. This makes it more likely that the animals will keep moving through it. Developments along the rim of a canyon used as a corridor should be set back from the canyon rim and screened to minimize their visual impact.***

   Findings: As stated in Section 2.2.2 regarding Criteria 2, designated development within PV1, PV2, and PV3 was sited to maintain the corridor widths recommended within the Wildlife Corridors Studies Report (Ogden 1992). Development is set back from the rim of the R1 corridor, and a 100-foot Preserve edge buffer is included as a part of the Proposed Project to provide screening of development from wildlife moving within the R1 corridor. No development would be placed within the corridors, which would impede wildlife movement or line of sight. A road providing access to PV1 would be placed across L4. However, to ensure that wildlife are still able to move through the area, a wildlife crossing, as described previously in Section 2.2.5.1, would be installed below the road and meet the MSCP County Subarea Plan's recommendation of less than a 2:1 length-to-width ratio.

   Discussion: Development of PV1, PV2, and PV3 would not impeded the recommendations provided in the Wildlife Corridors Studies Report and the requirements outlined in the Otay Ranch RMP. In addition, a wildlife crossing would be provided where a new road crosses L4. Therefore, development of PV1, PV2, and PV3 would be in conformance with this criterion.

7. ***Corridors with low levels of human disturbance, especially at night, will be selected. This includes maintaining low noise levels and limiting artificial lighting.***

Discussion: The corridors within the vicinity of PV1 (L4) and PV3 (R1) have already been identified by the Otay Ranch GDP/SRP and the Otay Ranch RMP. As discussed thoroughly throughout this section, the Otay Ranch GDP/SRP and the Otay Ranch RMP adapted the corridor locations and recommendations provided in the Wildlife Corridors Studies Report. Corridor selection is not required or allowed as a part of the Proposed Project. The discussion provided in support of this criterion is based on the measures identified for the Proposed Project, which includes PV1, PV2, and PV3, which reduce the levels of human disturbance on those identified corridors.

A Preserve Edge Plan has been developed to identify allowable uses for areas adjacent to the Otay Ranch RMP Preserve within the Preserve edge. The Preserve edge is a 100-foot-wide strip of land within the designated development that is adjacent to the Otay Ranch RMP Preserve. The Preserve edge assumes that areas of Conserved Open Space are still within designated development. In accordance with Policy 7.2 of the Otay Ranch RMP, a Preserve Edge Plan is required to be developed for all specific plans that contain areas adjacent to the Preserve. The Preserve Edge Plan summarizes and evaluates the policies contained within the Otay Ranch GDP/SRP, the Otay Ranch RMP, the MSCP County Subarea Plan, as well as City of San Diego MSCP Cornerstone Lands as they relate to those areas within the Preserve edge. Lighting requirements include shielded lighting designs that avoid spillover light in the Otay Ranch RMP Preserve. Lighting plans and a photometric analysis would be prepared in conjunction with improvement plans for development areas adjacent to the Preserve to illustrate the location of proposed lighting standards and type of shielding measures. Lighting plans and accompanying photometric analyses must also be prepared in conjunction with street and other improvements proposed within the Otay Ranch RMP Preserve to demonstrate that light spillage into the Preserve is avoided to the greatest extent possible.

There is a public park designed within PV3. It is located along the southwestern edge of PV3 and is not adjacent identified corridors (R1 and L4) but is adjacent to open space. Public park hours of operation would be limited to daylight hours and would be enforced and controlled by the County Parks and Recreation Department. Sports fields within public parks would not be lighted for nighttime use. Proposed landscape lighting within public parks shall be designed to eliminate light spillage into adjacent MSCP Preserve areas. Lighting must comply with the County Code of Regulatory Ordinances, Sections 51.201 to 51.209, Light Pollution Code.

Increased human activity in PV1, PV2, and PV3 is expected to result in long-term noise effects in the area. Noise is expected to be greatest during daylight hours and, therefore, would be more of a disturbance to those species that are active during the daytime because

the noise levels are lower at night. Nocturnal wildlife are not expected to be significantly impacted while foraging or moving in open space areas. Noise pollution is not anticipated to decrease breeding of any special-status species. Development-related noise, such as traffic, operation of landscape maintenance equipment and tools (e.g., mowers, blowers, trimmers, wood chippers), recreation at parks, and loud music from vehicles and residences, can have an effect on wildlife. The Preserve Edge Plan provides for a 100-buffer between the Otay Ranch RMP Preserve and development. The Preserve edge would act as a buffer for noise generated from development. In addition, when single-family homes are located adjacent to the Otay Ranch RMP Preserve, 6-foot high solid walls would provide additional noise attenuation. Uses in or adjacent to the Otay Ranch RMP Preserve, which are not reduced by the Preserve edge, shall be designed to minimize potential noise impacts to surrounding wildlife species by constructing berms or walls adjacent to commercial areas and any other uses, such as community parks, that may introduce noises that could impact or interfere with wildlife use of the Otay Ranch RMP Preserve.

Findings: PV1 and PV3 are adjacent to identified corridors and may have an indirect impact on wildlife movement within those corridors. The Preserve Edge Plan provides specific requirements necessary to reduce human disturbances such as noise and lighting (e.g., lighting standards, type of bulb, wattage, and shielding restrictions into the Preserve). Additional project-related measures applied within the Preserve Edge Plan include park setbacks, limitations on uses, no structures, walls along the perimeter of homes located adjacent to the Preserve, and berms or walls constructed adjacent to commercial areas and/or parks. With these measures, the PV1 and PV3 would reduce the human disturbances on corridors R1 and L4. Development within PV1, PV2, and PV3 would be in conformance with this criterion.

8. ***Barriers, such as roads, will be minimized. Roads that cross corridors should have 10-foot-high fencing that channels wildlife to underpasses located away from interchanges. The length-to-width ratio for wildlife underpasses is less than 2, although this restriction can be relaxed for underpasses with a height of greater than 30 feet.***

   Discussion: PV1, PV2, and PV3 do not cross any wildlife corridors. As discussed throughout this section, PV1 and PV3 are located adjacent to wildlife corridors (L4 and R1) and have been designed to maintain the required width to facilitate wildlife movement within these corridors. Therefore, the development within PV1, PV2, and PV3 would not create barriers to wildlife corridors; however, a new road from Proctor Valley Road to PV1, which crosses L4, is required for access. The amount of traffic using this road would be minimal because only four large lots are proposed within PV1. This

wildlife crossing would be an internal road crossing located along local corridor L4 in between two areas of development (Figure 8). The crossing would be a pre-cast span arched culverts with a soft bottom. The crossing would be 15 feet high at the highest point, 111 feet long, and 84 feet wide, making the length-to-width ratio less than 2:1. The crossing meets the MSCP County Subarea Plan's recommendation of less than a 2:1 length-to-width ratio and meets the minimum openness ratio. Three additional crossings are provided within the Proposed Project. To the north of PV3, a wildlife crossing would be provided under Proctor Valley Road to allow for wildlife movement through natural topography in conformance with the Otay Ranch GDP/SRP and Otay Ranch RMP requirements (Figure 8) and designed to comply with all necessary length-to-width ratios and fencing requirements. The wildlife crossings would be designed in conformance with accepted standards and are discussed in detail within the Biological Resources Technical Report for the Proposed Project.

Findings: The Development Footprint of PV1, PV2, and PV3 would not include any wildlife corridors and, thus, would not contemplate construction of barriers within corridors or linkages; however a new road crossing across corridor L4 is required to access PV1. The amount of traffic using this road would be minimal because only four large lots are proposed within PV1. A wildlife crossing would be installed under the road and following the drainage. In addition, three wildlife crossings would be provided along Proctor Valley Road, one of which provides a crossing in relation to R1. These three Proctor Valley Road crossings are not located within PV1, PV2, or PV3. Since PV1, PV2, and PV3 would not create barriers to wildlife movement within L4 and R1, and a wildlife crossing would be provided for a new road providing access to PV1, development of PV1, PV2, and PV3 would be in conformance with this criterion.

9. ***Where possible at wildlife crossings, road bridges for the vehicular traffic rather than tunnels for wildlife use will be employed. Box culverts will only be used when they can achieve the wildlife crossing/movement goals for a specific location. Crossings will be designed as follows: sound insulation materials will be provided; the substrate will be left in a natural condition and vegetated with native vegetation if possible; a line-of-sight to the other end will be provided; and, if necessary, low-level illumination will be installed in the tunnel.***

Discussion: As stated in Item 9, above, wildlife crossings are not required within PV1, PV2, or PV3. However, a new road to PV1, which crosses L4, is required for vehicle access. The wildlife crossing would be installed where the road crosses over the Proctor Valley drainage. This crossing is a pre-cast span arched culverts with a soft bottom. The crossing is 15 feet high, 111 feet long, and 84 feet wide, making the length-to-width ratio

less than 2:1. The crossing meets the MSCP Plan's recommendation of less than a 2:1 length-to-width ratio and meets the minimum openness ratio. The openness ratio for this crossing would be 1.8 meters. Given the topography and length-to-width ratio, neither a bridge nor a low-level illumination is necessary in this location. The amount of traffic using this road would be minimal because only four large lots are proposed. Therefore, sound insulation materials are not necessary.

Findings: A wildlife crossing is required where the new road that provides access to PV1 crosses over L4 and the Proctor Valley drainage. An arched culvert would be installed, leaving the natural bottom of the channel intact. The length and width of the culvert meets the length-to-width ratio identified in Item 9. Therefore, development of PV1 would be in conformance with this criterion.

10. ***If continuous corridors do not exist, archipelago (or steppingstone) corridors may be used for short distances. For example, the gnatcatcher may use disjunct patches of sage scrub for dispersal if the distance involved is under 1–2 miles.***

    Discussion: Continuous corridors (L4 and R1) are located outside of PV1, PV2, and PV3. As discussed in detail in this section, the Proposed Project maintains the widths for each corridor as recommended in the Wildlife Corridors Studies Report (Ogden 1992) and provides measures to reduce human disturbances on the corridors, required wildlife crossings, and a 100-foot buffer between the corridors and habitable structures. Since continuous corridors within the Proposed Project exist, archipelago (or steppingstone) corridors are not required.

    Findings: Continuous corridors exist within and adjacent to the Proposed Project, which includes PV1, PV2, and PV3; therefore, archipelago (or steppingstone) corridors are not required.

2.3 Section 86.506 – Habitat-Based Mitigation

Section 86.506 of the BMO outlines the process for determining mitigation requirements for sensitive habitats. To determine the mitigation requirements for the impacts to habitat from the development of PV1, PV2, and PV3, it first must be determined whether the impact site and the proposed mitigation site qualify as BRCAs.

Section 86.506 outlines the requirements for determining whether land qualifies as a BRCA. The impact site is a BRCA if it meets one or more of the following criteria:

a. The land is shown as pre-approved mitigation area on the wildlife agencies' the pre-approved mitigation map (Attachment F of the BMO).

b. The land is located within an area of habitat that contains biological resources that support or contribute to the long-term survival of sensitive species, which determination is based on a biological analysis approved by the Director, and is adjacent or contiguous to preserved habitat that is within the pre-approved mitigation area on the wildlife agencies pre-approved mitigation map (as shown on Attachment F of the BMO).

c. The land is part of a regional linkage/corridor.

d. The land is shown on the Habitat Evaluation Map (Attachment J of the BMO) as very high or high and links significant blocks of habitat.

e. The land consists of or is within a block of habitat greater than 500 acres in an area of diverse and undisturbed habitat that contributes to the conservation of sensitive species.

f. The land contains a high number of sensitive species and is adjacent or contiguous to surrounding undisturbed habitats, or contains soil derived from geological formations known to support sensitive species.

In addition to the previously mentioned criteria, the MSCP Plan (1998) identifies 16 BRCAs and associated habitat linkages within the MSCP study area. Figure 2-2, Generalized Core and Biological Resources Area and Linkages, in the MSCP Plan depicts PV2 and PV3 entirely within the Jamul Mountains BRCA, whereas PV1 is located in the Sweetwater Reservoir/San Miguel Mountain/Sweetwater River BRCA (Figure 7).

PV1, PV2, and PV3 would be considered part of the larger BRCAs because they meet the following requirements: (1) the parcels are shown on the pre-approved mitigation map, (2) each parcels contains biological resources that support or contribute to the long-term survival of sensitive species and is adjacent to preserved habitat, (3) portions of the parcels are Very high or high quality habitat, and (4) each parcel is within a block of habitat greater than 500 acres.

Impacts from development of PV1, PV2, and PV3 would be mitigated within the Otay Ranch RMP Preserve and be in an area designated as a BRCA. If mitigation is not located within a BRCA, then the mitigation ratios would be revised, and additional mitigation would be required. Impacts and mitigation requirements are outlined in Table 5. Tiers are based on the List of San Diego County Vegetation Communities and Tier Levels within the MSCP County Subarea Plan (Table 4-7) and the BMO (Attachment J). Mitigation ratios are based on the mitigation ratios in the MSCP County Subarea Plan (Table 4-8) and the BMO (Attachment K). The Development Footprint acreages in PV1, PV2, and PV3 represented in Table 5 below do not include 20.1 acres of Conserved Open Space. Although these 20.1 acres are currently designated as development, they have been identified as potential mitigation for Proposed Project impacts and would not be impacted by the development of PV1, PV2, and PV3.

Table 5
Mitigation Requirements for Impacts to Tier II and III Habitats

Habitat Types/Vegetation Communities	Code[a]	PV1, PV2, and PV3 Development Footprint	Mitigation Site – BRCA		Mitigation Site – Not BRCA	
			Mitigation Ratio	*Required Mitigation*	*Mitigation Ratio*	*Required Mitigation*
Tier II						
Diegan coastal sage scrub	32500	76.2	1.5:1	114.3	2:1	152.4
Diegan coastal sage scrub (disturbed)	32500	33.0	1.5:1	49.5	2:1	66
Subtotal of Tier II Habitats		*109.2*	—	*163.8*	—	*218.4*
Tier III						
Granitic chamise chaparral	37210	62.7	1:1	62.7	1.5:1	94.0
Granitic chamise chaparral (disturbed)	37210	0.8	1:1	0.8	1.5:1	1.2
Non-native grassland	42200	0.8	1:1	0.8	1.5:1	1.2
Subtotal of Tier III Habitats		*64.3*	—	*64.3*	—	*96.4*
Totals		**173.5**	**228.1**		**314.8**	

Note: BRCA = Biological Resource Core Area

Mitigation for Otay Ranch impacts, including impacts to PV1, PV2, and PV3, must conform to the provisions of the Otay Ranch RMP, including the requirement that the applicant convey to the Otay Ranch RMP Preserve 1.188 acres of land for every 1 acre slated for development (Otay Ranch RMP Preserve Conveyance Obligation). This Otay Ranch RMP mitigation requirement, including its 1.188 land conveyance ratio, is referenced in Section 10.5.A.2 of the County of San Diego MSCP Subarea Plan Implementing Agreement where the County's required mitigation for the MSCP County Subarea Plan includes the contribution of the 11,375-acre Otay Ranch RMP Preserve.

The Otay Ranch RMP excludes areas that include common uses, such as schools, parks, and arterial roadways, from the required mitigation/conveyance. Within PV2, there are 3.6 acres of common uses associated the on-site water tank and access road. Common uses within PV3 include 2.9 acres of public parks and Proctor Valley Road within the development footprint. There are no common uses within PV1. Thus, PV1, PV2, and PV3, which impact 171.3 acres (177.8 acres of development minus 6.5 acres of common uses), would be required to convey 203.5 acres of Otay Ranch RMP Preserve lands (171.3 X 1.188 = 203.5). As described previously, because the BMO mitigation requirements are more stringent for certain types of habitat, the BMO would require an additional 24.6 acres of mitigation beyond the 203.5 acres required by the Otay Ranch RMP Preserve Conveyance Obligation for a total of 228.1 acres. The mitigation provided for impacts to PV1, PV2, and PV3 would be like-kind or up-tiered habitat.

2.4 Section 86.507 – Species-Based Mitigation

Section 86.507 of the BMO specifies the process for determining mitigation requirements for sensitive plant and wildlife populations.

2.4.1 Sensitive Plant Populations

1. ***Critical Populations of Sensitive Plant Species. During project design, first priority shall be given to avoidance of impacts populations of sensitive plant species listed on the Critical Populations of Sensitive Plant Species Within the MSCP subarea (Attachment C of Document No. 0769999 on file with the Clerk of the Board). Where complete avoidance is infeasible, County staff will work with the project proponent to design the project to minimize impacts to the Critical Population to the maximum extent practicable.***

   Discussion: The development of PV1, PV2, and PV3 would not result in impacts to any of the plant species listed in Attachment C, Critical Populations of Sensitive Plant Species within the MSCP Subarea, of the BMO. Therefore this criterion is not applicable.

   Findings: Since development of PV1, PV2, and PV3 would not result in impacts to any of the plant species listed in Attachment C of the BMO, this criterion is not applicable.

2. ***Avoidance of Sensitive Plants. Impacts to Narrow Endemic Plant Species Within the MSCP Subarea (Attachment E of Document No. 0769999 on file with the Clerk of the Board), or Sensitive Plant Species, as defined, that meet the criteria in Group A or B shall be avoided to the maximum extent practicable. Where complete avoidance is infeasible, encroachment may be authorized depending on the sensitivity of the individual species and the size of the population except that encroachment shall not exceed 20% of the population on-site. Where impacts are allowed, in-kind preservation shall be required at a 1:1 to 3:1 ratio depending on the sensitivity of the species and population size, as determined in a biological analysis approved by the Director.***

   Discussion: The development of PV3 would impact one narrow endemic species as listed in Attachment E of the BMO (variegated dudleya), and development of PV2 and PV3 would result in impacts to County Group A and B species (Table 6), two of which are covered species: San Diego goldenstar and barrel cactus.

   As described in Section 2.2.5.1, Item 6, 35 individuals of variegated dudleya would be impacted by development within PV3, (this species does not occur in PV1 or PV2). As shown on Figure 6, Sheet 2, of the Otay Ranch RMP, a population of variegated dudleya

was observed within the same general location as those identified in the update surveys conducted for the site. The Otay Ranch RMP and Otay Ranch PEIR determined that this population of variegated dudleya did not warrant conservation in the Otay Ranch RMP Preserve, and mitigation by conveying 1.188 acres to the Otay Ranch RMP Preserve was deemed adequate for impacts to this species. Variegated dudleya is not on the list of critical populations of sensitive plant species within the MSCP County Subarea Plan (Attachment C of the BMO). The two populations located within the PV3 Development Footprint are not considered core populations because they are small populations (10 and 25 plants, respectively) and are not located adjacent to any other populations. In addition, the Otay Ranch RMP did not identify the populations within PV3 as core populations, necessitating a designation as Otay Ranch RMP Preserve. Avoidance of the two small populations of variegated dudleya within PV3 is not feasible for the following reasons: (1) The two populations within PV3 are located approximately 400–500 feet from the Otay Ranch RMP Preserve, and (2) a redesign to avoid these two small populations, if it provides the necessary 100-foot Preserve edge, meets County Fire Department regulations, addresses topographic constraints, and ensures that the populations were adjacent to the Preserve, would result in the loss of up to 30 acres of developable land. A redesign to keep the secondary access road for fire safety would result in the loss of approximately 10 acres, but the population would be separated from the Otay Ranch RMP Preserve by a road. As previously discussed, further reduction in Development Footprint would limit the ability to achieve the density set forth in both the County's General Plan and the Otay Ranch GDP/SRP. The development could be redesigned to include these populations within the private homeowners' association open space. However, carving the populations out of the development and preserving them on their own would isolate the populations from other Preserve lands and expose the variegated dudleya populations to edge effects, which Table 3-5 of the MSCP County Subarea Plan specifically indicates should be minimized.

