

3.4 Biological Resources

This section describes the environmental and regulatory settings and draft significance criteria with respect to biological resources.

3.4.1 Environmental Setting

This subsection describes the environmental setting for biological resources. It includes biological resources in the biological resources study area (BRSA) and surrounding region and the methodology for data collection.

3.4.1.1 Methodology

Information on biological resources in the vicinity of the proposed project was gathered preliminarily through desktop analysis and was supplemented with field surveys conducted by the applicants and their biological consultants. Survey results were reported in several biological resource technical reports provided by the applicants (see Appendix D). The surveys cover the BRSA, which includes all proposed project components, plus an approximately 150-foot buffer around those components (unless otherwise indicated), as shown on Figure 3.4-1. For purposes of the analysis in this section, the “BRSA” refers to the area where surveys were done, and the “project area” refers to the land beneath the proposed project components, including any temporary workspaces, the permanent right-of-way (ROW), and permanent aboveground facilities.

Appendix D includes the following biological resources technical reports for the proposed project:

- Biological Resources Technical Report (Insignia 2015a);
- Special Status Plant Species Survey Report (Insignia 2015b);
- Preliminary Wetlands and Waters Assessment (Insignia 2015c);
- U.S. Fish and Wildlife Service (USFWS) Protocol Presence/Absence 2016 Survey Report for the Quino Checkerspot Butterfly (*Euphydryas editah quino*) (Rocks Biological 2015a);
- Coastal California Gnatcatcher (*Poliophtila californica californica*) Presence/Absence 2015 Survey Report (Rocks Biological 2015b);
- Riparian Bird Survey Report (Insignia 2015d);
- Arroyo Toad (*Bufo californicus*) Protocol Survey Report (Insignia 2015e);
- Least Bell’s Vireo (*Vireo bellii pusillus*) and Southwestern Willow Flycatcher (*Empidonax trailii extimus*) Surveys at Marine Corps Air Station (MCAS) Miramar (Tierra Data Inc. 2011);
- Riparian Bird Survey Report Addendum (Insignia 2016a);
- Arroyo Toad Protocol Survey Report Addendum (Insignia 2016b);
- USFWS Protocol Presence/Absence 2016 Survey Report for the Quino Checkerspot Butterfly (Rocks Biological 2016);
- Biological Resources Technical Report Addendum (Insignia 2017a);
- Habitat Suitability Survey for Stephen’s Kangaroo Rat (*Dipodomys stephensi*) (Scott Tremor Biological Consulting 2016);

- Wetland Delineation Report (Insignia 2017b); and
- Special Status Plant Species Survey Report Addendum (Insignia 2017c).
- Sensitive Resources Surveys, MCAS Miramar (MCAS Miramar 2017).

The results of the applicants' analysis and surveys were reviewed to determine the potential for species to occur in the vicinity of the proposed project.

Literature Review

The following materials were reviewed to obtain information regarding the occurrence of special status species in the vicinity of the proposed project:

- Butterflies and Moths of North America (Lotts and Naberhaus 2017);
- CalFlora Observation Hotline (CalFlora 2017a);
- CalFlora: Information on California plants for education, research, and conservation (CalFlora 2017b);
- California Department of Fish and Wildlife (CDFW) California Wildlife Species Life History Accounts and Range Maps (CDFW 2017a);
- CDFW California Natural Diversity Data Base (CNDDDB) RareFind Version 5 (CDFW 2017b) records search of the following U.S. Geological Survey (USGS) 7.5-minute quadrangles: Temecula, Bonsall, San Marcos, Valley Center, Escondido, Poway, La Mesa, Wildomar, Murrieta, Bachelor Mountain, Fallbrook, Pechanga, Morro Hill, Pala, San Luis Rey, Encinitas, Rancho Santa Fe, Boucher Hill, Rodrigues Mountain, San Pasqual, Del Mar, San Vicente Reservoir, La Jolla, Point Loma, National City, Jamul Mountains, and El Cajon;
- CDFW Biogeographic Data Branch, Special Animals List (CDFW 2017c);
- CDFW Biogeographic Data Branch, Special Plants List (CDFW 2017d);
- CDFW Hierarchical List of Natural Communities with Holland Types, September 2010 (CDFW 2010);
- California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants of California Nine-Quadrangle Search (CNPS 2017) of the following USGS 7.5-minute quadrangles: Temecula, Bonsall, San Marcos, Valley Center, Escondido, Poway, La Mesa, Wildomar, Murrieta, Bachelor Mountain, Fallbrook, Pechanga, Morro Hill, Pala, San Luis Rey, Encinitas, Rancho Santa Fe, Boucher Hill, Rodrigues Mountain, San Pasqual, Del Mar, San Vicente Reservoir, La Jolla, Point Loma, National City, Jamul Mountains, and El Cajon;
- Checklist of Butterflies of San Diego County (SDNHM 2002);
- Checklist of Mammal Species Recorded in San Diego County (SDNHM 2017);
- City of San Diego Municipal Code Biology Guidelines (City of San Diego 2012) ;
- Cornell Lab of Ornithology's eBird database, an online database of bird distribution and abundance (eBird 2017);
- A Guide to the Amphibians and Reptiles of California (California Herps 2017);
- iNaturalist Observations Database (Inaturalist 2017);
- Integrated Natural Resources Management Plan (INRMP) for MCAS Miramar, California (MCAS Miramar 2011);

- Jepson Herbarium eFlora (University of California Berkeley 2017);
- Mammals of California (Jameson and Peeters 2004);
- USFWS Environmental Conservation Online System Species Reports Portal and associated supplementary documents (USFWS 2017a);
- USFWS Information for Planning and Conservation (IPaC) search for San Diego County (USFWS 2016);
- USFWS National Wetlands Inventory (USFWS 2017b);
- San Diego Association of Governments 2012 vegetation mapping (SANDAG 2012);
- The San Diego County Bird Atlas (Unitt 2004);
- San Diego County Natural History Museum San Diego County Plant Atlas (SDNHM 2016);
- San Diego Geographic Information Source (SanGIS);
- Sensitive Butterflies of San Diego County, California (Faulkner and Klein 2012); and
- The Xerces Society for Invertebrate Conservation: Butterflies and Moths (Xerces 2017).

Surveys for the Proposed Project

During September 2014 to March 2015, the applicants conducted a reconnaissance-level habitat assessment and vegetation mapping of the BRSA, as shown in Figure 3.4-1 and documented in the Biological Resources Technical Report (Insignia 2015a, Appendix G). In November and December 2016, biologists surveyed additional staging areas/laydown yards and areas to be used in connection with the proposed project that were not previously surveyed because they were outside the limits of the BRSA established in the Proponent’s Environmental Assessment (Insignia 2017a; Appendix G). For purposes of this Master Environmental Assessment (MEA), the BRSA includes these additional staging areas/laydown yards and other areas and the associated 150-foot buffer. In addition to these habitat assessments, the applicants conducted focused surveys for wetlands and waterways and some special status species. Table 3.4-1 summarizes these surveys, including date, methodology, and location. The complete methods for these surveys are provided in their respective reports, included in Appendix D.

Table 3.4-1 Surveys Conducted for the Biological Resources Survey Area (Appendix D)

Survey Report and Focus	Date of Survey	Method	Location Surveyed
Least Bell’s Vireo (<i>Vireo bellii pusillus</i>) and Southwestern Willow Flycatcher (<i>Empidonax traillii extimus</i>) (Tierra Data Inc. 2011)	April–July 2011	Habitat assessment, and Protocol-level per USFWS (2001) and Sogge et al. (2010), in suitable habitat	Suitable habitat on MCAS Miramar
Special status plants (Special Status Plant Species Survey Report; Insignia 2015b)	April–June 2015	Survey Guidelines CNPS (2001), CDFG (2009), and USFWS (1996)	Within the BRSA
Waterways and Wetlands Assessment (Preliminary Wetlands and Waters Assessment; Insignia 2015c)	February–May 2015	Desktop mapping with field verification of hydrophytic vegetation	All potential wetland and drainage areas within the BRSA
Riparian Birds (Riparian Bird Survey Report; Insignia 2015d)	April–July 2015	Protocol-level per USFWS (2001), USGS (2010), and Sogge et al. (2010).	All suitable habitat within the BRSA

Table 3.4-1 Surveys Conducted for the Biological Resources Survey Area (Appendix D)

Survey Report and Focus	Date of Survey	Method	Location Surveyed
Quino checkerspot butterfly (Presence/Absence 2015 Survey Report; Rocks Biological 2015a)	February–May 2015	Protocol-level per USFWS (2014)	All suitable habitat within the MCAS Miramar portion of the project area, except for 19 acres within Elliot Field Station.
Coastal California Gnatcatcher (Presence/Absence 2015 Survey Report; Rocks Biological 2015b)	April–June 2015	Protocol-level per USFWS (1997)	All suitable habitat within the BRSA
Arroyo Toad (Arroyo Toad Protocol Survey Report; Insignia 2015e)	April–June 2015	Protocol-level per USFWS (1999)	Suitable habitat in wetland communities within the BRSA
Arroyo toad (Arroyo Toad Survey Addendum; Insignia 2016b)	April–June 2016	Protocol-level per USFWS (1999)	Survey Site 2 (San Luis River) and Survey Site 7 (Sandy Hill Road), as defined in 2015 arroyo toad surveys (Insignia 2015e)
Quino checkerspot butterfly (Presence/Absence 2016 Survey Report; Rocks Biological 2016)	February–May 2016	Protocol-level per USFWS (2014)	Suitable habitat in BRSA segments within Elliott Chaparral Reserve.
Wetland Delineation (Wetland Delineation Report; Insignia 2017b)	September–December 2016	Formal Delineation per Environmental Laboratory (1987) and USACE (2008a)	Potential wetland and drainage areas within the BRSA that were identified in the Preliminary Wetlands and Waters Assessment.
Least Bell's Vireo and Southwestern Willow Flycatcher (Riparian Bird Survey Report Addendum; Insignia 2016a)	April–June 2016	Protocol-level per USFWS (2001), USGS (2010), and Sogge et al. (2010).	5.9 acres of riparian habitat added to BRSA after 2015 surveys, at seven separate sites between approximately MP 3.4 and MP 36.2.
Habitat Suitability Survey for Stephen's Kangaroo Rat (<i>Dipodomys stephensi</i>) (Scott Tremor Biological Consulting 2016) ^(a)	September 2016	Habitat Assessment, based on location and habitat conditions examined during preliminary survey	Four proposed staging areas/laydown yards (Rainbow Hills Road Yard MP 3.2, Boulder Knolls Road Yard MP 15.0, Nutmeg Street Yard MP 20.8, Montego Yard MP 21.8) along the I-15 corridor.
Special-Status Plant Species Survey Report Addendum (Insignia 2017c)	April–July 2017	Survey Guidelines CNPS (2001), CDFG (2009), and USFWS (1996)	Additional areas not previously surveyed and route segment alternatives in the entire project area, within areas containing suitable habitat for thread-leaved brodiaea (<i>Brodiaea filifolia</i>), and along alternative routes.

Note:

(a) No Stephens' kangaroo rats, their sign, or suitable habitat conditions were found in the BRSA.

Key:

BRSA = Biological Resources Survey Area

CDFG = California Department of Fish and Game

CNPS = California Native Plant Society

I-15 = Interstate 15

MCAS = Marine Corps Air Station

MP = Milepost

USACE = U.S. Army Corps of Engineers

USFWS = U.S. Fish and Wildlife Service

USGS = U.S. Geological Survey

Agency Consultation

The California Public Utilities Commission's environmental consultant met with the CDFG, USFWS, and U.S. Army Corps of Engineers (USACE) to identify biological resources of regulatory concern. The

CDFW and USFWS provided the following recommendations to ensure a comprehensive environmental overview of the project area:

- CDFW described standard conservation strategies for western Burrowing Owl (*Athene cunicularia hypugea*), bat species, and Hermes copper butterfly (*Lycaena hermes*), as well as small mammals, reptiles, and amphibians.
- CDFW recommended discussing certain construction-related events, such as frac-out events, in relation to riparian habitat and species.
- Western Yellow-Billed Cuckoo (*Coccyzus americanus occidentalis*) was not included in the Proponent's Environmental Assessment; however, CDFW and USFWS recommended that this species be considered present.
- USFWS described successful conservation strategies for arroyo toad.
- CDFW described invasive species concerns and removal strategies specific to the region, as described by the California Invasive Plant Council, as well as removal strategies.
- CDFW and USFWS recommended that this analysis include both Critical Habitat and suitable habitat within the Project Area vicinity to account for special status species that could reasonably occur outside of designated Critical Habitat areas, in sites where suitable habitat resources are present.
- CDFW recommended conservation strategies for spiny redberry (*Rhamnus crocea*), including preventing the spread of golden oak borer and shot hole borer.
- CDFW and USFWS recommended including in this analysis all mapped vernal pools, including those mapped by MCAS Miramar during annual sensitive resource surveys, and on the SanGIS database, as part of the environmental setting.

3.4.1.2 Regional Setting

The proposed project would be located within the Peninsular Ranges geomorphic province of the South Coast Floristic Province (University of California Berkeley 2017). Elevation in the project region ranges from 230 to 1,200 feet above mean sea level. The proposed project would cross six hydrological units: Santa Margarita River, San Luis Rey, Carlsbad, San Dieguito, Peñasquitos, and San Diego. The proposed project would cross several major aquatic features, including the San Luis Rey River, Lake Hodges, and Escondido Creek.

3.4.1.3 Proposed Project Setting

The proposed project would be constructed within or would cross several incorporated and unincorporated areas of San Diego County. It would be located on the Temecula, Bonsall, San Marcos, Valley Center, Escondido, Poway, and La Mesa USGS 7.5-minute quadrangles.

Vegetation Communities

Vegetation communities that were identified and mapped during habitat assessments of the BRSA and confirmed using a CNDDDB search are described below. Vegetation community descriptions are taken from Oberbauer et al. (2008). Table 3.4-2, below, indicates the number of acres of each vegetation community located within the BRSA. The location of each vegetation community is provided in Appendix E. For the purpose of this analysis, vegetation communities receiving the following state risk ranking in accordance with the NatureServ Heritage Methodology were determined to be sensitive (NatureServ 2017):

S1 Critically Imperiled: Critically imperiled in the state because of extreme rarity (often five or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.

S2 Imperiled: Imperiled in the nation or state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state.

S3 Vulnerable: Vulnerable in the nation or state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

Table 3.4-2 Vegetation Communities Observed in the Biological Resources Survey Area

Vegetation Community	Acres in the BRSA
Woodlands	286.59
Dense Coast Live Oak Woodland (>50%) ^(a)	23.01
Eucalyptus Woodland	159.53
Non-Native Woodland	34.59
Open Coast Live Oak Woodland (<50%) ^(a)	64.63
Undifferentiated Open Woodland	4.83
Scrub and Chaparral	472.12
Chamise Chaparral	34.69
Coastal Sage Chaparral Transition ^(a)	8.06
Diegan Coastal Sage Scrub ^(a)	376.79
Southern Mixed Chaparral ^(a)	52.58
Grasslands, Vernal Pools, Meadows, and other Herb Communities	114.89
Cismontane Alkali Marsh ^(a)	6.18
Freshwater Seep ^(a)	0.56
Non-Native Grassland ^(b)	107.81
Vernal Pool*	0.34
Riparian and Bottomland Habitat	125.21
Arundo-Dominated Riparian	0.70
Fresh Water (Open Water)	0.44
Mule Fat Scrub ^(a)	4.86
Non-Native Riparian	5.74
Non-Vegetated Floodplain or Channel ^(a)	6.58
Southern Coast Live Oak Riparian Forest ^(a)	55.24
Southern Cottonwood-Willow Riparian Forest ^(a)	8.63
Southern Willow Scrub ^(a)	41.38
Tamarisk Scrub	1.63
Bog and Marsh	7.29
Coastal and Valley Freshwater Marsh ^(a)	2.88
Emergent Wetland	0.04
Vernal Marsh/Herbaceous Wetland ^(a)	4.37
Disturbed or Developed Habitat	1,357.76
Disturbed Habitat	76.75
Intensive Agriculture (Dairies, Nurseries, Chicken Ranches)	72.74
Orchards/Vineyards	72.62
Ornamental	24.31
Row Crops	1.66

Table 3.4-2 Vegetation Communities Observed in the Biological Resources Survey Area

Vegetation Community	Acres in the BRSA
Urban/Developed	1,108.44

Source: Insignia 2015a

Notes:

- (a) Indicates that a vegetation community is sensitive according to CDFW (CDFW 2010).
- (b) 1.24 acres of ruderal vegetation located at the intersection of Bear Valley Parkway and San Pasqual Valley Road is represented in Table 3.4-2 as non-native grassland.

Key:

BRSA = Biological Resources Survey Area

CDFW = California Department of Fish and Wildlife

Woodlands

Special status plant species associated with forest and woodland vegetation observed in the project area include Engelmann oak, golden-rayed pentachaeta (*Pentachaeta aurea* ssp. *Aurea*), graceful tarplant (*Holocarpha virgata* ssp. *Elongate*), Orcutt’s brodiaea (*Brodiaea orcuttii*), and small-flowered microseris (*Microseris douglasii* ssp. *Platycarpha*).

*Dense Coast Live Oak Woodland (>50%) (Oberbauer Code 71162)*¹*

A type of coast live oak woodland, this community is dominated by coast live oak (*Quercus agrifolia*) and Engelmann oak (*Quercus engelmannii*), with a relatively full canopy (50 to 75 percent cover) and an underdeveloped understory occasionally featuring invasive species, such as brome grass. It is more representative of riparian communities than of coast live oak forest communities. It occurs in areas with high perennial groundwater, often near the narrowing area of flood plains throughout foothill and mountain areas, in alluvium-rich substrates. In San Diego County, it is known to occur throughout foothill and mountain regions.

Eucalyptus Woodland (Oberbauer Code 79100)

A type of non-native woodland, this community features eucalyptus woodlands that generally form a closed canopy and can be composed of primarily eucalyptus trees, with little to no understory, to scattered individual eucalyptus above dense herbaceous understory. This community is characterized by dense leaf and bark litter, preventing the success of understory species.

Non-Native Woodland (Oberbauer Code 79000)

This woodland community is composed of non-native, often planted tree species that are not intentionally maintained or irrigated. This category does not refer to trees in riparian woodland communities.

*Open Coast Live Oak Woodland (<50%) (Oberbauer Code 71160)**

A type of coast live oak woodland, this open-canopy evergreen woodland community features coast live oak and occasionally Engelmann oak, interspersed with chaparral, riparian, and woodland species. It is a fringe-type community, often occurring along the edges of more dense ecosystems, bordering desert margins, especially near drainages on north-facing slopes. This community is characterized by a canopy cover of less than 50 percent.

Undifferentiated Open Woodland (Oberbauer Code 78000)

This general vegetation category refers to communities that demonstrate open-canopy woodland characteristics, but whose species composition is unknown. It is often associated with oak species.

¹ Vegetation communities identified with an asterisk are communities that are sensitive according to CDFW (2010) and the NatureServ Heritage Methodology (CDFG 2010).

Scrub and Chaparral

Several special status plant species associated with open vegetation communities including scrub and chaparral communities within the project area include ashy spike-moss (*Selaginella cinerascens*), Brewer's calandrinia (*Calandrinia breweri*), and San Diego County viguiera (*Bahiopsis* [*Viguiera*] *laciniata*), and western dichondra (*Dichondra occidentalis*).

Chamise Chaparral (Oberbauer Code 37200)

This chaparral community is dominated by chamise and reaches 3 to 9 feet in height. This community can also feature a dense understory of small herbs. It occurs on shallow, dry soils on xeric slopes and ridges, and often features California lilac (*Ceanothus* sp.), California buckwheat (*Eriogonum fasciculatum*), and Nuttall's scrub oak (*Quercus dumosa*).

*Coastal Sage Chaparral Transition (Oberbauer Code 37G00)**

A diverse community containing both woody chaparral species and drought-deciduous sage scrub species, Coastal Sage Scrub Transition often occupies recently burnt landscapes. California sagebrush (*Artemisia californica*) and greasewood chamise (*Adenostoma fasciculatum*) are generally equally representative in this community, with transitional representatives including various lilac species, black sage (*Salvia mellifera*), and western poison oak (*Toxicodendron diversilobum*).

*Diegan Coastal Sage Scrub (Oberbauer Code 32500)**

Diegan coastal sage scrub communities are dominated by low (up to approximately 3 feet tall), woody, often drought-tolerant shrubs, and are most active in winter and early spring. They occur in dry, often clay-rich soils on steep slopes. Succulent species can be present, though rare. Dominant species include California sagebrush, California buckwheat, white sage (*Salvia apiana*), and black sage, with *Baccharis*-dominated sage brush communities dominated by saltbush species. At higher elevations, it often coexists with chaparral-type communities.

*Southern Mixed Chaparral (Oberbauer Code 37120)**

This broad-leaved shrub community often has an open, patchy understory, with visible soil. In San Diego County, it is dominated by blue-colored lilacs (*Ceanothus* spp.). It occurs on the northern sides of dry, rocky, steep slopes, below 3,000 feet in elevation. It is known to occur in Fallbrook, Valley Center, Rainbow, and Pala. Other occupants may include greasewood chamise, Nuttall's scrub oak, and Mojave yucca (*Yucca schidigera*).

Grasslands, Vernal Pools, Meadows, and Other Herb Communities

*Cismontane Alkali Marsh (Oberbauer Code 52310)**

Active predominantly during the summer, cismontane alkali marsh depends on year-round standing water and/or saturated soils. Vegetation present in this community is tolerant of unusually high salt saturations in available water and substrates, resulting from the pairing of a low water input flow and a high water evaporation rate. This community occurs at elevations below 1,000 feet and is characterized by emergent, herbaceous monocots up to approximately 6 feet tall. Characteristic species include various sedges, rushes, cattails, and salt grass.

*Freshwater Seep (Oberbauer Code 45400)**

This community is dominated primarily by full coverage of perennial herbs, often sedges, rushes, and grasses. It is localized to moist and wet soils near freshwater seeps and is commonly associated with grassland and meadow communities. In San Diego County, freshwater seeps generally occur in narrow drainages or springs and are known to occur in Peñasquitos Canyon.

Non-Native Grassland (Annual Grassland) (Oberbauer Code 42200)

This community occurs generally on fine-textured, clay, occasionally waterlogged (during winter) soils below 3,000 feet in elevation, and is characterized by dense or sparse annual grasses and forbs up to 3 feet high. Inflorescence is often particularly noteworthy in years featuring heavy rainfall. In San Diego County, this community often contains oat and brome species. Germination occurs after late fall rains, with growth and flowering in winter through spring. The vegetation dies during the summer, remaining dormant as seeds. Broadleaf-dominated non-native grasslands are characterized by greater than 50 percent cover of invasive broadleaf species.

Vernal Pool (Oberbauer Code 44000)

Vernal pools flood seasonally, providing localized habitat for organisms that can tolerate extremely wet and extremely dry conditions with seasonal variance. These pools generally retain their water for approximately two weeks after a rain event or termination of surface water inflow. Vernal pools either remain at least partially vegetated throughout the growing season, or are composed of a hard substrate (e.g., clay, hardpan) that cannot support any vegetation. Hardpan vernal pools are generally surrounded by chamise chaparral communities, whereas claypan vernal pools are generally surrounded by grassland communities. Vernal pools can be identified by the presence of one or more indicator species, such as woolyheads, San Diego button-celery (*Eryngium aristulatum* var. *parishii*), spreading navarretia (*Navarretia fossalis*), or California orcutt grass (*Orcuttia californica*).

Riparian and Bottomland Habitat

Arundo-Dominated Riparian (Oberbauer Code 65100)

More than 50 percent of the total vegetative cover within this community is giant reed. It occurs in loose, sandy, or fine gravelly alluvium soils deposited near stream channels from flooding. In San Diego County, this community is known to occur along the San Dieguito River and the San Luis Rey River.

Fresh Water (Open Water) (Oberbauer Code 64140)

These non-saline communities retain water year-round, as lakes, streams, ponds, or rivers. Fresh water communities may contain no more than 10 percent vegetative cover.

*Mule Fat Scrub (Oberbauer Code 63310)**

A type of southern riparian scrub, this community is dominated by mule fat (*Baccharis salicifolia*) and is maintained through regular flooding events, which prevents transition to cottonwood or sycamore-dominated riparian forests or woodlands. It occupies areas near intermittent streams and rivers with coarse soils, with other representative species including sedges, shrub-like willows, and hoary nettle (*Urtica dioica holosericea*), below 2,000 feet in elevation.

Non-Native Riparian (Oberbauer Code 65000)

Non-native, invasive species dominate this dense riparian community, common to disturbed wetland areas. Non-native riparian communities must feature more than 50 percent of total vegetative cover. If tamarisk (*Tamarix* sp.) species provide the dominant non-native cover, the community is best defined as Tamarisk Scrub (Oberbauer 63810). In San Diego County, this community is known to occur in the San Dieguito River (Lake Hodges) and in the San Luis Rey River.

Non-Vegetated Floodplain or Channel (Oberbauer Code 64200)

This mostly unvegetated (less than 10 percent cover) community occupies sandy, gravelly, and rocky substrates along the edges of waterways and flood channels, especially in lower portions of cismontane rivers. Weeds may occasionally occupy channel fringes. This community does not occur when sand and alluvium substrates result from a recent or uncommon flood event. In San Diego County, it is known to occur in the San Luis Rey and Santa Margarita Rivers.

*Southern Coast Live Oak Riparian Forest (Oberbauer Code 61310)**

This floodplain community requires fine, alluvium soils present in streambeds, washes, canyons, and coastal valleys, and generally feature closed (or nearly closed) canopies composed primarily of evergreen coast live oak trees. The community has a relatively herbaceous understory, comprising big-leaf maple (*Acer macrophyllum*), mugwort (*Artemisia douglasiana*), California rose (*Rosa californica*), California blackberry (*Rubus ursinus*), western poison oak, and bay laurel (*Umbellularia californica*). It occurs in bottomlands and outer floodplains along larger streams, on fine-grained, rich alluvium, and is found in many canyons and drainages throughout San Diego County.

*Southern Cottonwood-Willow Riparian Forest (Oberbauer Code 61330)**

Southern Cottonwood-Willow Riparian Forest communities are characterized by the presence of multiple willow species (both canopy and understory types), as well as black poplar (*Populus trichocarpa*). Well-represented willow species in this community include Gooding's black willow (*Salix gooddingii*), Hind's willow (*Salix exigua hindsiana*), Pacific willow (*Salix lucida*), and arroyo willow (*Salix lasiolepis*). The forests are winter-deciduous and occupy moist soils along perennial river and stream floodplains. Other characteristic species include mugwort, mule fat, western sycamore (*Platanus racemose*), and hoary nettle.

*Southern Willow Scrub (Oberbauer Code 63320)**

This winter-deciduous community is dominated by willows, with emergent western sycamore and black poplar. It is a densely thicketed community offering minimal room for additional herbaceous understory growth, and occupies stream floodplain sites with gravelly alluvium soil deposits. This is a seral succession community that requires consistent flooding to prevent transition to southern cottonwood-willow riparian forest.

