

Appendix N

*Biological Technical Report for: Irvine Wildlife Corridor
Relocation*

Appendices

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Biological Technical Report
For:
Irvine Wildlife Corridor Relocation
Heritage Fields
2012 General Plan Amendment and Zone Change

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INTRODUCTION AND DESCRIPTION OF RELOCATED WILDLIFE CORRIDOR FEATURE

Construction of the Irvine Wildlife Corridor (Approved or Relocated) is not the result of any environmental mitigation, necessary or required to offset other impacts; rather, it is a design feature of the Orange County Great Park development and will provide for wildlife movement functions. The 2012 Modified Project proposes to relocate Segments 2 and 3 of the Approved Wildlife Corridor Feature ("Relocated Wildlife Corridor Feature") to a location adjacent to Borrego Canyon Channel within Districts 5 and 6, as shown on Figure 1. The 132 acres of the Approved Wildlife Corridor Feature proposed to be relocated will be zoned 1.4 Preservation in their new location. The Relocated Wildlife Corridor Feature would range in width from approximately 500 to 1,000 feet with an average width of more than 600 feet. Road and/or trail crossings between Irvine Boulevard and the Southern California Regional Rail Authority ("SCRRA") rail tracks may occur within the Relocated Wildlife Corridor Feature.

A Biologist from Glenn Lukos Associates (GLA) conducted biological surveys within the area proposed for the Relocated Wildlife Corridor Feature, as described above and shown in Figure 1, to evaluate potential impacts associated with construction of these segments of the Relocated Wildlife Corridor Feature. This report examines whether the construction of the Relocated Wildlife Corridor Feature would result in significant impacts to biological resources that were not previously discussed or that are substantially more severe than were previously discussed in the 2011 Certified EIR or whether new mitigation measures or alternatives previously deemed infeasible in the 2011 Certified EIR or different mitigation measures or alternatives would reduce significant project impacts.

METHODOLOGY

The area subject to potential impacts resulting from construction of the proposed Relocated Wildlife Corridor Feature as shown in Figure 1 ("Site") was evaluated for potential and observed biological resources. The Site visit was conducted on May 14, 2012 during which time all vegetation types within the proposed Relocated Wildlife Corridor Feature footprint, and in the area extending an additional 100 feet to the west, were examined (in some cases by binoculars), characterized by type (e.g., non-native grassland and ruderal areas) and mapped (depicted in Figure 2). Large trees within the proposed Relocated Wildlife Corridor Feature footprint and in the area extending 100 feet to the west were examined for the presence of raptor nests. These impacts were compared to effects with the prior alignment/location of Segments 2 and 3 already approved by the City of Irvine and previously analyzed in the 2011 Certified EIR.

OBSERVATIONS

The area to be affected by construction of the relocated Segment 2 of the Approved Wildlife Corridor Feature, i.e., between Irvine Boulevard and the point where the Approved Wildlife Corridor Feature crosses the concrete-lined Borrego Channel, and the relocated Segment 3, which begins at Borrego Wash and terminates at the SCRRA railroad tracks, currently consists

of a mosaic of land cover types dominated by non-native species including non-native grassland, ruderal, non-native grassland/ruderal, agriculture, and non-native grassland/ornamental tree savannah.

Agriculture

Agricultural areas account for approximately 28 acres of the Site and are currently limited to areas southeast of the Borrego Channel and are used to grow row crops such as strawberries.

Non-Native Grassland

Areas of non-native grassland cover approximately 25 acres of the Site and are dominated by grasses of Mediterranean origin including Mediterranean grass (*Hordeum murinum* ssp. *Leporinum*), ripgut (*Bromus diandrus*), slender wild oats (*Avena barbata*), golden top (*Lamarkia aurea*). While the non-native grasses are dominant, the non-native grasslands exhibit a diversity of non-native forbs including red-stemmed filaree (*Erodium cicutarium*), long-billed filaree (*Erodium botrys*), Spanish clover (*Lotus purshianus*), Crete weed (*Hedynopnois cretica*), and lambs quarters (*Chenopodium album*).