As described in Section 2.2.5.1, Item 8, a total of 17 San Diego goldenstar individuals would be impacted in PV3, (this species does not occur in PV1 or PV2). San Diego goldenstar is not on the list of critical populations of sensitive plant species within the MSCP County Subarea Plan (Attachment C of the BMO). This species is found throughout the overall Project Area in large quantities. Specifically, conveyance to the Otay Ranch RMP Preserve would preserve 2,902 individuals of the species, and an additional 688 individuals would be preserved through Conserved Open Space. Another 577 individuals within non-graded LDA would not be impacted by the Proposed Project. The three small populations are not identified as core populations, necessitating a designation as Otay Ranch RMP Preserve and therefore impacts to these three small

isolated populations would not compromise the conservation of this species. Redesigning the project to avoid the three small populations San Diego goldenstar within PV3 is not feasible as a redesign, if it provides the necessary 100-foot Preserve edge, meets County Fire Department regulations, addresses topographic constraints, and ensures that the populations were adjacent to the Preserve, would result in the loss of up to 15 acres of developable land.

As described in Section 2.2.5.1, Item 8, a total of 36 San Diego barrel cactus individuals would be impacted by development in PV3, (this species does not occur in PV1 or PV2). Similar to variegated dudleya, the species was observed within PV3 during the surveys conducted in support of the Otay Ranch RMP (see Figure 6, Sheet 2 of that document). The Otay Ranch RMP and Otay Ranch PEIR determined that this population of barrel cactus did not warrant conservation in the Otay Ranch RMP Preserve, and mitigation by conveying 1.188 acres to the Otay Ranch RMP Preserve was deemed adequate for impacts to this species. San Diego barrel cactus is not on the list of critical populations of sensitive plant species within the MSCP County Subarea Plan (Attachment C of the BMO). The barrel cactus individuals located within PV3 are scattered throughout the site. The scattered individuals are not identified as a core population and designing development around these populations would result in isolated populations. Avoidance of these small populations of barrel cactus within PV3 would not be feasible as it would result in the loss of approximately half of the developable land within this parcel. As previously discussed, further reduction in Development Footprint would limit the ability to achieve the density set forth in both the County's General Plan and the Otay Ranch GDP/SRP. Mitigation ratios for these species vary depending on the rarity of the species (i.e., 3:1 mitigation to impact ratio required for variegated dudleya, a narrow endemic species). The Otay Ranch RMP Preserve associated with the Proposed Project contains the required mitigation for Munz's sage (*Salvia munzii*). Additional mitigation would be required for impacts to San Diego goldenstar, variegated dudleya, Robinson's pepper-grass, San Diego barrel cactus, and San Diego marsh-elder. Existing populations of variegated dudleya, San Diego goldenstar and San Diego barrel cactus would be translocated to a suitable receptor site within the Otay Ranch RMP Preserve in the Project Area. In addition to translocation of existing populations, additional plants of all three species would be installed at the receptor site (Table 6). The Otay Ranch PEIR states that translocation is a required component of mitigation for sensitive plant species and specifically variegated dudleya and San Diego barrel cactus (see Table 3.3-11 of the PEIR) and provides examples of restoration projects that included restoration or translocation of variegated dudleya, San Diego barrel cactus, and San Diego marsh-elder. In addition, the Phase II RMP states the following regarding variegated dudleya; "The

project preserves 75% of this species on site, including representative populations from each of the three large parcels that comprise the Otay Ranch. In addition, all impacted plants are to be transplanted to appropriate habitat and clay soils within the same parcel. The Otay Ranch PEIR concluded that impacts to this species have been reduced to below a level of significance" (City of Chula Vista and County of San Diego 2015b). Whereas the Otay Ranch RMP establishes the framework for the management of Otay Ranch, the Phase II RMP was developed to turn those policies into specific action programs.

A more detailed summary of the locations, of variegated dudleya, San Diego goldenstar and barrel cactus proposed for impacts and the suitability for the area of Conserved Open Space to support the translocated populations can be found in the attached Review of Impacts and Mitigation for Variegated Dudleya, Barrel Cactus and San Diego Goldenstar (see Appendix A).

Relocation efforts may include seed collection and/or transplantation to a suitable receptor site and shall be based on the most reliable methods of successful relocation. The program shall also include a recommendation for method of salvage and relocation/application based on feasibility of implementation and likelihood of success. The program shall include, at a minimum, an implementation plan, maintenance and monitoring program, estimated completion time, success criteria, and any relevant contingency measures. The program shall also be subject to the oversight of the Development Services Director (or their designee). In addition to relocation of existing populations for variegated dudleya, San Diego goldenstar, and San Diego barrel cactus, a biological resource salvage and restoration plan would include additional plantings of these species in order to achieve a 3:1 and 2:1 mitigation ratios respectively. This would result in no net loss of any populations. A biological resource salvage and restoration plan would be prepared, which shall, at a minimum, evaluate options for plant salvage and relocation, including individual plant salvage and additional plantings, native plant mulching, selective soil salvaging, application of plant materials on manufactured slopes, and application/relocation of resources within the Preserve.

Table 6
Impacts and Requirement Mitigation for Sensitive Plant Populations within PV2 and PV3

Species	Regulatory Status: Federal/State/County/CRPR	PV2 and PV3 Total Impacts[a]	Mitigation Ratio	Required Mitigation	On-Site Preservation[b]	Remaining Mitigation Required
County Group A						
San Diego goldenstar (*Bloomeria clevelandii*)	None/None/ Covered/1B.1	17	3:1 translocation and 2:1 additional plantings	51	4,166	N/A
variegated dudleya (*Dudleya variegata*)	None/None/ Covered, Narrow Endemic/ 1B.2	35	1:1 translocation and 2:1 additional plantings	105	0	105
Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*)	None/None/ Not Covered/ 4.3	112	2:1	224	6	218
County Group B						
San Diego barrel cactus (*Ferocactus viridescens*)	None/None/ Covered/2B.1	36	1:1 translocation and 1:1 additional plantings	72	2	70
San Diego marsh-elder (*Iva hayesiana*)	None/None/ Not Covered/ 2B.2	2,643	1:1	2,643	1,619	1,024
Munz's sage (*Salvia munzii*)	None/None/ Not Covered/ 2B.2	446	1:1	446	6,001	N/A
County Group D						
Western dichondra (*Dichondra occidentalis*)	None/None/ Not Covered/ 4.2	0.17 acres	N/A		0	N/A
Palmer's grapplinghook (*Harpagonella palmeri*)	None/None/ Not Covered/ 4.2	40	N/A		0	N/A
graceful tarplant (*Holocarpha virgata* ssp. *elongata*)	None/None/ Not Covered/ 4.2	5	N/A		0	N/A
golden chaetopappa *(Pentachaeta aurea* ssp. *aurea*)	None/None/ Not Covered/ 4.2	2,210	N/A		6,258	N/A
Ashy spike-moss (*Selaginella cinerascens*)	None/None/ Not Covered/ 4.1	0.2 acres	N/A		2.76 acres	N/A
San Diego County viguiera (*Viguiera laciniata*)	None/None/ Not Covered/ 4.2	1,646	N/A		11,222	N/A

Notes: CRPR = California Rare Plant Rank; N/A = not applicable
Status Legend
County
Covered = Cover species in the MSCP Plan
CRPR
1B: Plants rare, threatened, or endangered in California and elsewhere
2B: Plants rare, threatened, or endangered in California but more common elsewhere
4: Plants of limited distribution – a watch list
Threat Ranks
0.1: Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
0.2: Moderately threatened in California (20%–80% of occurrences threatened/moderate degree and immediacy of threat)
0.3: Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

[a] There are no impacts to special-status plants within PV1.

[b] On-site preservation includes populations within the on-site Otay Ranch RMP, Non-impacted LDA and Conserved Open Space.

Relocation efforts for variegated dudleya, San Diego goldenstar, and San Diego barrel cactus would employ methods that have been proven to be successful within the region, may include seed collection and/or transplantation to a suitable receptor site, and shall be based on the most reliable methods of successful relocation. The program shall also include a recommendation for method of salvage and relocation/application based on feasibility of implementation and likelihood of success. The program shall include, at a minimum, an implementation plan, maintenance and monitoring program, estimated completion time, success criteria, and any relevant contingency measures to ensure that no net loss is achieved. The biological resource salvage and restoration plan would be submitted to the County for approval.

Mitigation for Robinson's pepper-grass and San Diego marsh-elder shall include preservation of off-site populations of the species, incorporation of these species within a conceptual upland and wetlands restoration plan, restoration of disturbed areas within the Otay Ranch RMP Preserve, or incorporation into a conceptual wetlands mitigation plan (applies to mitigation for San Diego marsh-elder only). If populations of these species (Robinson's pepper-grass and San Diego marsh-elder) are found within the 350.1 acres of off-site mitigation, preservation of these populations may be used for mitigation instead of restoration activities.

Findings: Development within PV2 and PV3 would result in impacts to variegated dudleya, a narrow endemic, as well as two covered species San Diego goldenstar (County Group A) and barrel cactus (County Group B). As discussed previously, it is not feasible to avoid variegated dudleya within PV3 because this would result in either the loss of developable land and limit the ability to achieve the density and land use policies set forth in both the County's General Plan and the Otay Ranch GDP/SRP, or, if preserved, isolated populations. Therefore, an exception to the avoidance requirement for variegated dudleya, San Diego goldenstar, and barrel cactus is warranted.

Based on the discussion above, the County has determined that the proposed development on PV3 is entitled to the exception for variegated dudleya, San Diego goldenstar and barrel cactus identified in BMO section 86.509(b), and that the exception is the minimum necessary to accommodate the project. With respect to Narrow Endemic Plant Species (Attachment E of Document No. 0769999), or Sensitive Plan Species that meet the criteria of Group A or B, where avoidance is infeasible, encroachment shall not exceed 20% of the population onsite. However, in certain cases where it may be infeasible for a project to meet all the goals and criteria of the BMO, the County may grant an exception to the specific requirements of the ordinance (BMO, § 86.509(b); MSCP Implementing Agreement, §10.13.) Such an exception requires concurrence from the USFWS and the CDFW.[5]

It has been determined that conservation of the onsite populations of variegated dudleya, San Diego goldenstar and barrel cactus is infeasible, that impacting the onsite populations will not compromise the conservation of these species, and that the exception granted by the County is the minimum necessary to accommodate the development. This determination is based, in part, on the fact that the Applicant proposes to transplant the existing variegated dudleya, San Diego goldenstar and San Diego barrel cactus populations (35, 17 and 36 individuals respectively) within designated and protected opens space onsite and to install additional plants at this same location, to create onsite, protected populations of 105 variegated dudleya, 51 San Diego goldenstar and 70 barrel cactus.

Mitigation for variegated dudleya and San Diego goldenstar would be provided at a 3:1 mitigation to impact ratio. Mitigation for Robinson's peppergrass and San Diego barrel cactus would be provided at a 2:1 ratio, while mitigation for San Diego marsh-elder and Munz's sage would be provided at a 1:1 ratio. The Otay Ranch RMP Preserve, which is a component of the MSCP Preserve, associated with the Proposed Project contains the required mitigation for San Diego goldenstar and Munz's sage. With implementation of the mitigation described previously, including translocation as described in the Otay Ranch PEIR and the Otay Ranch Phase II RMP (translocation, additional plantings, establishment within restoration sites, and preservation of populations within the Otay Ranch RMP Preserve), and with the approval of the exception to the avoidance requirement for variegated dudleya, San Diego goldenstar and barrel cactus this criterion is met.

3. ***Mitigation for Sensitive Plant Species in Groups C and D. Sensitive Plant Species, as***

[5] The County notes that the Applicant takes the position that translocation and/or transplantation of narrow endemic plants and Group A and B plants can be used to satisfy the BMO's 80% avoidance requirement.

defined, in Groups C and D shall be protected by using the design requirements and habitat-based mitigation requirements set forth in Section 86.505 and Section 86.506. Notwithstanding the foregoing, when said design requirements and habitat-based mitigation would have the effect of substantially reducing the viability of the affected population or the species, mitigation shall be in-kind, and the mitigation required will be set at a ratio based on the sensitivity of the species and population size, as determined in a biological analysis approved by the Director.

Discussion: Development within PV2 and PV3 would result in impacts to County Group D species (Table 6). Mitigation for County Group D species would be provided through use of and adherence to the design requirements and habitat-based mitigation requirements set forth in Sections 86.505 and 86.506 of the BMO. The Group D species observed within PV2 and PV3 are California Rare Plant Rank 4.1 or 4.2 species and are known to occur in numerous surrounding areas. Direct impacts to these species are not expected to impact their local, long-term survival. Preservation of suitable habitat for these species is present within areas that would be conveyed to the Otay Ranch RMP Preserve; therefore, species-specific and ratio-based mitigation are not required. As demonstrated in Table 6, the areas of preservation within the Project Area (including Otay Ranch RMP Preserve, non-impacted LDA, and areas of Conserved Open Space) would provide preservation of known populations of golden chaetopappa (*Pentachaeta aurea* ssp. *aurea*), Ashy spike-moss (*Selaginella cinerascens*), and San Diego County viguiera (*Viguiera laciniata*).

Findings: Although development within PV2 and PV3 would result in impacts to County Group D species, these species are known to occur in numerous surrounding areas, and no impacts to their local, long-term survival are expected. Mitigation is provided through preservation of suitable habitat for these species within the Otay Ranch RMP Preserve, which is a component of the MSCP Preserve; therefore, this criterion is met.

2.4.2 Sensitive Animal Populations

1. **Rare, Narrow, Endemic Animal Species. Impacts to Rare, Narrow Endemic Animal Species Within the MSCP subarea (Attachment D of Document No. 0769999 on file with the Clerk of the Board) shall be avoided to the maximum extent practicable. Avoidance requirements shall meet any species specific requirements set forth in Table 3-5 of the MSCP [County Subarea] Plan including any applicable limitations on clearing of occupied habitat. Where complete avoidance is infeasible, projects shall be designed to avoid any significant reduction in species viability.**

Discussion: The following species listed in Attachment D of the BMO do not have a potential to occur within the Project Area: Pacific pocket mouse (*Perognathus longimembris pacificus*), American peregrine falcon (*Falco peregrinus anatum*), California least tern (*Sternula antillarum browni*), Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), Ridgway's rail (*Rallus obsoletus levipes*), California black rail (*Laterallus jamaicensis coturniculus*), yellow-billed cuckoo (*Coccyzus americanus*), southwestern willow flycatcher (*Empidonax traillii extimus*), coastal cactus wren, least Bell's vireo (*Vireo bellii pusillus*), western pond turtle (*Actinemys marmorata*), arroyo toad (*Anaxyrus californicus*), California red-legged frog (*Rana draytonii*), tidewater goby (*Eucyclogobius newberryi*), and Riverside fairy shrimp (*Streptocephalus woottoni*).

Two wildlife species, golden eagle and San Diego fairy shrimp (*Branchinecta sandiegonensis*), listed in Attachment D of the BMO are known to occur within the overall Project Area, while one species, burrowing owl (*Athene cunicularia*), has a potential to occur but has not been directly observed. Based on surveys conducted between 2014 and 2016, no occurrences of San Diego fairy shrimp were detected within PV1, PV2, or PV3, and no observations of burrowing owl occurred. Surveys for San Diego fairy shrimp were conducted in road ruts within PV3. There are no vernal pools located within PV1, PV2, and PV3. Although the MSCP identifies San Diego fairy shrimp as a Covered Species, the County has taken the position that, based on a 2006 federal court decision, the plan's protections for this species are inadequate for purposes of providing FESA take coverage. Therefore, impacts to San Diego fairy shrimp or its habitat must be assessed and mitigated on a project-specific basis. The Proposed Project avoids all vernal pools/features that are known to be occupied by San Diego fairy shrimp. Consequently no significant impacts to San Diego fairy shrimp are expected. Nevertheless, the County is requiring a preventative mitigation measures for this species which, if a take permit is required, includes compliance with any permit conditions required by the USFWS for take of San Diego fairy shrimp. Focused surveys for the Project Area delineated suitable habitat for burrowing owl, but no such suitable habitat occurs within PV1, PV2, or PV3. Preconstruction surveys for burrowing owl will be conducted within the Development Footprint to ensure that these species have not migrated onto PV1, PV2, and PV3. Discussion of golden eagle is addressed in Section 2.2.5.1, Preserve Design Criteria, under Item 8.

Findings: Three species listed in Attachment D of the BMO are known to occur within the overall Project Area or have the potential to occur: San Diego fairy shrimp, burrowing owl, and golden eagle. San Diego fairy shrimp and burrowing owl have not

been observed within PV1, PV2, and PV3; consequently no significant impacts to these species are expected. Nevertheless, the County is requiring the following preventative mitigation measures for these species: (i) if a take permit is required for San Diego fairy shrimp, compliance with any permit conditions required by the USFWS; and (ii) preconstruction surveys for burrowing owl within the Development Footprint to ensure that the species has not migrated into areas proposed for grading or other disturbance. Discussion of golden eagle is addressed in Section 2.2.5.1, Preserve Design Criteria, under Item 8. Section 2.2.5.1 provides an analysis of impacts to suitable foraging habitat and preservation of such habitat along with how the development of PV1, PV2, and PV3 do not interfere with the conservation goals for golden eagle as outlined in Table 3-5 of the MSCP Plan. Therefore this criterion is met.

2. **Impacts to Burrowing Owl Habitat**. **Impacts to Burrowing Owl Habitat shall be avoided to the maximum extent practicable. Where impacts are unavoidable, the following mitigation measures shall be required: (1) any impacted individuals must be relocated out of the impact area using passive or active methodologies approved by the Wildlife Agencies; (2) mitigation for impacts to occupied habitat, must be through the conservation of occupied burrowing owl habitat or lands appropriate for restoration, management and enhancement of burrowing owl nesting and foraging requirements at a ratio of no less than 1:1 for the territory of the burrowing owl.**

   Discussion: Burrowing owls were not observed within PV1, PV2, or PV3 during surveys conducted 2014 through 2016. Therefore, PV1, PV2, and PV3 are not currently considered occupied by this species. In addition, these parcels do not contain suitable habitat, as identified in the 2014 habitat assessment, for burrowing owl.

   To ensure that burrowing owl is not impacted by the Proposed Project, the following mitigation measure is required and included in the Otay Ranch Village 14 and Planning Areas 16/19 EIR:

   Burrowing Owl Preconstruction Survey. Prior to issuance of any land development permits, including clearing, grubbing, and grading permits, the Proposed Project applicant or its designee shall retain a County of San Diego (County)-approved biologist to conduct focused preconstruction surveys for burrowing owl. The surveys shall be performed no earlier than 30 days prior to the commencement of any clearing, grubbing, or grading activities. If occupied burrows are detected, the County-approved biologist shall prepare a passive relocation mitigation plan subject to review and approval by the Wildlife Agencies (i.e., California Department of Fish and Wildlife and U.S. Fish and

Wildlife Service) and the County, including any subsequent burrowing owl relocation plans to avoid impacts from construction-related activities.