Tamarisk Scrub (Oberbauer Code 63810)

This weedy community is composed entirely of *Tamarix* species, which replace native vegetation after significant disturbance. It often occurs in sandy or gravelly washes or streams, especially where high evaporation rates yield high salinity.

Bog and Marsh

Several special status plant species associated with wetland or other aquatic communities such as bogs and marshes that were observed in the project area include long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*), Orcutt's brodiaea, San Diego goldenstar (*Bloomeria clevelandii*), and small-flowered microseris.

*Coastal and Valley Freshwater Marsh (Oberbauer Code 52410)**

Coastal and Valley Freshwater Marsh communities are dominated by tall (12 to 16 feet) emergent monocot perennial aquatic plant species, such as cattails, sedges, reeds, spikerushes, and bulrushes, as well as low-lying mugwort and pennywort (*Hydrocotyle ranunculoides*). The community is generally densely populated with emergent representative species. These communities occur in peaty substrates in sources of year-round, relatively calm fresh water, most commonly in coastal valleys near rivers, lakes, springs, and streams.

Emergent Wetland (Oberbauer Code 52440)

Freshwater or alkali, these wetlands often occur in previously disturbed areas where other wetland communities are in the process of emerging but have not yet fully established themselves with an array of species representative of other wetland vegetative communities. Well-established in floodplains, riversides and lakeshores, montane meadows, springs, seeps, and basins, these communities can occupy

freshwater or alkali wetlands throughout San Diego County, and are dominated by low-growing perennial vegetation such as sedges, rushes, spikerushes, bur-reed, and a number of other water-tolerant plants.

*Vernal Marsh/Herbaceous Wetland (Oberbauer Code 52510)**

Herbaceous wetlands are seasonally intermittent wetlands that do not support the dominant species present in Freshwater Marsh communities. Rather, these communities are characterized by annuals such as seep monkey flower (yellow monkey flower, *Mimulus guttatus*) and rabbitfoot grass (*Polypogon monspeliensis*). These communities are often only present after unusually wet years, near drainages.

Disturbed or Developed Habitat

Disturbed Habitat (Oberbauer Code 11300)

Disturbed habitat vegetation communities are characterized by the predominance of non-native, introduced species that thrive in disturbed areas, such as forbs, thistle, and occasionally grasses. These communities are no longer recognizable as individual native vegetative communities, but continue to support vegetation on soil. They do not provide long-term habitat for animal species. Graded areas, regularly cleared sites, staging areas, and off-road vehicle trails commonly create disturbed habitat sites.

Intensive Agriculture (Oberbauer Code 18200)

Intensive agriculture sites are dairies, nurseries, chicken ranches, and open livestock spaces. There is generally little to no vegetation present, except in places rarely trodden by livestock.

Orchards/Vineyards (Oberbauer Code 18100)

Orchard communities feature irrigated crops of low, bushy trees and shrubs, generally with an open understory. Vineyards feature a single species of row crops supported with trellises for growth. Understory vegetation in both orchards and vineyards can be composed of short grasses and herbs, and the community occurs on flat alluvial soils in valleys and hills or steep slopes.

Ornamental

Like ruderal vegetation, ornamental vegetation is generally non-native and occurs in disturbed areas. It prevents full colonization by local vegetation species in the area.

Row Crops (Oberbauer Code 18320)

This irrigated community often exists in floodplains or upland areas with high quality soil and is characterized by rows of annual and perennial crops, with open space between each row. Specific species composition of the row crops may vary throughout the year.

Urban/Developed (Oberbauer Code 12000)

These communities have been thoroughly developed and altered, such that the site can no longer support native vegetation. This landscape features permanent structures, pavement, concrete, and non-native areas requiring full irrigation, such as areas featuring ornamental vegetation.

Special Status Species

Certain species of plants and wildlife have been accorded various levels of legal protection owing to elevated concern for their conservation status. Additionally, based on the judgment of qualified biological professionals, certain plant and wildlife species may meet the California Environmental Quality Act (CEQA) definitions of endangered, rare, or threatened due to other factors, such as dwindling populations, or because additional study is needed to determine the population size. In this document, “special status species” include the following:

- Species listed under the Federal Endangered Species Act (FESA) of 1973 as “Endangered” or “Threatened” (Title 50, Code of Federal Regulations [CFR] Section 17.11 or 17.12);
 - Species listed under the California Endangered Species Act (CESA) as “Endangered,” “Threatened,” or “Rare” (R) (Sections 670.2 or 670.5, Title 14, California Code of Regulations);
 - Species without a formal listing status that meet the definitions of “Endangered” or “Rare” under CEQA Guidelines Section 15380, including CDFW “Species of Special Concern,” (SSC); “Candidate” species, or species “Proposed” for listing under the FESA;
 - USFWS “Birds of Conservation Concern”;
 - CNPS rare plant ranks, which are categorized as follows:
 - 1A: Presumed extinct in California
 - 1B: Rare, threatened, or endangered in California and elsewhere
 - 2B: Rare, threatened, or endangered in California, but more common elsewhere
 - 3: Plants about which we need more information—a review list
 - 4: Plants of limited distribution—a watch list
- These are further subcategorized by threat ranks:
- 0.1: Seriously threatened in California
 - 0.2: Moderately threatened in California
 - 0.3: Not very threatened in California
- Species designated as “Fully Protected” and “Watch List” by the CDFW; and
 - Sensitive plant species on List A and sensitive animal species on Group 1 of the San Diego Multiple Species Conservation Plan (MSCP) Covered Species List.

The potential for special status plant and wildlife species to occur within or near the BRSA was determined to be “None,” “Not Expected,” “Possible,” or “Present,” based on application of the following criteria to the data sources and survey results outlined in Section 3.4.1.1:

- **None:** No suitable habitat exists in the BRSA, and no occurrences for this species have been recorded during the past 20 years within the BRSA or nearby.
- **Not Expected:** Either, 1) the BRSA is located within the geographic range of the species; key habitat requirements were absent, or the habitat in the BRSA is so degraded, small, or isolated that it would be very unlikely for the species to use the area; and the species has been observed nearby, but not in the BRSA during the past 20 years; or 2) the BRSA is located within the geographic range of the species and suitable habitat is present, but the species has not been observed in or near the BRSA during the past 20 years. Suitable habitat includes all key requirements to support the species (e.g., hydrology, soils, and cover).
- **Possible:** The BRSA is located within the geographic range of the species, suitable habitat is present in the BRSA, and the species has been observed within the last 20 years in the BRSA or nearby.
- **Present:** The target species was observed directly, or its presence was confirmed by diagnostic signs (i.e., tracks, scat, burrows, carcasses, castings, prey remains) during field investigations of the BRSA.

Special Status Plant Species

Based on a literature and database review, 116 special status plants have the potential to occur within the 27 quadrangles analyzed in the USGS 7.5-minute nine-quadrangle searches. Of these 116 plant species, 19 are present within the BRSA, 27 may possibly occur within the BRSA, and 70 are not expected to occur or do not occur within the BRSA. Special status plant species that meet the criteria of “possible” or “present” are listed in Table 3.4-3. The habitat requirements of all species that could occur within or near the project area, including those that are not expected to occur, can be found in Appendix F. Appendix F includes evidence demonstrating plants’ known presence or assessment of their potential to occur within or near the BRSA and project area.

Table 3.4-3 Special Status Plants with a Potential to Occur in the Biological Resources Survey Area

Species	Rare Plant Rank	Potential to Occur
Ashy spike-moss (<i>Selaginella cinerascens</i>)	4.1	Present
Brewer’s calandrinia (<i>Calandrinia breweri</i>)	4.2	Present
California adolphia (<i>Adolphia californica</i>)	2B.1	Present
California orcutt grass (<i>Orcuttia californica</i>)	1B.1, FE, CE, MSCP	Possible
California screw moss (<i>Tortula californica</i>)	1B.2	Possible
Chaparral beargrass (<i>Nolina cismontana</i>)	1B.2, MSCP	Possible
Chaparral sand-verbena (<i>Abronia villosa</i> var. <i>aurita</i>)	1B.1, MSCP	Possible
Decumbent goldenbush (<i>Isocoma menziesii</i> var. <i>decumbens</i>)	1B.2, MSCP	Present
Delicate clarkia (<i>Clarkia delicata</i>)	1B.2, MSCP	Possible
Del Mar manzanita (<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i>)	1B.1, FE, MSCP	Possible
Encinitas baccharis (<i>Baccharis vanessae</i>)	1B.1, FT, MSCP	Possible
Engelmann oak (<i>Quercus engelmannii</i>)	4.2	Present
Golden-rayed pentachaeta (<i>Pentachaeta aurea</i> ssp. <i>aurea</i>)	4.2	Present
Graceful tarplant (<i>Holocarpha virgata</i> ssp. <i>elongata</i>)	4.2	Present
Little mousetail (<i>Myosurus minimus</i> ssp. <i>apus</i>)	3.1	Possible
Long-spined spineflower (<i>Chorizanthe polygonoides</i> var. <i>longispina</i>)	1B.2, MSCP	Present
Nuttall’s scrub oak (<i>Quercus dumosa</i>)	1B.1, MSCP	Present
Orcutt’s brodiaea (<i>Brodiaea orcuttii</i>)	1B.1, MSCP	Present
Parry’s tetracoccus (<i>Tetracoccus dioicus</i>)	1B.2, MSCP	Present
Rainbow manzanita (<i>Arctostaphylos rainbowensis</i>)	1B.1, MSCP	Possible
Robinson’s pepper-grass (<i>Lepidium virginicum</i> var. <i>robinsonii</i>)	4.3, MSCP	Possible
San Diego ambrosia (<i>Ambrosia pumila</i>)	1B.1, FE, MSCP	Possible
San Diego barrel cactus (<i>Ferocactus viridescens</i>)	2B.1, MSCP	Present
San Diego button-celery (<i>Eryngium aristulatum</i> var. <i>parishii</i>)	1B.1, FE, CE, MSCP	Possible
San Diego County viguiera (<i>Bahiopsis [Viguiera] laciniata</i>)	4.2	Present
San Diego goldenstar (<i>Bloomeria clevelandii</i>)	1B.1	Present
San Diego gumplant (<i>Grindelia hallii</i>)	1B.2, MSCP	Possible
San Diego marsh-elder (<i>Iva hayesiana</i>)	2B.2	Possible
San Diego mesa mint (<i>Pogogyne abramsii</i>)	1B.1, FE, CE, MSCP	Possible
San Diego sagewort (<i>Artemisia palmeri</i>)	4.2	Present
San Diego thorn-mint (<i>Acanthomintha ilicifolia</i>)	1B.1, FT, CE, MSCP	Possible
San Miguel savory (<i>Clinopodium chandleri</i>)	1B.2	Possible
Slender-horned spineflower (<i>Dodecahema leptoceras</i>)	1B.1, FE, CE	Possible
Small-flowered microseris (<i>Microseris douglasii</i> ssp. <i>platycarpha</i>)	4.2	Present
Smooth tarplant (<i>Centromadia pungens</i> ssp. <i>laevis</i>)	1B.1, MSCP	Possible
Southern tarplant (<i>Centromadia parryi</i> ssp. <i>Australis</i>)	1B.1, MSCP	Possible
Southwestern spiny rush (<i>Juncus acutus</i> ssp. <i>leopoldii</i>)	4.2	Present
Spreading navaretia (<i>Navaretia fossalis</i>)	1B.1, FT, MSCP	Possible
Summer holly (<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>)	1B.2, MSCP	Present
Tecate Cypress (<i>Hesperocyparis forbesii</i>)	1B.1	Possible
Thread-leaved brodiaea (<i>Brodiaea filifolia</i>)	1B.1, FT, CE, MSCP	Possible

Table 3.4-3 Special Status Plants with a Potential to Occur in the Biological Resources Survey Area

Species	Rare Plant Rank	Potential to Occur
Variegated dudleya (<i>Dudleya variegata</i>)	1B.2, MSCP	Possible
Vernal pool monkeyflower (<i>Mimulus latidens</i>)	MSCP	Possible
Wart-stemmed ceanothus (<i>Ceanothus verrucosus</i>)	2B.2, MSCP	Possible
Western dichondra / Western ponysfoot (<i>Dichondra occidentalis</i>)	4.2	Present
Willow monardella (<i>Monardella viminea</i>)	1B.1. FE, CE, MSCP	Possible

Sources: CalFlora 2017a; 2017b; CDFW 2017b, 2017d; CNPS 2017; County of San Diego 1998; iNaturalist 2017; Insignia 2015a, 2015b, 2017a, 2017b; MCAS Miramar 2011; USFWS 2017a; University of California Berkeley 2017

Key:

FE = Federally Endangered

FT = Federally Threatened

CE = California Endangered

CT = California Threatened

MSCP = Sensitive plants on List A of the San Diego Multiple Species Conservation Plan Covered Species List

California Native Plant Society Rare Plant Ranks:

1A = Presumed extinct in California

1B = Rare, threatened, or endangered in California and elsewhere

2B = Rare, threatened, or endangered in California, but more common elsewhere

3 = Plants about which we need more information—a review list

4 = Plants of limited distribution—a watch list

California Native Plant Society Rare Plant Ranks further subcategorized by threat ranks:

0.1 = Seriously threatened in California

0.2 = Moderately threatened in California

0.3 = Not very threatened in California

Special Status Plant Surveys

Biologists conducted special status plant surveys during the spring of 2015 within 965 acres throughout the BRSA, omitting developed areas, orchards and vineyards, intensive agricultural areas, and ornamental areas (Insignia 2015b; Appendix G). Areas mapped as disturbed habitat, as well as eucalyptus woodlands and non-native woodlands, were surveyed where there was potential for special status plants to occur. In the spring of 2017, biologists conducted surveys in additional work areas that were added to the proposed project footprint.

Eleven special status species were observed in the project area during surveys conducted in 2015 and 2017 (Insignia 2015b, 2017b) (Table 3.4-4). An additional eight special status plants were documented within the BRSA, but outside of the project area. While none of these species are FESA- or CESA-listed, nine are CNPS Rare Plant Rank 1 or 2 (Table 3.4-3). Table 3.4-4 summarizes the locations of special status plant species that were observed in the project area and in the BRSA and describes the vegetation communities with which they are associated.

Table 3.4-4 Special Status Plant Occurrence Locations in the Project Area and the Biological Resources Survey Area

Species	Rank ^(a)	Vegetation Community Association	Approximate Location of Species Occurrence(s)
Ashy spike-moss	4.1	Scrub and chaparral communities	MP 39–47
Brewer's calandrinia	4.2	Scrub and chaparral communities.	MP 45–47
Engelmann oak	4.2	Chaparral, grasslands, woodland, and riparian communities.	MP 0–6, MP 13–19, MP 39.5
Golden-rayed pentachaeta	4.2	Grassland and oak woodland communities.	MP 44–47
Graceful tarplant	4.2	Scrub and chaparral communities, grasslands, and woodland.	MP 39, MP 44–46
Long-spined spineflower	1B.2	Scrub and chaparral communities, and grasslands.	MP 45–47
Orcutt's brodiaea	1B.1	Riparian habitat and freshwater seeps.	MP 44.5–46

Table 3.4-4 Special Status Plant Occurrence Locations in the Project Area and the Biological Resources Survey Area

Species	Rank ^(a)	Vegetation Community Association	Approximate Location of Species Occurrence(s)
San Diego County viguiera	4.2	Scrub and chaparral communities.	MP 40–43
San Diego goldenstar	1B.1	Scrub and chaparral communities, grasslands, vernal pools, and freshwater marsh.	MP 44–47
Small-flowered microseris	4.2	Grasslands, woodlands, vernal pools, and coastal sage scrub communities.	MP 44.5
Western dichondra	4.2	Chaparral communities, grasslands, woodland, and coastal sage scrub.	MP 43–44
California adolphia	2B.1	Scrub and chaparral communities and grasslands.	MP 31
Decumbent goldenbush	1B.2	Coastal sage scrub and riparian habitat.	MP 38.5–39
Nuttall's scrub oak	1B.1	Chaparral communities and coastal sage scrub.	MP 39–40, MP 43.5–44.5
Parry's tetracoccus	1B.2	Chaparral communities and coastal sage scrub.	MP 3
San Diego barrel cactus	2B.1	Scrub and chaparral communities and grasslands. Occur near vernal pools.	MP 47
San Diego sagewort	4.2	Chaparral and coastal sage scrub communities and riparian habitat.	MP 39.5–44
Southwestern spiny rush	4.2	Riparian habitat, meadows, marshes, and seeps.	MP 39–44
Summer holly	1B.2	Chaparral communities.	MP 17.5

Note:

(a) CNPS special status plant designations used in Table 3.4-4 are defined in the key to Table 3.4-3, above.

Key:

CNPS = California Native Plan Society

MP = Milepost

The majority of the special status plant species observed were located in the southern portion of the proposed alignment, along Pomerado Road or on MCAS Miramar. None of the 19 species observed in the BRSA are federally or state-listed species, and therefore, no focused special status plant species surveys were conducted. All special status plants observed in the BRSA are documented in Appendix E.

While they were not documented in the project area, there are an additional 27 special status plant species that could possibly occur in the project area, 11 of which are federally or state-listed: California orcutt grass, Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), Encinitas baccharis (*Baccharis vanessae*), San Diego ambrosia, San Diego button-celery, San Diego mesa mint (*Pogogyne abramsii*), San Diego thorn-mint, slender-horned spineflower (*Dodecahema leptoceras*), spreading navarretia, thread-leaved brodiaea, and willowy monardella.

Special Status Wildlife

Based on a literature and database review, 98 special status wildlife species have the potential to occur within the 27 quadrangles analyzed in the USGS 7.5-minute nine-quadrangle searches. Of these 98 species, 15 are present within the BRSA, two are presumed present within the BRSA, 47 may possibly occur within the BRSA, and 34 are not expected to occur or do not occur within the BRSA. Special status wildlife species that meet the criteria for “possible” or “present” are listed in Table 3.4-5. The habitat requirements of all species that could exist within or near the BRSA, including those that are not expected

to occur, can be found in Appendix F. Appendix F includes evidence demonstrating species’ known presence or assessment of their potential to occur within or near the BRSA and project area.

Table 3.4-5 Special Status Wildlife with a Potential to Occur in the Biological Resources Survey Area

Species Name (Common/Scientific)	Status (Federal/California/ County of San Diego)	Potential to Occur
Invertebrates		
Hermes copper butterfly (<i>Lycaena hermes</i>)	FC/--	Possible
Quino checkerspot butterfly (<i>Euphydryas editha quino</i>)	FE/--	Possible
Riverside fairy shrimp (<i>Streptocephalus woottoni</i>)	FE/--	Presumed Present
San Diego fairy shrimp (<i>Branchinecta sandiegonensis</i>)	FE/--	Presumed Present
Amphibians		
Arroyo toad (<i>Anaxyrus californicus</i>)	FE/--, SSC, MSCP	Possible
Western spadefoot toad (<i>Spea hammondi</i>)	--/--, SSC	Present
Reptiles		
Belding’s orange-throated whiptail (<i>Aspidoscelis hyperythra beldingi</i>)	--/--, WL, MSCP	Present
Coast horned lizard, also known as Blainville’s horned lizard (<i>Phrynosoma blainvillii</i>)	--/--, SSC	Present
Coast patch-nosed snake (<i>Salvadora hexalepis virgulata</i>)	--/--, SSC	Possible
Coastal whiptail (<i>Aspidoscelis tigris stejnegeri</i>)	--/--, SSC	Possible
Coronado skink (<i>Plestiodon skiltonianus interparietalis</i>)	--/--, WL	Possible
Red-diamond rattlesnake (<i>Crotalus ruber</i>)	--/--, SSC	Possible
Two-striped gartersnake (<i>Thamnophis hammondi</i>)	--/--, SSC, MSCP	Possible
Western pond turtle (<i>Emys marmorata</i>)	--/--, SSC, MSCP	Present
Birds		
Allen’s Hummingbird (<i>Selasphorus sasin</i>)	--/--, BCC	Possible
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	--/CE, FP, BCC, BGEPA, MSCP	Possible
Bell’s Sage Sparrow (<i>Artemisospiza belli belli</i>)	--/--, WL, BCC	Possible
Black-Chinned Sparrow (<i>Spizella astroregularis</i>)	--/--, BCC	Possible
Black Swift (<i>Cypseloides niger</i>)	--/--, SSC, BCC	Possible
Brewer’s Sparrow (<i>Spizella breweri</i>)	--/--, BCC	Possible
Coastal Cactus Wren (<i>Campylorhynchus brunneicapillus sandiegonensis</i>)	--/--, SSC, BCC, MSCP	Possible
Coastal California Gnatcatcher (<i>Poliophtila californica californica</i>)	FT/--, SSC, MSCP	Present
Cooper’s Hawk (<i>Accipiter cooperii</i>)	--/--, WL, MSCP	Possible
Costa’s Hummingbird (<i>Calypte costae</i>)	--/--, BCC	Possible
Ferruginous Hawk (<i>Buteo regalis</i>)	--/--, WL, BCC, MSCP	Possible
Golden Eagle (<i>Aquila chrysaetos</i>)	--/FP, WL, BCC, BGEPA MSCP	Possible
Grasshopper Sparrow (<i>Ammodramus savannarum</i>)	--/--, SSC, MSCP	Possible
Lawrence’s Goldfinch (<i>Carduelis lawrencei</i>)	--/--, BCC	Possible
Least Bell’s Vireo (<i>Vireo bellii pusillus</i>)	FE/CE, MSCP	Present
Least Bittern (<i>Ixobrychus exilis hesperis</i>)	--/--, SSC, BCC	Possible
Lewis’ Woodpecker (<i>Melanerpes lewis</i>)	--/--, BCC, MSCP	Possible
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	--/--, SSC, BCC, MSCP	Possible
Marbled Godwit (<i>Limosa fedoa</i>)	--/--, BCC	Possible
Northern Harrier (<i>Circus cyaneus</i>)	--/--, SSC, MSCP	Present
Nuttall’s Woodpecker (<i>Picoides nuttalli</i>)	--/--, BCC	Present
Oak Titmouse (<i>Baeolophus inornatus</i>)	--/--, BCC	Possible
Olive-Sided Flycatcher (<i>Contopus cooperi</i>)	--/--, SCC, BCC	Possible

Table 3.4-5 Special Status Wildlife with a Potential to Occur in the Biological Resources Survey Area

Species Name (Common/Scientific)	Status (Federal/California/ County of San Diego)	Potential to Occur
Osprey (<i>Pandion haliaetus</i>)	--/--, WL, MSCP	Possible
Peregrine Falcon (<i>Falco peregrinus</i>)	--/--, FP, BCC, MSCP	Possible
Prairie Falcon (<i>Falco mexicanus</i>)	--/--, WL, BCC, MSCP	Possible
Red-Shouldered Hawk (<i>Buteo lineatus</i>)	--/--, MSCP	Possible
Sharp-Shinned Hawk (<i>Accipiter striatus</i>)	--/--, WL, MSCP	Possible
Short-Billed Dowitcher (<i>Limnodromus griseus</i>)	--/--, BCC	Possible
Short-Eared Owl (<i>Asio flammeus</i>)	--/--, SSC	Possible
Southern California Rufous-Crowned Sparrow (<i>Aimophila ruficeps canescens</i>)	--/--, WL, MSCP	Possible
Southwestern Willow Flycatcher (<i>Empidonax traillii extimus</i>)	FE/CE, MSCP	Present
Tricolored Blackbird (<i>Agelaius tricolor</i>)	--/CESA Candidate, SSC, BCC, MSCP	Possible
Western Bluebird (<i>Sialia Mexicana</i>)	--/--, SSC, MSCP	Possible
(Western) Burrowing Owl (<i>Athene cunicularia hypugaea</i>)	--/--, SSC, BCC	Possible
Western Yellow-Billed Cuckoo (<i>Coccyzus americanus occidentalis</i>)	FT/CE, BCC	Possible
White-Faced Ibis (<i>Plegadis chihi</i>)	--/--, WL, MSCP	Present
White-Tailed Kite (<i>Elanus leucurus</i>)	--/--, WL, FP, MSCP	Present
Yellow-Breasted Chat (<i>Icteria virens</i>)	--/--, SSC	Present
Yellow Warbler (<i>Setophaga petechia</i>)	--/--, SSC, BCC	Present
Mammals		
Big free-tailed bat (<i>Nyctinomops macrotis</i>)	--/--, SSC	Possible
Hoary bat (<i>Lasiurus cinereus</i>)	--/--, SSC	Possible
Mountain lion (<i>Puma concolor</i>)	--/--, MSCP	Possible
Pocketed free-tailed bat (<i>Nyctinomops femorosaccus</i>)	--/--, SSC	Possible
San Diego black-tailed jackrabbit (<i>Lepus californicus bennettii</i>)	--/--, SSC	Present
San Diego desert woodrat (<i>Neotoma lepida intermedia</i>)	--/--, SSC	Possible
Southern mule deer (<i>Odocoileus hemionus fuliginata</i>)	--/--, MSCP	Present
Western mastiff bat (<i>Eumops perotis californicus</i>)	--/--, SSC	Possible
Western red bat (<i>Lasiurus blossevilli</i>)	--/--, SSC	Possible

Sources: CDFW 2017a, 2017b, 2017c; California Herps 2017; CNDDDB 2017; County of San Diego 1998; eBird 2017; iNaturalist 2017; Insignia 2015a, 2015d, 2015e, 2016a, 2016b, 2017a; Lotts and Naberhaus 2017; MCAS Miramar 2011; Rocks Biological 2015a, 2015b, 2016; SDNHM 2002, 2017; Scott Tremor Biological Consulting 2016; Tierra Data, Inc. 2011; USFWS 2008; USFWS and the County of Riverside, California 2003; Xerces 2017.

Key:

BCC = U.S. Fish and Wildlife Service Birds of Conservation Concern

BGEPA = Bald and Golden Eagle Protection Act

CE = California Endangered

CT = California Threatened

FC = Species proposed for listing under the Federal Endangered Species Act

FE = Federally Endangered

FP = California Department of Fish and Wildlife "Fully Protected"

FT = Federally Threatened

MSCP = Sensitive wildlife in Group 1 of the San Diego Multiple Species Conservation Plan Covered Species List

SSC = California Department of Fish and Wildlife "Species of Special Concern"

WL = California Department of Fish and Wildlife "Watch List"

Special Status Wildlife Surveys

Quino Checkerspot Butterfly

The Quino checkerspot butterfly is listed as endangered under the FESA. One relatively recent (2005) CNDDDB occurrence of this species was recorded approximately 1.5 miles south of the proposed project terminus.

The USFWS-recommended Quino Survey Area covers 179 acres within MCAS Miramar and University of California Elliot Field Station. Of the 179 acres, 160 are located on MCAS Miramar and 19 are within Elliot Field Station. In fall 2014 and spring 2015, biologists conducted a habitat assessment of the 160 acres located on MCAS Miramar that fall within the BRSA between Milepost (MP) 44 (approximately) through the proposed project terminus (Rocks Biological 2015a; Appendix G). The habitat assessment was used to determine locations in the recommended Quino Survey Area with the potential to support Quino checkerspot butterfly. On MCAS Miramar, 19 acres were determined to be “excluded areas” (i.e., orchards, developed areas, in-fill parcels smaller than 1 acre dominated by non-native vegetation, active agriculture sites, and closed-canopy woody vegetation) and were not surveyed. The 19 acres located within Elliot Field Station were assessed and surveyed separately due to access restrictions.