Ruderal

Ruderal areas cover approximately 19 acres of the Site and are dominated by a variety of forbs including summer mustard (*Hirschfeldia incana*), tocalote (*Centaurea melitensis*), cheeseweed (*Malva parviflora*), prickly lettuce (*Lactuca serriola*), yellow sweet clover (*Melilotus indica*), poison hemlock (*Conium maculatum*), yellow sweet clover (*Melilotus indica*), bur clover (*Medicago polymorpha*), tumble mustard (*Sisymbrium irio*), giant horseweed (*Conyza Canadensis*), artichoke thistle (*Cynarq cardunculus*), and include many of the non-native Mediterranean grasses noted above.

Non-Native Grassland/Ornamental Tree Savannah

A substantial portion of the area (approximately 44 acres) that will be affected by construction of the relocated Segment 2 of the Approved Wildlife Corridor Feature was formerly occupied by a golf course that included a variety of ornamental trees. Areas of former golf course turf have been replaced by the non-native grasses and forbs (noted above under both non-native grasslands and ruderal areas). Non-native grasses that are most prevalent include Mediterranean grass, ripgut, and slender wild oats, with the most common forbs including prickly lettuce, summer mustard, and filaree. Ornamental trees include blue-gum eucalyptus (*Eucalyptus globulus*), ash (*Fraxinus* sp.), Peruvian pepper (*Schinus molle*), Brazilian pepper (*Schinus terebinthifolius*), Mexican fan palm (*Washingtonia robusta*), allepo pine (*Pinus halepensis*), and Magnolia (*Magnolia grandiflora*).

Ornamental

Ornamental vegetation is limited to approximately one acre of the Site and consists of former landscape areas adjacent to the former golf course clubhouse.

Disturbed/Developed

Disturbed/developed areas account for approximately 14 acres of the Site and include existing paved or dirt roads as well as areas previously occupied by the former golf course clubhouse and associated facilities. An additional approximately 1 acre of disturbed/developed area includes an existing concrete lined portion of the Borrego Channel in the lower portion of the proposed relocated Segment 2.

Wildlife Observed or Expected

A variety of wildlife species were observed during the Site visit, including common avifauna. Common avifauna observed within these areas include European starling (*Sturnus vulgaris*), house finch (*Carpodacus mexicanus*), rock pigeon (*Columbia livia*), mourning dove (*Zenaidura macroura*), northern mockingbird (*Mimus polyglottos*), Anna's hummingbird (*Calypte anna*), Allen's hummingbird (*Selasphorus sasin*), American crow (*Corvus brachyrhynchos*), house wren (*Troglodytes aedon*), bushtit (*Psaltiriparus minimus*), Bullocks oriole (*Icterus bullockii*), western kingbird (*Tyrannus verticalis*), Nuttall's woodpecker (*Picoides nuttallii*), California towhee (*Pipilo crissalis*) and lesser goldfinch (*Carduelis psaltria*).

While no raptor nests were detected during the site visit, a number of raptors were observed or are expected to use the area for foraging including turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), Cooper's hawk (*Accipiter cooperii*), and American kestrel (*Falco sparverius*).

Mammals observed or expected to use the area for foraging include the California ground squirrel (*Spermophilus beecheyi*), brush rabbit (*Sylvilagus bachmani*), coyote (scat) (*Canis latrans*), Virginia opossum (*Didelphis virginiana*), common raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and house mouse (*Mus musculus*). Bobcats (*Lynx rufus*) were not observed and, based on the results of USGS trapping and movement studies, are not expected to use the Site.

Special-Status Biological Resources

As noted, the proposed footprint of the Relocated Wildlife Corridor Feature consists of a predominance of non-native vegetation and includes no areas of native habitat capable of supporting special-status plants, including southern tarplant (*Centromadia parryi australis*) or animals with one potential exception: the burrowing owl (*Athene cunicularia*) (wintering only) (a California Species of Concern). The 2011 Certified EIR also identified the mountain plover (*Charadrius montanus*) as exhibiting potential for occurring on site; in fact, however, further review shows this species breeds on the northern plains (short grass prairie of the high plains of Montana, Wyoming and Colorado). A common winter visitor back in the 1950's, the last recorded winter record for this species in Existing PA 30 and Existing PA 51 is from 1986/1987, and the last record for Orange County is from 1995 in Seal Beach. This species continues to be a winter visitor in parts of Central California and in the San Jacinto areas of western Riverside County, but no longer exhibits potential for occurring in Existing PA 30 and Existing PA 51.

Therefore, construction of the Relocated WLC would not result in significant impacts on this species.