Findings: Burrowing owls were not observed within PV1, PV2, or PV3; therefore, these areas are not currently considered occupied by this species. Further, these parcels do not contain suitable habitat for burrowing owl. A preconstruction survey would be conducted to ensure that the Development Footprint does not contain any occupied burrows. With this mitigation measure, the criterion is met.

3. **Impacts to Arroyo Toad Habitat. Impacts to upland habitats within 1 km of riparian habitat which supports or is likely to support Arroyo toad shall be minimized to the maximum extent practicable.**

   Discussion: PV1, PV2, and PV3 do not contain suitable habitat for arroyo toad. A habitat assessment was completed for the Project Area, which includes PV1, PV2, and PV3. It was determined that this species has a low to no potential to occur within the Project Area. The details of this habitat assessment are provided in the Biological Resources Technical Report.

   Findings: PV1, PV2, and PV3 do not contain suitable habitat for arroyo toad; therefore, this species is not expected to occur. This criterion is not applicable to the development of PV1, PV2, and PV3 because there is no suitable habitat for arroyo toad within these areas.

4. **Management Conditions for *Vireo belli pusillus,* Least Bell's Vireo. Conditions shall be developed for projects located adjacent to least Bell's vireo habitat to monitor and control the population of brown-headed cowbirds.**

   Discussion: PV1, PV2, and PV3 neither contain suitable riparian habitat for least Bell's vireo nor are located adjacent to suitable riparian habitat.

   Findings: PV1, PV2, and PV3 neither contain suitable habitat for least Bell's vireo nor are located adjacent to suitable habitat. This criterion is not applicable to the development of PV1, PV2, and PV3 because there is no suitable riparian habitat within these areas.

5. ***Other Sensitive Animal Species. For other Sensitive animal species as defined in Section 86.508, impacts will be mitigated through habitat based mitigation requirements as set forth in Section 86.506. In any case in which mitigation would have the effect of substantially reducing the viability of the affected population or the species, mitigation shall be in kind and the mitigation required will be set at a ratio based on the sensitivity of the species and the population size, as determined in a biological analysis approved by the Director.***

Discussion: The BMO requires that impacts to other sensitive species, as defined in Section 86.508, be mitigated through habitat mitigation requirements as set forth in Section 86.506. Impacts to suitable habitat for other sensitive species not listed in Attachment D of the BMO from development of PV1, PV2, or PV3 include known observations for western spadefoot (*Spea hammondii*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), coastal California gnatcatcher (see Section 2.2.5.1, Item 6), California horned lark (*Eremophila alpestris actia*), white-tailed kite (*Elanus leucurus*), and San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*). Other sensitive species with a potential to occur in these areas include orangethroat whiptail, San Diego banded gecko (*Coleonyx variegatus abbotti*), red diamond rattlesnake (*Crotalus ruber*), rosy boa (*Lichanura trivirgata*), Blainville's horned lizard, Coronado skink (*Plestiodon skiltonianus interparietalis*), Cooper's hawk (foraging habitat only), Southern California rufous-crowned sparrow, grasshopper sparrow (*Ammodramus savannarum;* nesting), Bell's sage sparrow (*Artemisiospiza belli belli*), long-eared owl (*Asio otus*), red-shouldered hawk (*Buteo lineatus*; foraging habitat only), turkey vulture (*Cathartes aura*; foraging habitat only), northern harrier (*Circus cyaneus*; foraging only), loggerhead shrike (*Lanius ludovicianus*; nesting and foraging habitat), western bluebird (*Sialia mexicana*), common barn-owl (*Tyto alba*), pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), Yuma myotis (*Myotis yumanensis*), San Diego desert woodrat (*Neotoma lepida intermedia*), big free-tailed bat (*Nyctinomops macrotis*), mule deer, cougar, American badger, Hermes copper butterfly, and Quino checkerspot butterfly. Impacts to suitable habitat for these species would be mitigated through preservation of habitat as described in Section 2.3, Section 86.506 – Habitat-Based Mitigation, and Section 2.2.5.1, Item 2, of this BMO Findings Report. The following additional mitigation measures, as described further in the Otay Ranch Village 14 and Planning Areas 16/19 EIR and summarized here, would be implemented to reduce impacts to these species:

1. Biological monitoring would be required to prevent disturbance to areas outside the limits of grading. Prominently colored temporary fencing and signage would be installed prior to construction wherever the limits of grading are adjacent to Otay Ranch RMP Preserve, Conserved Open Space, and other sensitive biological resources.
2. To protect the Otay Ranch RMP Preserve from unauthorized entry or disturbance, permanent signage and fencing would be placed, as needed, around the perimeter of the Otay Ranch RMP Preserve and Conserved Open Space.

3. To avoid any direct impacts to raptors and/or any migratory birds protected under the Migratory Bird Treaty Act, removal of habitat that supports active nests on the proposed area of disturbance should occur, outside of the nesting season for these species (January 15 to August 15, annually). If removal of habitat on the proposed area of disturbance must occur during the nesting season, the applicant shall retain a County-approved biologist to conduct a preconstruction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. If nests are present then an appropriate buffer surrounding the nest would be established until nesting is complete.
4. If take authorization is required for impacts to Quino checkerspot butterfly, the Applicant will comply with any and all conditions, including preconstruction surveys, that the USFWS may require for take of Quino checkerspot butterfly pursuant to the FESA. Preconstruction survey will be conducted in accordance with USFWS protocols unless the USFWS authorizes a deviation from those protocols. Take may also be obtained through the County of San Diego Multiple Species Conservation Program Subarea Plan Quino Checkerspot Butterfly Addition, if/when approved. If the Quino checkerspot butterfly is included as an addition to the South County MSCP, and the Applicant seeks take under the Quino Addition, the Applicant will comply with any and all conditions for Quino checkerspot butterfly.
5. If take authorization is required for impacts to San Diego fairy shrimp the Proposed Project, the Applicant will comply with any and all conditions, including preconstruction surveys, that the USFWS may require for take pursuant to the FESA.
6. To ensure that no burrowing owls have migrated into the Development Footprint, a preconstruction burrowing owl survey would be conducted.
7. No clearing, grading, or grubbing activities may occur within habitat identified by a qualified biologist as being occupied by coastal California gnatcatcher during the nesting season for the species (February 15 to August 15, annually). If construction must occur during the nesting season, a nesting survey for coastal California gnatcatcher shall be conducted prior to the onset of construction. Construction-related noise levels in coastal California gnatcatcher-occupied habitat within 500 feet of construction activity would not exceed 60 dBA L_{eq} or preconstruction ambient noise levels, whichever is greater. Project construction within 500 feet of occupied habitat will occur outside of the breeding season if possible. If necessary, construction activities during the breeding season would be managed to limit noise levels in occupied habitat within 500 feet of the Proposed

Project or noise attenuation measures, such as temporary sound walls, would be implemented to reduce noise levels below 60 dBA L_{eq} or below existing ambient noise levels, whichever is greater.

Lighting of all developed areas adjacent to the Preserve shall be directed away from the Preserve, wherever feasible and consistent with public safety. Where necessary, development shall provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the Preserve and sensitive species from night lighting.

Specific to Quino checkerspot butterfly, prior to the issuance of the first grading permit that impacts habitat identified as suitable for Quino checkerspot butterfly, the Proposed Project shall demonstrate to the satisfaction of the Director of Planning and Development Services (or his/her designee) that it has secured from the USFWS any necessary take authorization for Quino checkerspot butterfly through (1) the Section 7 Consultation, (2) Section 10 incidental take permit requirements, or (3) the County Subarea Plan Quino Checkerspot Butterfly Addition, if/when approved. In addition, prior to the issuance of the first grading permit that impacts habitat identified as suitable for Quino checkerspot butterfly, the Proposed Project shall prepare a long-term Quino Checkerspot Butterfly Management/Enhancement Plan.

Findings: PV1, PV2, and PV3 would result in impacts to habitat for other sensitive animal species as defined in Section 86.508. Impacts to suitable habitat for these species would be mitigated through preservation of habitat as described in Section 2.3 and Section 2.2.5.1, Item 2, of this BMO Findings Report. Additional measures, as outlined previously, would be provided to reduce impacts to sensitive animal species. Therefore, this criterion is met.

2.4.3 Vernal Pools

Impacts to vernal pools and their watersheds in naturally occurring complexes and wetlands shall be avoided to the maximum extent practicable.

Discussion: Based on surveys conducted between 2014 and 2016, PV1, PV2, and PV3 do not contain vernal pools.

Findings: This criterion is not applicable to development of PV1, PV2, and PV3 because these areas do not contain vernal pools.

2.4.4 Grading Limitations for Specific Species

The following limitations shall apply to grading activities in areas where the identified species occur:

a. Coastal cactus wren – No clearing of occupied habitat shall occur between February 15 and August 15.

b. Coastal California gnatcatcher – No clearing of occupied habitat shall occur between March 1 and August 15.

c. Least Bell's vireo – No clearing of occupied habitat shall occur between March 15 and September 15.

d. Southwestern willow flycatcher – No clearing of occupied habitat shall occur between May 1 and September 2.

Discussion: Only one species, coastal California gnatcatcher, listed within this criterion has a potential to nest within PV1, PV2, and PV3. As stated in Section 2.4.2, no clearing, grading, or grubbing activities may occur within habitat identified by a qualified biologist as being occupied by coastal California gnatcatcher during the nesting season for the species (February 15 to August 15, annually). Specific to coastal California gnatcatcher and nesting raptors, construction-related noise levels in coastal California gnatcatcher-occupied habitat within 500 feet of construction activity would not exceed 60 dBA L_{eq} or preconstruction ambient noise levels, whichever is greater. Project construction within 500 feet of occupied habitat will occur outside of the breeding season if possible. If necessary, construction activities during the breeding season would be managed to limit noise levels in occupied habitat within 500 feet of the Proposed Project, or noise attenuation measures, such as temporary sound walls, would be implemented to reduce noise levels below 60 dBA L_{eq} or below existing ambient noise levels, whichever is greater.

Finding: As discussed previously, the Proposed Project would adhere to the mitigation measure that reduces impacts to nesting coastal California gnatcatcher. No other species listed in this criterion have a potential to occur within PV1, PV, or PV3. Therefore, this criterion is met.

2.4.5 Other Species Specific Condition Requirements

As set forth in the terms of the MSCP [County Subarea] Plan and/or Subarea Plan, project applicants shall be required to comply with other applicable species specific conditions set forth in Table 3-5 of the MSCP [County Subarea] Plan as a condition of project approval.

Discussion Specific to PV1, PV2, and PV3: The Proposed Project, which includes PV1, PV2, and PV3, would comply with other applicable species-specific conditions set forth in

Table 3-5 of the MSCP Plan as a condition of project approval, as discussed previously in Section 2.2.5.1 (Item 8).

Discussion in the Context of the RMP Preserve: The Development Footprint of PV1, PV2, and PV3 would be consistent with the Otay Ranch RMP Preserve footprint established by the Otay Ranch GDP/SRP and Otay Ranch RMP. Accordingly, PV1, PV2, and PV3 implement the Preserve footprint contemplated by the 11,375-acre Otay Ranch RMP Preserve as depicted in the Otay Ranch RMP. This Preserve footprint, in turn, would be consistent with the hardline Preserve referenced in the MSCP County Subarea Plan Implementing Agreement, which required the County to contribute the 11,375-acre Otay Ranch RMP Preserve as mitigation (USFWS et al. 1998, pp. 29–30). PV1, PV2, and PV3 and their proposed Preserve footprint would be consistent with the Implementing Agreement; therefore, the PV1, PV2, and PV3 Development Footprint does not jeopardize the continued survival of the 85 Covered Species within the dedicated Otay Ranch RMP Preserve. Because the boundaries and total acreage of the MSCP Preserve approved by the Implementing Agreement and the County Subarea Plan (County of San Diego 1997) would not change with development of PV1, PV2, and PV3, the functionality of the existing MSCP Preserve design would be maintained. The Biological Resources Technical Report for the Proposed Project provides additional detail on how the Proposed Project complies with any applicable species-specific conditions forth in Table 3-5 of the MSCP Plan. Examples include not placing development within 4,000 feet of an occupied golden eagle nest, protecting against edge effects, minimizing impacts to sensitive birds during the nesting season, and maintaining wildlife corridors.

Findings: The Proposed Project, which includes PV1, PV2, and PV3 would comply with other applicable species specific conditions set forth in Table 3-5 of the MSCP Plan as a condition of project approval as discussed previously in Section 2.2.5.1 (Item 8) and summarized above. Therefore, this criterion is met.

2.5 Conclusion

This BMO Findings Report focuses specifically on the areas known as PV1, PV2, and PV3 within the Proposed Project. The BMO analysis and findings outline how development proposed for PV1, PV2, and PV3 would conform to the criteria and objectives of the BMO. Although development of these parcels would result in some loss of habitat for sensitive wildlife species and populations of sensitive plant species, development of PV1, PV2, and PV3 would satisfy the criteria as analyzed in the BMO.

The Otay Ranch RMP Preserve boundaries would not be changed by development of PV1, PV2, and PV3, and the functionality of the Otay Ranch RMP Preserve and the existing habitat linkages

and corridors would remain intact. It should be noted that the Otay Ranch RMP Preserve is considered a component of the MSCP Preserve. Mitigation for development impacts to PV1, PV2, and PV3, as calculated by the BMO requirements, would result in the conveyance of 228.1 acres of in-kind habitat to the Otay Ranch RMP Preserve. Note that the 228.1 acres of BMO-calculated mitigation for PV1, PV2, and PV3 exceeds the 1.188 Otay Ranch RMP Preserve Conveyance Obligation by approximately 24.6 acres (171.3 acres of impacts mitigated at the 1.188 ratio totals 203.5 acres). The 228.1 acres of required mitigation would be met through the Proposed Project's overall conveyance of 776.8 acres of habitat to the Otay Ranch RMP Preserve and preservation of 72.4 acres of additional habitat designated as Conserved Open Space for a total of 849.2 acres.

Conveyance and preservation of 849.2 acres of land offsets the loss of habitat for sensitive wildlife species and populations of sensitive plant species. Additional mitigation required for impacts to sensitive plants would be provided through on-site preservation or restoration/translocation. The loss of 0.39 acres of unvegetated stream channels would be mitigated at a minimum of 1:1 replacement-to-impact ratio, and the Proposed Project would be required to obtain the required ACOE, RWQCB, and CDFW permits. Therefore, with the implementation of the previously mentioned mitigation, the proposed development within PV1, PV2, and PV3 would be in compliance with the measures set forth in the BMO.

The Development Footprint of PV1, PV2, and PV3 would be consistent with the Otay Ranch RMP Preserve footprint established by the Otay Ranch GDP/SRP and Otay Ranch RMP. Accordingly, PV1, PV2, and PV3 implement the Preserve footprint contemplated by the 11,375-acre Otay Ranch RMP Preserve as depicted in the Otay Ranch RMP. This Preserve footprint, in turn, would be consistent with the hardline Preserve referenced in the County of San Diego MSCP Subarea Plan Implementing Agreement, which required the County to contribute the 11,375-acre Otay Ranch Preserve as mitigation (USFWS et al. 1998, pp. 29–30). Thus, PV1, PV2, and PV3 and their proposed Preserve footprint would be consistent with the Implementing Agreement; therefore, the PV1, PV2, and PV3 Development Footprint would not jeopardize the continued survival of the 85 Covered Species within the dedicated Otay Ranch RMP Preserve. Because the boundaries and total acreage of the MSCP Preserve designated by the Implementing Agreement and the County Subarea Plan (County of San Diego 1997) would not change with development of PV1, PV2, and PV3, the functionality of the existing MSCP Preserve design would be maintained.

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3 GLOSSARY

Proposed Project

The "Proposed Project" reflects the applicant's ownership within Village 14 and Planning Areas 16/19 (1,283.6 acres). Other than off-site impacts described below, the Proposed Project specifically excludes CDFW's ownership in Village 14 and Planning Areas 16/19, which remains designated for development per the County's General Plan and the Otay Ranch GDP/SRP. The underlying County General Plan and Otay Ranch GDP/SRP land uses on CDFW property would remain unchanged. In addition, there is an area of Village 14 commonly known as the Inverted L, which is excluded from the Proposed Project because it is not owned by the applicant, was acquired by the USFWS and Otay Water District for conservation purposes, and is located in the City of Chula Vista.

Project Area

The "Project Area" is the applicant's ownership located within Otay Ranch Village 14 and Planning Areas 16/19, in addition to off-site improvements for infrastructure. The Project Area covers approximately 1,283.6 acres owned by the applicant and approximately 85.4 acres of off-site improvements, for a total of 1,369.0 acres. The 85.4 acres of off-site improvement areas lie within: (1) the City of San Diego MSCP Subarea Plan's Cornerstone Lands (33.7 acres), and is thus within San Diego's ownership and land use jurisdiction; (2) the City of Chula Vista's MSCP Subarea Plan (5.4 acres); (3) CDFW's ownership within Otay Ranch (45.2 acres); (4) County Proctor Valley Road easement (0.3 acres), and (5) private ownership (0.8 acres).

Development Footprint

The "Development Footprint" includes areas where there would be either permanent or temporary ground disturbance. In addition, areas of open space, which would be managed by a homeowners' association (private homeowner's association open space), are included in the Development Footprint. The Development Footprint includes all on-site development, off-site improvements, graded LDA, and impacts resulting from infrastructure and other allowable uses within the Otay Ranch RMP and MSCP Preserve according to Section 1.9.3 of the MSCP County Subarea Plan. The Development Footprint also includes areas of fuel modification.

Otay Ranch RMP Preserve

The Otay Ranch RMP Preserve includes those areas shown as part of the 11,375-acre Preserve in Exhibit 24 of the Otay Ranch RMP, which is also referenced in the County of San Diego MSCP Subarea Plan Implementing Agreement, which defines the County's required contribution to the

MSCP Preserve. The Otay Ranch RMP provides for the conservation and management of the entire 11,375-acre Otay Ranch RMP Preserve. The Implementing Agreement states that the required mitigation for Otay Ranch includes "protection of the areas identified as preserved in the boundaries of the Otay Ranch project including approximately 11,375 acres" of the Otay Ranch RMP Preserve (USFWS et al. 1998). Therefore, the Otay Ranch RMP Preserve is a subset of the MSCP Preserve. The portion of the Proposed Project's land use designated Otay Ranch RMP Preserve is, therefore, referred to as the Otay Ranch RMP Preserve, which includes 270.2 acres in Village 14 and 156.5 acres in Planning Areas 16/19, for a total of 426.7 acres.

Conserved Open Space

Areas of Conserved Open Space would be preserved on site and would be added to the Otay Ranch RMP Preserve, given to the City of San Diego to mitigate for impacts to City of San Diego MSCP Cornerstone Lands, or managed under a separate RMP through the County open space easement. The approximately 72.4 acres of Conserved Open Space within the Project Area is composed of 31.9 acres within the 127.1 acres of LDA land use designation and 3.6 acres within designated development in Planning Areas 16/19 and 36.9 acres of residential land use designation within Village 14. All areas of Conserved Open Space areas are located adjacent to Otay Ranch RMP Preserve. There are 20.1 acres of Conserved Open Space in PV2 and PV3.