From February to May 2015, biologists conducted USFWS protocol-level Quino checkerspot butterfly surveys of the remaining 141 acres within MCAS Miramar. No Quino checkerspot butterflies were observed during these surveys. Two larval host plants were observed and documented during the spring 2015 surveys; there were 82 dotseed plantain (*Plantago erecta*) occurrences along much of the BRSA between MP 44 and the project terminus, and 12 owl’s clover (*Castilleja exserta* ssp. *exserta*) occurrences between MP 44.5 and the project terminus.

In February 2016, biologists conducted a habitat assessment of the 19 restricted acres on Elliot Field Station and determined that 9 acres had the potential to provide suitable habitat for Quino checkerspot butterfly (Rocks Biological 2016; Appendix G). Biologists conducted USFWS protocol-level surveys in suitable habitat on Elliot Field Station between February and May 2016. No Quino checkerspot butterflies were observed during focused surveys. There were 16 dotseed plantain occurrences and 43 purple owl’s clover occurrences within Elliot Field Station between approximately MP 43.5 and MP 44 within the BRSA. Dotseed plantain and purple owl’s clover occurrences from both MCAS Miramar and Elliot Field Station are depicted in Appendix E.

In 2017, Quino checkerspot butterfly was observed on MCAS Miramar, but the closest documented observation was approximately 2.5 miles east of the BRSA along Spring Canyon Road (MCAS Miramar 2017).

Arroyo Toad

The arroyo toad is listed as endangered under the FESA and conducts its full life cycle near riparian habitats. It breeds and lays eggs in slow-moving riparian habitat, where the eggs hatch and metamorphose into tadpoles and eventually adults. In the dry season, adult arroyo toads migrate to upland riparian vegetation communities, such as southern cottonwood-willow riparian forest, where they aestivate.

A biologist conducted a preliminary assessment of 152.7 acres of wetland and riparian communities within the BRSA that had the potential to provide suitable arroyo toad habitat (Insignia 2015e; Appendix G). Factors indicating habitat suitability included sandy substrates, signs of prolonged surface water at the site, sparse vegetation, presence of native species, and minimal artificial barriers that could impede arroyo toad movement. After the habitat assessment, the biologist determined that 47.4 of the acres provided suitable habitat for arroyo toad, and survey sites were selected. There were 11 survey sites within the

47.4-acre survey area. Survey Sites 1 through 6 were between Rainbow and Gopher Canyon Road. Survey Sites 7 to 11 were between Gopher Canyon Road and southern Poway.

Surveys were conducted in accordance with USFWS protocol from April to June 2015. No arroyo toads or their signs were observed during protocol surveys. While no arroyo toad individuals were observed, Survey Site 2 (San Luis Rey River) is known to support nearby arroyo toad populations approximately 1.1 miles upstream and 0.4 miles downstream according to the CNDDDB. Survey Site 7 (Sandy Hill Road) contained suitable sandy substrate within the drainage for arroyo toad, though the upland substrates were less suitable. An additional CNDDDB record indicates that arroyo toad has been observed adjacent to Survey Site 7. The biologist determined that drought may have contributed to arroyo toad absence at these sites, and recommended that both sites undergo secondary surveys. Therefore, biologists conducted additional protocol-level surveys at Survey Site 2 and Survey Site 7 in April to June 2016 (Insignia 2016b; Appendix G). No arroyo toads were observed during these surveys, though western spadefoot toad (*Spea hammondi*), a CDFW SSC, was incidentally observed at Survey Site 7. The biologist recommended that Survey Site 2 be considered occupied habitat, as arroyo toads are known to exist at the site under sufficiently wet conditions. It is possible that arroyo toad is restricted to nearby sites that consistently feature surface water (Insignia 2016b).

The San Luis Rey River and its tributaries contain designated critical habitat for arroyo toad, including upland aestivating habitat resources and potential arroyo toad breeding habitat. The proposed project would cross portions of this critical habitat. It also would cross Lake Hodges/San Dieguito River critical habitat; however, at the time of the surveys, the portion of the critical habitat within the BRSA did not exhibit suitable habitat for arroyo toad due to the presence of thick perennial vegetation and the lack of sandy substrate associated with a stream channel (Insignia 2015e).

Coastal California Gnatcatcher

Biologists conducted surveys for Coastal California Gnatcatcher (threatened under FESA) in accordance with the USFWS Coastal California Gnatcatcher protocol-level survey guidelines (USFWS 1997) during April and May of 2015 (Rocks Biological Consulting 2015b; Appendix G). The surveys covered 478.5 acres of suitable habitat (Diegan coastal sage scrub, chamise chaparral, southern mixed chaparral, coastal sage-chaparral transition, and open coast live oak woodlands), with the exclusion of 97.7 acres of suitable habitat within MCAS Miramar because MCAS Miramar conducts regular surveys for this species. Suitable habitat for Coastal California Gnatcatcher is found throughout the entire BRSA. (See the scrub and chaparral communities in Appendix E.)

A total of 20 Coastal California Gnatcatcher individuals were observed, including 13 adults (five pairs and three individuals) and seven fledglings in association with three of the adult pairs. The 20 Coastal California Gnatcatchers were observed throughout the BRSA and are depicted in Appendix E. One pair was observed in coastal sage scrub north of MP 6 in critical habitat (which is defined below). A second pair was observed in coastal sage scrub just north of MP 9, and was observed feeding two fledglings in critical habitat. Three territories were observed near MP 11—one male and two pairs, all within coastal sage scrub and critical habitat. Incubating adults, fledglings, and juveniles were observed on various survey dates. The fifth pair was observed in coastal sage scrub near MP 36. Individual Coastal California Gnatcatchers were observed near MP 35, MP 36, and MP 39 (Rocks Biological Consulting 2015b). MCAS Miramar conducts regular surveys for endangered species, including Coastal California Gnatcatcher. Coastal California Gnatcatcher individuals and use areas are known to occur throughout MCAS Miramar, including in areas near the BRSA. (MCAS Miramar 2017). Between 2009 and 2016, five Coastal California Gnatcatcher use areas were consistently documented adjacent to the project area at MP 45.5, MP 46.3, and at the proposed project terminus. Known Coastal California Gnatcatcher use areas since 2009 that are adjacent to the BRSA, and that have been documented during MCAS Miramar endangered species surveys, are depicted in Appendix E. Additionally, the CNDDDB reports 59 Coastal

California Gnatcatcher records within 3 miles of the project area in the last 20 years, and there are many documented eBird (2017) occurrences of this species throughout the project area, in MCAS Miramar and near Lake Hodges/San Dieguito River, Van Dam Peak, Black Mountain, and Pala Mesa.

Riparian Birds

Biologists conducted surveys for Least Bell's Vireo and Southwestern Willow Flycatcher in accordance with USFWS survey protocols for each species from April to July 2011 at MCAS Miramar (Tierra Data, Inc. 2011; Appendix G). Both species are listed as endangered under FESA and CESA. There are multiple CNDDDB records of Least Bell's Vireo within or near the BRSA in the last 20 years, and there are two CNDDDB records of Southwestern Willow Flycatcher within or near the BRSA in the past 20 years: one along the San Dieguito River east of Lake Hodges and the other 2 miles northeast of Pala Mesa, in the northern part of the project area. During an October 2010 habitat assessment, 198.5 acres throughout MCAS Miramar were determined to provide suitable Least Bell's Vireo and/or Southwestern Willow Flycatcher habitat. Surveys were conducted at 33 separate survey locations throughout the suitable habitat. During the surveys, Least Bell's Vireos were observed within marginally suitable habitat. Accordingly, the survey areas were expanded to include additional suitable habitat.

During the 2011 MCAS Miramar surveys, 23 Least Bell's Vireo individuals were observed, comprising 17 territorial males (of nesting pairs), five transient male individuals, and one unpaired male. Observations occurred primarily along major drainages and within chaparral vegetation. Least Bell's Vireo observations and use areas were documented within or adjacent to the project area at MP 45.5 and at the project terminus in San Clemente Canyon and Elanus Canyon. No Least Bell's Vireos were observed west of Interstate (I-) 15, though suitable habitat was present. During the 2011 surveys, one migrant willow flycatcher was observed, but was determined to most likely be a Little Willow Flycatcher (*Empidonax traillii brewsteri*) and not a Southwestern Willow Flycatcher.

In fall 2014 and spring 2015, biologists mapped vegetation communities within the BRSA (Insignia 2015b; Appendix G). Through this analysis, 148.9 acres were determined to support wetland or riparian vegetation, and therefore had the potential to provide suitable habitat for Least Bell's Vireo and Southwestern Willow Flycatcher. In April 2015, biologists assessed the 148.9 acres of potentially suitable habitat within the BRSA and determined that 87.3 acres contained suitable habitat for Least Bell's Vireo and Southwestern Willow Flycatcher based on certain vegetative and contiguity thresholds. The 87.3 acres of suitable habitat were divided into 28 individual survey areas located between MP 0.2 and MP 43.3. Surveys were conducted between April and July 2015, according to USFWS survey protocols for each species. During surveys, 18 Least Bell's Vireo individuals were observed, comprising two presumed breeding pairs at MP 8.8, one presumed breeding pair at MP 14.0, five documented or presumed breeding pairs between MP 29.6 and MP 30, one transient individual at MP 29.5, and one transient individual at MP 43.3. Least Bell's Vireo occurrences are depicted in Appendix E. One willow flycatcher of unknown subspecies was heard at MP 37.6. It could not be determined if it was a Southwestern Willow Flycatcher or a Little Willow Flycatcher.

In June 2016, biologists determined that there were an additional 5.9 acres within the BRSA that could provide suitable habitat for Least Bell's Vireo and/or Southwestern Willow Flycatcher, and those acres were divided into seven individual survey areas (Insignia 2016a; Appendix G). Upon further study, biologists determined that within the additional 5.9 acres, there was no habitat suitable for Southwestern Willow Flycatcher, and 2.37 acres of suitable Least Bell's Vireo habitat. Biologists conducted surveys between April and June 2016, and no Southwestern Willow Flycatchers or Least Bell's Vireos were observed. Survey sites making up the total 5.9-acre survey area are described below:

- **Site 1:** MP 36.2 at the intersection of Ted Williams Parkway and Pomerado Road, across from Staging Area/Laydown Yard 6B Arbolitos Field Yard;

- **Site 2:** MP 28.5 on both sides of Bear Valley Parkway;
- **Site 3:** MP 22.4 on the eastern side of North Centre City Parkway;
- **Site 4:** MP 20 east of I-15 and north of Mainline Valve 5;
- **Site 5:** MP 10.7 at the intersection of Old Highway 395 and West Lilac Road;
- **Site 6:** MP 7.4 west of Old Highway 395, near Almendra Court; and
- **Site 7:** MP 3.4 at a cross-country site south of an existing access road.

The riparian bird surveys did not include protocol-level surveys for Western Yellow-Billed Cuckoo, a candidate species for listing under the FESA and an endangered species under the CESA, because sightings within San Diego County are rare and sporadic. However, a single CNDDDB occurrence for this species was documented in 2011 more than 2 miles from the project area along the San Luis Rey River near Bonsall (CDFW 2017b). eBird records documented a pair of birds in that same location in 2011, 2012, and 2013. A second eBird record from 2011 is located east of Lake Hodges near the intersection of Bear Valley Parkway and I-15 (eBird 2017). Therefore, while no surveys were conducted for this riparian species, suitable habitat is present.

Riverside and San Diego Fairy Shrimp

Riverside and San Diego fairy shrimp are both listed as endangered under the FESA. While neither protocol-level fairy shrimp surveys, nor project-specific surveys for Riverside fairy shrimp or San Diego fairy shrimp, have been undertaken in the BRSA, MCAS Miramar conducts annual endangered species surveys, including surveys for Riverside and San Diego fairy shrimp. These surveys have documented both Riverside and San Diego fairy shrimp in vernal pools on MCAS Miramar, but outside of the BRSA (Insignia Environmental 2015a; MCAS Miramar 2011, 2017). These species are presumed present in all potentially suitable vernal pool habitat (refer to Section 3.4.1.3 for a description of suitable vernal pool habitat; Table 3.4-2).

Six vernal pools occur within 250 feet of the project area (Figure 3.4-1). The first is a vernal pool complex located along the Mira Mesa Pipeline Extension at MP 43.6, approximately 85 feet from the temporary workspace. The second is located in the shoulder of West Aqueduct Road at MP 44.8, immediately adjacent to the temporary workspace. The third is a vernal pool complex at MP 45.1, approximately 60 feet from the temporary workspace. The fourth is a vernal pool complex at MP 45.3, approximately 120 feet from the temporary workspace. The fifth is a vernal pool complex crossed by the temporary workspace and permanent ROW at MP 45.6. The sixth is a vernal pool at MP 46.5, approximately 10 feet from the temporary workspace. Critical habitat for the San Diego fairy shrimp is located within the BRSA outside of the project area within MCAS Miramar; however, the USFWS (2007) final rule exempted critical habitat for San Diego fairy shrimp within boundaries of Miramar under Section 4(a)(3)(B)(i) of the FESA (Figure 3.4-2) (Insignia 2015a).

Bird Species Not Listed Under FESA or CESA

The project area contains suitable habitat for 33 special status birds not listed under the FESA, CESA, or Bald and Golden Protection Act (BGEPA) (Table 3.4-4). Six of these species have been incidentally observed within the BRSA during biological surveys: Northern Harrier (*Circus cyaneus*), Nuttall's woodpecker (*Picoides nuttallii*), White-Faced Ibis (*Plegadis chihi*), White-Tailed Kite (*Elanus leucurus*), Yellow-Breasted Chat (*Icteria virens*), and Yellow Warbler (*Setophaga petechial*). Suitable habitat for these species occurs throughout the project area (Appendix F). Three additional non-listed species—Burrowing Owl, Bald Eagle, and Golden Eagle—were not documented within the BRSA but have potential to occur there. Burrowing Owl is not listed under the FESA or CESA but is considered an SSC by the CDFW. Approximately 107.81 acres of suitable Burrowing Owl habitat is present within the

BRSA, of which 5.92 acres will be impacted permanently and 25.42 acres will be impacted temporarily. Bald and Golden Eagles are protected under the BGEPA, and the Golden Eagle is considered a Fully Protected species by the CDFW. No suitable nesting habitat is present within the BRSA for either species. Refer to Table 3.4-4 and Appendix F for habitat and occurrence information for all potentially occurring special status birds.

Other Special Status (Non-Bird) Vertebrates

The project area contains suitable habitat for other special status vertebrate (non-bird) wildlife not listed under the FESA or CESA, including one amphibian, eight reptiles, and nine mammals, five of which are bats (Table 3.4-4). Five of these species were incidentally observed within the BRSA during biological surveys: Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), coast horned lizard (*Phrynosoma blainvillii*), western pond turtle (*Actinemys marmorata*), mule deer (*Odocoileus hemionus*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), and western spadefoot toad (*Spea hammondi*). Coast horned lizard was incidentally observed during special status plant surveys on MCAS Miramar in spring 2015 at MP 45.8 and at MP 46.6 (Insignia 2015a). Western pond turtle was observed within the BRSA at MP 14 (Insignia 2015a). San Diego black-tailed jackrabbit was observed within the BRSA in multiple locations throughout MCAS Miramar in late 2014 and early 2015 (Insignia 2015a). One individual western spadefoot toad was incidentally observed during 2016 arroyo toad surveys at MP 15, adjacent to Staging Area/Laydown Yard #4 Boulder Knolls (Insignia 2016b).

These five species do not have any designated critical habitat because they are not listed under the FESA or CESA. However, potentially suitable habitat for each species exists throughout much of the project area. Riparian and bottomland habitat that is potentially suitable for western spadefoot toad and western pond turtle occurs primarily along Rainbow Creek (MP 0), San Luis Rey River (MP 9), Escondido Creek (MP 24.5), Lake Hodges/San Dieguito River (MP 30), Beeler Creek (MP 39), and Poway Creek (MP 38). Coastal sage scrub and chaparral communities that provide potentially suitable habitat for Belding's orange-throated whiptail occur throughout most of the project area, including in the critical habitat designated for Coastal California Gnatcatcher north of MP 20, and along the alignment south of MP 20. Refer to Table 3.4-4 and Appendix F for additional habitat and occurrence information for all potentially occurring special status amphibian, reptile, and mammal species.

Aquatic Resources/Jurisdictional Waters

Twenty wetland areas and 139 drainages potentially under the jurisdiction of a Regional Water Quality Control Board (RWQCB) or the USACE were identified within the BRSA during the 2015 preliminary wetlands and waters assessment (Insignia 2015c). Biologists subsequently completed full delineations of the 20 potentially jurisdictional wetland areas identified in the preliminary assessment between September and December 2016, in accordance with the USACE Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the USACE Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008b). Of the 20 potential wetland areas evaluated, two met all three wetland criteria (hydrophytic vegetation, hydric soils, and wetland hydrology) in accordance with the USACE wetland determination method. These two wetlands were located between MP 43.9 and MP 46.7.

A total of 141 (two wetlands and 139 drainages) potentially RWQCB- and USACE-jurisdictional features, comprising 9.60 acres, were identified within the BRSA based on the results of the formal wetland delineation and identification of non-wetland waterbodies (Figure 3.4-1, Table 3.4-5) (Insignia 2017b). For the jurisdictional wetlands and waters surveys, the BRSA did not include the segment of the proposed project that would cross Lake Hodges/San Dieguito River from approximately MP 30 to 30.5, though this area is known to contain aquatic features.

In the BRSA, biologists identified approximately 157.3 acres of features potentially subject to CDFW jurisdiction pursuant to California Fish and Game Code (CFG) Section 1600 et seq. The CDFW-

jurisdictional area extends beyond the areas included in Table 3.4-5 to include the riparian areas adjacent to the identified features.

A summary of RWQCB-, CDFW-, and USACE-jurisdictional waters identified in the BRSA is provided in Table 3.4-6.

Table 3.4-6 Potentially RWQCB-, CDFW-(a), and USACE-jurisdictional Waters within the Biological Resources Survey Area(b)

Feature Type	Number	Acres
Ephemeral drainage	115	3.35
Intermittent drainage	23	5.66
Perennial drainage	1	0.22
Wetland	2	0.36
Total	141	9.60

Notes:

(a) CDFW jurisdiction includes these jurisdictional waters and extends to adjacent riparian vegetation.

(b) For the jurisdictional wetlands and waters surveys, the BRSA does not include the Lake Hodges/San Dieguito River.

Key:

BRSA = Biological Resources Survey Area

CDFW = California Department of Fish and Wildlife

RWQCB = Regional Water Quality Control Board

USACE = U.S. Army Corps of Engineers

Vernal pools are seasonally variable habitats that provide habitat to special status plant and wildlife species. Vernal pools may be under CDFW, USACE, or USFWS jurisdiction. Vernal pool basins and watersheds have been identified within the BRSA through project-specific surveys completed by San Diego Gas & Electric Company (SDG&E) (Insignia 2017b), a vernal pool inventory completed for the City of San Diego in 2002 and 2003 (County of San Diego 2012), and vernal pool surveys completed within MCAS Miramar (MCAS Miramar 2017). Based on these surveys and inventory, 3.2 acres of vernal pools are located within the BRSA as defined in the “Vernal Pool Clarification” addendum to SDG&E’s Natural Community Conservation Plan (NCCP) Subregional Plan. Of these 3.2 acres, 3.0 acres are located at MP 44.8, 45.1, 45.3, 45.6, and 46.5, and 0.2 acres are located near the Mira Mesa Pipeline Extension at MP 43.6.

Critical Habitat

The USFWS designates critical habitat for species that are federally listed as threatened or endangered under the FESA (USFWS 2017c). Critical habitat refers to either 1) specific areas within the broader geographic area in which a federally threatened or endangered species may occur that contain physical or biological features critical to the conservation of the species and may require special conservation management or protection, or 2) specific areas outside of an occupied broader geographic area that remain critical for the conservation of the species. Areas designated as critical habitat may or may not have been occupied by a special status species at the time of designation. Critical habitat located within the BRSA is summarized in Table 3.4-6. Designated critical habitat (0.6 acre) for San Diego fairy shrimp (*Branchinecta sandiegonensis*) is located within the BRSA on MCAS Miramar; however, the USFWS final critical habitat rule (USFWS 2007) exempted areas within boundaries of MCAS Miramar under Section 4(a)(3)(B)(i) of the FESA and therefore that area is not included in Table 3.4-7.

Table 3.4-7 Species with Designated Critical Habitat within the Biological Resources Survey Area

Species	Critical Habitat within the BRSA (acres)
Arroyo Toad (<i>Anaxyrus californicus</i>)	66.66
Coastal California Gnatcatcher (<i>Poliophtila California californica</i>)	613.40
Least Bell's Vireo (<i>Vireo bellii pusillus</i>)	47.82
Southwestern Willow Flycatcher (<i>Empidonax traillii extimus</i>)	18.94

Source: Insignia 2015a

Key:

BRSA = Biological Resources Survey Area

Critical habitat within a 5-mile buffer around the proposed project was considered and is shown on Figure 3.4-2. Critical habitat for the following species exists within 5 miles of the proposed project, but not within the BRSA or within the project area:

- San Diego ambrosia (*Ambrosia pumila*)
- San Diego thorn-mint (*Acanthomintha ilicifolia*)
- Spreading navarretia
- Thread-leaved brodiaea (*Brodiaea filifolia*)
- Willowy monardella

Wildlife Migration Corridors and Linkages

The BRSA intersects with potential wildlife corridors and habitat linkages. Wildlife corridors and habitat linkages are connective habitat resources that allow for uninterrupted movement and migration of species and prevent fragmentation and isolation of plant and wildlife populations (County of San Diego 2010, Aguilar 2006, Young et al. 1996). They can be critical for the survival of large predatory species, with expansive range requirements. Riparian corridors and drainages often connect upland and open space areas and provide access to expansive, intact habitat areas suitable for species requiring large ranges. The locations of potential wildlife corridors and habitat linkages are listed in Table 3.4-8.

Numerous drainages and riparian corridors form potential wildlife corridors and linkages to large intact upland habitat areas outside of the BRSA (Table 3.4-8 and Figure 3.4-3). Additionally, Poway Creek, Beeler Creek, and Carroll Canyon Creek transect developed areas, providing linkages to additional habitat resources east and west of the BRSA.

There are three wildlife migration corridors that likely represent the most important corridors in the BRSA: an area identified by the California Essential Habitat Connectivity Project, the San Luis Rey River, and Lake Hodges/San Dieguito River. The California Essential Habitat Connectivity Project identified MP 0 through approximately MP 1.5 as a location of essential habitat connectivity between the Santa Ana Mountains and Laguna Mountains (Spencer et al. 2010). Additionally, in a separate study by Hunter et al. (2003), mountain lions were used as a focal species to assess wildlife habitat connectivity. MP 0 through MP 6 overlap with a “choke point” for mountain lions, meaning this area is of higher conservation priority in order to maintain connectivity between important existing habitats. The San Luis Rey River is a riparian corridor between MP 8 and MP 10 that connects the San Luis Rey River Park, Pacific Ocean, and Wilderness Gardens Preserve. The San Luis Rey River and Lake Hodges/San Dieguito River are both Important Bird Areas of global priority according to the Audubon Society. Lake Hodges provides connectivity along the San Dieguito River riparian corridor to non-riparian upland areas such as Battle Mountain (Cooper 2004), and both sites support or have the potential to support arroyo toad, western spadefoot toad, mule deer, mountain lion, Coastal California Gnatcatcher, western pond turtle,

and multiple riparian and aquatic bird species, including Least Bell’s Vireo, Southwestern Willow Flycatcher, white-Faced ibis, and Western Yellow-Billed Cuckoo. Lake Hodges also supports migratory birds utilizing the Pacific Flyway, a major north-south migration corridor spanning from Alaska to Patagonia.

Table 3.4-8 Wildlife Corridors and Linkages that Cross the Biological Resources Survey Area

Feature ID (Figure 3.4-3)	Wildlife Corridor/Linkage	Feature Type	Location (MP)	Connectivity
1	Mountain Lion “Choke Point”	Open Space	0–6	Santa Ana Mountains, Laguna Mountains
2	California Essential Habitat Connectivity	Open Space	0–1.5	Santa Ana Mountains, Laguna Mountains
3	Rainbow Creek	Drainage	1–2	Mount Olympus Preserve, Santa Margarita River Lands
4	Two areas of open space / orchards at the southern end of Rainbow Hills Road	Open Space	3–4	Fallbrook Naval Weapons Station, MCAS Camp Pendleton
5	Unnamed Ephemeral Feature	Drainage	4–6	Red Mountain, Monserate Mountain Preserve
6	Unnamed Ephemeral Feature	Drainage	7	Red Mountain, San Luis Rey River
7	San Luis Rey River	Perennial	8–9	San Luis Rey River Park, Pacific Ocean, Wilderness Gardens Preserve
8	Kit Carson Park	Drainage	27–28	Lake Hodges, San Dieguito River Park, Battle Mountain
9	San Dieguito River Park	Drainage	29–30	Kit Carson Park, Lake Hodges, Battle Mountain
10	Lake Hodges/San Dieguito River	Reservoir/Drainage	29.5–31	Kit Carson Park, Elfin Forest Recreational Reserve, San Dieguito River Park, Blue Sky Ecological Reserve, Pacific Flyway, Battle Mountain, Del Dios Highlands Preserve
11	Poway Creek and Conservation Easements in South Poway Cornerstone, east of Pomerado Road	Drainage, Open Space	38–39	Van Dam Peak, Black Mountain Open Space Park, Los Peñasquitos Creek, Beeler Creek, Sabre Springs Open Space
12	Beeler Creek	Drainage	39–40	Poway Creek, Los Peñasquitos Creek, Black Mountain Open Space Park, Los Peñasquitos Canyon Reserve, Sycamore Canyon Open Space Preserve
13	Carroll Canyon Creek	Drainage	41–43	Scripps Miramar Open Space Area, Rose Canyon Open Space Park, UCSD San Diego Elliot Chaparral Reserve
14	University of California San Diego Elliot Chaparral Reserve	Open space	43.5–44	Scripps Miramar Open Space Area, MCAS Miramar, Mission Trails Regional Park
15	Scripps Miramar Open Space Area	Open Space, Drainage	44.5–End	Los Peñasquitos Creek (via a drainage south of Pomerado Road), MCAS Miramar, Mission Trails Regional Park. UCSD San Diego Elliot Chaparral Reserve

Table 3.4-8 Wildlife Corridors and Linkages that Cross the Biological Resources Survey Area

Feature ID (Figure 3.4-3)	Wildlife Corridor/Linkage	Feature Type	Location (MP)	Connectivity
N/A	Pacific Flyway	N/A	All	Alaska-Patagonia avian migration corridor. Heavily associated with Lake Hodges, in particular in the BRSA.

Source: Insignia 2015a, 2015c

Key:

BRSA = Biological Resources Survey Area

ID = identifier

MP = Milepost

MCAS = Marine Corps Air Station

N/A = not applicable

UCSD = University of California San Diego

3.4.2 Regulatory Setting

This subsection summarizes federal, state, and local laws; regulations; and standards that govern biological resources in the project area.