Burrowing Owl (*Athene cunicularia hypugaea*) – The burrowing owl is designated as a California Department of Fish and Game (CDFG) California Species of Special Concern at burrow sites and some wintering sites. The burrowing owl breeds from southern Canada south through eastern Washington, central Oregon, and California to Baja California. The winter range is much the same as the breeding range, except that most burrowing owls vacate the northern areas of the Great Plains and Great Basin (Haug, *et al.* 1993).

In California, burrowing owls are restricted to the central valley extending from Redding south to the Grapevine, east through the Mojave Desert and west to San Jose, the San Francisco Bay area, the outer coastal foothills area which extend from Monterey south to San Diego and the Sonoran desert. It is a resident in the open areas of the lowlands over much of the Southern California region: however, in coastal Orange County, occurrences are typically restricted to wintering owls.

POTENTIAL IMPACTS

The following impacts are evaluated below:

- Vegetation/Land Cover
- Wintering Burrowing Owl
- Nesting Raptors
- Raptor Foraging
- Nesting Birds

The impacts of the Relocated Wildlife Corridor Feature to resources are evaluated in comparison with the impacts to resources associated with the Approved Wildlife Corridor Feature location depicted on Figure 3.

Impacts to Vegetation/Land Cover

Grading for the Approved Wildlife Corridor Feature location would have resulted in impacts to five land cover types: agriculture, non-native grassland, ruderal areas, disturbed/developed, and concrete channel. Grading for the Relocated Wildlife Corridor Feature would result in impacts to seven land cover types: agriculture, non-native grassland, ruderal areas, non-native grassland/ornamental tree savannah, ornamental, disturbed developed, and concrete channel. Concrete channels provide only marginal habitat value and impacts related to such channels are therefore not biologically significant. Impacts to all other land cover types are discussed below.

Agriculture

Construction of the Approved Wildlife Corridor Feature would have resulted in the conversion of approximately 24 acres of agricultural fields (all located in Segment 3) to areas vegetated with

native plants. The conversion of agricultural fields to native plants would not have a significant adverse impact on biological resources due to the lack of native habitat within the active cultivated areas.

Construction of the Relocated Wildlife Corridor Feature would result in the conversion of approximately 28 acres of agricultural fields (all located in the relocated Segment 3) to areas vegetated with native plants. The conversion of agricultural fields to native plants by the Relocated Wildlife Corridor would not have a significant adverse impact on biological resources for the same reason that there would be no impacts due to such a conversion for the Approved Wildlife Corridor Feature.

Non-Native Grassland

Construction of the Approved Wildlife Corridor Feature would have resulted in the conversion of approximately 61 acres of non-native grassland to areas vegetated with native plants. The conversion of non-native grassland to native plants would not have resulted in a significant adverse impact on biological resources due to the lack of native habitat within the areas of non-native grassland.

Construction of the Relocated Wildlife Corridor Feature would result in the conversion of approximately 25 acres of non-native grassland to areas vegetated with native plants. Similar to the Approved Wildlife Corridor Feature, the conversion of non-native grasslands to native plants would not have a significant adverse impact on biological resources due to the lack of native habitat within the areas of non-native grasslands.

Ruderal

Construction of the Approved Wildlife Corridor Feature would have resulted in the conversion of approximately 18 acres of ruderal areas to areas vegetated with native plants. The conversion of ruderal areas to native plants would not have resulted in a significant adverse impact on biological resources due to the lack of native habitat within the ruderal areas.

Construction of the Relocated Wildlife Corridor Feature would result in the conversion of approximately 19 acres of ruderal vegetation to areas vegetated with native plants. The conversion of ruderal vegetation to native plants would not have a significant adverse impact on biological resources due to the lack of native habitat within the ruderal areas.

Non-Native Grassland/Ornamental Tree Savannah

Construction of the Approved Wildlife Corridor Feature would not have impacted non-native grassland/ornamental tree savannah because the Approved Wildlife Corridor Feature would not have been located on portions of the golf course that included ornamental trees. Further, the Approved Wildlife Corridor Feature would not have resulted in significant biological impacts due to conversion of non-native grassland/ornamental tree savannah to native habitat because of the low habitat value associated with the non-native grassland and non-native trees that provide this land cover.