Limited Development Areas

LDA is a defined land use designation in the Otay Ranch GDP/SRP which states, "An open space easement would cover the areas designated as 'Limited Development Area'... These areas would be left as natural open space with the exception that roads and utilities are anticipated to cross or lie within these areas... LDAs may be included within private lots but would have the following set of restrictions. Removal of native vegetation would be prohibited except as necessary for construction of roads and utilities. There would be no buildings or other structure, agriculture, landscaping, livestock, grazing, horses, trash disposal or fences allowed within these areas" (City of Chula Vista and County of San Diego 2015a). Fuel modification is allowed in the LDA as "brushing for fire control zones would conform to the local fire district regulations" (City of Chula Vista and County of San Diego 2015a). A total of 127.1 acres of LDA is in Planning Areas 16/19, and there is no LDA in Village 14. Of the 127.1 acres of LDA, 31.9 acres would be designated as Conserved Open Space with an open space easement placed over the land. Since this 31.9 acres would be used for mitigation of project impacts, the easement would exclude the placement of roads and utilities specifically within these areas. A small portion of LDA would be graded for access roads (11.8 acres). The remaining 83.4 acres of LDA that would not be impacted by the Proposed Project is termed "non-graded LDA."

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APPENDIX A

Review of Impacts and Mitigation for Variegated Dudleya, Barrel Cactus and San Diego Goldenstar

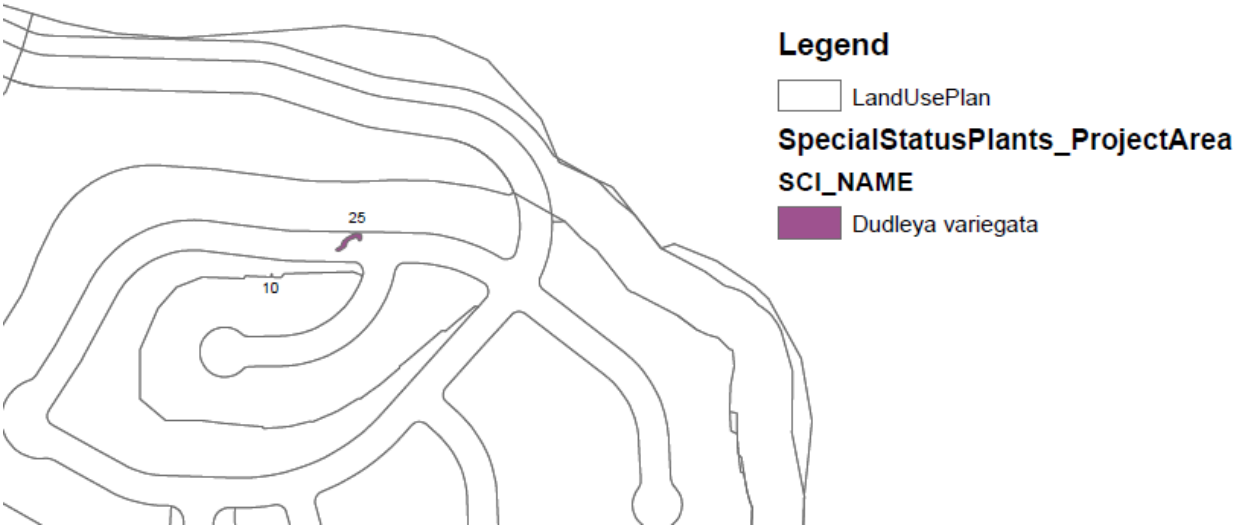
APPENDIX A
Review of Impacts and Mitigation for Variegated Dudleya, San Diego Barrel Cactus and San Diego Goldenstar

The development of PV3, with onsite translocation and mitigation, would not exceed the allowable impacts to one narrow endemic, variegated dudleya (*Dudleya variegata*; County Group A), and two other covered species, San Diego goldenstar (*Bloomeria clevelandii*; County Group A) and San Diego barrel cactus (*Ferocactus viridescens;* County Group B), (see Figure 1) as set forth in Section 86.507 of the Biological Mitigation Ordinance (BMO). Section 86.507 states the following regarding avoidance of sensitive plants:

> Impacts to Narrow Endemic Plant Species Within the MSCP Subarea (Attachment E of Document No. 0769999 on file with the Clerk of the Board), or Sensitive Plant Species, as defined, that meet the criteria in Group A or B shall be avoided to the maximum extent practicable. Where complete avoidance is infeasible, encroachment may be authorized depending on the sensitivity of the individual species and the size of the population except that encroachment shall not exceed 20% of the population on-site. Where impacts are allowed, in-kind preservation shall be required at a 1:1 to 3:1 ratio depending on the sensitivity of the species and population size, as determined in a biological analysis approved by the Director.

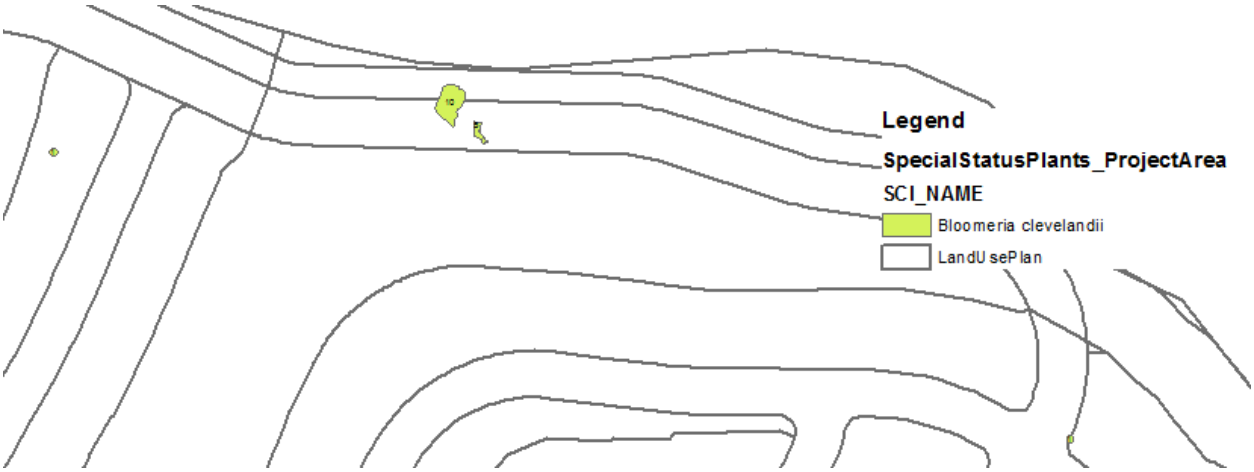
Two small populations of variegated dudleya were observed within PV3: 25 plants were observed within one population, and 10 plants were observed in the other (Exhibit A). All 35 individuals would be impacted by development within PV3.

Exhibit A: Variegated Dudleya Locations within PV3



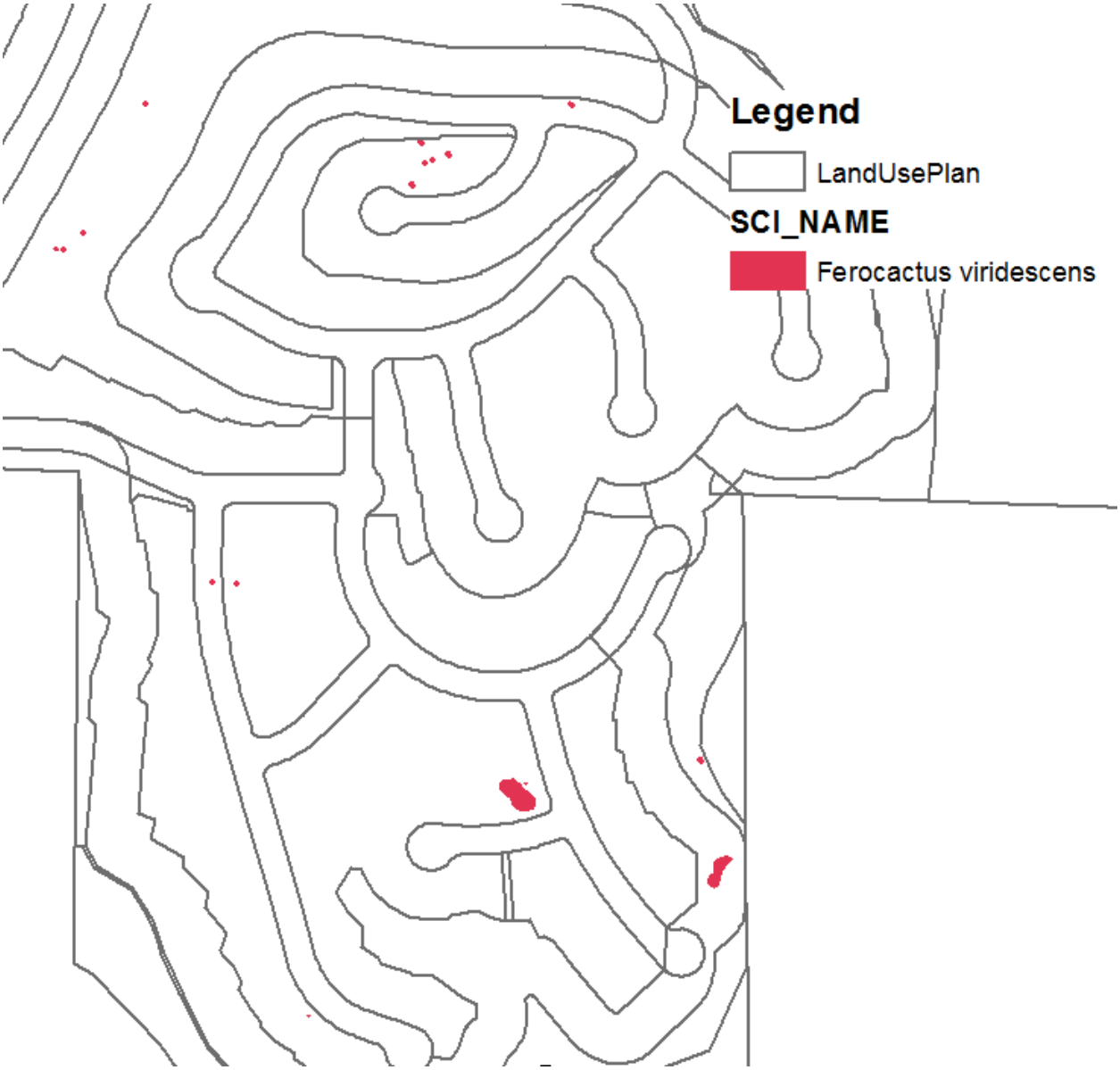
Four populations of San Diego goldenstar, which total 17 plants, would be impacted by the development of PV3 (Exhibit B). Compared to the rest of the Project Area, these populations are small and isolated from larger populations. This species is found throughout the overall Project Area in large quantities. Specifically, conveyance to the Otay Ranch RMP Preserve would preserve 2,902 individuals of the species, and an additional 688 individuals would be preserved through Conserved Open Space. Another 577 individuals within non-graded LDA would not be impacted by the Proposed Project.

Exhibit B: San Diego Goldenstar Locations within PV3



A total of 36 San Diego barrel cactus individuals would be impacted by development in PV3. Barrel cactus populations are scattered throughout PV3 in small populations (Exhibit C).

Exhibit C: San Diego Barrel Cactus Locations within PV3



Redesigning the Development Footprint in order to adhere to the 20% impact restrictionwould result in isolated populations of these sensitive plants. Impacts to variegated dudleya, San Diego goldenstar and San Diego barrel cactus will be minimized through transplantation of individuals from areas that are proposed for development into the Conserved Open Space onsite in PV3. The populations will be transplanted to the Conserved Open Space and has been acceptable mitigation to satisfy the no-net-loss criteria in prior County BMO Findings. Additional plants would be installed at the translocation site to achieve a 3:1 and 2:1 mitigation to impact ratio. Transplanting the existing variegated dudleya, San Diego goldenstar and San Diego barrel cactus populations (35, 17 and 36 individuals respectively) within designated and protected opens space onsite and installing additional plants at this same location, would create onsite, protected populations of 105 variegated dudleya, 51 San Diego goldenstar and 70 barrel cactus.

Based on a review of site conditions, including vegetation communities, soil types, slope and aspect, the Conserved Open Space within PV3 appears have suitable locations for establishing each of these species. The Conserved Open Space within PV3 contains similar soil conditions and vegetation communities to the location where this species occurs within the Development Footprint of PV3. Critical to determining the suitability of a site is acknowledging that soils are a key feature of their habitat and that the receptor site would need to be modified to create appropriate soil conditions for survival and establishment of these species. Therefore, incorporating soil salvage and placement is imperative. Translocation of variegated dudleya and San Diego goldenstar would require soil block salvage and placement into the area of Conserved Open Space. Translocation of barrel cactus would require salvaging and planting cacti plants in suitable soils and habitat. Specific translocation sites within the PV3 Conserved Open Space will be determined based on field surveys. The Otay Ranch PEIR states that translocation is a required component of mitigation for sensitive plant species and specifically variegated dudleya (see Table 3.3-11 of the PEIR). In addition, the Phase II RMP states the following regarding variegated dudleya; “The project preserves 75% of this species on site, including representative populations from each of the three large parcels that comprise the Otay Ranch. In addition, all impacted plants are to be transplanted to appropriate habitat and clay soils within the same parcel. The Otay Ranch PEIR concluded that impacts to this species have been reduced to below a level of significance”.

The translocation effort would help meet the Otay Ranch RMP and MSCP Table 3-5 goals for these species and would not result in a greater than 20% loss of the variegated dudleya, San Diego goldenstar and barrel cactus within PV3. While there will be some loss of sensitive habitat associated with development of PV3, that loss has been limited and therefore meets the standards set forth in the BMO and appropriate mitigation measures have been included in the Proposed Project. The translocation mitigation would, in fact, contribute more to the preserved populations of these species than avoidance. Assuming an 80% survival rate, the variegated dudleya population in PV3 would increase from 35 to 84 plants, San Diego goldenstar would increase

from 17 to 41 plants and San Diego barrel cactus would increase from 36 to 56 plants. Since the mitigation for variegated dudleya, San Diego goldenstar and San Diego barrel cactus would ensure no-net-loss of the populations within PV3, and would result in a new population being introduced to the Otay Ranch RMP/MSCP Preserve, the development of PV3 meets the requirements set forth in the BMO.

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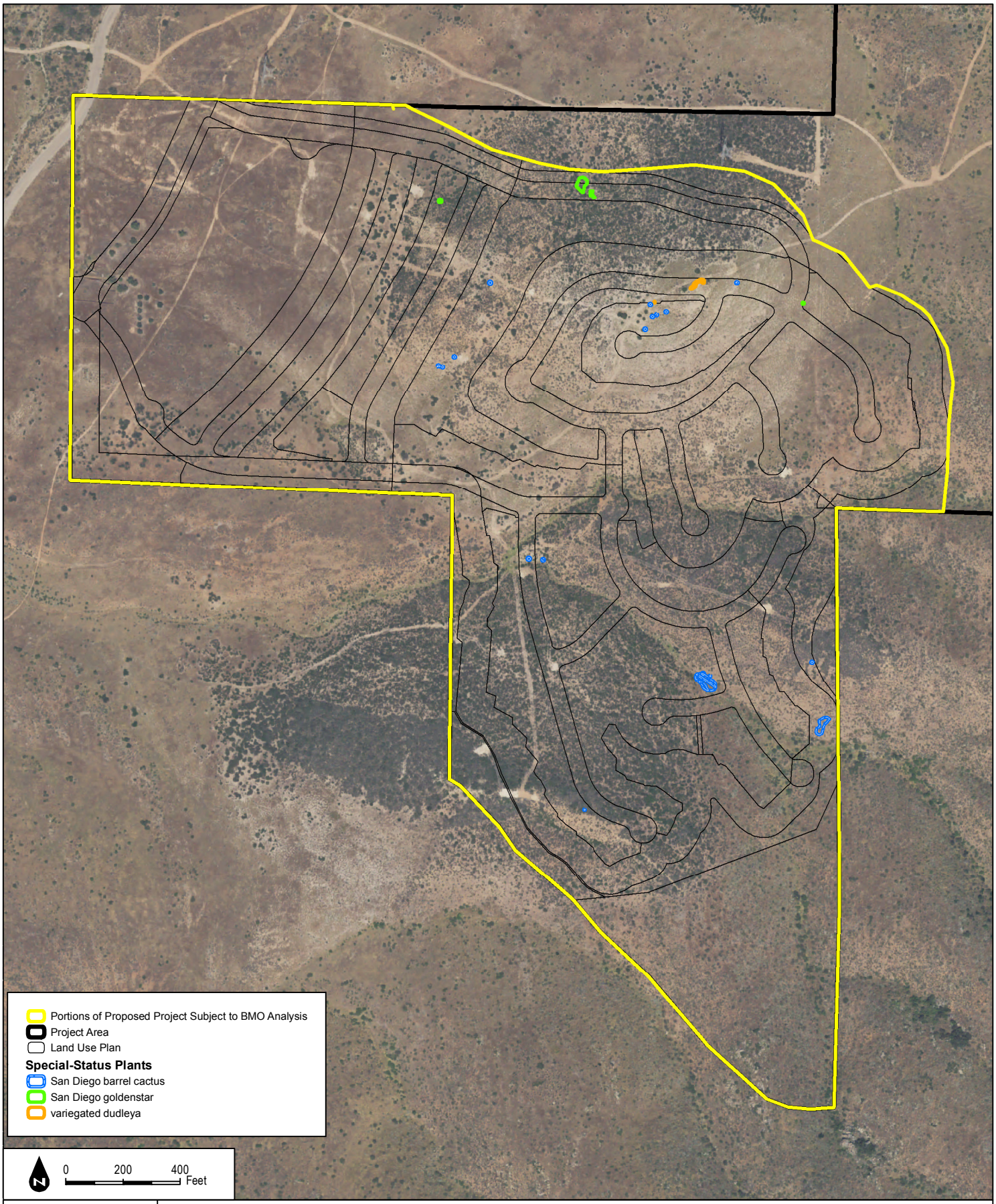

DUDEK

SOURCE: NAIP 2016; Hunsaker 2017

FIGURE 1

Special-Status Plant Occurrences

Otay Ranch Village 14 and Planning Areas 16/19

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APPENDIX B

Addendum to Final EIR No. 91-03 for Salt Creek Ranch Sectional Planning Area Plan; City of Chula Vista's Final Map 14756A and Letter Agreement between USFWS, CDFW, City of Chula Vista and Pacific Bay Homes dated July 19, 2001

Rolling Hills Ranch
In conjunction with the City of Chula Vista MSCP Subarea Plan, all parties agree to the following:

1. Pacific Bay will implement the "Proposed Alternative" project, dated 5/8/01, prepared by Helix Environmental Planning, presented to the Resource Agencies and City. This plan, described generally, eliminates all development within Neighborhood 13, adds a small development area north of Neighborhood 12, and transfers lost density into Neighborhood 9, and is attached and incorporated herein as Exhibit "A".
2. Along the western edge of Neighborhood 11 Street YYYY (from approximately Lots 19-25) will be moved easterly. Pacific Bay will be allowed to grade steeper slopes, no steeper than 2:1, on the rear portion of the lots across Street YYYY from Lots 19 through 25 in order to preserve the developability of lots on both sides of the road. These changes will result in the loss of Lot 19. Provided however, grading within the area of former Lot 19 shall be kept to the minimum extent necessary to allow the support of Street YYYY and adjacent lots, in order to maximize the protection of tarplant.
3. The brush management protocol adjacent to Lots 19 through 25 in Neighborhood 11 and Lots 69 through 75 in Neighborhood 12 will be amended to allow for selective thinning to minimize impacts to narrow endemic species.
4. The project will be revised to preserve additional tarplant through the elimination of lots 9 through 12 in Neighborhood 11. No changes to the alignment of Street YYYY adjacent to these lots will be required. Chain link fencing will be allowed around the detention basin.
5. In the internal, open space corridor between Neighborhoods 9 and 10A, and Neighborhoods 11 and 12 ("Internal Open Space Area"), a tarplant management program will be established. The program will be funded by a non-wasting endowment, to be provided by Pacific Bay, in the amount of $100,000. The Internal Open Space Area will be designated as a Tarplant Management Area ("TMA") in the Subarea Plan. The TMA will be managed by a qualified preserve manager to be approved by the City after consultation with the Wildlife Agencies. The Internal Open Space area will not be considered part of the MSCP Preserve, but will be credited as a component of onsite conservation for the Project.
6. Topsoil containing tar plant will be moved from development areas in Neighborhood 11 to the graded slopes in the Internal Open Space Area, in conjunction with the grading operation for the adjacent Neighborhoods.
7. The Project will be revised to preserve additional dudleya and provide ridge top connectivity along the easterly edge of the west ridge in Neighborhood 12. The reconfigured plan will be limited to redesign of Lots of 69 through 75 with loss of 6 to 7 lots per the Tentative Map configuration.
8. Pacific Bay will provide offsite mitigation for tarplant to include: (1) preservation of 5.8 acres (containing approximately 15,080 plants) within the San Miguel Mitigation

Bank; and, (2) conservation of 10 acres containing a minimum of 15,000 plants in a location within the MSCP Preserve.