3.4.2.1 Federal

Federal Endangered Species Act

Enacted to protect threatened and endangered species and the ecosystems upon which they depend, the FESA (16 United States Code [U.S.C.] §§ 1531 *et seq.*) is administered by the USFWS and the National Marine Fisheries Service (NMFS). The USFWS has primary responsibility for terrestrial and freshwater organisms, while the NMFS is mainly responsible for marine wildlife such as whales and anadromous fish such as salmon. The FESA makes it unlawful for any person to take a listed threatened and endangered species without a permit. Under this act, “take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” For projects that are not carried out, funded, or authorized by a federal agency, Section 10 of the FESA allows the USFWS to issue a permit to the project proponent to take listed threatened and endangered species incidental to otherwise legal activity.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. §§ 703–712) makes it illegal to “pursue, hunt, take, capture, kill, attempt to take, capture, kill, possess, sell, and barter” native migratory bird species without a permit. The MBTA is a multi-national effort to protect migratory birds, including eggs, young, nests, and feathers, and does not discriminate between live or dead birds. This act extends to almost all migratory birds and includes 1,026 species, including almost 60 species that may be legally hunted. The MBTA allows the USFWS to issue permits to qualified applicants for certain approved activities, and excludes upland game birds and non-native species (e.g., quail, turkeys, European starlings [*Sturnus vulgaris*]).

Bald and Golden Eagle Protection Act

The BGEPA (16 U.S.C. 668–668d) prohibits take of Bald Eagles (*Haliaeetus leucocephalus*) or Golden Eagles (*Aquila chrysaetos*) or trade in eagle parts, eggs, or feathers. Under this act, “take” means to pursue, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb (50 CFR § 22.3). The regulations include a USFWS program that will allow issuance of two new types of permits to authorize take: one addressing take in the form of disturbance or actual physical take of eagles (50 CFR

§ 22.26), and the other providing for removal of nests (50 CFR § 22.27). Most permits issued under the new regulations are expected to be those that would authorize disturbance, as opposed to physical take (i.e., take resulting in mortality). The USFWS will issue permits for physical take in very limited cases only, where every precaution has been implemented to avoid physical take and where other restrictions and requirements will apply.

Clean Water Act

The Clean Water Act (CWA) (33 U.S.C. §§ 1251 *et seq.*) regulates the discharge of pollutants into waters of the U.S. with the objective to restore and maintain the chemical, physical, and biological integrity of the nation's waters.

Section 404

Under Section 404 of the CWA, the USACE is authorized to regulate the discharge of fill or dredged material into waters of the U.S., which includes wetlands and non-wetland waterbodies. Wetlands are defined as land “inundated or saturated by surface or ground water at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR § 328.3; 40 CFR § 230.3). The USACE has the authority to determine if a wetland or waterbody is subject to regulatory jurisdiction under Section 404, and may issue a nationwide permit, which authorizes activities that have minimal adverse environmental effects and is issued for a period of no more than five years. There are currently 49 nationwide permit categories that authorize a wide variety of activities across the country, such as residential developments, utility lines, road crossings, and wetland and stream restoration activities. USACE may issue an individual or standard permit for activities that have potentially significant environmental impacts. The individual permit review process requires public review and a public comment period.

Section 401

Under CWA Section 401, every applicant for a federal permit or license for any activity that may result in a discharge to waters of the U.S. must obtain from the state a Water Quality Certification that the proposed activity will comply with state water quality standards. In California, the RWQCB administers the Section 401 Water Quality Certification Program. Section 401 certification is required before the USACE may issue an individual or nationwide Section 404 permit.

3.4.2.2 State

California Endangered Species Act

The CESA (CFGF § 2050 *et seq.*) is similar to the FESA and is administered by the CDFW. The CESA prohibits the take of CESA-listed species unless specifically provided for under another state law. Under this act, “take” means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill. CDFW allows take through CFGF Section 2081 agreements. Alternatively, where a proposed activity may impact species that are listed under both federal and state protection, the provisions of CFGF Section 2080.1 allow the CDFW to review the federal document (i.e., the Biological Assessment) for consistency with the CESA and state requirements. Under the CESA, endangered, rare, or threatened species are those listed in Sections 670.2 (plants) and 670.5 (wildlife), Title 14, California Code of Regulations. The protections of CESA also apply to species designated as candidate species.

The CDFW also identifies species of concern as those that may become listed as threatened or endangered due to loss of habitat, limited distributions, and diminishing population sizes or because the species is deemed to have scientific, recreational, or educational value. Species considered future protected species by the CDFW are designated California SSC. SSC-designated species currently have no legal status, but are considered indicator species useful for monitoring regional habitat changes.

California Fish and Game Code

- **Protection for Wetland and Riparian Habitats (Sections 1600 et seq.)** Pursuant to CFGC Section 1600 et seq., the CDFW has authority over all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state. A Lake or Streambed Alteration Agreement may be required for any activity that would result in an adverse impact to a river, stream, or lake. CDFW jurisdiction typically extends to the top of the bank and out to the outer edge of adjacent riparian vegetation, if present.
- **Protection of Birds and Raptors (Sections 3503, 3503.5).** Under CFGC Section 1802, the CDFW has jurisdiction over the conservation, protection, and management of all California wildlife, fish, native plants (including state-listed threatened and endangered and other special status species), and their habitats necessary to maintain biologically sustainable populations. CFGC Section 3503 specifies the following general provision for birds: “it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.” CFGC Section 3503.5 states that it is “unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season that results in the incidental loss of fertile eggs or nestlings or otherwise leads to nest abandonment is considered take.
- **Protection of Fully Protected Species (Sections 3511 and 5050).** The CDFW considers disturbance that causes nest abandonment or loss of reproductive effort to be take. CFGC Sections 3511 and 5050 prohibit the taking and possession without a permit of birds and reptiles listed as “fully protected.”
- **Native Plant Protection Act (Section 1900).** CFGC Section 1900 establishes the California Native Plant Protection Act, which includes provisions that prohibit the taking of listed rare or endangered plants from the wild. This act also includes a salvage requirement for landowners. Furthermore, it gives the CDFW authority to designate native plants as endangered or rare and establishes protection measures. Under CFGC Section 1913(B), actions undertaken by an agency or publicly or privately owned public utility to fulfill its obligation to provide service to the public are exempted from take prohibitions under the Native Plant Protection Act.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) (California Water Code, Division 7) regulates surface water and groundwater quality in the state and also assigns to the State Water Resources Control Board (SWRCB) responsibility for implementing CWA Sections 401 (Water Quality Certification), 402 (National Pollutant Discharge Elimination System, or NPDES), 303(d) (List of Impaired Water Bodies), and 305(b) (Report on the Quality of Waters in California). The SWRCB has delegated its authority to the nine RWQCBs. The SWRCB and RWQCBs are responsible for issuing permits for certain point source discharges and for regulating construction and stormwater runoff. The RWQCBs regulate discharges to “waters of the State” within their respective jurisdictions through administration of NPDES permits, Waste Discharge Requirements, and CWA Section 401 Water Quality Certifications.

Under the Porter-Cologne Act and the CWA, the SWRCB and RWQCBs are responsible for developing and implementing regional basin plans to regulate all pollutants or nuisance discharges that may affect either surface water or groundwater. The RWQCB prepares basin plans that describe implementation

programs to protect all waters in the region. Under Section 303(d) of the CWA, the RWQCB develops a list of impaired water bodies in which water quality is impeding the attainment of beneficial uses.

3.4.2.3 Regional and Local

This section gives an overview of local policies, ordinances and plans intended to protect biological resources and Habitat Conservation Plans (HCPs) in San Diego County.

Local Ordinances and Plans

County of San Diego Resource Protection Ordinance

The County of San Diego Resource Protection Ordinance requires that sensitive biological resources be evaluated as part of San Diego County’s discretionary environmental review process and specifically addresses the protection of wetlands and other sensitive habitat lands. Below is an excerpt of County Code Section 86.602’s key definitions:

(c) Environmentally Sensitive Lands: these lands shall consist of wetlands, floodplains, steep slope lands, sensitive habitat lands, and lands containing significant prehistoric or historic sites as defined by this Section.

(m) Riparian Habitat: An environment associated with the banks and other land adjacent to freshwater bodies, rivers, streams, creeks, estuaries, and other surface-emergent aquifers (such as springs, seeps, and oases). Riparian habitat is characterized by plant and animal communities which require high soil moisture conditions maintained by transported freshwater in excess of that otherwise available through local precipitation.

(n) Sensitive Habitat Lands: Land which supports unique vegetation communities, or the habitats of rare or endangered species or sub-species of animals or plants as defined by Section 15380 of the CEQA Guidelines, including the area which is necessary to support a viable population of any of the above species in perpetuity, or which is critical to the proper functioning of a balanced natural ecosystem or which serves as a functioning wildlife corridor.

(q) Wetland:

(1) Lands having one or more of the following attributes are ‘wetlands’:

(aa) At least periodically, the land supports a predominance of hydrophytes (plants whose habitat is water or very wet places);

(bb) The substratum is predominantly undrained hydric soil; or

(cc) An ephemeral or perennial stream is present, whose substratum is predominantly non-soil, and such lands contribute substantially to the biological functions or values of wetlands in the drainage system.

(r) Wetland Buffer: Lands that provide a buffer area of an appropriate size to protect the environmental and functional habitat values of the wetland, or which are integrally important in supporting the full range of the wetland and adjacent upland biological community. Buffer widths shall be 50 to 200 feet from the edge of the wetland, as appropriate based on the above factors. Where oak woodland occurs adjacent to the wetland, the wetland buffer shall include the entirety of the oak habitat (not to exceed 200 feet in width).

Detailed definitions for these resources and guidelines for the avoidance and mitigation of these resources are provided in the County of San Diego Resource Protection Ordinance.

County of San Diego Habitat Loss Ordinance

The San Diego County Code and the State of California NCCP Conservation Guidelines and Process Guidelines regulate losses of coastal sage scrub, which are habitats that support the federally listed Coastal California Gnatcatcher. The County of San Diego Habitat Loss Ordinance was developed due to the listing of the Coastal California Gnatcatcher under the FESA 4(d) ruling. The ordinance is consistent with the State of California NCCP Program Conservation Guidelines and Process Guidelines.

County of San Diego Biological Mitigation Ordinance

The County of San Diego Biological Mitigation Ordinance (Ordinance No. 9632) provides special protections of the ecosystems and vegetation communities of San Diego County so that they may continue to provide habitat for native plant and animal species. Chapter 5 of the Biological Mitigation Ordinance establishes regulations that support the conservation goals described in the South County Subarea Plan in the San Diego MSCP.

The Biological Mitigation Ordinance encourages land protection and preservation such that biological resource areas are contiguously linked throughout the county, and directs avoidance and mitigation requirements within the county to achieve that goal. The ordinance also contains mitigation requirements specific to species of concern in the county, both within and outside of protected areas. Adherence to these mitigation measures is required as part of compliance with the San Diego MSCP.

The following administrative procedures and evaluations are required for compliance with the Biological Mitigation Ordinance:

SEC. 86.505. PROJECT DESIGN CRITERIA.

- a) **Project Design Criteria.** *Impacts to Critical Populations of Sensitive Plant Species Within the MSCP subarea (Attachment C), Significant Populations of Rare, Narrow Endemic Animal Species Within the MSCP Subarea (Attachment D of Document No. 0769999 on file with the Clerk of the Board), Narrow Endemic Plant Species Within the MSCP Subarea (Attachment E of Document No. 0769999 on file with the Clerk of the Board), or San Diego County Sensitive Plants, as defined herein, and impacts to land determined to be a Biological Resource Core Area shall be avoided to the maximum extent practicable by using the following design criteria:*
1. *Project development shall be sited in areas which minimize impact to habitat;*
 2. *Clustering to the maximum extent permitted by County regulations shall be considered where necessary as a means of achieving avoidance;*
 3. *Notwithstanding the requirements of the Slope Encroachment Regulations contained within the Resource Protection Ordinance, effective October 10, 1991, projects shall be allowed to utilize design which may encroach into steep slopes to avoid impacts to habitat;*
 4. *The County shall consider reduction in road standards to the maximum extent consistent with public safety considerations;*
 5. *Projects shall be required to comply with applicable design criteria in the County MSCP Subarea Plan, attached hereto as Attachment G of Document No. 0769999 (Preserve Design Criteria on file with the Clerk of the Board) and Attachment H of Document No. 0769999 (Design Criteria for Linkages and Corridors on file with the Clerk of the Board).*

SEC. 86.506. HABITAT BASED MITIGATION.

- a) **Mitigation Requirements.** *The following section specifies the process for determining mitigation requirements for sensitive habitats:*

1. Determination Whether Land Qualifies as Biological Resource Core Area. *The impact site and the mitigation site shall be evaluated to determine if either or both sites qualify as a Biological Resource Core Area.*

a. The impact site is a Biological Resource Core Area if it meets one or more of the following criteria:

- i) *The land is shown as preapproved mitigation area on the wildlife agencies' preapproved mitigation map (Attachment F of Document No. 0769999 on file with the Clerk of the Board);*
- ii) *The land is located within an area of habitat which contains biological resources that support or contribute to the long-term survival of Sensitive Species, which determination is based upon a biological analysis approved by the Director, and is adjacent or contiguous to preserved habitat that is within the preapproved mitigation area on the wildlife agencies' preapproved mitigation map (Attachment F of Document No. 0769999 on file with the Clerk of the Board);*
- iii) *The land is part of a regional linkage/corridor. A regional linkage/corridor is either:*
 - A. *Land which contains topography which serves to allow for the movement of all sizes of wildlife and is used by wildlife, including large animals on a regional scale; and contains adequate vegetation cover providing visual continuity so as to encourage the use of the corridor by wildlife; or*
 - B. *It has been identified as the primary linkage/corridor between the northern and southern regional populations of the California gnatcatcher in the population viability analysis for the California gnatcatcher, MSCP Resource Document Volume II, Appendix A-7 (Attachment I on file with the Clerk of the Board as Document No. 0769999).*
- iv) *The land is shown on the Habitat Evaluation Map (Attachment J of Document No. 0769999 on file with the Clerk of the Board) as Very High or High and links significant blocks of habitat, except that land which is isolated or links small, isolated patches of habitat and land that has been affected by existing development to create adverse edge effects shall not qualify as Biological Resource Core Area;*
- v) *The land consists of or is within a block of habitat greater than 500 acres in area of diverse and undisturbed habitat that contributes to the conservation of Sensitive Species;*
- vi) *The land contains a high number of Sensitive Species and is adjacent or contiguous to surrounding undisturbed habitats, or contains soil derived from the following geologic formations which are known to support Sensitive Species:*
 - A. *gabbroic rock;*
 - B. *metavolcanic rock;*
 - C. *clay; and*
 - D. *coastal sandstone.*

- b. The mitigation Site is a Biological Resource Core area if it meets one or more of the criteria listed below. A vegetation map of the proposed mitigation site may be required to determine whether the criteria are met.*
- i) The land is part of a conservation bank recognized by the Wildlife Agencies as contributing to a HCP/NCCP Plan and located within the MSCP Subarea Boundary Map Area; or*
 - ii) The land meets any or all of the criteria identified in Section 86.506 above.*
- (2) Determination of Tier on Impact Site.** *Based on the information in the vegetation map prepared pursuant to Section 85.504, the tier level of the impact site shall be identified in accordance with the List of San Diego County Vegetation Communities and Tier Levels Within the MSCP (Attachment K of Document No. 0769999 on file with the Clerk of the Board).*
- (3) Determination of Tier on Mitigation site.** *The tier level of the mitigation site shall be identified in accordance with the List of San Diego County Vegetation Communities and Tier Levels Within the MSCP (Attachment K on file with the Clerk of the Board as Document No. 0769999). Mitigation for impacts to vegetation communities within the MSCP Subarea shown on the MSCP Boundary Map (Attachment A of Document No. 0769999 on file with the Clerk of the Board) shall occur in vegetation communities within the MSCP Subarea. Mitigation shall be within a habitat tier equal to or greater than the impact site with two exceptions:*
- a) Mitigation may be out of tier if mitigation credits are acquired from a mitigation bank located within the MSCP Subarea, and use of the credits is consistent with Board of Supervisors Policy I-117 (Attachment L of Document No. 0769999 on file with the Clerk of the Board).*
 - b) Mitigation must be in-kind for the following types of habitat: Southern Maritime Chaparral, Maritime Succulent Scrub, and vegetation communities specified under the category “Wetlands” in Tier I, the List of San Diego County Vegetation Communities and Tier Levels Within the MSCP (Attachment K of Document No. 0769999 on file with the Clerk of the Board).*
- (4) Determination of the Mitigation Ratio.** *Using the Table of Mitigation Ratios (Attachment M of Document No. 0769999 on file with the Clerk of the Board), determine the mitigation ratio by locating the tier of the vegetation community to be impacted, based on whether the impact site and mitigation site are Biological Resource Core Areas.*

SEC. 86.507. SPECIES-BASED MITIGATION.

- (a) The following section specifies the process for determining mitigation requirements for sensitive plant populations and for sensitive animal populations.**

(1) Sensitive Plant Populations.

- a) Critical Populations of Sensitive Plant Species.** *During project design, first priority shall be given to avoidance of impacts to 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.

- b) **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.*
- c) **Mitigation for Sensitive Plant Species in Groups C and D.** Sensitive Plant Species, as 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.*

(2) Sensitive Animal Populations.

- a) **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 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.*
- b) **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.*
- c) **Impacts to Arroyo Toad Habitat.** Impacts to upland habitats within 0.62 miles (1 km) of riparian habitat which supports or is likely to support Arroyo toad shall be minimized to the maximum extent practicable.*
- d) **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 (*Molothrus ater*).*
- e) **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.

- (3) **Vernal Pools.** *Impacts to vernal pools and their watersheds in naturally occurring complexes and wetlands shall be avoided to the maximum extent practicable.*
- (4) **Grading Limitations for Specific Species.** *The following limitations shall apply to grading activities in areas where the identified species occur:*
 - a) *Campylorhynchus brunneicapillus cousei, Coastal Cactus Wren - No clearing of occupied habitat shall occur between February 15 through August 15.*
 - b) *Poliophtila californica, California gnatcatcher - No clearing of occupied habitat shall occur between March 1 through August 15.*
 - c) *Vireo belli pusillus, Least Bell's Vireo - No clearing of occupied habitat shall occur between March 15 and September 15.*
 - d) *Empidonax traillii extimus, Southwestern Willow Flycatcher - No clearing of occupied habitat shall occur between May 1 and September 1.*
- (5) **Other Species Specific Condition Requirements.** *As set forth in the terms of the MSCP 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 Plan as a condition of project approval.*

San Diego County General Plan

The San Diego County General Plan (County General Plan) was adopted in 2011 (County of San Diego 2015a). The County General Plan's Conservation and Open Space Element outlines policies pertaining to the conservation, management, protection, and utilization of natural and cultural resources; the preservation of open space; and the provision of park and recreation resources. The County General Plan is supplemented by Community Plans for more than 20 communities and subregional planning areas within the county, which focus on the planning needs of the focal subregion or community. Each supplemental plan includes resource conservation and open space policies that address the resources unique to that community. The proposed project would cross the North County Metropolitan Subregional Plan Area and Community Plan Areas for the communities of Rainbow, Fallbrook, and Bonsall.

Aspects of the Conservation and Open Space Element of the County General Plan that apply to biological resources focus on conservation goals and policies that protect sensitive species and their associated habitats. The following goals and policies from the County General Plan relate to biological resources:

Policy COS-1.9 Invasive Species. *Require new development adjacent to biological preserves to use non-invasive plants in landscaping. Encourage the removal of invasive plants within preserves.*

Goal COS-2 Sustainability of the Natural Environment. *Sustainable ecosystems with long-term viability to maintain natural processes, sensitive lands, and sensitive as well as common species, coupled with sustainable growth and development.*

Policy COS-2.1 Protection, Restoration and Enhancement. *Protect and enhance natural wildlife habitat outside of preserves as development occurs according to the underlying land use*

designation. Limit the degradation of regionally important natural habitats within the Semi-Rural and Rural Lands regional categories, as well as within Village lands where appropriate.

Policy COS-2.2 Habitat Protection through Site Design. *Require development to be sited in the least biologically sensitive areas and minimize the loss of natural habitat through site design.*

Goal COS-3 Protection and Enhancement of Wetlands. *Wetlands that are restored and enhanced and protected from adverse impacts.*

Policy COS-3.1 Wetland Protection. *Require development to preserve existing natural wetland areas and associated transitional riparian and upland buffers and retain opportunities for enhancement.*

Policy COS-3.2 Minimize Impacts of Development. *Require development projects to:*

- *Mitigate any unavoidable losses of wetlands, including its habitat functions and values; and*
- *Protect wetlands, including vernal pools, from a variety of discharges and activities, such as dredging or adding fill material, exposure to pollutants such as nutrients, hydromodification, land and vegetation clearing, and the introduction of invasive species.*

Goal COS-5 Protection and Maintenance of Water Resources. *Protection and maintenance of local reservoirs, watersheds, aquifer-recharge areas, and natural drainage systems to maintain high-quality water resources.*

Policy COS-5.4 Invasive Species. *Encourage the removal of invasive species to restore natural drainage systems, habitats, and natural hydrologic regimes of watercourses.*

Rainbow Community Plan

The Rainbow Community Plan contains policies intended to conserve and protect land associated with designated plant and animal habitats, open space, water bodies, and other specific resources within the plan area (County of San Diego 2014). The following issues, goals, and policies set forth in the Rainbow Community Plan Conservation and Open Space module, Section 3.1 Resource Conservation and Management relate to biological resources:

B. Plant and animal habitats and wildlife corridors (e.g., woodlands, grass lands, riparian corridors, etc.)

Goal COS1.2 *The preservation of areas that are documented to have rare, unique or endangered plant and animal species within the Community Planning Area.*

Policy COS1.2.1 *Require that grading and brush clearing efforts minimize the destruction of natural habitat.*

Policy COS1.2.2 *Require development to avoid the alteration of the natural landscape and wildlife habitat.*

Policy COS1.2.3 *Preserve the integrity, function, and long-term viability of environmentally sensitive habitats. Emphasis shall be placed on areas exhibiting riparian characteristics, oak woodlands and mixed chaparral.*

Policy COSI.2.4 Require development to be sited in the least biologically sensitive areas and minimize the loss of habitat through site design.

Goal COSI.7 The preservation of all floodplains and water courses within the community.

Policy COSI.7.1 Prohibit clear cutting of vegetation in floodplains.

Fallbrook Community Plan

The Fallbrook Community Plan contains policies intended to conserve and protect land associated with designated plant and animal habitats, open space, water bodies, and other specific resources within the designated Community Plan area (County of San Diego 2015b). The Fallbrook Community Plan Land Use; and Conservation and Open Space modules contain the following issues, goals, and policies that relate to biological resources:

Policy LU 2.4.1 Require development to preserve viable mature trees and significant land forms in all public and private development projects, to the maximum extent feasible.

Plant and animal habitats and wildlife corridors (e.g., woodlands, grass lands, riparian corridors, etc.)

Goal COS 1.2 Community Forests. Preservation and enhancement of urban and rural trees in our community for their beauty and for the health benefits that they provide.

Policy COS 1.2.1 Protect heritage and large native trees.

Policy COS 1.2.2 Encourage planting trees, while discouraging the unnecessary Removal of trees in association with new development, as well as in public rights-of-way and parking lots.

D. Surface, groundwater, and watersheds

Goal COS 1.3 Water Resources. To preserve viable streams, wetlands, and floodplains and support the natural environment for the citizens of Fallbrook.

Policy COS 1.3.1 Preserve native vegetation along streams, in wetlands and floodplains.

Policy COS 1.3.2 Support the enhancement (restoration, invasive species removal, etc.) of natural drainage systems and natural hydrologic regimes of watercourses.

Bonsall Community Plan

The Bonsall Community Plan contains policies intended to conserve and protect natural resources within the plan area (County of San Diego 2011a). The Bonsall Community Plan Conservation and Open Space modules contain the following issues, goals, and policies that relate to biological resources:

Goal COS-1.1 The preservation of the unique natural and cultural resources of Bonsall and the San Luis Rey River and associated watershed, with continued support for its traditional rural and agricultural life-style.

Policy COS-1.1.1 Encourage the preservation of all areas of critical habitat identified under the Multiple Species Conservation Program in their natural state, allowing for maintenance and/or management for fire safety.

Policy COS-1.1.4 Require development to be compatible with adjacent natural preserves, sensitive habitat areas, agricultural lands, and recreation areas, or provide transition or buffer areas.

Policy COS-1.1.5 Require that landscaping be designed to prevent erosion on graded sites and, if adjacent to sensitive habitats, require re-vegetation with the appropriate drought tolerant plant species with specific restrictions on the use of any invasive species.

Policy COS-1.1.6 Encourage development to plant an appropriate variety of trees to stabilize soil conditions and contribute to atmospheric oxygen production.

Goal COS-1.3 Naturally vegetated open space corridors of sufficient size to maintain biological diversity and functional access for wildlife between varying habitats and to prevent fragmentation of habitats and the creation of biological “islands”.

Policy COS-1.3.1 Encourage the protection of all sensitive lands and habitat as identified by federal, State, and County guidelines such as oak and willow riparian, coastal, and Diegan sage scrub, native grasslands and wetlands.

Policy COS-1.3.2 Support the creation of “mitigation banks” within the Bonsall CPA for development projects, and encourage mitigation be located in Bonsall, when it is required.

Policy COS-1.3.3 Preserve and encourage wildlife corridors including buffer areas, which are essential to the long-term viability of wildlife populations, through open space easements, public acquisition, or other appropriate means. The width of the easement will depend on the type of wildlife using the corridor and the natural topography, plus an appropriate buffer (as determined by a certified wildlife biologist) on either side of the corridor, where feasible.

Goal COS-1.5 Floodplains and watercourses preserved in their natural state that provide protection from loss of life and property through development regulations in floodplains and other wetland areas.

Policy COS-1.5.1 Require adequate setbacks from all watercourses and drainages to protect property, improve water quality, provide buffer for riparian habitat and wildlife, and enhance aesthetic quality of the riparian environment.

North County Metropolitan Subregional Plan

The North County Metropolitan Subregional Plan is a supplement to the County General Plan that focuses on planning needs and land use goals associated on the North County Metropolitan Subregion (County of San Diego 2011b). The plan contains the following goals and policies that relate to conservation of biological resources:

14. Designate Resource Conservation Areas

The resource conservation area designation is applied to protect sensitive biological, archaeological, aesthetic, mineral, and water resources. Projects requiring environmental analysis under the CEQA that occur within resource conservation areas should be carefully analyzed to assess their impact on the resource conservation area.

City of Escondido General Plan

The City of Escondido's General Plan Resource Conservation Element focuses on policies to preserve biological resources within the plan area (City of Escondido 2012). The Resource Conservation Element identifies open space areas of biological importance within the city and establishes policies intended to develop a means to preserve existing and planned natural areas in accordance with the State of California NCCP. The following goals and policies related to the conservation of biological resources are contained in Section J of the City of Escondido General Plan: Resource Conservation Goals and Policies:

GOAL 1: Preservation and enhancement of Escondido's open spaces and significant biological resources as components of a sustainable community.