Construction of the Relocated Wildlife Corridor Feature would result in the conversion of approximately 44 acres of non-native grassland/ornamental tree savannah to areas vegetated with native plants. The conversion of non-native grassland/ornamental tree savannah vegetation to native plants would not have a significant adverse impact on biological resources. Because the existing trees are non-native and were only part of the landscaping for the now abandoned golf course, impacts to these trees would not be considered significant. Any potential effects to trees would be mitigated in accordance with Mitigation Measure BIO 4 from the 2011 Certified EIR which incorporates the City of Irvine Tree Ordinance. The City of Irvine Tree Ordinance requires replacement of trees at a ratio of 1:1 regardless of the significance of the impact. Tree replacement will be conducted with native trees within the Relocated Wildlife Corridor Feature. With implementation of Mitigation Measure BIO 4 set forth in the 2011 Certified EIR and adopted in the Mitigation Monitoring and Reporting Program (“MMRP”) for the 2011 Approved Project, which is incorporated into the 2012 Modified Project, potential impacts related to the existing trees would be reduced to a less than significant level.

Ornamental

Construction of the Approved Wildlife Corridor Feature would have impacted a very limited number of ornamental trees within disturbed/developed areas, which, due to the limited number and location within or disturbed/developed areas, were not mapped because of scale.

Construction of the Relocated Wildlife Corridor Feature would result in the conversion of approximately one acre of non-native ornamental vegetation to an area vegetated with native plants. The conversion of non-native ornamental vegetation to native plants would not have a significant adverse impact on biological resources. Because the trees are non-native and are part of the landscaping for the previous golf course, impacts to these trees would not be considered significant. Impacts to a limited area of ornamental trees associated with the Relocated Wildlife Corridor Feature alignment would not result in a significant impact because of the low habitat value associated with the non-native grassland and non-native trees that provide this land cover. Any potential effects to trees would be mitigated in accordance with Mitigation Measure BIO 4 from the 2011 Certified EIR which incorporates the City of Irvine Tree Ordinance. The City of Irvine Tree Ordinance requires replacement of trees at a ratio of 1:1 regardless of the significance of the impact. Tree replacement will be conducted with native trees within the Relocated Wildlife Corridor Feature. With implementation of Mitigation Measure BIO 4 set forth in the 2011 Certified EIR and adopted in the MMRP for the 2011 Approved Project, which is incorporated into the 2012 Modified Project, potential impacts related to the existing trees would be reduced to a less than significant level.

Disturbed/Developed¹

Construction of the Approved Wildlife Corridor Feature would have resulted in the conversion of approximately 28 acres of disturbed/developed areas to areas vegetated with native plants.

¹ Areas of Disturbed/Developed for the Approved Wildlife Corridor Feature and the Relocated Wildlife include approximately 1 acre of concrete channel.

The conversion of disturbed/developed areas to native plants would not have a significant adverse impact on biological resources due to the lack of native habitat within the disturbed/developed areas.

Construction of the Relocated Wildlife Corridor Feature would result in the conversion of approximately 15 acres of previously developed areas to areas vegetated with native plants. Potential impacts to biological resources are similar for the Relocated Wildlife Corridor Feature as for the Approved Wildlife Corridor Feature and would be very limited due to the lack of native habitat within the disturbed/developed areas. The conversion of previously developed areas to native plants would not have a significant adverse impact on biological resources.

Potential Impacts to Wintering Burrowing Owl

Because of the flat topography of the Site, low growing vegetation and the presence of the California ground squirrel (and their associated burrows), the Site exhibits potential for supporting the wintering burrowing owl². Wintering burrowing owls typically arrive in November and remain on the wintering grounds until late February or early March. Potential impacts to wintering burrowing owl were addressed in Mitigation Measure BIO 1 in the 2011 Certified EIR, which applies to Existing PA 30 and Existing PA 51, not just the construction of the Approved Wildlife Corridor Feature, and requires pre-construction surveys for the burrowing owl:

Prior to approval of a subdivision map for each project area, a focused survey for the southern tarplant, mountain plover, and burrowing owl, shall be conducted. Prior to approval of a subdivision map for development within, or in proximity to Serrano Creek, a focused survey shall be conducted for the least Bell's vireo and southwestern willow flycatcher. Should the focused survey identify a significant population of southern tarplant or mountain plover, or the presence of burrowing owl, least Bell's vireo, or southwestern willow flycatcher in an area proposed for development, impacts shall be avoided through incorporation of the species into an open space easement, or if impacts cannot be avoided, then mitigation shall be negotiated through consultation with the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG).