9. No further mitigation requirements for non-wetland MSCP Covered Species will be required by the Resource Agencies as part of the 1603 Agreement and/or 404 Permit for the project, provided however wetland-dependent species will be addressed in accordance with Section 4.2.4 of the Subarea Plan.

10. Proctor Valley Road shall be allowed to be realigned within the Project to avoid impact to the San Diego Cornerstone Lands, with no further mitigation to Narrow Endemics or other MSCP Covered Species.

11. Pacific Bay is not obligated to construct the reach of Proctor Valley Road from immediately east of the easternmost entrance into Neighborhood 9 to the eastern subdivision boundary ("Easternmost Reach"). Pacific Bay will grant a floating easement for the future alignment of this road, as determined the City. In lieu of Pacific Bay's obligation to construct the Easternmost Reach, Pacific Bay will provide equivalent funding for off-site T-DIF improvements to be determined by the City through the Traffic Enhancement Program.

12. The aforementioned revisions shall be implemented in conjunction with a Substantial Conformance determination to be made by the City of Chula Vista upon approval by the City Council of the Subarea Plan that incorporates this agreement. The details of the mitigation conditions contained herein shall be incorporated into the Mitigation Monitoring and Reporting Program for the Project with approval of the City.

13. The provisions of this agreement represent the total mitigation package for the Rolling Hills Ranch Project, notwithstanding paragraph number 9 above. The Project shall receive hardline coverage under the MSCP Subarea Plan, contingent only on compliance with the above as well as the provisions of the MSCP Subarea Plan.

Agreed and accepted:

7/19/01

7/19/01

7/19/01

7/19/01

APPENDIX C

Golden Eagle Analysis Reference Documents

DUDEK

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MEMORANDUM

To: Mark Slovick, County of San Diego
From: Patricia Schuyler, Dudek
Cc: Greg Mattson, Susan Harris, and Kim Davis County of San Diego
Liz Jackson, Jim Jackson, and Rob Cameron, Jackson Pendo Development
Subject: Multiple Species Conservation Program – Golden Eagle Habitat Analysis (Draft)
Date: May 31, 2016 (Data Prepared by Dudek on December 11, 2015)
July 8, 2016 Updated and Revised
September 15, 2017 Updated and Revised

Question: How is the Multiple Species Conservation Program (MSCP) and County of San Diego (County) Subarea Plan performing with respect to the 53% preservation goal of foraging habitat for golden eagle (*Aquila chrysaetos*)?

Answer: Taking into consideration the MSCP Preserve assembled as of October 2015, plus the MSCP remaining Preserve, the MSCP Plan is projected to exceed golden eagle 53% habitat preservation by approximately 15,600 acres within the original Multi-Habitat Planning Area (MHPA), and by more than 35,500 acres total (Table 1). The County's Subarea Plan is projected to exceed its 54% golden eagle habitat preservation goal by approximately 9,900 acres within the MHPA, and by more than 28,000 acres total.

Table 1
Summary of Golden Eagle Habitat Preserved and
Total Estimated MSCP Preserve at Buildout

Golden Eagle MSCP Habitat Analysis	Overall MSCP Golden Eagle Habitat Preservation (acres)	County Subarea Golden Eagle Habitat Preservation (acres)
1. Total MSCP Golden Eagle Habitat (Tables 2&3) 2. MSCP Target Preserve Habitat (Tables 2&3)	264,448 (100%) 140,130 (53%)	169,879 (100%) 91,107 (54%)
3. Preserved Inside MSCP MHPA as of October 2015 (Tables 4&5) 4. Remaining Preserve to be Assembled (Tables 6&7)	90,856 64,878	65,615 35,356
5. Total MSCP Preserve at Buildout (Inside MHPA) (Lines 3+4) 6. Increase in MSCP Preserve Habitat (Lines 5-2)	*155,734* (59%) 15,604	*100,971* (59%) 9,864
7. Increase in Golden Eagle Habitat Outside MHPA (Tables 4&5) 8. Total Increase in Golden Eagle Habitat (Lines 6+7)	*19,941* 35,545	*18,304* 28,168
Total Estimated MSCP Preserve at Buildout (Lines 5+7)	**175,675 (66%)**	**119,275 (70%)**

Background

Table 3-5 in the MSCP Plan states that 53% of potential foraging/nesting habitat (coastal sage scrub, chaparral, grassland, and oak woodland) (approximately 139,000 acres) would be conserved with implementation of the Plan. At the time the Plan was adopted, the MSCP planning area included 264,689 acres of habitat suitable[1] for golden eagle foraging (Table 3-3 of the MSCP Plan). Thus, to meet the MSCP Plan's objective of conserving 53% of golden eagle foraging habitat in the planning area, approximately 139,000 acres (Table 3-3 of the MSCP Plan) of such habitat must ultimately be brought into the Preserve system.

With respect to the County's Subarea Plan (1997), the Biological Opinion outlined a conservation level of 54% of potential foraging habitat (i.e., 91,397 of 170,416 acres, as identified in the Subarea Plan). Thus, to meet the County's Subarea Plan's objective, approximately 91,397 acres of golden eagle foraging habitat must ultimately be brought into the Preserve system.

Methodology

1. Using GIS software, Dudek overlaid the MSCP Plan boundary with the vegetation mapping used for the entire San Diego County MSCP mapping effort (SANDAG 1995) to determine the amount of suitable habitat within the MSCP Plan area and the County Subarea Plan. This was used to confirm that the acreages within the San Diego Association of Governments (SANDAG) data match the acreage presented Table 3-3 of the MSCP Plan so that this data can be used for further analysis.
2. Current HabiTrak (Habitat Tracking Reporting) data available from the SANDAG SANGIS Regional Data Warehouse (October 15, 2015) was then overlaid with the 1995 vegetation mapping data to calculate the golden eagle habitat preserved to date in both the MSCP and County Subarea Plan areas.
3. The HabiTrak data was also used to calculate the amount of golden eagle habitat both "inside the MHPA" and "outside the MHPA."[2]

---

[1] Table 3-5 of the MSCP Plan identifies the following vegetation communities as potential foraging/nesting habitat (i.e., suitable habitat) for golden eagle: coastal sage scrub, chaparral, grassland, and oak woodland.

[2] The HabiTrak data maintained by the California Department of Fish and Wildlife within the SANGIS database varies slightly from the County of San Diego's records, since the County manually calculates its gains and losses (County of San Diego 2015).

Results of Golden Eagle Habitat Modeling

1. Table 2 provides the results of GIS confirmation of golden eagle foraging habitat within the MSCP Plan area. Tables 3 and 4 provide condensed versions of the crosswalk for the MSCP Plan and the County Subarea Plan.
2. Total golden eagle habitat in the MSCP Plan area comes to 264,448 acres, as shown in the last column of Table 2. This acreage is close to the "Total MSCP Study Area" acreage presented in Table 3-3 of the MSCP Plan, which is 264,689 acres. This 264,448-acre figure was then used to calculate the MSCP goal of preserving 53% of golden eagle foraging habitat, which comes to 140,130 acres, as shown in Table 2. The amount of golden eagle foraging habitat identified in Table 3-5 of the MSCP Plan is 139,000+/- acres. The GIS calculations are, therefore, achieved within an acceptable margin. Thus, for purposes of this analysis, the MSCP preservation goal is 140,130.
3. The Biological Opinion for the County Subarea Plan outlines a conservation level of 54% of potential foraging habitat for golden eagle (i.e., 91,397 of 170,416 acres as identified in the Subarea Plan). The GIS calculation of suitable golden eagle habitat within the Subarea Plan boundary, shown in Table 4, is 169,879 acres. Using the Biological Opinion's stated conservation level of 54%, total conservation within the County Subarea Plan amounts to 91,107 of 169,879 acres of suitable golden eagle habitat.

Table 2
Vegetation Communities within the MSCP Plan Crosswalked with Holland 1986

MSCP Plan Vegetation Community	Holland Vegetation Community	Inside MHPA	Outside MHPA	Grand Total
Coastal Sage Scrub	Diegan Coastal Sage Scrub	80,582 (71,274)	34,486	115,068
Chaparral	Chamise Chaparral	3,527	1,461	4,988
	Chaparral	41,438	24,167	65,605
	Flat-topped Buckwheat	0	27	27
	Granitic Chamise Chaparral	41	26	67
	Granitic Northern Mixed Chaparral	1,196	1,961	3,157
	Granitic Southern Mixed Chaparral	418	2,839	3,256
	Mafic Southern Mixed Chaparral	0	155	155
	Northern Mixed Chaparral	150	1,854	2,004
	Scrub Oak Chaparral	123	10	133
	Southern Mixed Chaparral	13,912	18,102	32,015
	Total	*60,804 (54,945)*	*50,602*	*111,406*
Coastal Sage-Chaparral Scrub	Coastal Sage-Chaparral Scrub	1,923 (1,490)	2,286	4,209

Table 2
Vegetation Communities within the MSCP Plan Crosswalked with Holland 1986

MSCP Plan Vegetation Community	Holland Vegetation Community	Inside MHPA	Outside MHPA	Grand Total
Grassland	Non-Native Grassland	3,188	8,303	11,491
	Native Grassland	28	131	159
	Valley and Foothill Grassland	7,336	8,402	15,738
	Valley Needlegrass Grassland	229	447	676
	Total	*10,782(9,770)*	*17,283*	*28,065*
Oak Woodland	Coast Live Oak Woodland	448	46	494
	Dense Coast Live Oak Woodland	2,447	2,018	4,466
	Engelmann Oak Woodland	1	2	3
	Oak Woodland	42	--	42
	Open Engelmann Oak Woodland	286	410	696
	Total	*3,224 (2,651)*	*2,476*	*5,700*
Total Golden Eagle Habitat		**157,315 (140,130)**	**107,133**	**264,448**

Note: Acreages within parentheses are taken from the MHPA Conserved column in Table 3-3 of the MSCP Plan.

Table 3
Vegetation Communities within the MSCP Plan

MSCP Plan Vegetation Community	Inside MHPA (acres)	Outside MHPA (acres)	Grand Total (acres)
Coastal Sage Scrub	80,582 (71,274)	34,486	115,068
Chaparral	60,804 (54,945)	50,602	111,406
Coastal Sage-Chaparral Scrub	1,923 (1,490)	2,286	4,209
Grassland	10,782(9,770)	17,283	28,065
Oak Woodland	3,224 (2,651)	2,476	5,700
Total Golden Eagle Habitat	**157,315 (140,130)**	**107,133**	**264,448**

Note: Acreages within parentheses are taken from the MHPA Conserved column in Table 3-3 of the MSCP Plan. The remaining acreages are from the San Diego County MSCP mapping effort (SANDAG 1995).

Table 4
Vegetation Communities within the County Subarea Plan

MSCP Plan Vegetation Community	Inside MHPA (acres)	Outside MHPA (acres)	Grand Total (acres)
Coastal Sage Scrub	49,935 (44,088)	21,175	71,110
Chaparral	43,744 (39,921)	36,098	79,842
Coastal Sage-Chaparral Scrub	1,525 (1,369)	1,734	3,259
Grassland	4,026 (3,493)	6,559	10,585

Table 4
Vegetation Communities within the County Subarea Plan

MSCP Plan Vegetation Community	Inside MHPA (acres)	Outside MHPA (acres)	Grand Total (acres)
Oak Woodland	2,708 (2,236)	2,374	5,082
Total Golden Eagle Habitat	**101,939 (91,107)**	**67,940**	**169,879**

Note: The acreages in parentheses for each vegetation community were obtained by multiplying the grand total for each vegetation community by the percentage of MSCP vegetation community conserved for the unincorporated portion of the County as outlined in Table 3-1 of the MSCP Plan (1998). These acreages represent the MHPA Conserved acreages shown in Table 3-1 of the MSCP Plan and Total Goal from Table 1-2 of the County Subarea Plan.

MSCP-Defined Golden Eagle Suitable Habitat – Current Preserve as of October 2015

1. Based on the methodology described above, Dudek calculated the current amount of golden eagle habitat within the MSCP Preserve and the amount of golden eagle foraging habitat that future developments within the MSCP planning area will contribute to the Preserve over the life of the MSCP. These acreages were used to determine if the contributions to the MSCP designated Preserve were on track to meet or exceed the 53% target.
2. As discussed, to determine the amount of golden eagle foraging habitat currently set aside as Preserve, the MSCP Plan vegetation mapping was overlaid with current HabiTrak data.
3. Table 5 provides the acreages of golden eagle habitat gained within the entire MSCP Plan area as calculated in HabiTrak for both inside and outside of the MHPA Preserve. As of October 2015, the total amount of MSCP golden eagle habitat preserved is estimated to be 90,856 acres – approximately 49,274 acres short of the goal of 140,130 acres.
4. Table 6 provides the same calculations for the County Subarea Plan. As of October 2015, the total amount of MSCP golden eagle habitat preserved is estimated to be 65,615 acres — approximately 25,492 acres short of the goal of 91,107 acres.
5. Although "outside the MHPA" does not count toward the 53% preservation goal, additional habitat "outside the MHPA" has been set aside as Preserve in the amount of 19,941 acres and 18,304 acres in the MSCP and County Subarea Plans, respectively.

Table 5
HabiTrak Gain within the MSCP Plan Area

Vegetation Community	HabiTrak Gain Inside MHPA Preserve (acres)	HabiTrak Gain Outside MHPA Preserve (acres)	Total Gain
Coastal Sage Scrub	41,849	7,962	49,811
Chaparral	40,970	8,770	49,740
Coastal Sage–Chaparral Scrub	1,277	1,094	2,371

Table 5
HabiTrak Gain within the MSCP Plan Area

Vegetation Community	HabiTrak Gain Inside MHPA Preserve (acres)	HabiTrak Gain Outside MHPA Preserve (acres)	Total Gain
Grassland	5,521	1,683	7,204
Oak Woodland	1,239	432	1,671
Total HabiTrak Gain	**90,856**	**19,941**	**110,797**

Note: Only those acres acquired and dedicated within the Pre-Approved Mitigation Area or a Biological Resource Core Area count toward the Preserve conservation goal. HabiTrak data as of October 2015.

Table 6
HabiTrak Gain within the County Subarea Plan Area

Vegetation Community	HabiTrak Gain Inside MHPA Preserve (acres)	HabiTrak Gain Outside MHPA Preserve (acres)	Total Gain
Coastal Sage Scrub	28,545	7,383	35,928
Chaparral	32,937	8,320	41,257
Coastal Sage–Chaparral Scrub	1,010	1,059	2,069
Grassland	2,066	1,113	3,179
Oak Woodland	1,057	429	1,486
Total HabiTrak Gain	**65,615**	**18,304**	**83,919**

Note: Only those acres acquired and dedicated within the Pre-Approved Mitigation Area or a Biological Resource Core Area count toward the Preserve conservation goal. HabiTrak data as of October 2015.

MSCP Defined Golden Eagle Suitable Habitat – Future Preserve

1. As noted above, the MSCP Plan anticipates that, over the life of the MSCP Plan, 53% of the golden eagle foraging habitat within the MSCP planning area would be placed permanently into the Preserve. The mechanics of this process are fairly straightforward: Each time a landowner applies for permits to develop within the MSCP planning area, that landowner must dedicate a certain amount of property to the Preserve. This way, each new development project contributes to and augments the Preserve, allowing it to increase in size as contemplated, until it ultimately reaches or exceeds the Plan's habitat conservation goals.

2. As indicated above, to meet the MSCP's goal of preserving 53% of golden eagle foraging habitat, an additional 49,274 acres of such habitat must be placed into the MSCP Preserve in the future.

3. The MSCP Preserve is still in the process of being assembled. That is, land is still being added to the MSCP Preserve with each new development within the MSCP planning area. For example, based on the MSCP Preserve boundaries, it is estimated that an additional 64,878 acres of suitable golden eagle habitat is already slated for inclusion in

MSCP Preserve (Table 7). Of those 64,878 acres, 35,356 acres are within the County Subarea Plan area (Table 8). When the owners of this land submit development proposals to the County, those acres of habitat would move automatically into the Preserve.

4. Several of the Take Authorized Areas (identified for future development in the MSCP Plan and County Subarea Plan) located within the County MSCP Subarea Plan area have been converted entirely to MSCP Preserve. These areas include Hidden Valley, Las Montanas, Otay Ranch Village 15, and Daley Ranch. Portions of these areas which provide suitable golden eagle foraging habitat are included in the suitable habitat conserved to date (90,586 acres). All of these projects contribute to additional suitable golden eagle habitat being preserved above and beyond what was originally anticipated in the MSCP Plan.