Biological and Open Space Resources Policy 1.6 *Preserve and protect significant wetlands, riparian, and woodland habitats as well as rare, threatened or endangered plants and animals and their habitats through avoidance. If avoidance is not possible, require mitigation of resources either on- or off-site at ratios consistent with State and federal regulations, and in coordination with those agencies having jurisdiction over such resources.*

Biological and Open Space Resources Policy 1.7 *Require that a qualified professional conduct a survey for proposed development projects located in areas potentially containing significant biological resources to determine their presence and significance. This shall address any flora or fauna of rare and/or endangered status, declining species, species and habitat types of unique or limited distribution, and/or visually prominent vegetation.*

Biological and Open Space Resources Policy 1.8 *Require that proposed development projects implement appropriate measures to minimize potential adverse impacts on sensitive habitat areas, such as buffering and setbacks. In the event that significant biological resources are adversely affected, consult with appropriate state and federal agencies to determine adequate mitigation or replacement of the resource.*

Biological and Open Space Resources Policy 1.9 *Encourage proposed development projects to minimize the removal of significant stands of trees unless needed to protect public safety and to limit tree removal to the minimum amount necessary to assure continuity and functionality of building spaces.*

Biological and Open Space Resources Policy 1.10 *Prohibit any activities in riparian areas other than those permitted by appropriate agencies to protect those resources.*

City of Escondido Municipal Code

The City of Escondido Municipal Code Section 33-1069 includes provisions regarding clearing and replacement of vegetation, mature trees, and protected trees.

The following provisions from the City of Escondido Municipal Code Section 33-1069 relate to the protection of biological resources:

(a) Protection

- (1) *No person shall destroy or do any clearing of vegetation and mature trees, nor destroy, clear, trim, or cut protected trees, in violation of this chapter, including deliberately damaging mature or protected tree so that removal of the tree is necessary to maintain public safety.*
- (2) *Every feasible effort shall be made to preserve sensitive biological habitat, sensitive biological species, mature trees, and protected trees in-place on the project site through consideration of alternative means of accomplishing the desired action or project, to the satisfaction of the director.*
- (3) *All feasible measures to avoid damage to existing trees and vegetation to remain shall be taken by the owner or developer during clearing, grading, and construction. A report prepared by a professional and provided at the applicant's expense, which provides recommendation on methods to minimize damage to tree(s), may be required upon determination of the director.*
- (5) *In conjunction with new construction or improvement projects, no activity, including grading and trenching, that disturbs the root system within the dripline of protected or required trees on all size lots, and also within the dripline of mature trees on lots two (2) acres or larger, shall be permitted unless the proposed disturbance is determined appropriate by the director through the evaluation process established by Section 33-1068.C.*

(b) Replacement

- (2) *Sensitive biological habitat and sensitive biological species which are removed shall be mitigated either on-site or off-site by the planting of the same habitat species at a minimum ratio of one to one (1:1). Higher replacement ratios, or different plant species, may be required by the director for conformance with other federal, state, or local codes and agreements in effect at the time of the review of the application.*
- (3) *If replacement of sensitive biological species and/or habitat is not feasible on-or off-site, other equivalent mitigation measures may be considered by the director.*
- (4) *If mature trees cannot be preserved on-site, they shall be replaced at a minimum one to one (1:1) ratio. The preferred replacement is a tree(s) of equal size and caliper. Protected trees shall be replaced at a minimum two to one (2:1) ratio.*
- (7) *Replacement trees and habitat mitigation sites shall be maintained in a flourishing manner on a continuing basis.*

City of San Diego General Plan

The City of San Diego General Plan was adopted in 2008. The objective of the plan's Conservation Element is to provide for the long-term conservation and sustainable management of the city's natural resources. This element contains policies for sustainable development, preservation of open space and wildlife, management of resources, and other initiatives to protect public health, safety, and welfare. The following City of San Diego General Plan Conservation Element policies and goals relate to biological resources.

Goal B: Open Space and Landform Preservation. Preservation and long-term management of the natural landforms and open spaces that help make San Diego unique.

Policy CE-B.1. Protect and conserve the landforms, canyon lands, and open spaces that: define the City's urban form; provide public views/vistas; serve as core biological areas and wildlife linkages; are wetlands habitats; provide buffers within and between communities; or provide outdoor recreational opportunities.

- e. *Encourage the removal of invasive plant species and the planting of native plants near open space preserves.*

Policy CE-B.2. *Apply the appropriate zoning and Environmentally Sensitive Lands regulations to limit development of floodplains, sensitive biological areas including wetlands, steep hillsides, canyons, and coastal lands.*

- a. *Manage watersheds and regulate floodplains to reduce disruption of natural systems, including the flow of sand to the beaches. Where possible and practical, restore water filtration, flood and erosion control, biodiversity and sand replenishment benefits.*
- b. *Limit grading and alterations of steep hillsides, cliffs and shoreline to prevent increased erosion and landform impacts.*

Goal E: Urban Runoff Management

Policy CE-E.7. *Manage Floodplains to address their multi-purpose use, including natural drainage, habitat preservation, and open space and passive recreation while also promoting public health and safety.*

CE-H.8. *Implement a “no net loss” approach to wetlands conservation in accordance with all city, state, and federal regulations.*

Goal G: Biological Diversity *Preservation of healthy, biologically diverse regional ecosystems and conservation of endangered, threatened, and key sensitive species and their habitats.*

Policy CE-G.1. *Preserve natural habitats pursuant to the MSCP, preserve rare plants and animals to the maximum extent practicable, and manage all City-owned native habitats to ensure their long-term biological viability.*

- a. *Educate the public about the impacts invasive plant species have on open space.*
- b. *Remove, avoid, or discourage the planting of invasive plant species.*
- c. *Pursue funding for removal of established populations of invasive species within open space.*

Policy CE-G.3. *Implement the conservation goals/policies of the City’s MSCP Subarea Plan, such as providing connectivity between habitats and limiting recreational access and use to appropriate areas.*

Policy CE-G.4. *Protect important ecological resources when applying floodplain regulations and development guidelines.*

Policy CE-G.5. *Promote aquatic biodiversity and habitat recovery by reducing hydrological alterations, such as grading a stream channel.*

Goal H: Wetlands *Preservation of San Diego’s rich biodiversity and heritage through the protection and restoration of wetland resources, and preservation of all existing wetland habitat in San Diego through a “no net loss” approach.*

Policy CE-H.1. *Use a watershed planning approach to preserve and enhance wetlands.*

Policy CE-H.3. *Seek state and federal legislation and funding that support efforts to research, classify, and map wetlands including vernal pools and their functions, and improve restoration and mitigation procedures.*

Policy CE-H.4 *Support the long-term monitoring of restoration and mitigation efforts to track and evaluate changes in wetland acreage, functions, and values.*

Policy CE-H.5. *Support research and demonstration projects that use created wetlands to help cleanse urban and storm water runoff, where not detrimental to natural upland and wetland habitats.*

Policy CE-H.7. *Encourage site planning that maximizes the potential biological, historic, hydrological and land use benefits of wetlands.*

Policy CE-H.8. *Implement a “no net loss” approach to wetlands conservation in accordance with all city, state, and federal regulations.*

Goal J: Urban Forestry *Protection and expansion of a sustainable urban forest.*

Policy CE-J.1. *Develop, nurture, and protect a sustainable urban/community forest.*

- a. *Seek resources and take actions needed to plant, care for, and protect trees in the public right-of-way and parks and those of significant importance in our communities.*
- b. *Plant large canopy shade trees, where appropriate and with consideration of habitat and water conservation goals, in order to maximize environmental benefits.*
- c. *Seek to retain significant and mature trees.*

CE-J.4. *Continue to require the planting of trees through the development permit process.*

- a. *Consider tree planting as mitigation for air pollution emissions, storm water runoff, and other environmental impacts as appropriate.*

City of Poway General Plan

The City of Poway General Plan Natural Resources section provides policies to balance development and environmental protection, including preserving open space, scenic areas, and cultural and biological resources. The plan was adopted in 1991. The following City of Poway General Plan goals, policies, and strategies relate to development impacts on biological resources:

Goal I. *It is the goal of the City of Poway to preserve Poway’s unique and desirable character as “The City in the Country” and to maintain high quality design and environmental standards in all new development and redevelopment.*

Policy C: Site Design *Attractive efficient site design shall be required of all development.*

Strategy 6: *Existing live trees shall be retained unless found to be in a seriously declining or dangerous condition. All mature trees removed as a result of development shall be replaced as required by the City’s tree protection ordinance.*

Strategy 16: *Intermediate ridges and hilltops shall be preserved in a natural state to the maximum extent possible. Development on intermediate ridges shall only be permitted in association with the preservation of significant open space habitat tree and rock*

outcroppings unique geographic features and or cultural or agricultural uses within the same project. Open space proposed for dedication to the City should perform multiple functions such as view maintenance resource protection and hazard avoidance.

Strategy 23: *Natural vegetation shall be preserved where feasible clearing should be limited to access roads, homesites, and fire break buffering. Where visible slopes are created adjacent to areas of natural vegetation similar plant materials shall be introduced for erosion control and to mitigate the visual impact of land alteration.*

Strategy 24: *A brush management plan shall be required before clearing of native vegetation for any reason including fire control.*

Policy D: Grading *Necessary grading should be done so as to minimize the disturbance to the site and the environmental and aesthetic impacts.*

Strategy 4: *All exposed graded slopes shall be revegetated with plant materials compatible with surrounding vegetation.*

Goal IV: *It is the goal of the City of Poway to Preserve its natural, scenic, and cultural resources for the future benefit and enjoyment of its residents and to protect biological and ecological diversity.*

Policy B: Waterways *The natural character of creeks and channels should be maintained or restored to the greatest extent possible with consideration for maintaining adequate flood protection.*

Policy C: Biological Resources *Wildlife and natural plants are a valuable natural resource and should be preserved and protected.*

Strategy 3: *Development should not disrupt habitats considered to be sensitive or the habitat of sensitive declining threatened rare or endangered species. An assessment performed by a qualified biologist shall be required in areas where the existence of a sensitive species is known or reasonably expected to be present.*

Strategy 5: *Access of humans and domestic animals to preserved biological habitats and sensitive biological areas shall be limited as deemed necessary to preserve the integrity of the areas.*

Strategy 7: *Mitigation for significant impacts to biological resources in the form of preservation onsite and offsite or restoration shall be required. All preservation and restoration areas shall be dedicated as permanent biological open space.*

Strategy 9: *Require biological monitoring during construction where there is the potential to impact sensitive biological resources. Construction monitoring shall be conducted by a qualified biologist and follow the guidelines outlines in the Detailed Biological Assessment to ensure that all construction practices consider the protection of sensitive biological resources both on and offsite.*

Strategy 11: *Habitat conservation plans should be developed for endangered resources.*

Strategy 14: *Plant resources particularly large expanses of undisturbed natural areas oak woodlands riparian corridors significant tree stands and sensitive declining*

threatened and endangered species should be preserved through appropriate means such as buffering and dedicated open space.

Strategy 15: *Large tree stands comprised of oaks, sycamores, or eucalyptus should be retained and integrated into project designs. The understory in these stands should also be retained or enhanced with native species as deemed appropriate by a qualified biologist or native plant horticulturist. Areas preserved shall be designated as permanent natural open space.*

Strategy 16: *A permit is required prior to the removal of any coast live oak, holly oak, California Sycamore or any tree within the public right of way.*

Habitat Conservation Plans

In 1992, the State of California enacted the Natural Communities Conservation Planning Act. This voluntary program allows the state government to enter into planning agreements with landowners, local governments, and other stakeholders to prepare plans to identify lands that should be prioritized to conserve threatened or endangered species, and lands that may be better suited to development. In California, the CDFW and USFWS have worked to combine the Natural Communities Conservation Planning program with the federal HCP programmatic process. These plans establish conditions under which a local government, such as the County, will receive from USFWS and CDFW certain long-term take authorizations (i.e., incidental take permits) which allow the taking of Covered Species incidental to land development and other lawful land uses authorized by the County. This delegation of authority is allowed pursuant to FESA Section 10(a)(1)(B), the Natural Communities Conservation Planning Act, and CESA. Several large-scale conservation plans and programs have been approved or are in development in western San Diego County. Below are descriptions of the plans whose boundaries the proposed project would cross. HCP Areas are depicted on Figure 3.4-5.

San Diego Multiple Species Conservation Program

The San Diego MSCP serves as a multiple species HCP and a Natural Communities Conservation Program and is governed by the County of San Diego Biological Mitigation Ordinance, which outlines specific criteria and requirements for projects within the San Diego MSCP boundaries (see discussion of Biological Mitigation Ordinance above). The plan authorizes take for 85 Covered Species. Local jurisdictions and special districts implement their respective portions of the San Diego MSCP through subarea plans, which describe specific implementing mechanisms for the San Diego MSCP. The San Diego MSCP is divided into several subarea plans. The North County Subarea Plan has not yet been adopted and is therefore not analyzed further in this document. The adopted San Diego South County MSCP Subarea Plan applies to unincorporated lands within southern San Diego County. The City of San Diego and City of Poway have both adopted subarea plans.

San Diego North County Multiple Habitat Conservation Program

The San Diego North County Multiple Habitat Conservation Program (MHCP), administered by the San Diego Association of Governments, is a comprehensive conservation planning process to create, manage, and monitor an ecosystem preserve in unincorporated northwestern San Diego County, and authorizes incidental take for 80 Covered Species. This plan is distinct from the North County Subarea MSCP. The San Diego North County MHCP plan serves as an umbrella document to guide the preparation of subarea plans by each participating city and does not itself receive any permits. To be approved, subarea plans must be consistent with the conservation and policy guidelines of the San Diego North County MHCP.

The San Diego North County MHCP encompasses the cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista. With the exception of Solana Beach, each of these cities is preparing a subarea plan. The City of Carlsbad is the first city to have finalized a subarea plan.

The proposed project would cross the boundaries identified in the Draft City of Escondido Subarea Plan, published in June 2001. This plan is not yet adopted, and is thus not analyzed in detail in this document.

Poway Subarea Habitat Conservation Plan/Natural Community Conservation Plan

The Poway Subarea HCP/NCCP covers an area of overlap between the San Diego MSCP and San Diego MHCP and is recognized as a subarea by both plans. The Poway Subarea HCP/NCCP designates certain areas devoted primarily to biological resource conservation as core areas and “cornerstone lands.” The Poway Subarea HCP/NCCP also sets limits on the percentage of habitat conversion that may occur within each land type. The Poway Subarea HCP/NCCP states that any proposed public project that may affect biological resources within the city of Poway must comply with provisions contained within the Poway Subarea HCP/NCCP.

Marine Corps Air Station Miramar Integrated Natural Resource Management Plan

The MCAS Miramar INRMP outlines objectives for the conservation of plants and wildlife and the management of invasive species and soil erosion within the plan boundaries. Species and habitats prioritized for conservation under the INRMP include San Diego fairy shrimp, Riverside fairy shrimp (*Streptocephalus woottoni*), Hermes copper butterfly, Quino checkerspot butterfly, Least Bell’s Vireo, Coastal California Gnatcatcher, and vernal pools. Vernal pool habitats and their watersheds are considered Level I Management Areas and receive the highest conservation priority within MCAS Miramar boundaries. MCAS Miramar Station Order 5090.4 states that the Department of Defense and persons operating aboard MCAS Miramar have a responsibility to protect natural resources by adhering to the following conditions:

- *Reference the Environmental Management Department Sensitive Resources Map prior to conducting activities outside of developed areas of the Station.*
- *Units conducting military training shall comply with the MCAS Miramar Training Regulations.*
- *Do not dig, alter, fill or contaminate wetlands or stream channels without Environmental Management Department approval and applicable CWA permits.*
- *Restrict vehicular traffic to maintained roadways (dirt or paved) and fuel breaks in East Miramar. Avoid driving off of improved road surfaces, particularly during periods when the ground is wet or saturated.*
- *Submit plans for any facility or grounds alterations to the Environmental Management Department for review and approval.*
- *Ensure proper planning so that all necessary FESA consultations and CWA permits are completed prior to undertaking an action that may affect threatened and/or endangered species, wetlands, or other waterways (including ephemeral and intermittent stream channels).*
- *Ensure that any commitments made by the Section 7 FESA consultations and/or CWA permits are included and funded as a part of any applicable proposed actions (projects, maintenance, real estate agreement, etc.).*
- *Incorporate locally adapted, native plants or other climatically adapted species into landscaping plans to reduce maintenance and watering requirements and prohibit use of invasive plant species. Incorporate removal of invasive species with project plans, where feasible.*
- *Do not harm or damage native species of plants or wildlife. Harassment of threatened, endangered, or other wildlife is prohibited except when presenting an imminent danger to the safety of personnel.*

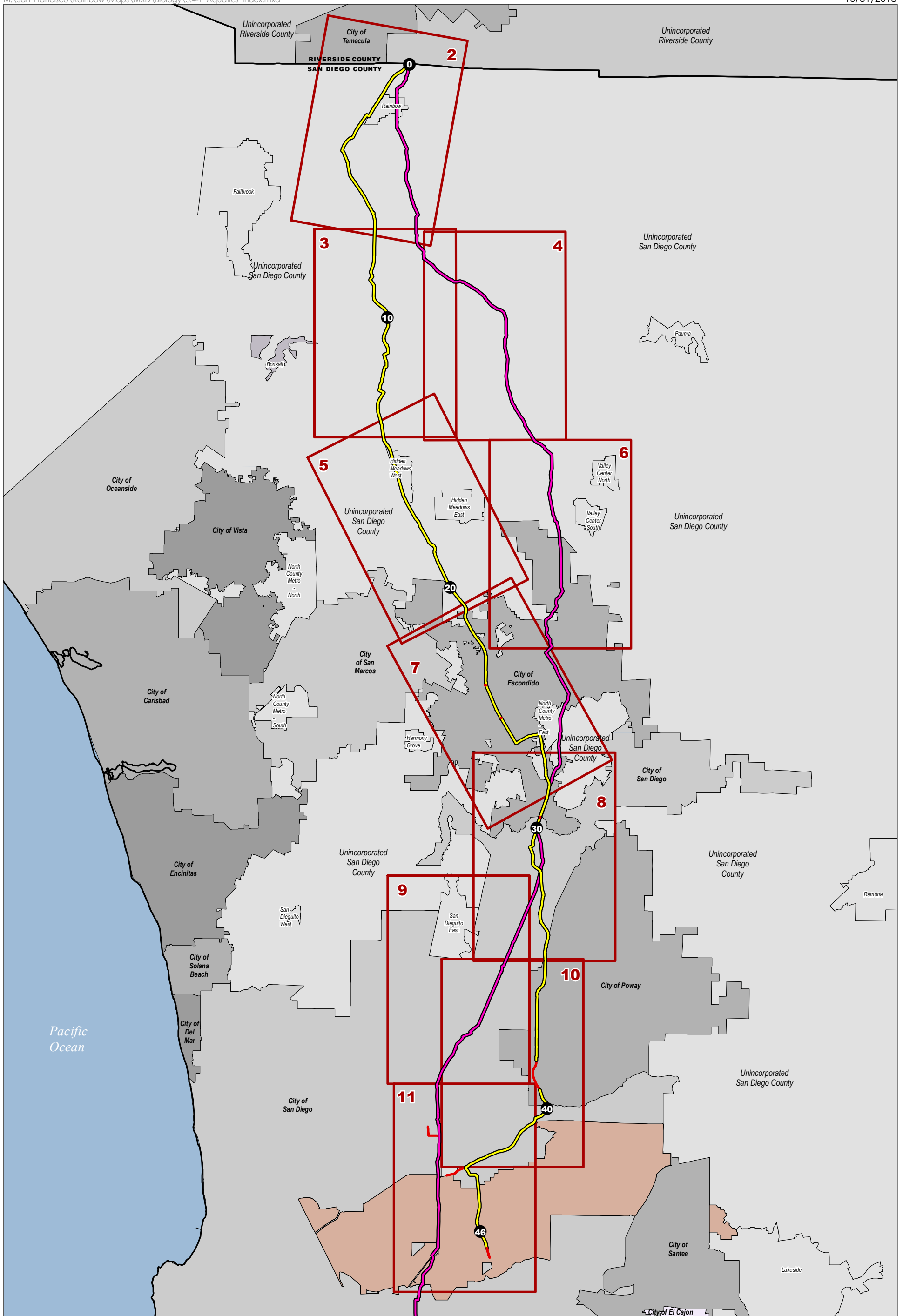
- *Contact the Public Works Trouble Desk for assistance with removal of rattlesnakes, pests, and injured wildlife.*
- *Coordinate with the Station Wildlife Biologist regarding bird nesting problems and methods to discourage or exclude nesting in problematic areas. Focused harassment and or relocation of birds in problem areas may be authorized by the Station Wildlife Biologist.*
- *A Standard Operating Procedure for Dead and Injured Large Wildlife is posted on the Natural Resources Program page of the MCAS Miramar EMS website.*
- *Do not dispose of green waste or surplus soil in undeveloped lands of the Station.*
- *Report vandalism or habitat destruction to the Director, Natural Resources Division.*

3.4.3 Draft Significance Criteria

Had an impact analysis been completed for the proposed project, significance criteria would likely have been based on CEQA Guidelines Appendix G. An impact might have been considered significant if the project would:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service;
- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

3.4.4 Draft Analytical Figures



- Milepost
- Line 3602
- Tie-Ins & Extensions
- Existing Line 1600
- MCAS Miramar
- Map Series Index

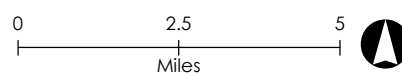
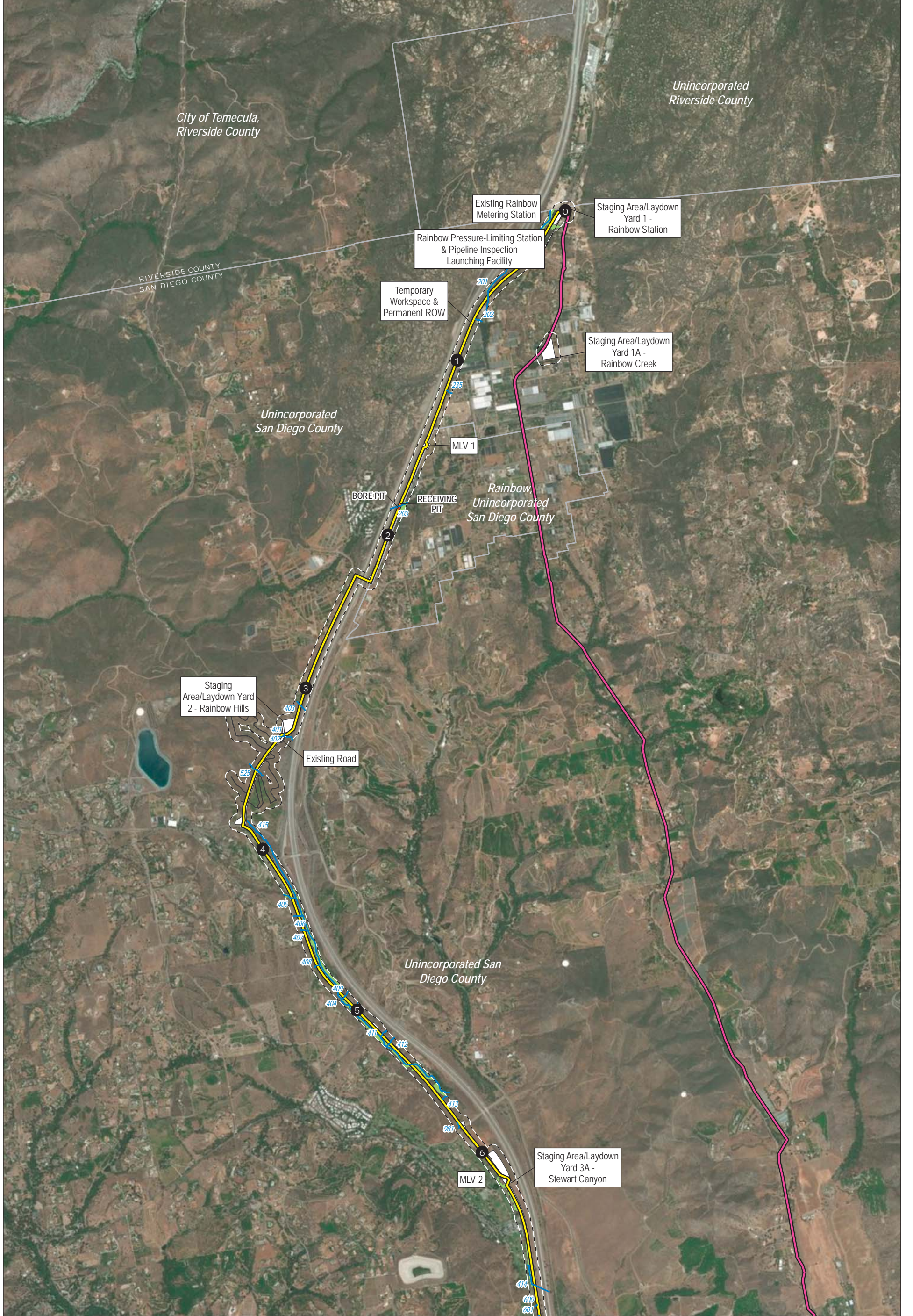


Figure 3.4-1
Aquatic Features and Jurisdictional Waters and Wetlands
 Page 1 of 11
 Pipeline Safety and Reliability Project - New Natural Gas Line 3602 and De-rating Line 1600
 San Diego County, CA



<ul style="list-style-type: none"> ① Milepost — Line 3602 — Existing Line 1600 □ Bore Pits □ Workspaces □ Municipal Boundary □ Biological Resources Survey Area 	<p>Applicant Survey Data</p> <ul style="list-style-type: none"> — Drainages ■ Riparian and Bottomland Habitat 	<p>Key:</p> <ul style="list-style-type: none"> — ROW Right-Of-Way 	<p>Figure 3.4-1 Aquatic Features and Jurisdictional Waters and Wetlands Page 2 of 11 Pipeline Safety and Reliability Project - New Natural Gas Line 3602 and De-rating Line 1600 San Diego County, CA</p>
<p>Sources: ESRI 2012, 2018a; SanGIS 2016; SDG&E 2017; USMC 2017</p>		<p>0 0.25 0.5 Miles</p>	



<ul style="list-style-type: none"> ① Milepost — Line 3602 — Existing Line 1600 □ Bore Pits □ Workspaces □ Municipal Boundary □ Biological Resources Survey Area 	<p><u>Applicant Survey Data</u></p> <ul style="list-style-type: none"> — Drainages ■ Riparian and Bottomland Habitat 	<p>Key:</p> <p>— ROW Right-Of-Way</p>
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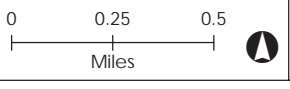


Figure 3.4-1
Aquatic Features and Jurisdictional Waters and Wetlands
 Page 3 of 11
 Pipeline Safety and Reliability Project - New Natural Gas Line 3602 and De-rating Line 1600
 San Diego County, CA