With implementation of Mitigation Measure BIO 1 as set forth in the 2011 Certified EIR and adopted in the MMRP for the 2011 Approved Project, which is incorporated into the 2012 Modified Project, direct harm to an owl would be avoided and any potential impacts would be reduced to less than significant.

Potential Impacts to Nesting Raptors

The Site contains a number of trees that could be used by a variety of raptor species for nesting, similar to the area where the Approved Wildlife Corridor Feature would have been located, as

² There is essentially no likelihood for breeding burrowing owl to use the site as burrowing owls no longer breed in Orange County.

described above. During project construction, review for nesting birds will be conducted and any trees or shrubs used by nesting birds (including raptors) will not be removed during the avian nesting season (February 15 to August 31 or sooner if the nest is abandoned) to ensure that potential disturbances to nesting birds (including raptors) are avoided in accordance with the federal Migratory Bird Treaty Act of 1918 and California Fish and Game Code Sections 3503, 3503.5, and 3513. Impacts to nesting raptors will not be significant during construction because these measures ensure that raptors that are nesting within the Site are not disturbed by grading activities and because there is abundant habitat suitable for nesting in the vicinity. Impacts after construction will not be significant because the native plants that will be planted within the Relocated Wildlife Corridor Feature will also provide nesting opportunities for raptors after construction.

Potential Impacts to Raptor Foraging

The combination of existing scattered trees which could be used for perching and expanses of non-native grassland and ruderal areas provides areas that are used by foraging raptors such as red-tailed hawks, red-shouldered hawks, and white-tailed kites. Removal of these highly disturbed non-native plants within the Relocated Wildlife Corridor Feature is not considered significant because other trees will remain in the vicinity and the removed vegetation will be replaced with areas of native plants, including grasslands and low-growing scrub suitable for raptor foraging. As explained above in the analysis of impacts to different vegetation types, impacts to land cover are similar in type and magnitude to what would have occurred within the Approved Wildlife Corridor Feature.

Potential Impacts to Nesting Birds

Removal of vegetation during grading exhibits a potential for impacts to nesting birds. As explained above in the analysis of impacts to different vegetation types, impacts to land cover are similar in type and magnitude to what would have occurred within the Approved Wildlife Corridor Feature. Impacts to nesting birds are therefore expected to be similar to what would have occurred under the Approved Wildlife Corridor Feature. These impacts are considered potentially significant, but will be mitigated to levels that are less than significant through compliance with PPPs and relevant state and federal law, including the federal Migratory Bird Treaty Act of 1918 and California Fish and Game Code Sections 3503, 3503.5, and 3513. Pursuant to those PPPs, during project construction, review for nesting birds will be conducted and any trees or shrubs used by nesting birds (including raptors) will not be removed during the avian nesting season (February 15 to August 31 or sooner if the nest is abandoned) to ensure that potential disturbances to nesting birds (including raptors) are avoided. Impacts to nesting birds will not be significant during construction because these measures ensure that birds that are nesting within the Site are not disturbed by grading activities and because there is abundant habitat suitable for nesting in the vicinity. Impacts after construction will not be significant because the native plants that will be planted within the Relocated Wildlife Corridor Feature will also provide nesting opportunities for birds after construction.