Table 7
Golden Eagle Habitat within the MSCP Plan – Current and Future Acreages

	Inside MHPA Preserve (acres)			Outside MHPA Preserve (acres)		
Vegetation Community	*Gain to Date*	*Preserve Remaining to Date*	*Total Projected Preserve*	*Gain to Date*	*Habitat Remaining to Date*	*Total Projected Golden Eagle Habitat Outside of Preserve*
Coastal Sage Scrub	41,849	37,916	79,765	7,962	24,015	31,977
Chaparral	40,970	19,445	60,415	8,770	37,886	46,656
Coastal Sage–Chaparral Scrub	1,277	627	1,904	1,094	1,049	2,143
Grassland	5,521	4,939	10,460	1,683	10,784	12,467
Oak Woodland	1,239	1,951	3,190	432	1,898	2,330
Total	**90,856**	**64,878**	**155,734**	**19,941**	**75,632**	**95,573**
Total Potential Golden Eagle Habitat	**155,734**			**95,573**		

Note: Only those acres acquired and dedicated within the Pre-Approved Mitigation Area or a Biological Resource Core Area count toward the Preserve conservation goal. HabiTrak data as of October 2015. Future acreage includes the Proposed Project.

Table 8
Golden Eagle Habitat within the County Subarea Plan – Current and Future Acreages

	Inside MHPA Preserve (acres)			Outside MHPA Preserve (acres)		
Vegetation Community	*Gain to Date*	*Preserve Remaining to Date*	*Total Projected Preserve*	*Gain to Date*	*Habitat Remaining to Date*	*Total Projected Golden Eagle Habitat Outside of Preserve*
Coastal Sage Scrub	28,545	20,817	49,362	7,383	12,496	19,879
Chaparral	32,937	10,555	43,492	8,320	24,920	33,240
Coastal Sage–Chaparral Scrub	1,010	503	1,513	1,059	545	1,604
Grassland	2,066	1,864	3,930	1,113	4,170	5,283

Table 8
Golden Eagle Habitat within the County Subarea Plan – Current and Future Acreages

Vegetation Community	Inside MHPA Preserve (acres)			Outside MHPA Preserve (acres)		
	Gain to Date	*Preserve Remaining to Date*	*Total Projected Preserve*	*Gain to Date*	*Habitat Remaining to Date*	*Total Projected Golden Eagle Habitat Outside of Preserve*
Oak Woodland	1,057	1,617	2,674	429	1,800	2,229
Total	**65,615**	**35,356**	**100,971**	**18,304**	**43,931**	**62,235**
Total Potential Golden Eagle Habitat	**100,971**			**62,235**		

Note: Only those acres acquired and dedicated within the Pre-Approved Mitigation Area or a Biological Resource Core Area count toward the original target Preserve conservation goal. However, habitat gain outside the MHPA planning area represents development converted to MSCP Preserve and can be counted toward total MSCP habitat preserved. HabiTrak data as of October 2015. Future acreage includes the Proctor Valley Village 14 Proposed Project.

Results – MSCP Plan

1. The MSCP Preserve assembled as of October 2015 consists of 90,856 acres of golden eagle foraging habitat. The remaining MSCP Preserve within the original MHPA includes an additional 64,878 acres of golden eagle foraging habitat, resulting in a total of 155,734 acres (59%) of golden eagle foraging habitat preserved in the MPHA (Table 1).
2. Given that the October 2015 MSCP Preserve will add 19,941 acres of golden eagle foraging habitat outside the MHPA, the MSCP Plan is projected to result in 175,675total acres (66%) of Preserve (Table 1).
3. The MSCP Plan is, therefore, projected to exceed the 53% goal of 140,130 acres by approximately 15,600 acres of golden eagle habitat within the original MHPA, and approximately 35,550 acres of golden eagle habitat total (Table 1).

Results – County Subarea Plan

1. The County's Subarea Plan's Preserve assembled to date currently consists of 65,615 acres of golden eagle foraging habitat. The remaining Subarea Plan Preserve within the original MHPA consists of 35,356 acres of golden eagle foraging habitat. When these figures are combined, the MSCP Plan is projected to result in 100,971 acres (59%) of golden eagle foraging habitat preserved in the MPHA (Table 1).
2. The October 2015 MSCP Preserve gains outside the MHPA consist of 18,304 acres of golden eagle foraging habitat. This figure, when added to the existing total, increases the MSCP Plan's projected golden eagle foraging habitat to 119,275 total acres (70%) of Preserve (Table 1).

3. The County's Subarea Plan is, therefore, projected to exceed the 54% goal of 91,107 acres by approximately 9,900 acres of golden eagle habitat within the original MHPA, and more than 28,000 acres of golden eagle habitat total (Table 1).
4. The County's Subarea Plan has contributed more than any other subarea to the Preserve, as evidenced by contributing 65,615 acres of the 90,856 acres preserved to date in the overall MSCP. In addition, the County's Subarea Plan contributes to most of the habitat preserved over and above the 53% MSCP target (Table 1).

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Memorandum

April 27, 2016

To: David Hubbard and Mark Dillon
Dillon, Gatzke & Ballance LLP

From: Jeff Smith, Jeff Zirpoli, Judd Howell, and Scott Terrill

Subject: Otay Ranch Village 14 Land Exchange Golden Eagle Foraging Habitat Assessment

The proposed Otay Ranch Village 14 and Preserve Project (Project) is located in the Proctor Valley portion of the 23,000-acre Otay Ranch master planned community, between Chula Vista and Jamul. As currently proposed, the Project would confine development to an approximately 592-acre footprint in Otay Ranch Village 14, and convert to preserve lands all of the Project applicant's and State of California's approved development land uses in Otay Ranch Planning Areas 16 and 19 (Dudek 2015).

The proposed Project entitlements include a boundary adjustment to the preserve associated with the Multiple Species Conservation Program (MSCP) Plan (County of San Diego 1998) and Otay Ranch Resource Management Plan (City of Chula Vista and County of San Diego 1993, Chula Vista City Council and Planning Commission 1996), which will add 268.5 acres previously approved for development in Village 14 and Planning Areas 16 and 19 to the existing preserve. In addition, prior to, or concurrently with, approval of the entitlements for the Project, the Project applicant and State of California will exchange 278 acres of land located in Otay Ranch Village 14 and 278 acres of land located in Planning Area 16. The intent of the exchange is to enable the State of California to acquire ownership of property in Planning Area 16 that is biologically superior to the acreage currently owned by the State in the Village 14 area. Dudek (2015) previously analyzed the overall biological equivalency of the exchange and boundary adjustment parcels as required by Section 5.4.2 of the MSCP; however, given the recent U.S. Geological Survey focus on golden eagles (*Aquila chrysaetos*) in the Project area, the Project applicant sought to supplement the Dudek analysis with a review of the comparative value of the golden eagle foraging habitat on the exchange parcels. This report addresses that topic by summarizing insight gained from an initial geographic information system (GIS) desktop analysis, followed by ground surveys to verify relevant habitat characteristics and evidence of prey occurrences.

Within the boundaries of the entire Project area, Figure 1 depicts (1) the 278 acres in Planning Area 16 to be given by the Project applicant to the State in the exchange (yellow vertical lines), (2) the 278 acres in the Village 14 area being given by the State to the Project applicant in the exchange (white vertical lines), (3) the boundary

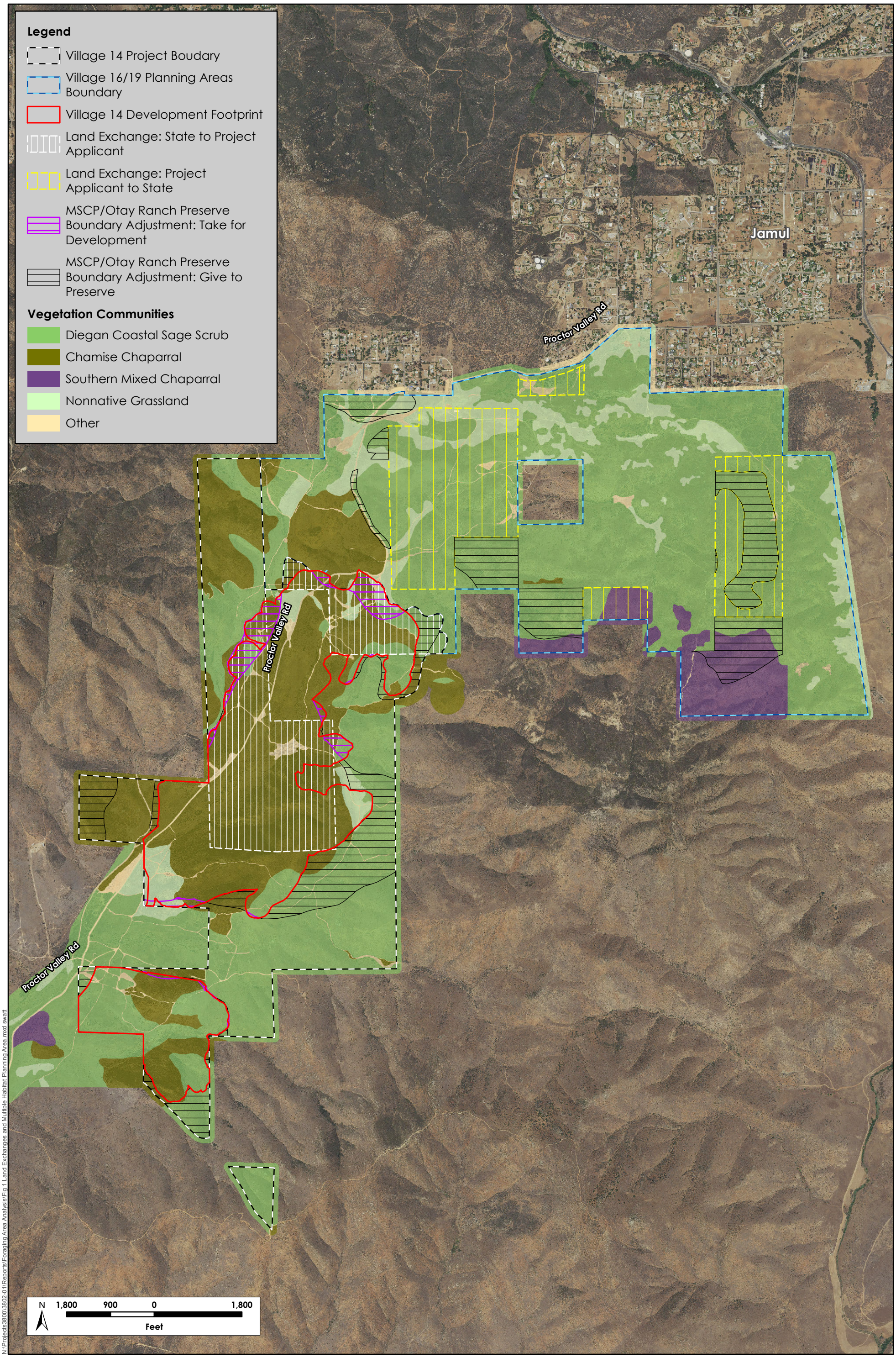

Figure 1. Land Exchange and Multiple Species Conservation Program (MSCP)/Otay Ranch Preserve Boundary Adjustment Proposed as Part of the Otay Ranch Village 14 Project in Relation to the Current Distribution of Primary Vegetation Communities

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adjustment that will result in the net conversion of 268.5 acres of land from approved development to preserve (black horizontal lines showing property to be "given" to the preserve and purple horizontal lines showing the property to be "taken" from the preserve), and (4) the underlying vegetation communities.

The land exchange and boundary adjustment involve primarily Diegan coastal sage scrub and chamise (*Adenostoma fasciculatum*) chaparral vegetation community types, with smaller acreages of southern mixed chaparral, nonnative annual grassland, and miscellaneous landscape areas (Figure 1). Following is a summary of the primary vegetation community exchanges that would occur as a result of the land exchange and boundary adjustment.

1) The land exchange would transfer 278 acres from the Project applicant to the State, comprising 222.4 acres of coastal sage scrub, 34.1 acres of nonnative annual grassland, 13.3 acres of southern mixed chaparral, and 8.2 acres of miscellaneous land in Planning Areas 16 and 19.

2) The land exchange would transfer 278 acres from the State to the Project applicant, comprising 225.0 acres of chamise chaparral, 31.4 acres of coastal sage scrub, 7.6 acres of nonnative annual grassland, and 14 acres of miscellaneous land, all located in Village 14 except for a stretch of existing roadway running north through Planning Areas 16/19.

3) Once the land exchange occurs, the boundary adjustment in Planning Areas 16/19 would result in the Project applicant converting an additional 169.8 acres to preserve, comprising 132.2 acres of coastal sage scrub, 26.8 acres of southern mixed chaparral, 7.4 acres of nonnative annual grassland, and 3.4 acres of miscellaneous land.

4) Once the land exchange occurs, the boundary adjustment in Village 14 would result in the Project applicant converting an additional 142.3 acres to preserve, comprising 95.9 acres of coastal sage scrub, 41.6 acres of chamise chaparral, 2.5 acres of nonnative annual grassland, and 2.3 acres of miscellaneous land.

5) Once the land exchange occurs, the boundary adjustment in Village 14 would result in the Project applicant gaining 43.6 acres for development purposes, comprising 10.6 acres of coastal sage scrub, 26.0 acres of chamise chaparral, 5.4 acres of nonnative annual grassland, and 1.6 acres of miscellaneous land.

The land exchange with the State involves relatively few, mostly larger blocks of land (up to 180–185 acres), whereas the boundary adjustment involves many smaller parcels ranging in size from <1 to 75.5 acres (Figure 1).

Habitat Assessment

The focus of our initial GIS desktop analysis was further qualifying Dudek's (2015) delineation of chamise chaparral based on the relative density of vegetation evident in recent (April 2015) Google Earth imagery, and evaluating other relevant landscape characteristics, such as apparent levels of existing human-caused disturbance and soil characteristics that relate to the potential for occurrence of important eagle prey species. In the Village 14 area, we delineated areas where the extent of dense shrub vegetation appeared incompatible with eagle foraging

(Figure 2). We then conducted ground surveys over a two-day period in March 2016 to verify the vegetation characteristics of these dense shrub areas and, if needed, adjust our initial delineations.

During the field surveys, we also walked transects through representative areas of chamise chaparral, coastal sage scrub, intermixed grass/forb communities, nonnative annual grassland, and southern mixed chaparral to garner first-hand understanding of the characteristics and quality—relative to the potential to support eagle foraging—of landscape areas involved in the proposed land exchange and boundary adjustment. We accomplished this by driving and walking through relevant areas, recording observations, and mapping important habitat variants and characteristics that we observed. We distributed our survey effort to provide representative coverage of relevant land-exchange areas and primary habitat types. Our focus included verifying Google Earth-based impressions of relative vegetation density/condition and existing levels of human-caused habitat disturbance, and assessing the relative prevalence of signs indicating the presence of important eagle prey species. Eagle prey species of primary interest in the Project area were desert cottontail (*Sylvilagus audubonii*), brush rabbit (*Sylvilagus bachmani*), black-tailed jackrabbit (*Lepus californicus*), and California ground squirrel (*Spermophilus beecheyi*) (Hunsicker 1972, Hunt et al. 1999, Kochert et al. 2002, Bittner 2015).

Assessment Results

During the field surveys, we found ostensibly similar evidence (pellet abundance) of lagomorph presence in coastal sage scrub and chamise chaparral, but confirmed a significant difference in the apparent accessibility of those prey species to eagles in the two habitats. Rabbits and hares seek protection from predators by sheltering under shrubs or logs, in rock piles, or in tall grasses, but generally forage in more open areas where nutritious grass/forb vegetation is found (Fitch 1947, Knick and Dyer 1997, Marín et al. 2003). Based on the distribution and abundance of pellets (both old and relatively fresh), the coastal sage scrub and intermixed grasslands in the Planning Area 16/19 exchange and boundary adjustment areas provide sufficient protective shrub cover and forage to accommodate a high abundance of both jackrabbits and the smaller rabbits, with habitat structure that is highly suited to foraging by golden eagles. Conversely, although the level of apparent lagomorph abundance was often comparable to that found in coastal sage scrub and areas of sparse chamise chaparral, we confirmed that our initial delineations effectively represented areas in Village 14 where the chamise and other shrub cover was generally too dense and tall to support eagle foraging (Figure 2). Dense chaparral does not support foraging golden eagles, because the birds cannot maneuver effectively to capture prey in such dense vegetation (Marzluff et al. 1997, Kochert et al. 2002).

The vegetation density and stature may be too great to support eagle foraging within stands of dense chaparral, but it is important to recognize that such stands provide shelter and breeding sites for lagomorphs that periodically forage in and disperse across adjacent open areas where they are accessible to foraging golden eagles. Landscapes that support a patchy mosaic of smaller stands of dense shrubs intermixed with sufficient open grass/forb areas can provide good foraging habitat for eagles. In areas where large patches of dense chaparral predominate, however, the potential for eagle foraging is reduced to limited areas of transitional edge habitat.

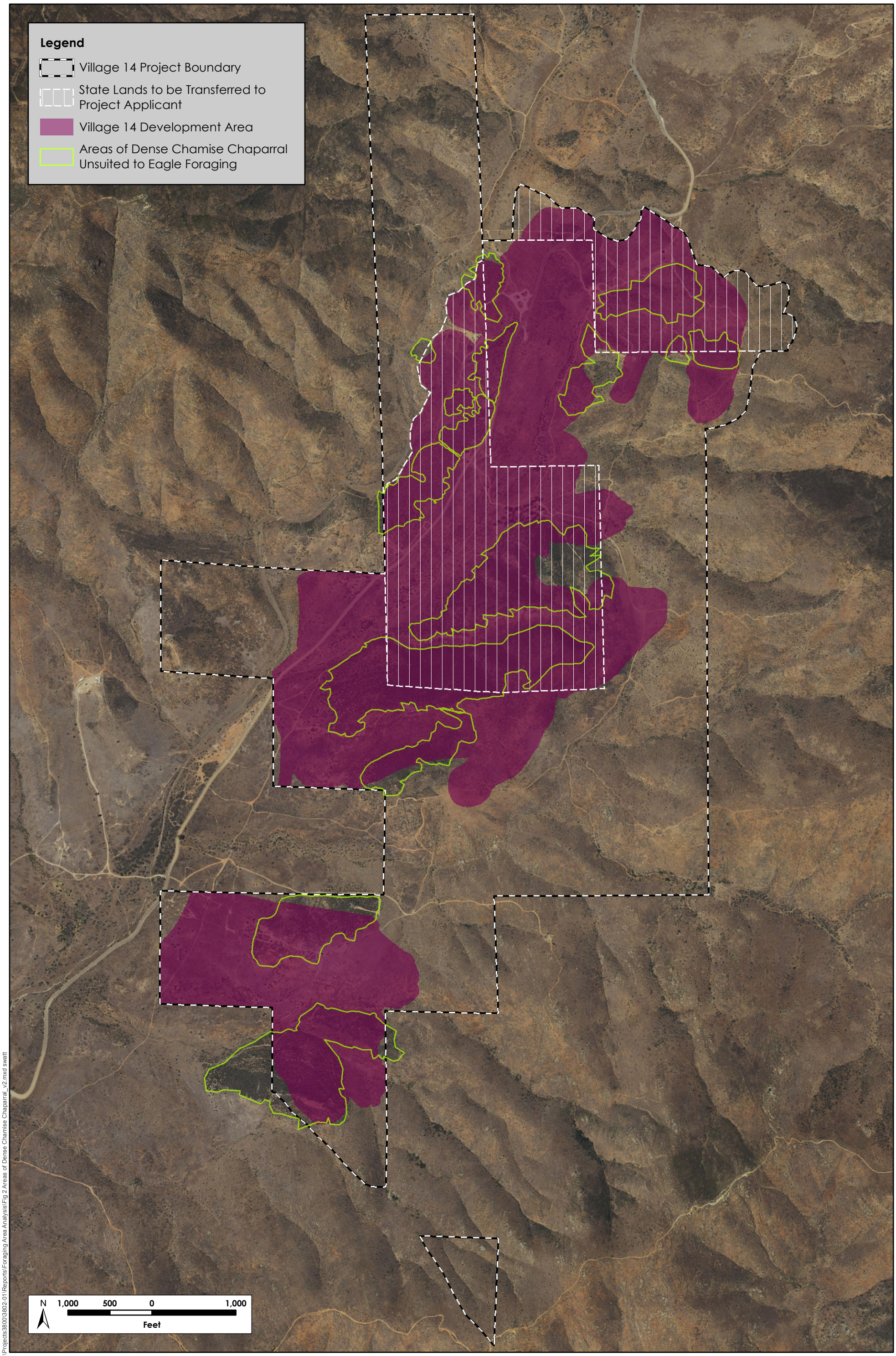

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Figure 2. Areas of Dense Chamise Chaparral in the Proposed Otay Ranch Village 14 Project Area in Relation to the Proposed State Land Exchange

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This circumstance applies to much of the State land that will be transferred to the Project applicant and much of the overall 592-acre Village 14 development footprint (Figure 2). Our assessment indicated that approximately 37% (101.7 acres) of the State land that will be exchanged to become part of the Village 14 development, and approximately 30% (176.2 acres) of the overall 592-acre Village 14 development footprint, consists of dense chamise chaparral or other shrub cover that is not suited to foraging by golden eagles (Figure 2). We do note, however, that the relative density and stature of shrub cover in the various polygons identified in Figure 2 varies, and that especially some of the smaller, less-dense patches in the northern portion of the development area could support occasional eagle foraging attempts.