Sources: ESRI 2012, 2018a; SanGIS 2016; SDG&E 2017; USMC 2017



- Existing Line 1600
- Municipal Boundary

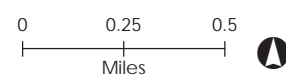
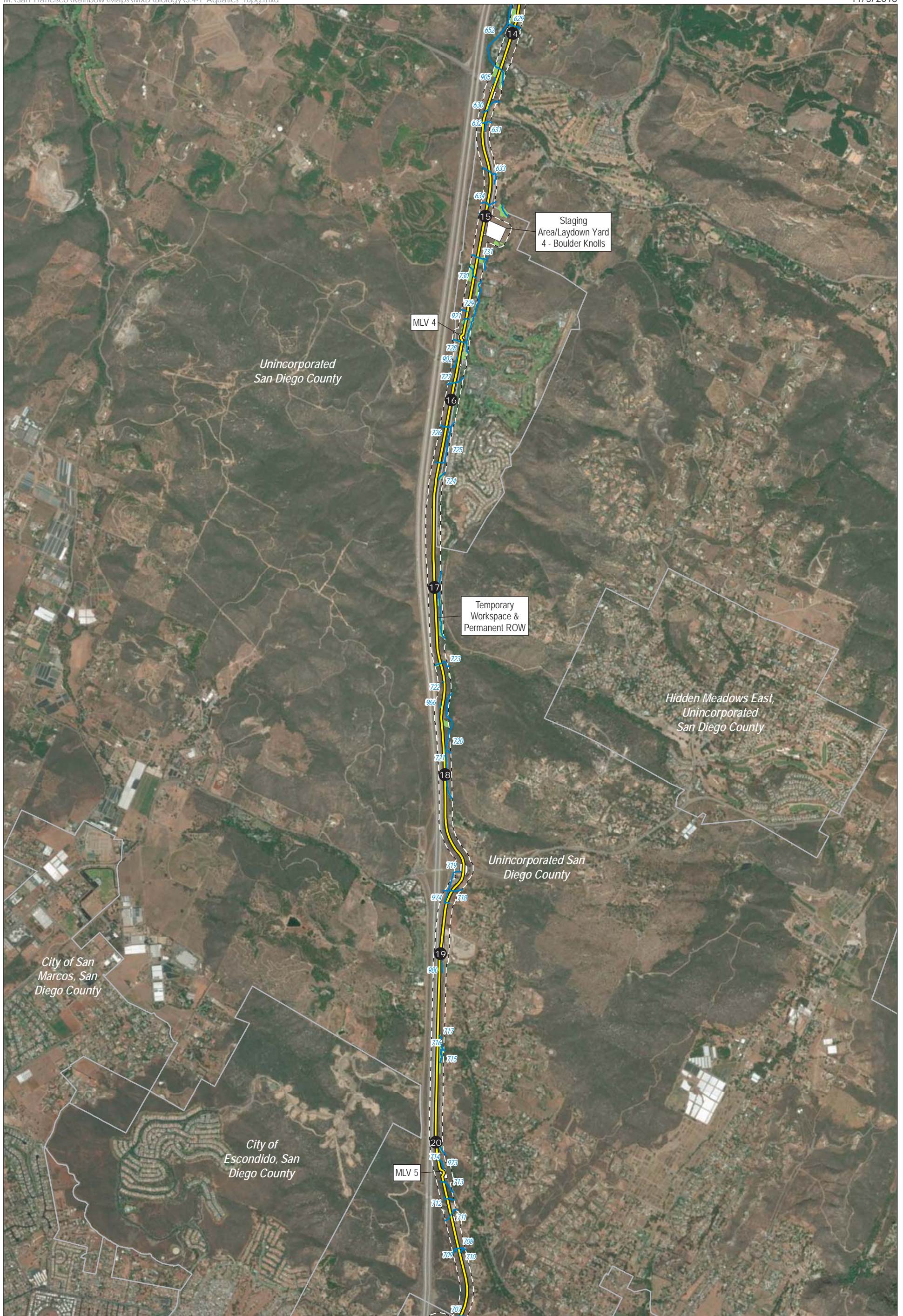

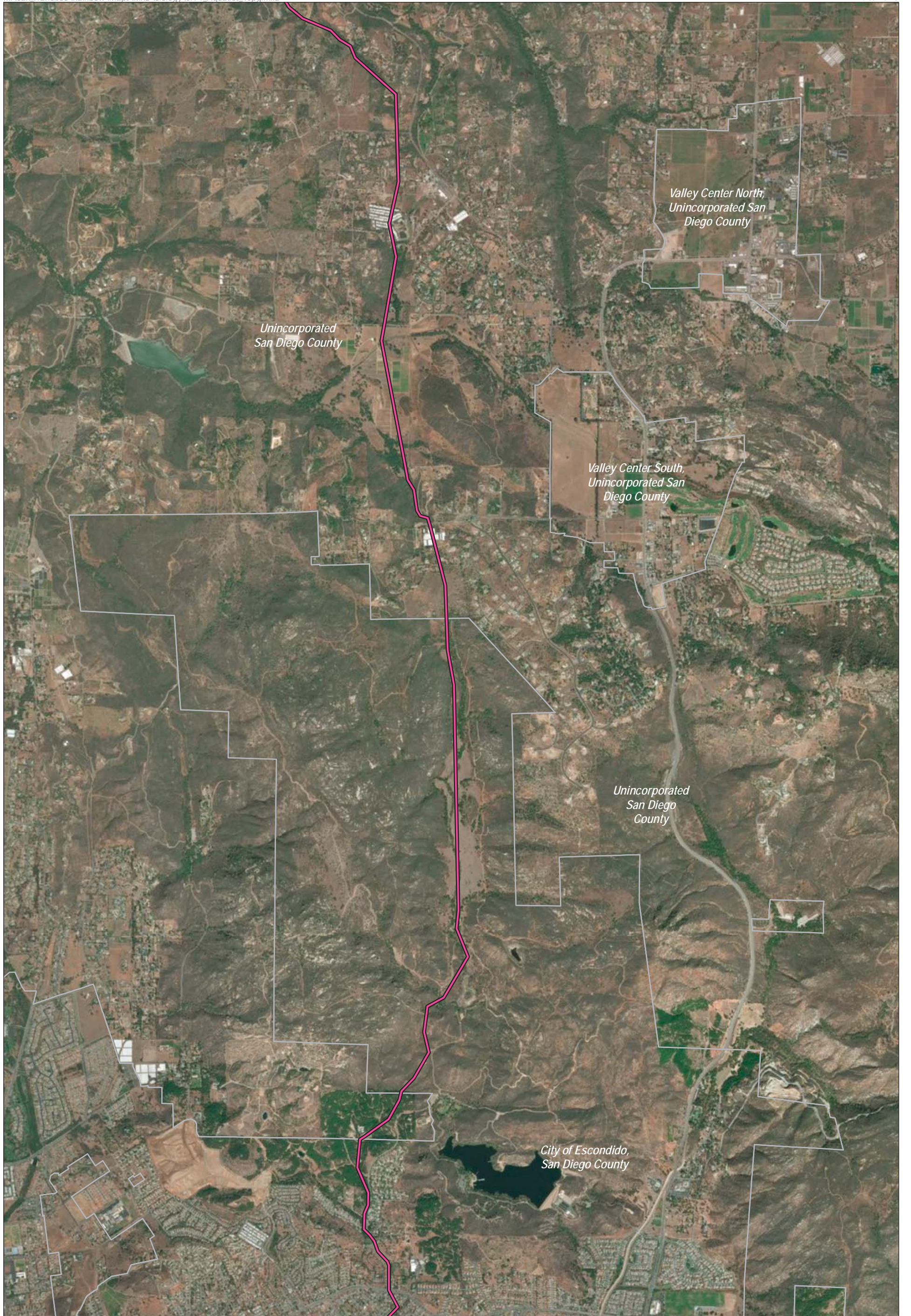




Figure 3.4-1
**Aquatic Features and
Jurisdictional Waters and Wetlands**
Page 4 of 11
Pipeline Safety and Reliability
Project - New Natural Gas
Line 3602 and De-rating
Line 1600
San Diego County, CA



<ul style="list-style-type: none"> 1 Milepost Line 3602 Workspaces Municipal Boundary Biological Resources Survey Area Applicant Survey Data Drainages 	<ul style="list-style-type: none"> Riparian and Bottomland Habitat 	<p>Key: ROW Right-Of-Way</p>	<p>Figure 3.4-1 Aquatic Features and Jurisdictional Waters and Wetlands Page 5 of 11 Pipeline Safety and Reliability Project - New Natural Gas Line 3602 and De-rating Line 1600 San Diego County, CA</p>
<p>Sources: ESRI 2012, 2018a; SanGIS 2016; SDG&E 2017; USMC 2017</p>		<p>0 0.25 0.5 Miles</p> 	



 Existing Line 1600
 Municipal Boundary

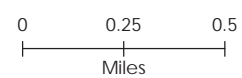


Figure 3.4-1
Aquatic Features and Jurisdictional Waters and Wetlands
 Page 6 of 11
 Pipeline Safety and Reliability Project - New Natural Gas Line 3602 and De-rating Line 1600
 San Diego County, CA

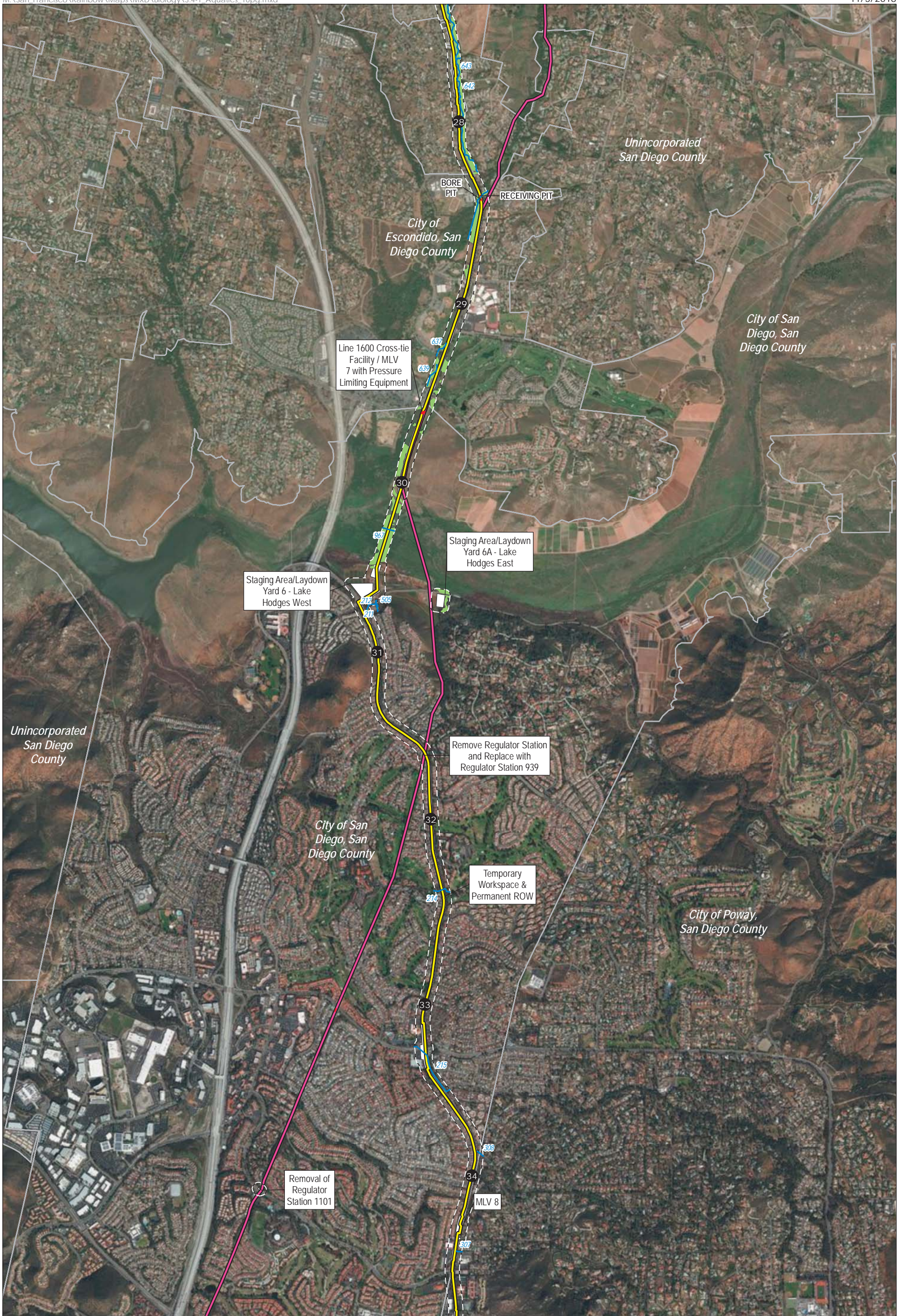


① Milepost	Biological Resources Survey Area	Key:
Line 3602	Applicant Survey Data	MLV Mainline Valve
Tie-Ins & Extensions	Drainages	ROW Right-Of-Way
Existing Line 1600	Riparian and Bottomland Habitat	
Bore Pits		
Workspaces		
Municipal Boundary		

0 0.25 0.5
Miles

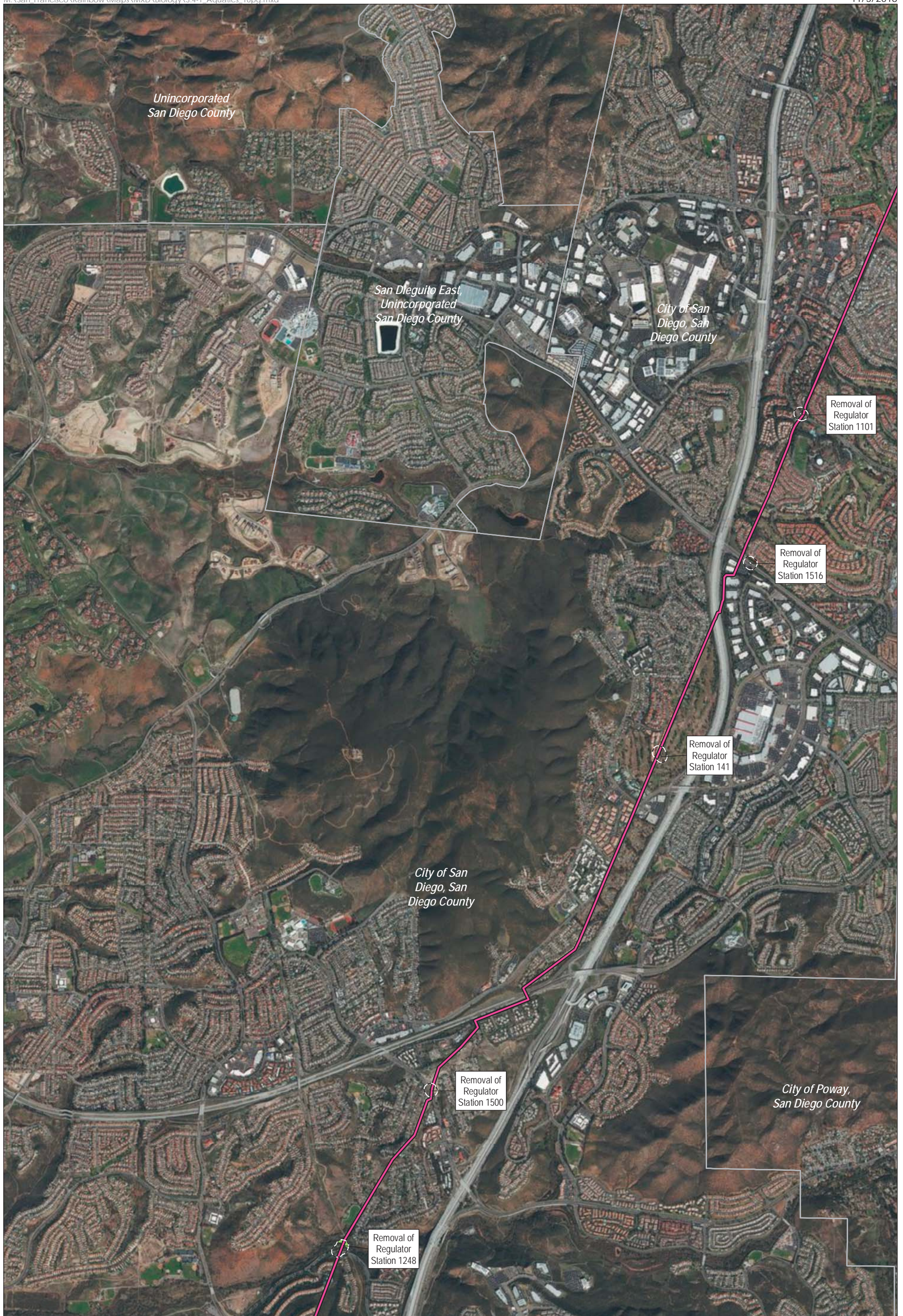
Figure 3.4-1
Aquatic Features and Jurisdictional Waters and Wetlands
 Page 7 of 11
 Pipeline Safety and Reliability Project - New Natural Gas Line 3602 and De-rating Line 1600
 San Diego County, CA

Sources: ESRI 2012, 2018a; SanGIS 2016; SDG&E 2017; USMC 2017



① Milepost	▭ Biological Resources Survey Area	Key: ROW Right-Of-Way
— Line 3602	▭ Applicant Survey Data	
— Tie-Ins & Extensions	— Drainages	0 0.25 0.5 Miles
— Existing Line 1600	▭ Riparian and Bottomland Habitat	
▭ Bore Pits		▲
▭ Workspaces		
▭ Municipal Boundary		

Figure 3.4-1
Aquatic Features and Jurisdictional Waters and Wetlands
 Page 8 of 11
 Pipeline Safety and Reliability Project - New Natural Gas Line 3602 and De-rating Line 1600
 San Diego County, CA



- Existing Line 1600
- Workspaces
- Municipal Boundary
- Biological Resources Survey Area
- Riparian and Bottomland Habitat

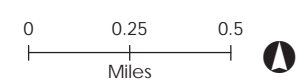
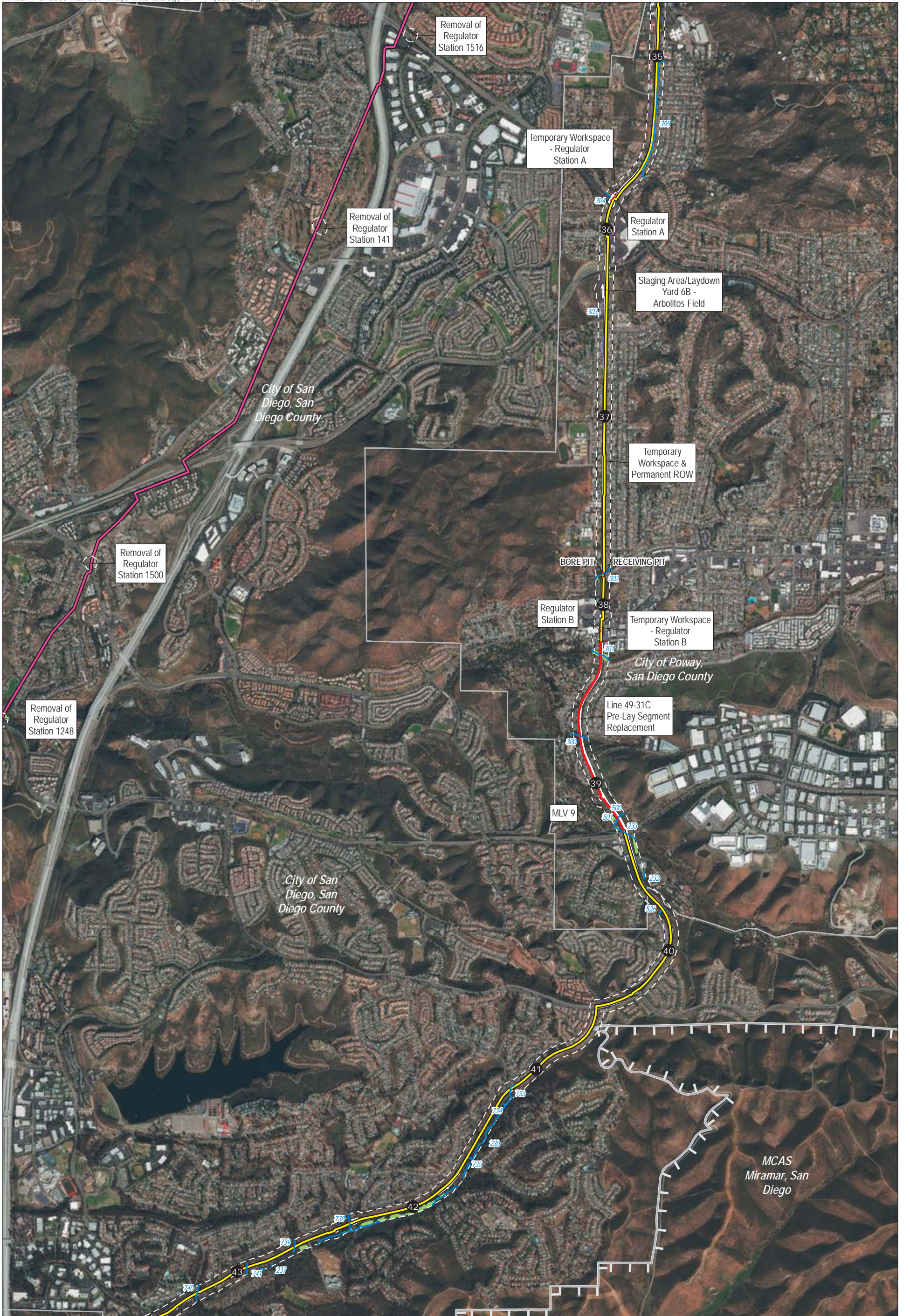


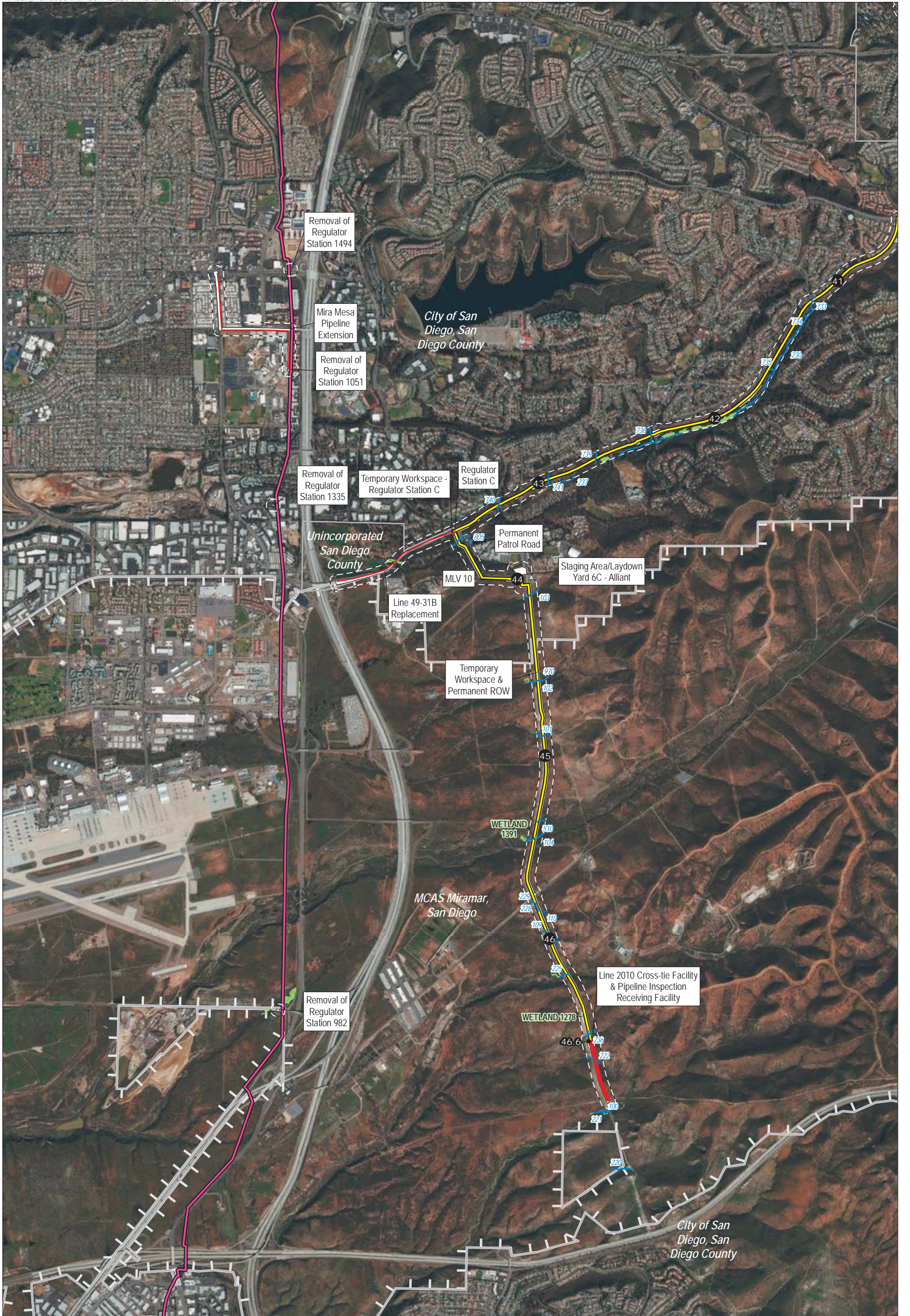
Figure 3.4-1
Aquatic Features and Jurisdictional Waters and Wetlands
 Page 9 of 11
 Pipeline Safety and Reliability Project - New Natural Gas Line 3602 and De-rating Line 1600
 San Diego County, CA



1 Milepost	MCAS Miramar	Key: ROW Right-Of-Way
Line 3602	Biological Resources Survey Area	
Tie-Ins & Extensions	<u>Applicant Survey Data</u>	
Existing Line 1600	Drainages	
Bore Pits	Riparian and Bottomland Habitat	
Workspaces		
Municipal Boundary		

Figure 3.4-1
Aquatic Features and Jurisdictional Waters and Wetlands
 Page 10 of 11
 Pipeline Safety and Reliability Project - New Natural Gas Line 3602 and De-rating Line 1600
 San Diego County, CA