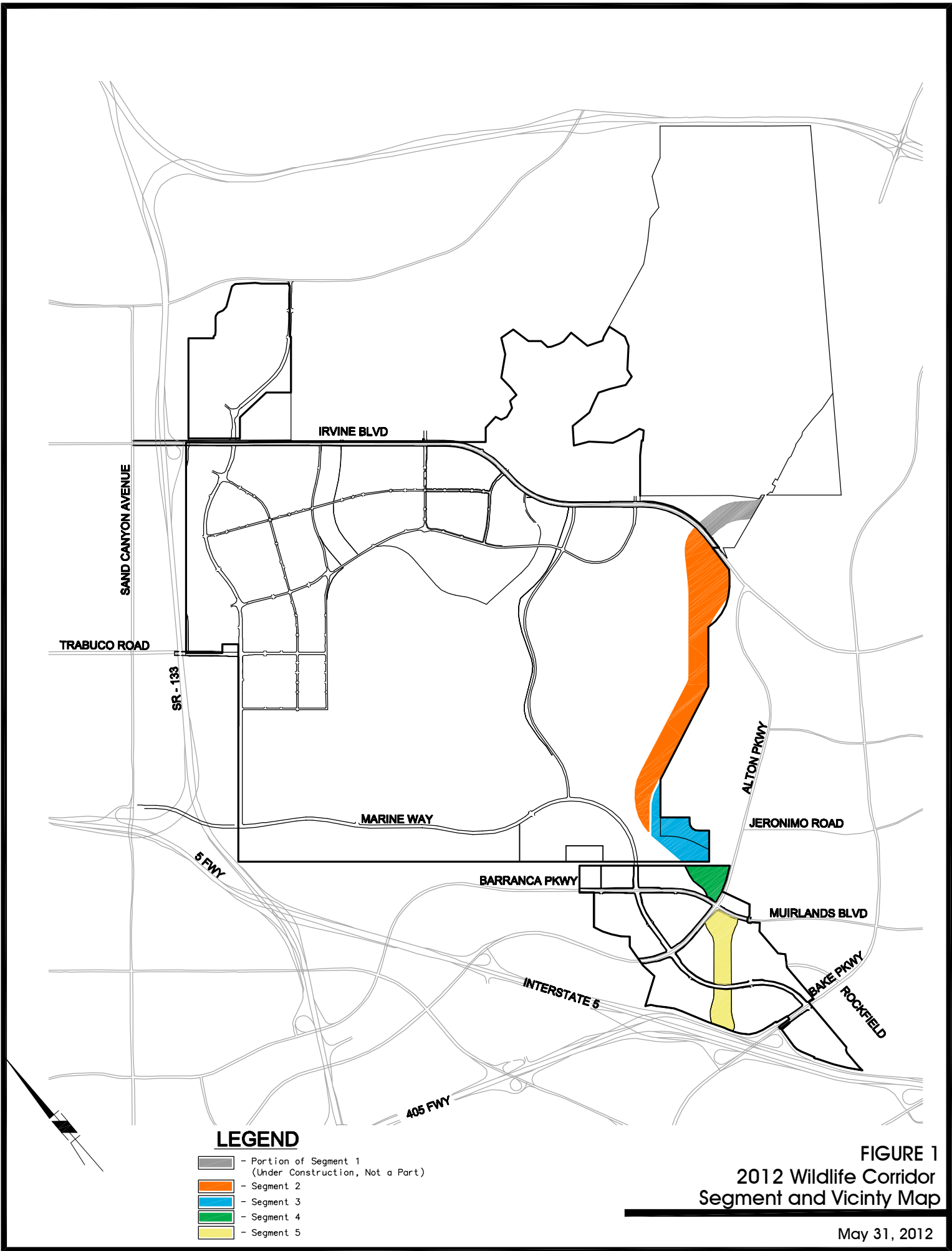
CONCLUSION

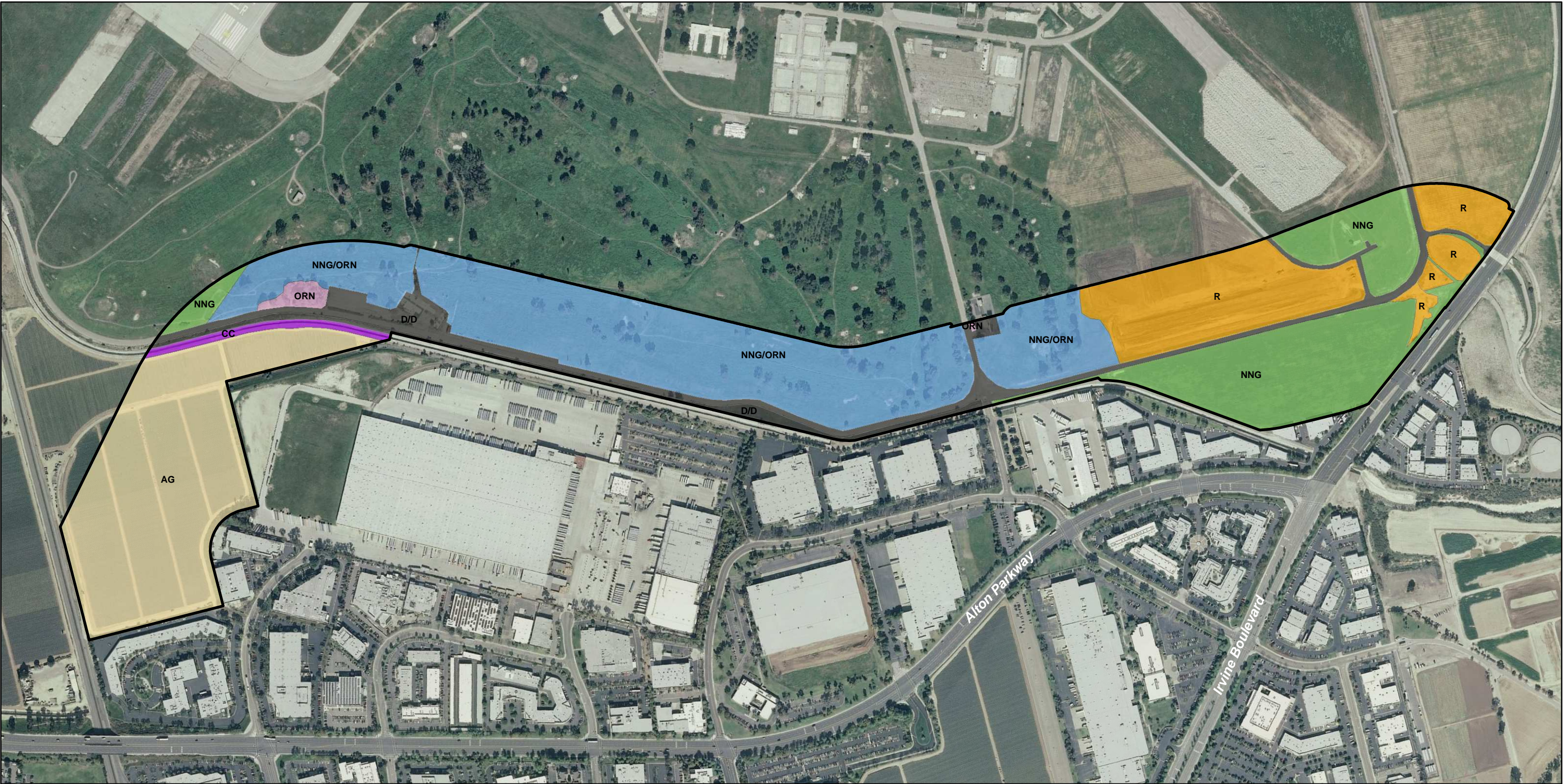
All biological mitigation measures proposed in the 2011 Certified EIR and adopted in the MMRP for the 2011 Approved Project would be incorporated into the 2012 Modified Project. With implementation of Mitigation Measure BIO 1 of the 2011 Certified EIR, potential impacts to the burrowing owl will be less than significant.

In addition, while the impacts to non-native landscape trees are not biologically significant, the 2012 Modified Project will implement Mitigation Measure BIO 4 from the MMRP for the 2011 Approved Project, which will involve replacing non-native trees impacted by the Relocated Wildlife Corridor Feature with native trees in the Relocated Wildlife Corridor Feature at a ratio of 1:1.









Construction of the Relocated Wildlife Corridor Feature as compared to the Approved Wildlife Corridor Feature, would not result in any significant impacts.