In comparison, the land in Planning Areas 16/19 that will be transferred to the State or converted to preserve comprises primarily the more ideal—from an eagle foraging perspective—coastal sage scrub configuration consisting of mosaics of diverse shrubs distributed sparsely and in smaller stands and broadly intermixed with patches of open grass/forb communities. Approximately 38 acres of the land that will be transferred to the State or converted to preserve is classified as southern mixed chaparral (Figure 1); however, the ~13-acre patch that will be transferred to the State actually consists of relatively open shrub cover more characteristic of coastal sage scrub, and only about one third of the ~25-acre patch classified as southern mixed chaparral that will be transferred to preserve comprises dense chaparral unsuited to foraging by golden eagles.

The Planning Area 16/19 lands to be exchanged to the State and converted to preserve also include patches of nonnative annual grassland in the northwestern sector (Figure 1). During the field surveys, we observed relatively more prey sign in shrub habitats, including patches of southern mixed chaparral, than in nonnative annual grassland. This impression was probably misleading, however, because it was much more difficult to detect scat in the lush growth of tall, thick grasses that resulted from the preceding, unusually wet winter. Moreover, the dense, tall shrubs characteristic of southern mixed chaparral effectively preclude golden eagle foraging, whereas the grasslands provide suitably open foraging habitat for eagles and support another important prey species, the California ground squirrel. During our surveys, we detected ground squirrels only in grazed areas classified as nonnative annual grassland. A few acres of State land classified as nonnative annual grassland will be transferred to the Project applicant in the Village 14 area; however, in exchange the State will receive more than three times as much acreage in Planning Area 16 that will contribute to preserving several larger contiguous patches of grassland (Figure 1). By maintaining the contiguity of these larger grassland patches, the proposed land exchange and boundary adjustment will further enhance the value of the preserve for golden eagles and other grassland-dependent species.

The coastal sage scrub and grassland areas in Planning Areas 16/19 proposed for transfer to the State and preserve, as well as the additional foothill coastal sage scrub areas in Village 14 that will be newly dedicated to preserve, also feature soils that are more compatible with occurrence of burrowing California ground squirrels. Ongoing research in San Diego County, as well as insight from other work in the species' range, indicates that California ground squirrels prefer to burrow in sandy soils with higher bulk density and less silt, clay, and gravel (Lenihan 2007, Wisinski et al. 2013). Most of the proposed Village 14 development area is underlain with soils classified as *Olivenhain cobbly loam* and *San Miguel Exchequer rocky silt loam*, which are not compatible with ground squirrel burrowing, because they contain a relatively high clay content and are very cobbly, as opposed to sandy,

in nature (Natural Resources Conservation Service 2015). In contrast, the coastal sage scrub and annual grassland habitats to be transferred to the State in Planning Areas 16/19, and that will be newly allocated to the preserve in Village 14, are underlain primarily by soils such as *Friant rocky fine sandy loam* and *Placentia sandy loam* (Natural Resources Conservation Service 2015), which provide the sandier soils that the squirrels prefer for burrowing.

Although some of the land to be transferred to the State in Planning Area 16 has been degraded by OHV and other recreational activity, similar levels of disturbance are evident in areas that the State will transfer to the Project applicant in the Village 14 area. Furthermore, no public roads currently traverse Planning Areas 16/19 and implementation of MSCP/Otay Ranch preserve management provisions is expected to restore and maintain the landscape as a productive area for eagles and their prey.

The primary land exchange will also benefit golden eagles by consolidating a large contiguous patch of undeveloped, preserve habitat in Planning Areas 16/19 that will maintain at least a ¾-mile-wide open-space corridor between Village 14 and the existing Echo Valley residential area near Jamul to the north (Figure 3). Preserving this open corridor will be important for maintaining connectivity for eagles between the San Miguel Mountain/San Diego National Wildlife Refuge historic nesting area and the Jamul Mountains potential nesting area in the midst of the core Otay Ranch Preserve. Although eagles may occasionally fly over the new Village 14 development, they will more likely avoid the development and seek undeveloped habitat to move through. Furthermore, it is unlikely that the undeveloped area expected to remain around San Miguel Mountain, consisting primarily of federal land managed as part of San Diego National Wildlife Refuge, by itself will constitute a sufficient area to support reestablishment of a breeding territory centered on this previously occupied nesting area (last confirmed successful nesting in 2004; last occupied by an adult pair in 2007, when the previous natural nest burned and its supportive ledge collapsed; no confirmed nesting to date despite a new artificial platform being installed in 2014; Martin and Terp 2014, U.S. Fish and Wildlife Service et al. 2012). If limited to this area, the eagle pair's home range would be constrained to approximately 15 square miles, whereas home ranges in western San Diego County are thought to more typically encompass 20–50 square miles (Dixon 1937) and home ranges can be much larger (>100 square miles) in desert areas farther east in the County (e.g., see Katzner et al. 2012).

Discussion and Conclusions

Our assessment indicated that the land exchange represents a benefit to golden eagles, because of the relative habitat quality involved and expected benefits from reducing fragmentation of the undeveloped landscape. Diegan coastal sage scrub and moderately grazed, nonnative annual grassland are the highest value foraging habitats for golden eagles in the Project area, because they provide optimal habitat for a variety of favored prey species and have structural characteristics that are suited to foraging by golden eagles. Although it may harbor relatively high abundances of lagomorph prey, dense chaparral does not support foraging golden eagles because the birds cannot maneuver effectively to capture prey in such dense vegetation. In contrast, relatively open coastal sage scrub, areas of sparse chamise chaparral, and areas where smaller patches of dense shrubs are broadly intermixed with open grass/forb or low-shrub areas represent ideal foraging habitat for golden eagles. The latter areas combine sufficient shrub cover needed to shelter prey species with open grass/forb areas that provide both

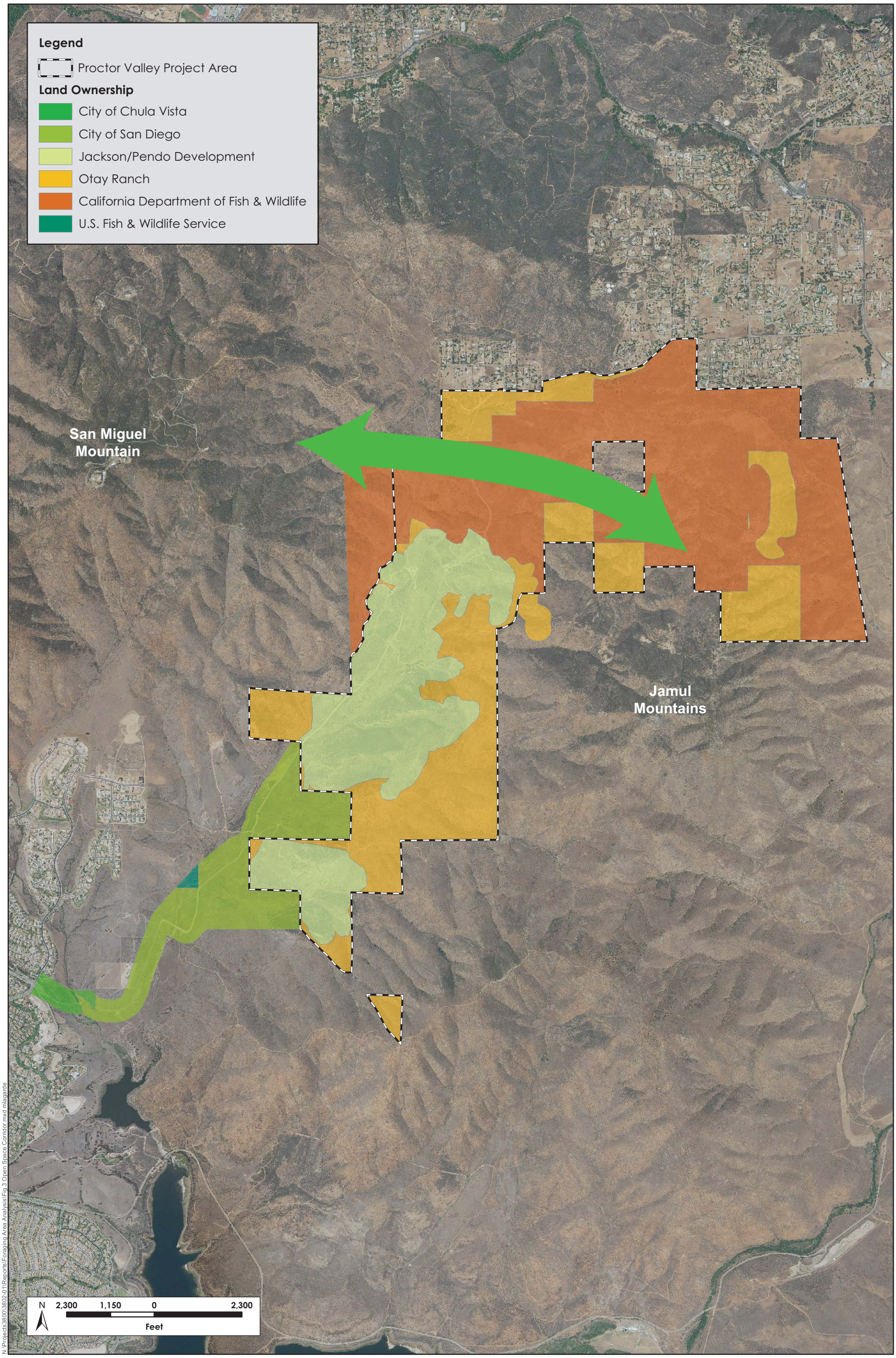

Figure 3. Illustration of the Open Space Corridor that the Proposed Otay Ranch Village 14 and State Land Exchange Would Maintain and Could Serve as an Important Movement Corridor for Golden Eagles

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nutritious foraging areas for prey species and accessible foraging areas for golden eagles. Open grasslands also provide foraging areas for golden eagles by supporting jackrabbits in tall-grass areas and ground squirrel colonies in areas where livestock grazing maintains lower-stature grasses.

The State will receive primarily coastal sage scrub habitat, as well as notable patches of nonnative annual grassland, in Planning Areas 16/19 (Figure 1), which will augment the MSCP/Otay Ranch preserve in this area with additions favorable to foraging golden eagles. Many of the smaller boundary-adjustment patches will also fill in gaps or be contiguous with coastal sage scrub habitat, thereby further helping to preserve larger patches of relatively high-quality foraging habitat for golden eagles in both Village 14 and Planning Areas 16/19 (Figure 1). Virtually all of the land in Planning Areas 16/19 to be gained by the State is potential eagle foraging habitat, consisting of sparsely and patchily distributed shrubs, which provide necessary cover for rabbits and hares, intermixed with relatively extensive patches of open grass/forb communities, which provide necessary foraging habitat for rabbits and hares in areas that are readily accessible to foraging golden eagles. The sparse and patchy distribution of shrubs intermixed with open grass/forb areas and adjacent patches of grassland in Planning Areas 16/19 also support a more diverse mix of favored prey than the extensive chamise chaparral habitats found in the Village 14 area.

In exchange, the land areas proposed for transfer from the State to the Project applicant to become part of the Village 14 development support mostly chamise chaparral, including sizeable expanses of dense chaparral, which is less favorable foraging habitat for golden eagles because of the taller and denser vegetation. In addition, much of the relatively open habitat in the Village 14 exchange area is only marginally suited to foraging eagles because of proximity to Proctor Valley Road (although animals killed by vehicles can be an attractant for scavenging eagles).

In summary, by all measures of interest, the land exchange with the State and MSCP/Otay Ranch preserve boundary adjustment proposed as part of the Project appear to represent a favorable scenario for golden eagles that may forage in Proctor Valley and may choose to nest again on San Miguel Mountain or in the Jamul Mountains. The land exchange and boundary adjustment will:

- preserve more coastal sage scrub and annual grassland habitat underlain with favorable sandy soils (rather than the predominantly dense chamise chaparral underlain with rocky soils within the State property being transferred to the Project applicant), which in combination translates to both more habitat for key prey species and more accessible foraging habitat for golden eagles;

- consolidate the development to reduce habitat fragmentation and preserve foraging habitat in an area that is not bisected by a primary-circulation public roadway and in which managing the adverse influence of human recreational activity, especially motorized activity, is likely to be more efficacious; and,

- consolidate the development in a manner that maintains a relatively broad open-space corridor to facilitate eagle movement between the San Miguel Mountain and Jamul Mountains areas.

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H. T. HARVEY & ASSOCIATES
Ecological Consultants

Memorandum

March 13, 2017

To: **David Hubbard**
Gatzke, Dillon & Ballance LLP

From: **Jeff Smith, Judd Howell, and Scott Terrill**

Subject: **Responses to Questions Posed by the County of San Diego Regarding the Otay Ranch Village 14 and Planning Areas 16/19 Project Golden Eagle Assessment**

The proposed Otay Ranch Village 14 and Planning Areas 16/19 Project (Project) encompasses 1,370.7 acres, including 86.9 acres of offsite improvement areas where Project-related development disturbance will occur. Of this total, 809.8 acres is proposed for development, including permanent and temporary impacts, offsite improvements, and roadways, utility corridors, and fuel management zones in what will otherwise remain open space. Conversely, at least 407.2 acres and potentially as much as 476.5 acres will be conserved as part of the overall MSCP/Otay Ranch Preserve, and an additional 84.3 acres will be designated as Limited Development Areas that will remain as open space. As defined in the MSCP, 97% of the Project landscape constitutes potential golden eagle foraging habitat, comprising Diegan coastal sage scrub, chaparral, and annual grassland habitats; however, approximately 11% of the proposed development area is not suited to eagle foraging because the chaparral is too dense.

Following are responses to specific questions posed by the County of San Diego about the Project and its potential to affect golden eagles. Note that we also inserted some additional questions and answers to provide comparable representation of the second artificial nest platform installed by the USFWS and BLM in 2013, which is located in the east-central Jamul Mountains.

1. **Confirm the distance between the former San Miguel Mountain nest site and the Project development boundary.**

   We do not have precise information concerning the locations of the historic nest sites used by golden eagles on San Miguel Mountain, none of which still exist in other than perhaps a decrepit remnant form. We do know, however, that there were three nests located in the same general vicinity as the artificial nest platform that the USFWS installed on the southeast flank of San Miguel Mountain in 2013 (D. Bittner personal communication, March 2017). The most recently used (2004) nest was located on another outcrop just below the artificial platform. This nest burned and the rock ledge it was on collapsed in the 2007 Harris. A second nest was located within 100 meters or less of the primary nest in the same general expanse of jumbled rocky outcrops. A third nest was located across the canyon to the southeast in another rocky outcrop area. These

nests either disappeared previously or were also burned in the Harris fire. Coarse measurements based on best-guess approximations of these historic nest locations places them within 3,065–3,541 feet from the nearest Project impact boundary (i.e., the nearest point where Project development will result in at least temporary human disturbance). Figure 1 illustrates the zone of overlap where development impacts would occur within 4,000 feet of the estimated locations of these three historic San Miguel Mountain eagle nests.

2. **Confirm the distance between the former San Miguel Mountain nest site and the nearest proposed "human disturbance" as shown in the Project site plan.**

   As framed, the answer to this question is the same as for Question 1, in that we equate "project development boundary" with "nearest proposed human disturbance."

3. **Confirm that the San Miguel Mountain nest site platform was destroyed and has not been rebuilt or reestablished.**

   The natural nest that was last used (in 2004) by golden eagles in the San Miguel Mountain breeding territory was burned in the 2007 Harris fire, and at that time the rock ledge the nest was on also fractured and collapsed. The former eagle pair remained on territory but initiated no breeding attempts from 2005–2007, and then abandoned the territory after the fall 2007 fire. No former nests still exist, other than as perhaps decrepit remnants, and no new eagle nests have been built in this former nesting area, including on the artificial nest platform the USFWS installed in the area.

4. **Confirm that the San Miguel Mountain nest site meets the criteria of an "abandoned" or "inactive" nest.**

   There is no formal definition for what constitutes an "abandoned" golden eagle breeding territory (which may include several alternative nest sites—the historic case over the years in the San Miguel Mountain territory), but confirmation that no breeding-age pair of eagles has occupied a former breeding territory for 4 years or more is generally a strong indicator that the territory has been abandoned. The evidence at hand suggests that the former San Miguel breeding territory has not been occupied by a breeding pair of eagles since 2007. No known breeding attempt (meaning eggs were laid) has occurred on San Miguel Mountain since 2004 and all former nests either no longer exist or remain as at most decrepit, burned remnants; therefore, the need to distinguish between active or used (contains eggs or young) and inactive or unused (not used during the current breeding season) nests is moot.

5. **Confirm the distance between the USFWS artificial nesting platform on San Miguel Mountain and the nearest Project development boundary.**

   ~3,666 feet. Figure 2 illustrates the zone of overlap where development impacts would occur within 4,000 feet of the artificial nest platform on San Miguel Mountain.

6. **Confirm the distance between the USFWS artificial nesting platform on San Miguel Mountain and the nearest proposed "human disturbance" as shown in the Project site plan.**

   As framed, the answer to this question is the same as for Question 5, in that we equate "project development boundary" with "nearest proposed human disturbance."