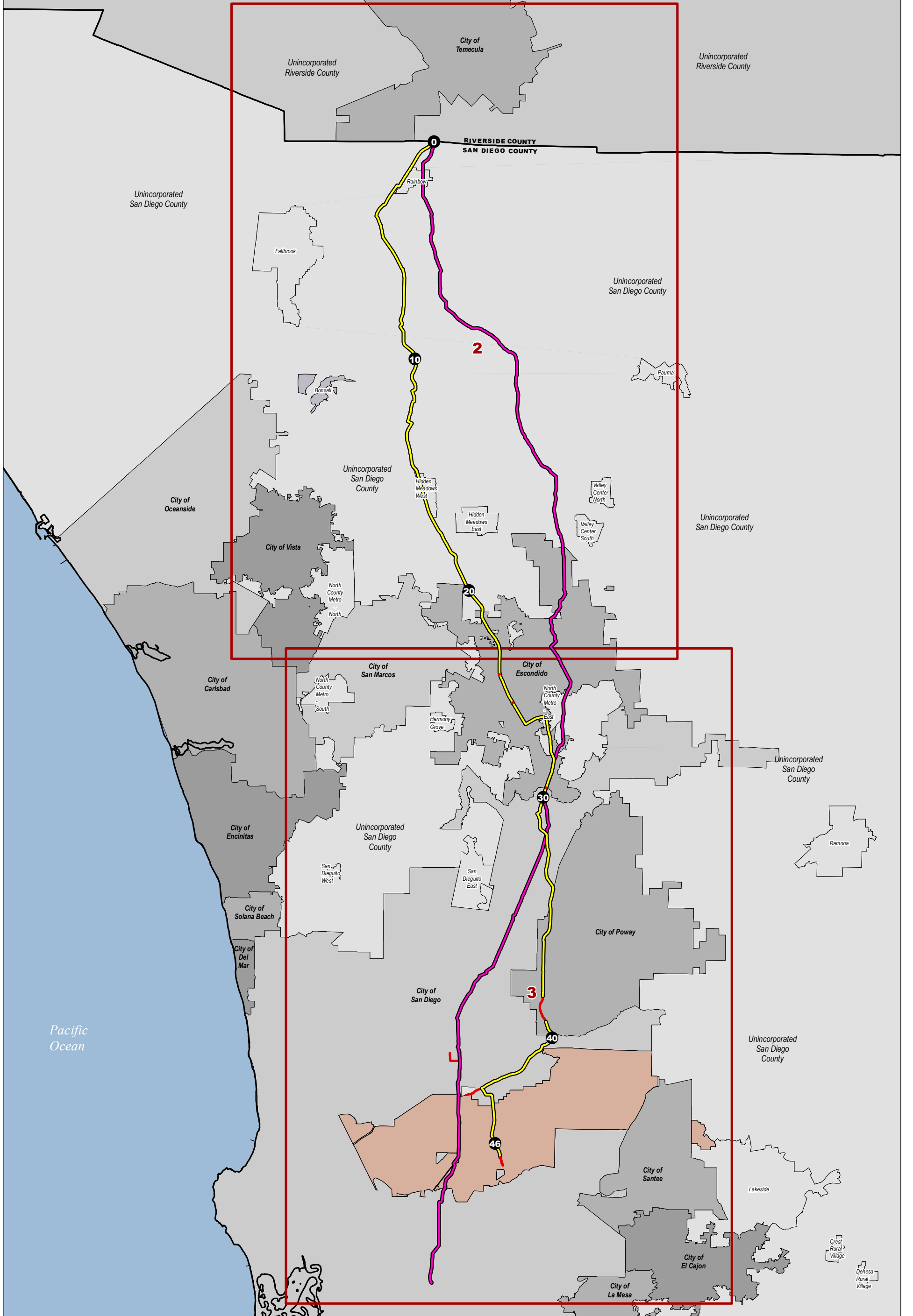
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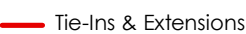





① Milepost	Biological Resources Survey Area	Key: ROW Right-Of-Way
Line 3602	Applicant Survey Data	
Tie-Ins & Extensions	Drainages	0 0.25 0.5 Miles
Existing Line 1600	Riparian and Bottomland Habitat	
Workspaces		
Municipal Boundary		
MCAS Miramar		

Figure 3.4-1
Aquatic Features and Jurisdictional Waters and Wetlands
 Page 11 of 11
 Pipeline Safety and Reliability Project - New Natural Gas Line 3602 and De-rating Line 1600
 San Diego County, CA

Sources: ESRI 2012, 2018a; SanGIS 2016; SDG&E 2017; USMC 2017



-  Milepost
-  Line 3602
-  Tie-Ins & Extensions
-  Existing Line 1600
-  MCAS Miramar
-  Map Series Index

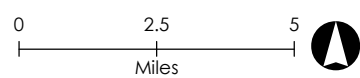


Figure 3.4-2
**Critical Habitat
 in the Study Area**
 Page 1 of 3
 Pipeline Safety and Reliability
 Project - New Natural Gas
 Line 3602 and De-rating
 Line 1600
 San Diego County, CA

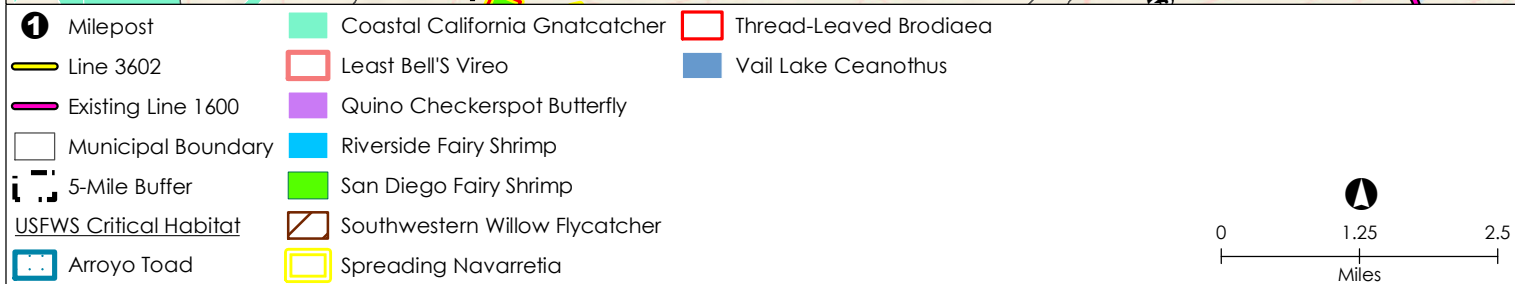
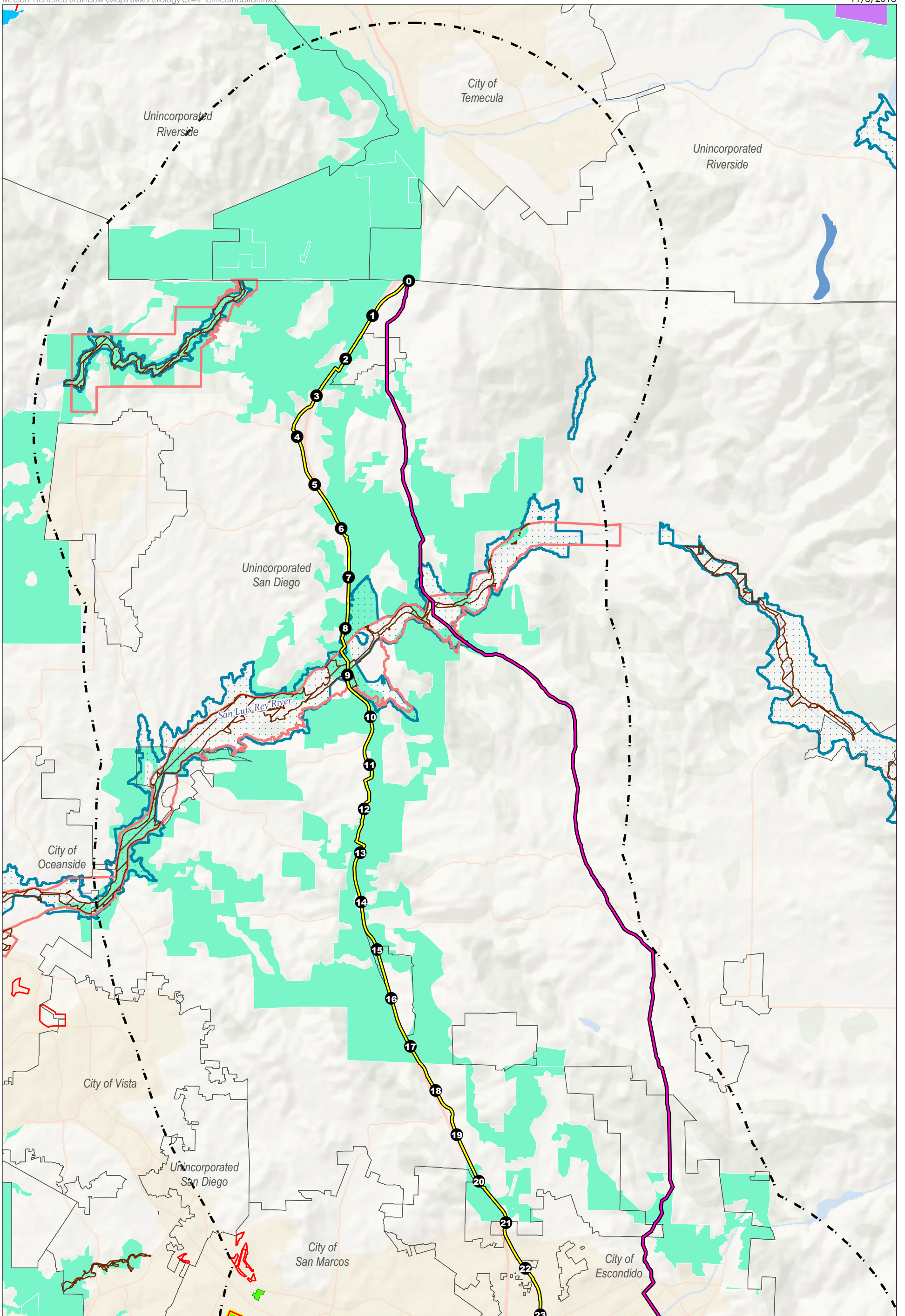


Figure 3.4-2
**Critical Habitat
 in the Study Area**
 Page 2 of 3
 Pipeline Safety and Reliability
 Project - New Natural Gas
 Line 3602 and De-rating
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 San Diego County, CA

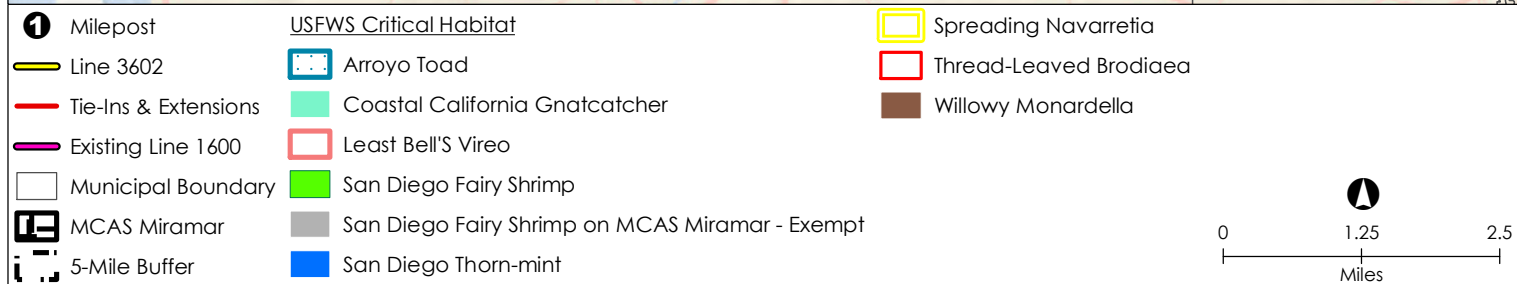
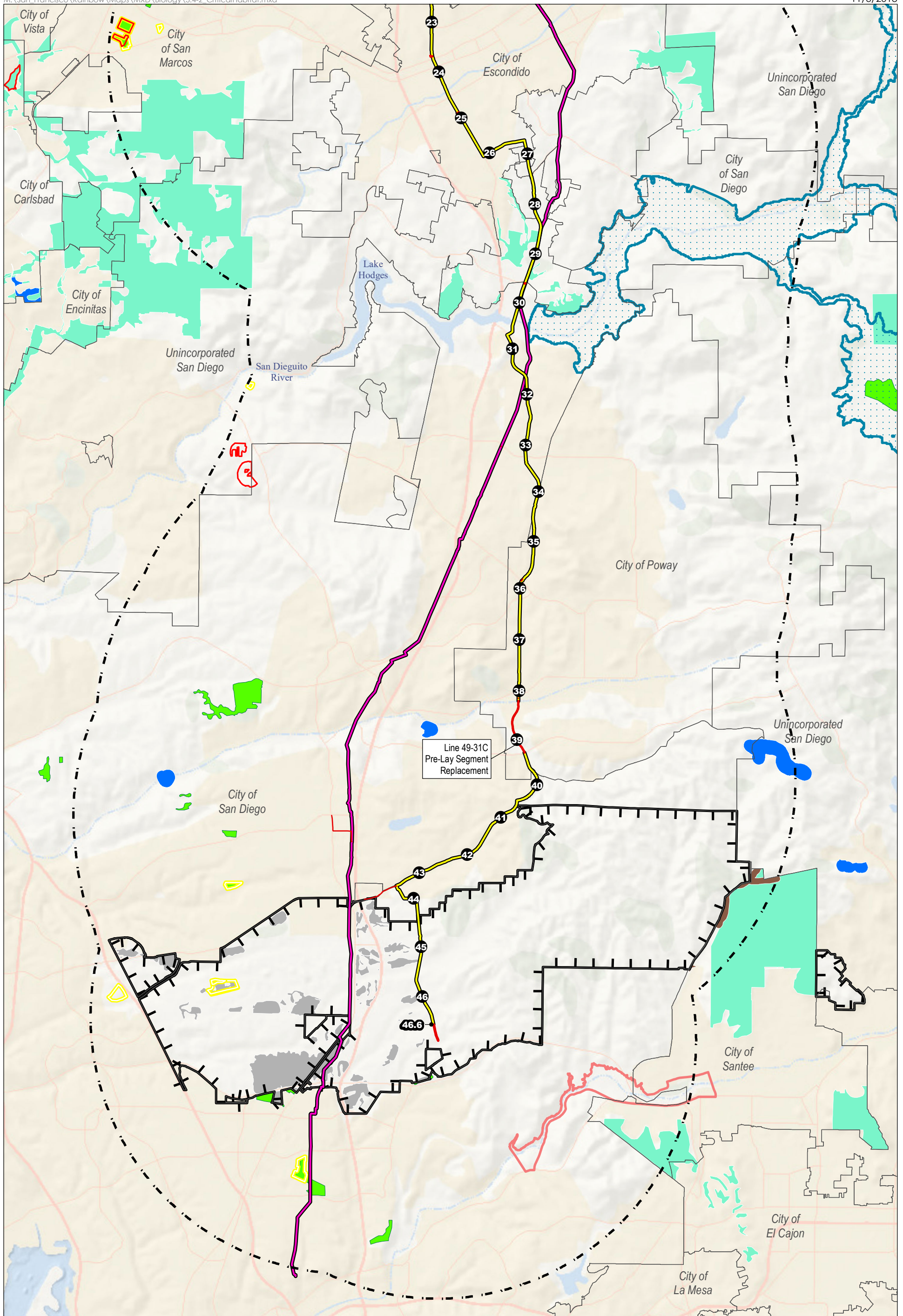
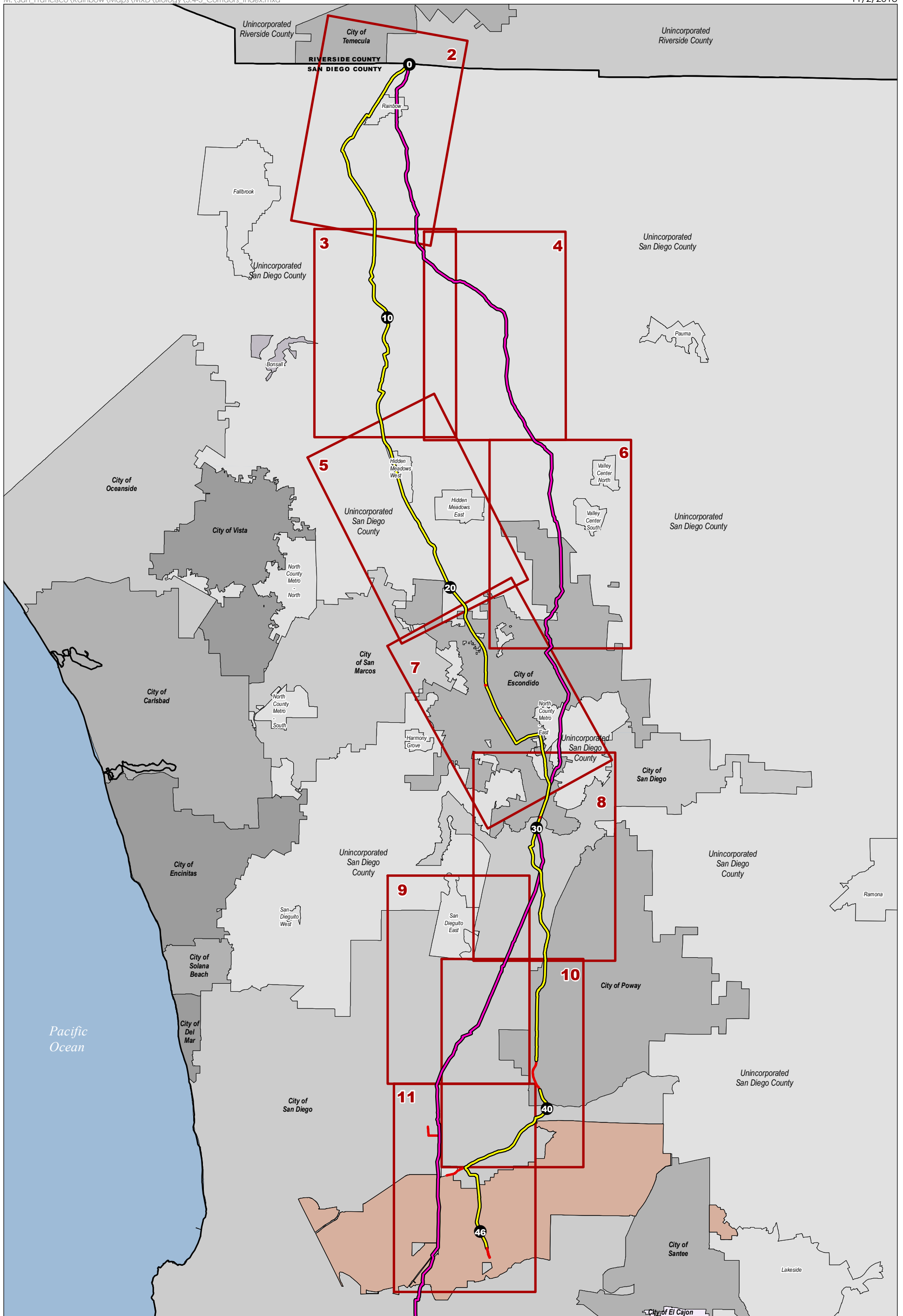


Figure 3.4-2
**Critical Habitat
 in the Study Area**
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 Pipeline Safety and Reliability
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- Milepost
- Line 3602
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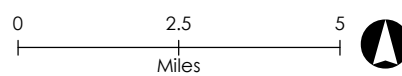


Figure 3.4-3
**Wildlife Corridors and Linkages
 that Cross the Proposed Project**
 Page 1 of 11
 Pipeline Safety and Reliability
 Project - New Natural Gas
 Line 3602 and De-rating
 Line 1600
 San Diego County, CA

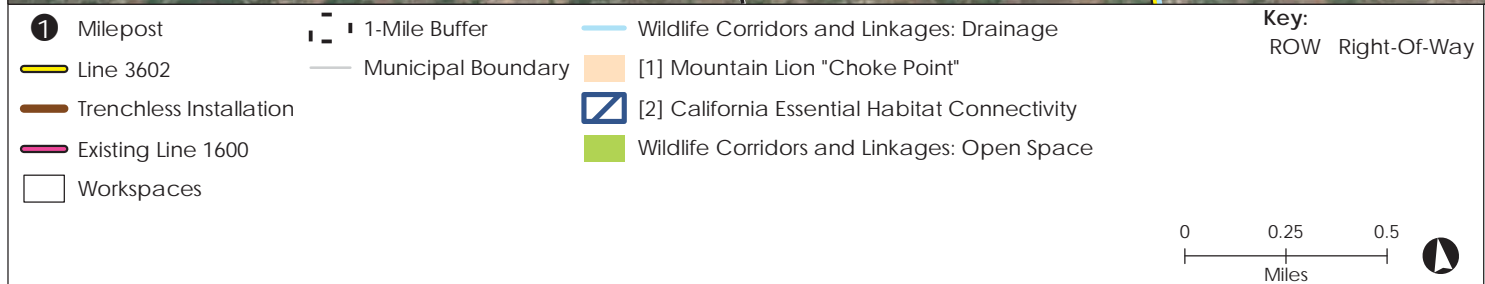
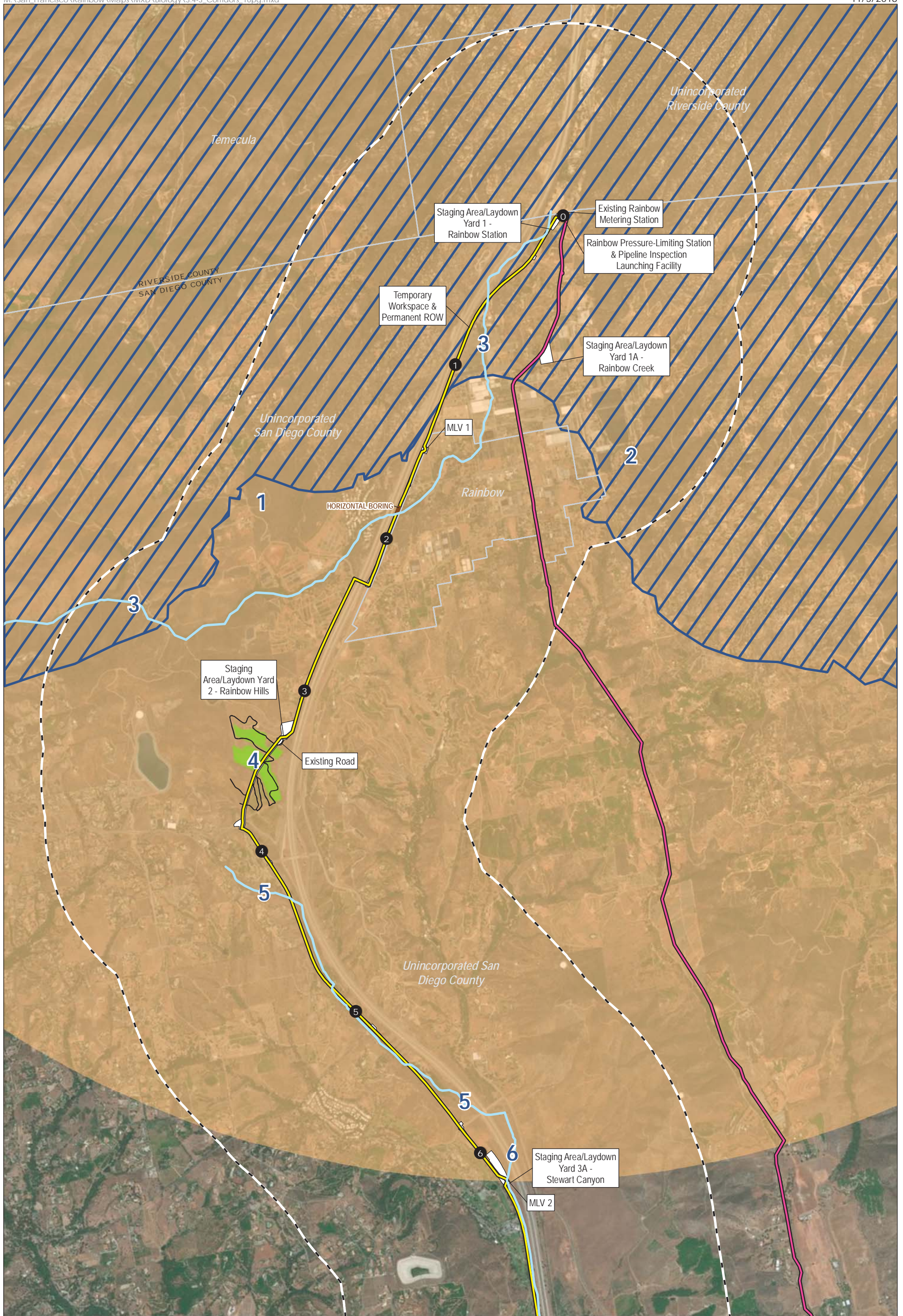


Figure 3.4-3
Wildlife Corridors and Linkages that Cross the Proposed Project
 Page 2 of 11
 Pipeline Safety and Reliability Project - New Natural Gas Line 3602 and De-rating Line 1600
 San Diego County, CA

Sources: CalFish 2016; ESRI 2012, 2018a; GreenInfo 2016; SanGIS 2016; SDG&E 2017; USMC 2017

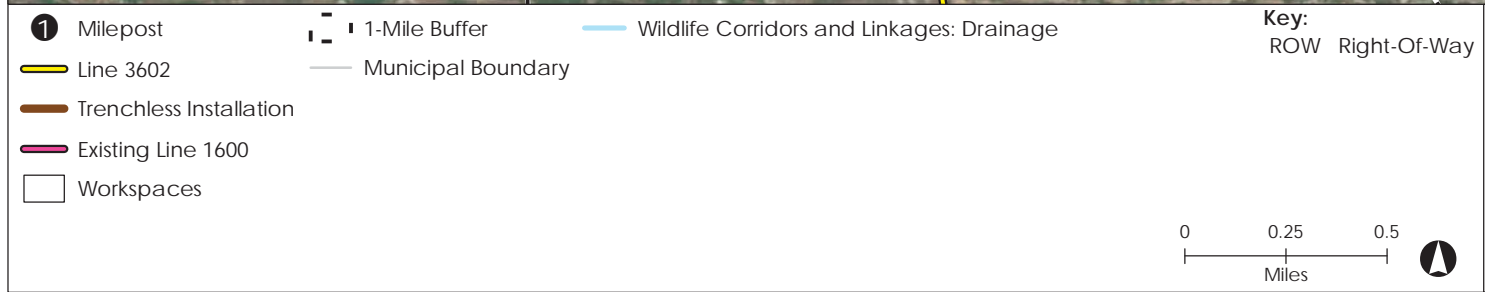
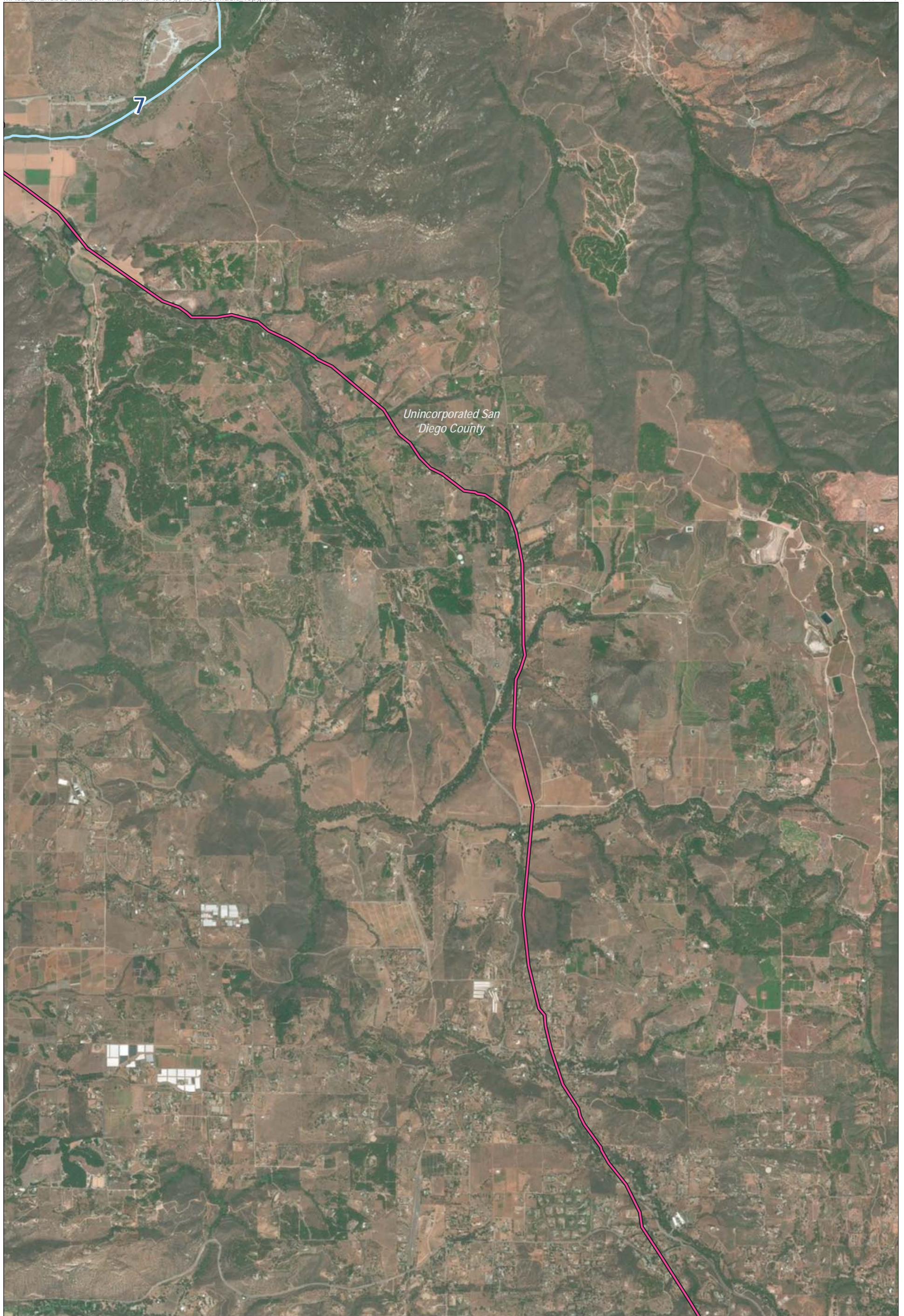