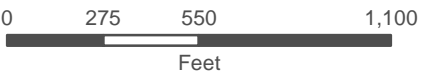
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Legend

- | | | | |
|--|---------------------------|---|---|
|  | Wildlife Corridor |  | NNG - Non-Native Grassland |
|  | AG - Agriculture |  | NNG/ORN - Non-Native Grassland/Ornamental Tree Savannah |
|  | CC - Concrete Channel |  | ORN - Ornamental |
|  | D/D - Disturbed/Developed |  | R, Ruderal |



HERITAGE FIELDS/GREAT PARK

Wildlife Corridor Vegetation/Impact Map

GLENN LUKOS ASSOCIATES

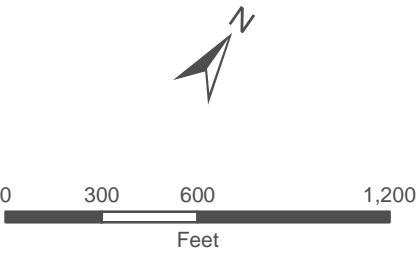


Figure 2



Legend

- Wildlife Corridor Alternative
- AG - Agriculture
- CC - Concrete Channel
- D/D - Disturbed/Developed
- NNG - Non-Native Grassland
- R - Ruderal



HERITAGE FIELDS/GREAT PARK

Wildlife Corridor Alternative Vegetation/Impact Map

GLENN LUKOS ASSOCIATES



Figure 3