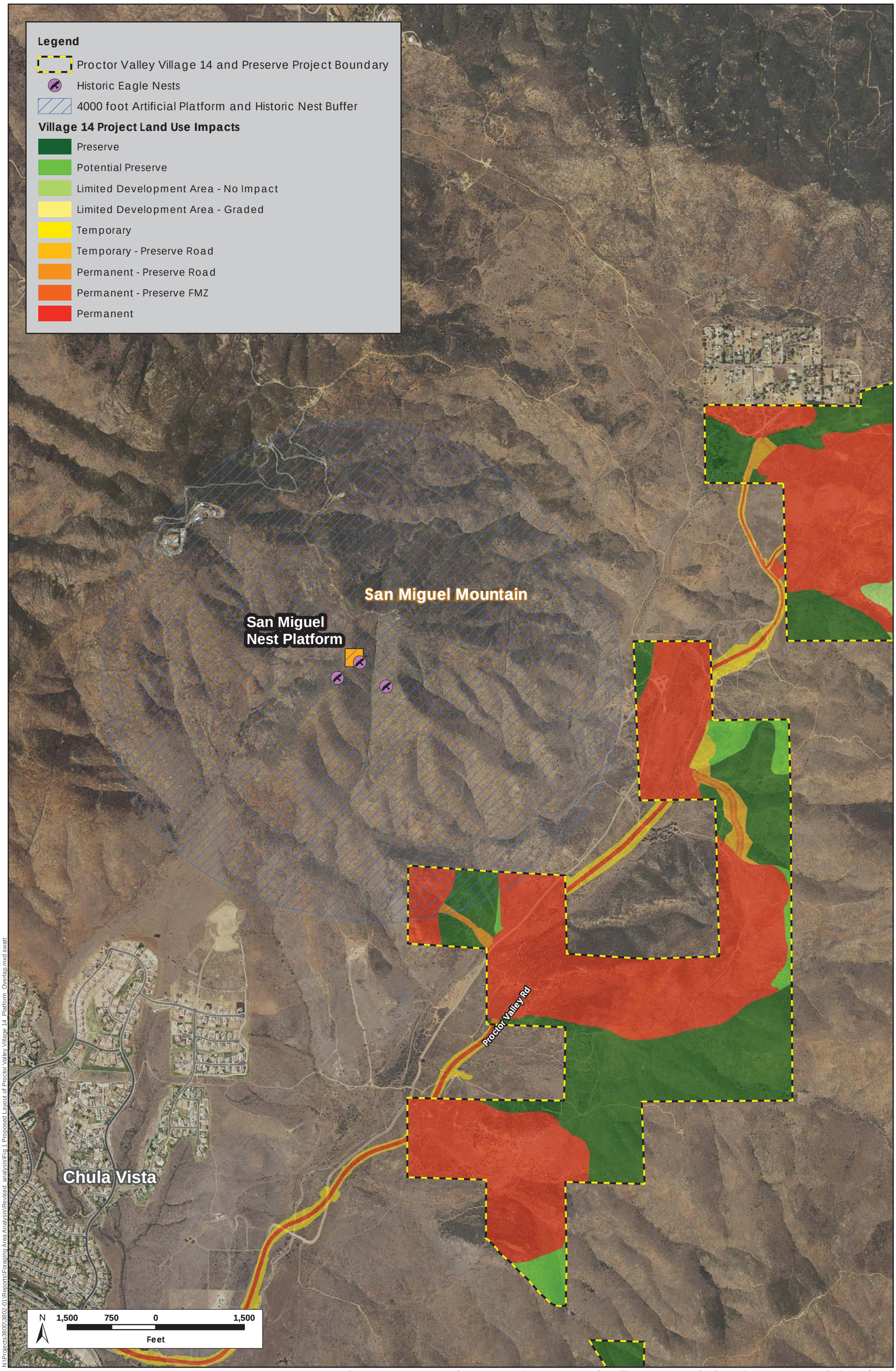

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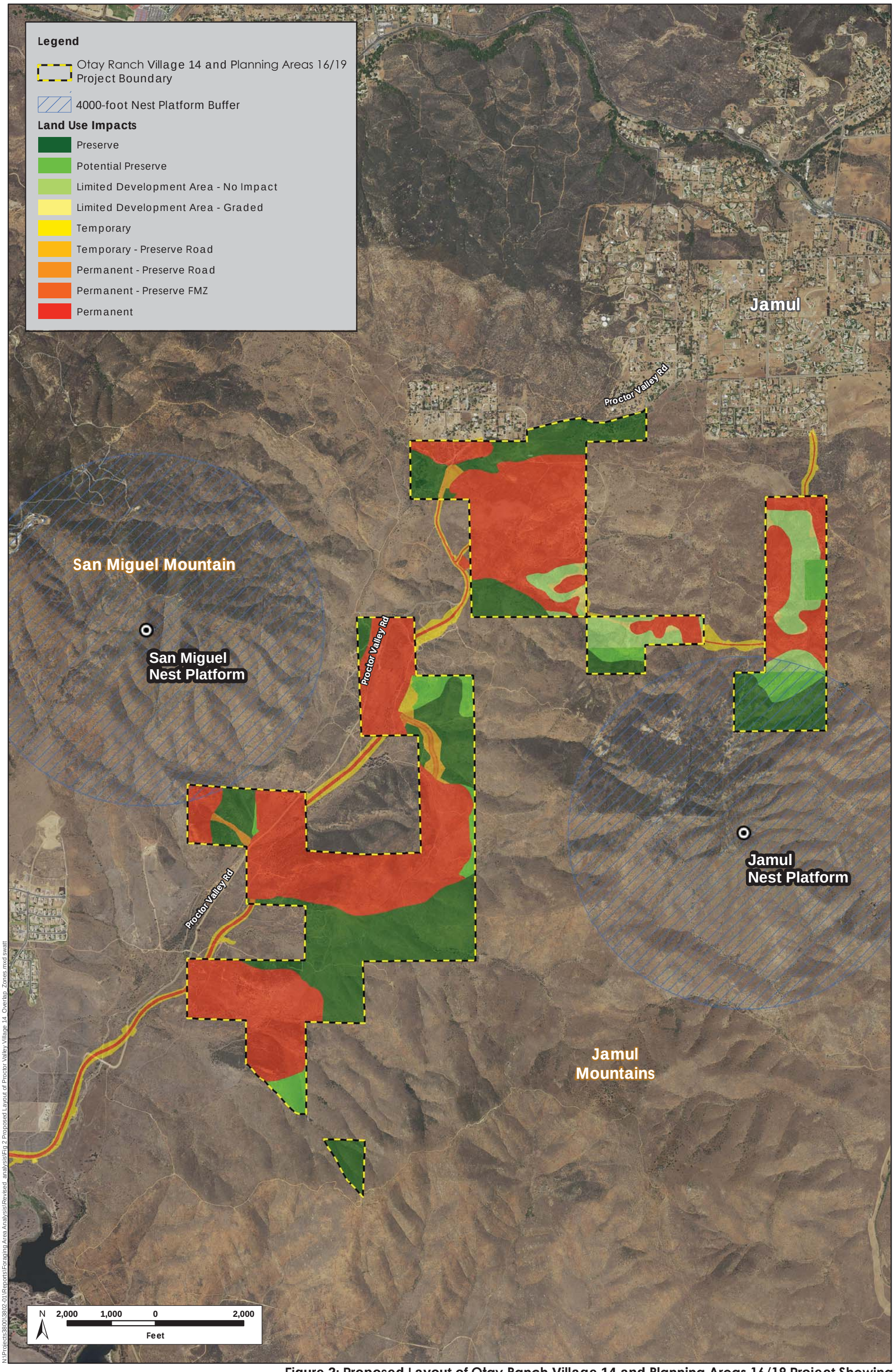
Figure 1. Proposed Layout of Otay Ranch Village 14 and Planning Areas 16/19 Project Showing Development Overlap Zone Within 4,000 Feet of Artificial Nest Platform and Historic Eagle Nests on San Miguel Mountain

Otay Ranch Village 14 Revised Golden Eagle Foraging Area Analysis (3802-01)
March 2017



N:\Projects3800\3802-01\Reports\Foraging Area Analysis\Revised analysis\Fig 2 Proposed Layout of Proctor Valley Village 14 Overlap Zones.mxd swatt

Figure 2: Proposed Layout of Otay Ranch Village 14 and Planning Areas 16/19 Project Showing Development Overlap Zones Within 4,000 Feet of Two Artificial Nesting Platforms Installed in 2013

Otay Ranch Village 14 Revised Golden Eagle Foraging Area Analysis (3802-01)

March 2017

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7. **Confirm that no golden eagles have established a nest at the USFWS artificial platform on San Miguel Mountain.**

   No golden eagle nest has been constructed on the San Miguel artificial nest platform. This has been confirmed both by H.T. Harvey & Associates visual observations during the 2016 and 2017 breeding seasons, as well as by an absence of eagle activity documented by the USFWS trail camera that is focused on the platform (J. Martin personal communication, March 2017).

8. **Confirm the distance between the USFWS/BLM artificial nesting platform in the Jamul Mountains and the nearest Project Development boundary.**

   ~3,916 feet. Figure 2 illustrates the zone of overlap where development impacts would occur within 4,000 feet of the artificial nest platform in the Jamul Mountains.

9. **Confirm that no golden eagles have established a nest at the USFWS/BLM artificial platform in the Jamul Mountains.**

   No golden eagle nest has been constructed on the Jamul Mountains platform. This has been confirmed both by H.T. Harvey visual observations during the 2016 and 2017 breeding seasons, as well as by an absence of eagle activity documented by the USFWS trail camera that is focused on the platform (J. Martin personal communication, March 2017).

10. **Confirm the distance between the next nearest active nest and the Project development boundary.**

    Based on available data summarized in the USFWS 2012 MSCP Status Report, the nearest known recently active (2011) golden eagle nest is located ~5.4 miles to the south in the Cedar Canyon area near Otay Mountain. We do not currently have access to any more recent data about golden eagle nesting activity in outlying areas, but closer nesting activity has not been publically documented for more than a decade and no other golden eagle breeding territories besides San Miguel Mountain have ever contained known nests located closer than 4–5 miles from the proposed Project.

11. **Confirm that there are no active nests within 4,000 feet of the Project development boundary.**

    Currently, there are no extant golden eagle nests (except perhaps decrepit remnants) within 4,000 feet of the Project development boundary, nor anywhere close to that distance from the Project site.

12. **Confirm that there are no suitable nesting platforms within 4,000 feet of the Project development boundary.**

    No, this is not correct. There are potentially suitable nest substrates in several areas within 4,000 feet of the Project development boundary. Most such substrates are rock outcrops located in the same general area as the San Miguel Mountain artificial nest platform and historic natural nest sites, in the area of the Jamul Mountains artificial nest platform, and along the ridge that runs east to west to the northeast of Jamul. Other possibilities include utility towers along the Jamul Transmission Line that crosses the Project landscape, and a few other marginal possibilities in various areas involving isolated rock outcrops and oak trees. Golden eagles also could conceivably nest in some of the relatively large eucalyptus trees located around upper Otay

Lake and in Proctor Valley; however, these possibilities are unlikely because of the landscape setting and existing proximity of human activity.

13. **Provide an opinion as to whether the golden eagles observed foraging on the Project site are defending a breeding territory or merely foraging within their home range.**

    Based on the periodic 2-day surveys we conducted during the 2016 and 2017 breeding seasons, we have recorded no evidence of definitive territorial activity in the San Miguel Mountain, Jamul Mountains, or Proctor Valley areas. The few eagles that we have observed in the area, as well as the USGS tracking data, confirm that transient subadult and adult eagles occur in the area at least seasonally and periodically. In addition, the initial USGS data suggested that the overall foraging home ranges of eagles nesting in Cedar Canyon at least temporarily encompassed the Jamul Mountains and Proctor Valley areas. Further, our two recent sightings of an adult eagle in the Jamul Mountains, with the March occurrence definitely involving a non-telemetered eagle, suggest the possibility that a floater adult may have taken up residence in the Jamul Mountains in 2017. Again, however, we have witnessed no signs of territorial displays, other overt territorial behavior, or any eagle nesting activity in the area during the past two breeding seasons.

14. **Provide an opinion as to whether the proposed Project would result in lethal take of any golden eagle.**

    The Project would not disturb any eagle breeding activity and the resulting loss of peripheral foraging habitat would be insubstantial for the currently known and established breeders in the MSCP planning area. Therefore, the potential for breeding disturbance and habitat loss to result in lethal take within the area breeding population is essentially nonexistent. Similarly, the potential for the loss of 810 acres of foraging habitat to result in lethal take of any local floater (nonbreeding adults), transient, or seasonally resident eagles that forage in the Project area also is vanishingly small, because such birds would still have broad access to other areas of high quality foraging habitat within the Preserve (i.e., it is highly unlikely that such a bird would starve to death because the Project is developed).

15. **Provide an opinion as to whether the proposed Project would result in human disturbance of any active golden eagle nest.**

    There is currently no potential for such disturbance to occur, because the closest known recently active nest is more than 5 miles away.

16. **Provide an opinion as to whether the proposed Project would place human disturbances within 4,000 feet of any active golden eagle nest.**

    There is currently no potential for such disturbance to occur, because the closest known recently active nest is more than 5 miles away.

17. **Provide an opinion as to whether the MSCP preserve, as augmented by the acreage conveyed by the proposed Project, provides adequate forage to sustain the golden eagles that currently include the Project site within their home range.**

Based on the available and accessible evidence, it is not clear that any individual eagles currently rely on the Project area as foraging habitat consistently or perennially. Although the initial USGS tracking data suggested that the overall home range of the former Cedar Canyon breeding pair included Proctor Valley and the Jamul Mountains, that female died and our recent observations revealed a non-telemetered adult in the area. Access to more recent USGS tracking data may help clarify the current situation; however, those data are not publically available. Regardless, given that Proctor Valley does not currently overlap any pair's core breeding territory and the closest known recently active nests are more than 5 miles away, if a pair nesting in the San Ysidro Mountains routinely forages in Proctor Valley, the loss of even a few thousand acres of foraging habitat (the Project development footprint is approximately 810 acres and, by the MSCP definition, 97% of this area constitutes golden eagle foraging habitat) in a peripheral portion of that pair's overall home range would not exceed the 20% threshold of foraging area loss identified as significant in the MSCP. Moreover, such a pair would continue to have ready access to large acreages of suitable foraging habitat within the MSCP Preserve in the Jamul Mountains, the foothills of Proctor Valley, possibly around San Miguel Mountain, and in the large expanse of Preserve habitat located between the Jamul Mountains and San Ysidro Mountains. Therefore, developing the Project would not significantly compromise the ability of any current breeding pairs to sustain themselves.

18. **Confirm your earlier opinion that the USGS data, while interesting for purposes of studying golden eagle behavior over the long-term, is incomplete and includes no analytical component, making it of marginal use in a project-specific impact assessment.**

    A robust assessment of eagle usage patterns and the importance of the Project site to tagged eagles would require a much more detailed evaluation of the gathered data than is possible based solely on the coarse-scale summary maps—with no interpretation—presented in the initial 2016 USGS report. Most importantly, discerning whether usage of the Project area by tagged adults that appear to be year-round residents is consistent throughout the year or seasonally variable, and using available analytical techniques to effectively portray the relative density of usage in different areas, are critical missing ingredients that would be required to use the data for assessing the relative importance of the Project area to resident breeders.

19. **Confirm your earlier opinion that the project site's golden eagle habitat is sub-optimal due to density of chaparral and loamy/cobbly soils.**

    This statement applies ONLY to the Otay Ranch Village 14 portion of the proposed Project development area in the central portion of Proctor Valley. Planning Areas 16 and 19 contain greater proportions and extents of high-quality coastal sage scrub and annual grassland habitat. There is definitely foraging habitat for golden eagles in the Village 14 area of central Proctor Valley, which in some areas is relatively high quality. However, a substantial portion of the habitat in the vicinity of the Village 14 development area is not golden eagle foraging habitat because the chaparral is too dense. In addition, because of the soil characteristics, most of the bottomland portions of central Proctor Valley where much of the development will occur is not well suited to ground squirrels compared to other neighboring foothill areas (as well as the grazed grassland and coastal scrub habitats located primarily in Planning Area 16). This does not mean that there are no foraging opportunities for eagles in these areas, but it limits the potential diversity of prey compared to other foothill areas that will be preserved.

H. T. HARVEY & ASSOCIATES
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Technical Memorandum

May 23, 2017

To: David Hubbard
Dillon, Gatzke & Ballance LLP

From: Jeff Smith, Jeff Zirpoli, Judd Howell, and Scott Terrill

Subject: Otay Ranch Village 14 Golden Eagle Nest Surveys 2016–2017

This report summarizes the results of surveys for golden eagle (*Aquila chrysaetos*) nests and breeding/territorial activity conducted in the vicinity of the proposed Otay Ranch Village 14 and Planning Areas 16/19 residential development project (Project—including development and preserve areas; Figure 1) in San Diego County during the 2016 and 2017 breeding seasons. The Project encompasses approximately 1,370.7 acres, of which 809.8 acres is proposed for development, including permanent and temporary impacts, offsite improvements, and roadways, utility corridors, and fuel management zones in what will otherwise remain open space. Of the remainder, at least 407.2 acres and potentially as much as 476.5 acres will become part of the Otay Ranch Preserve, which is described in the Multiple Species Conservation Plan (MSCP) adopted to help manage the impacts of large-scale residential development in western San Diego County (County of San Diego 1998). An additional 84.3 acres will be designated as Limited Development Areas that will remain as open space.

The MSCP and standard guidelines for evaluating project impacts promulgated by the County of San Diego stipulate that development be restricted within 4,000 feet of "active" golden eagle nests[1] (County of San Diego

[1] The term "active" is not defined in either referenced document and variable, often conflicting definitions have been applied to this term in describing and managing impacts to raptor nests, depending on the regulatory/management and temporal context (e.g., see Steenhof and Newton 2007; U.S. Fish and Wildlife Service 2009, 2013, 2016). Steenhof and Newton (2007) discourage continued use of the term because of this confusing history. Historically and most commonly, the term "active" has been used to describe nests that contain eggs or young (Postupalsky 1974). However, established golden eagle breeding pairs show high fidelity to their breeding territory, may occupy a territory for 20 years or more, typically maintain and variably use multiple alternative nests (which may be separated by substantial distances, depending on the density of breeding pairs, availability of nest substrates, and overall home range size), and often do not lay eggs every year (Kochert et al. 2002, Watson 2010). Therefore, where previously used nests are known to exist, the absence of eggs or young during a given breeding season does not confirm an unoccupied breeding territory nor the absence of an "active" breeding pair, only that no breeding attempt occurred that year (U.S. Fish and Wildlife Service 2009, 2013). For these reasons and for the purpose of maintaining no-development buffers to protect nesting eagles, the classification of golden eagle nests as "active" or "inactive" should reflect a multi-year assessment that accounts for the possibility of intermittent nesting, use of multiple alternative nests across years, and potential reuse intervals of 10 years or more for individual nests that persevere within occupied territories (Kochert and Steenhof 2012). In addition, breeding territories typically should not be considered abandoned unless rigorous annual monitoring confirms the absence of a breeding pair for at least several years (U.S. Fish and Wildlife Service et al. 2012).