Figure 3.4-3
**Wildlife Corridors and Linkages
 that Cross the Proposed Project**
 Page 3 of 11
 Pipeline Safety and Reliability
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Existing Line 1600 Wildlife Corridors and Linkages: Drainage

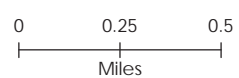


Figure 3.4-3
**Wildlife Corridors and Linkages
 that Cross the Proposed Project**
Page 4 of 11
 Pipeline Safety and Reliability
 Project - New Natural Gas
 Line 3602 and De-rating
 Line 1600
 San Diego County, CA



Milepost	1-Mile Buffer	Key: Right-Of-Way
Line 3602	Municipal Boundary	
Workspaces		

Figure 3.4-3
**Wildlife Corridors and Linkages
 that Cross the Proposed Project**
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 Pipeline Safety and Reliability
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 Line 3602 and De-rating
 Line 1600
 San Diego County, CA

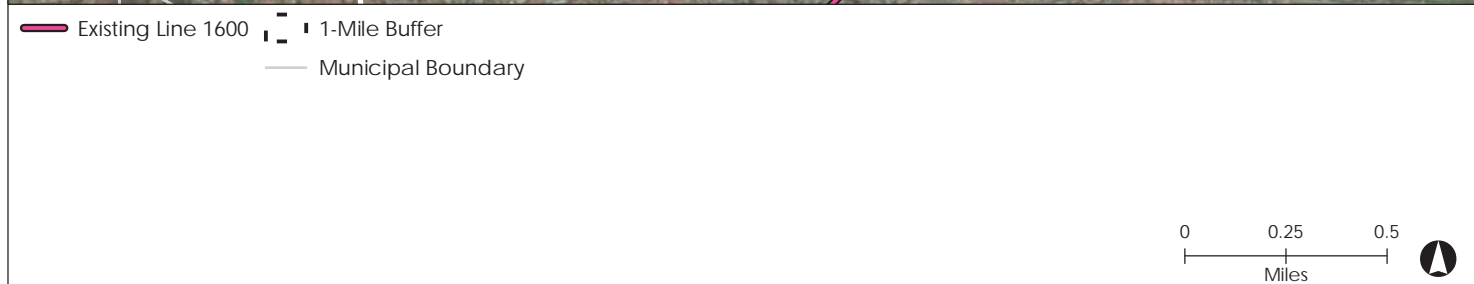
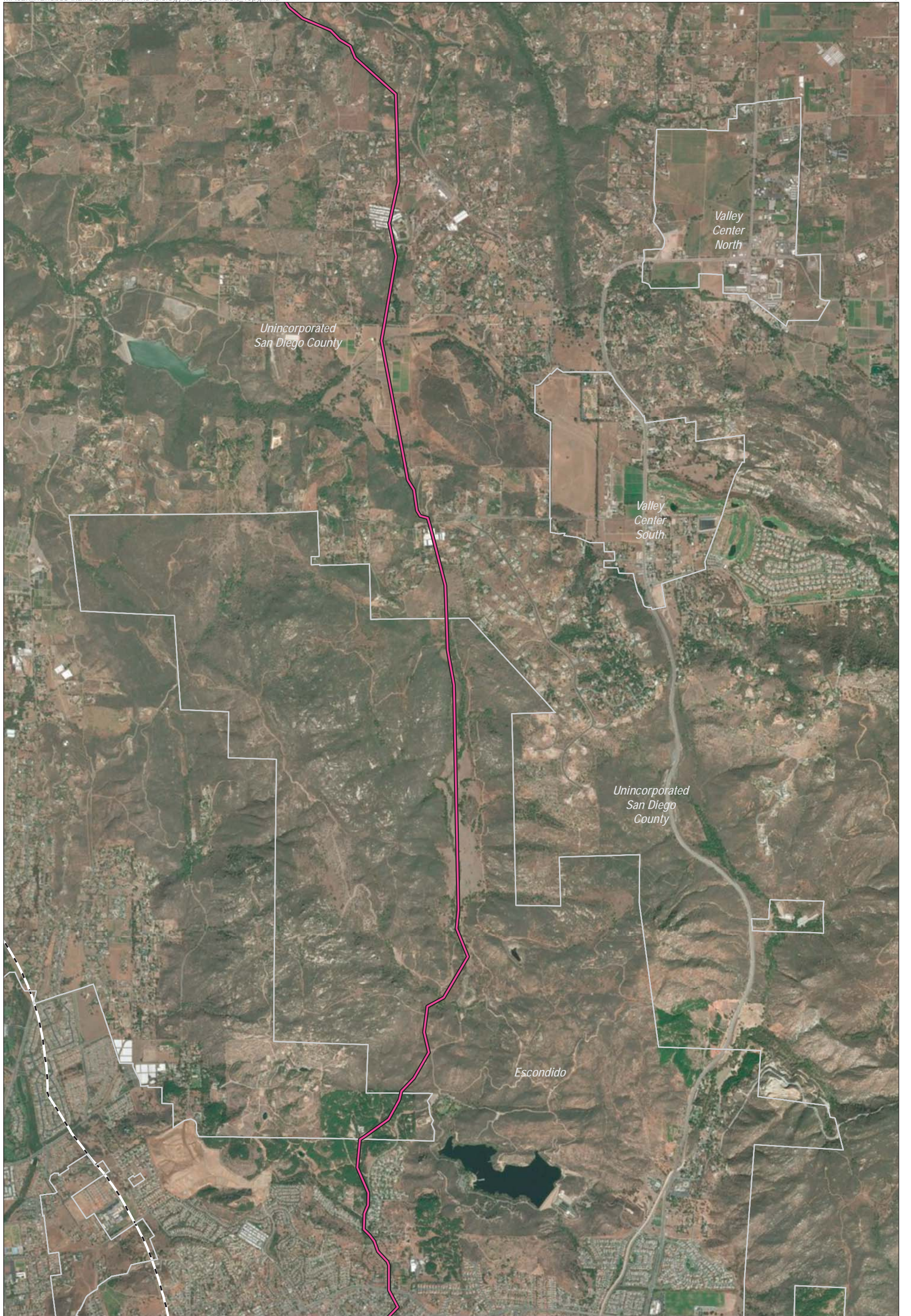
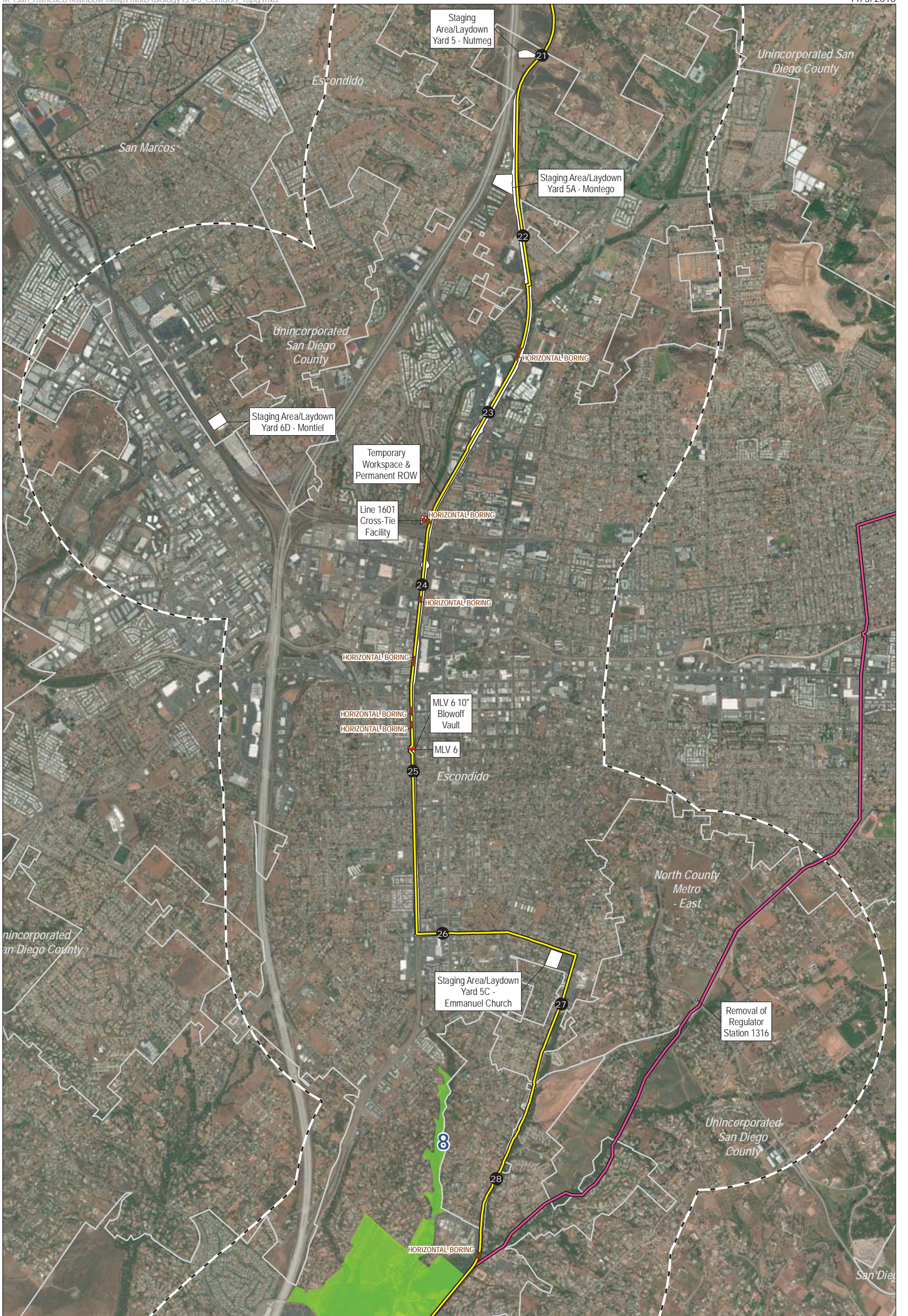
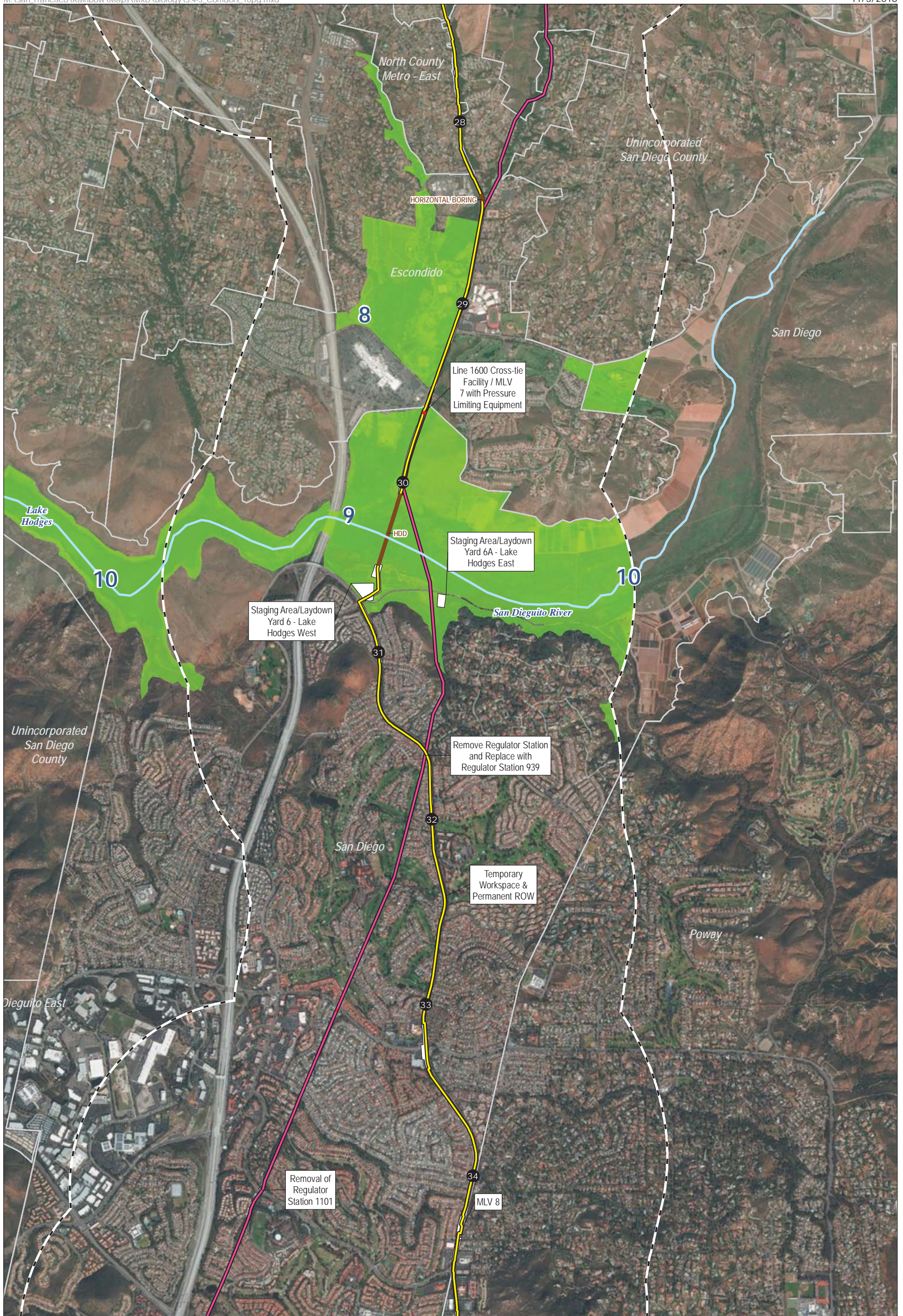


Figure 3.4-3
**Wildlife Corridors and Linkages
 that Cross the Proposed Project**
Page 6 of 11
 Pipeline Safety and Reliability
 Project - New Natural Gas
 Line 3602 and De-rating
 Line 1600
 San Diego County, CA



<ul style="list-style-type: none"> Milepost Line 3602 Tie-Ins & Extensions Trenchless Installation Existing Line 1600 Workspaces 	<ul style="list-style-type: none"> 1-Mile Buffer Municipal Boundary Wildlife Corridors and Linkages: Open Space 	<p>Key:</p> <ul style="list-style-type: none"> MLV Mainline Valve ROW Right-Of-Way <div style="text-align: right;"> <p>0 0.25 0.5</p> <p>Miles</p> </div>	<p>Figure 3.4-3 Wildlife Corridors and Linkages that Cross the Proposed Project Page 7 of 11 Pipeline Safety and Reliability Project - New Natural Gas Line 3602 and De-rating Line 1600 San Diego County, CA</p>
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Milepost	1-Mile Buffer	Wildlife Corridors and Linkages: Drainage	Key: ROW Right-Of-Way
Line 3602	Municipal Boundary	Wildlife Corridors and Linkages: Open Space	
Tie-Ins & Extensions			
Trenchless Installation			
Existing Line 1600			
Workspaces			

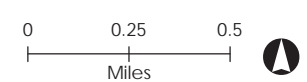


Figure 3.4-3
Wildlife Corridors and Linkages that Cross the Proposed Project
 Page 8 of 11
 Pipeline Safety and Reliability Project - New Natural Gas Line 3602 and De-rating Line 1600
 San Diego County, CA

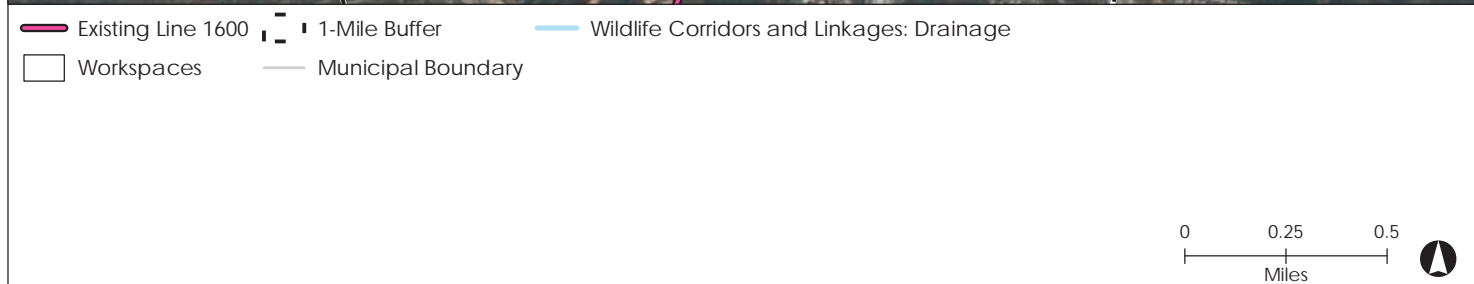
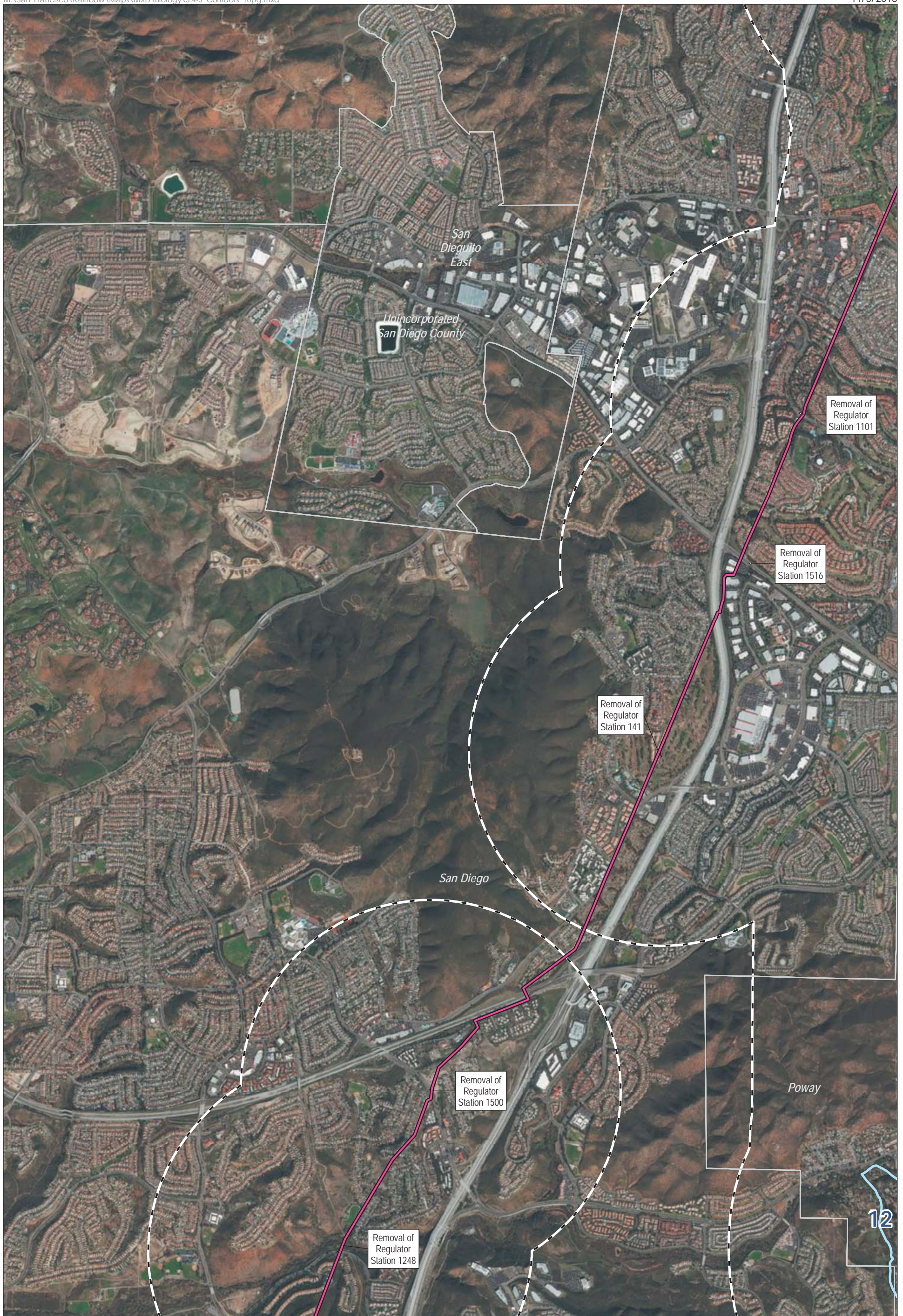
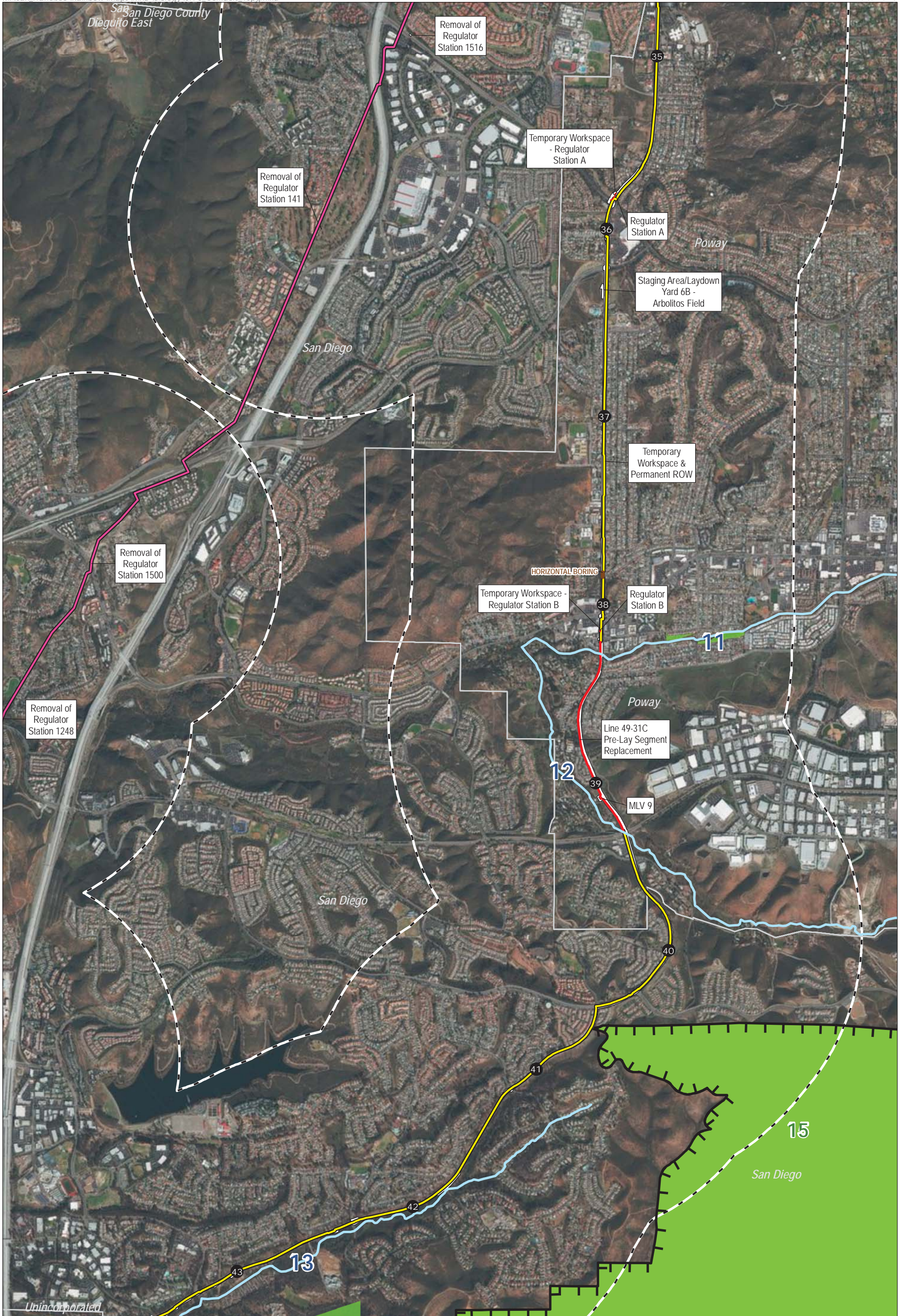


Figure 3.4-3
**Wildlife Corridors and Linkages
 that Cross the Proposed Project**
 Page 9 of 11
 Pipeline Safety and Reliability
 Project - New Natural Gas
 Line 3602 and De-rating
 Line 1600
 San Diego County, CA



Milepost	1-Mile Buffer	Wildlife Corridors and Linkages: Drainage	Key: ROW Right-Of-Way
Line 3602	MCAS Miramar	Wildlife Corridors and Linkages: Open Space	
Tie-Ins & Extensions	Municipal Boundary		
Trenchless Installation			
Existing Line 1600			
Workspaces			

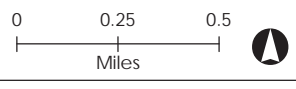
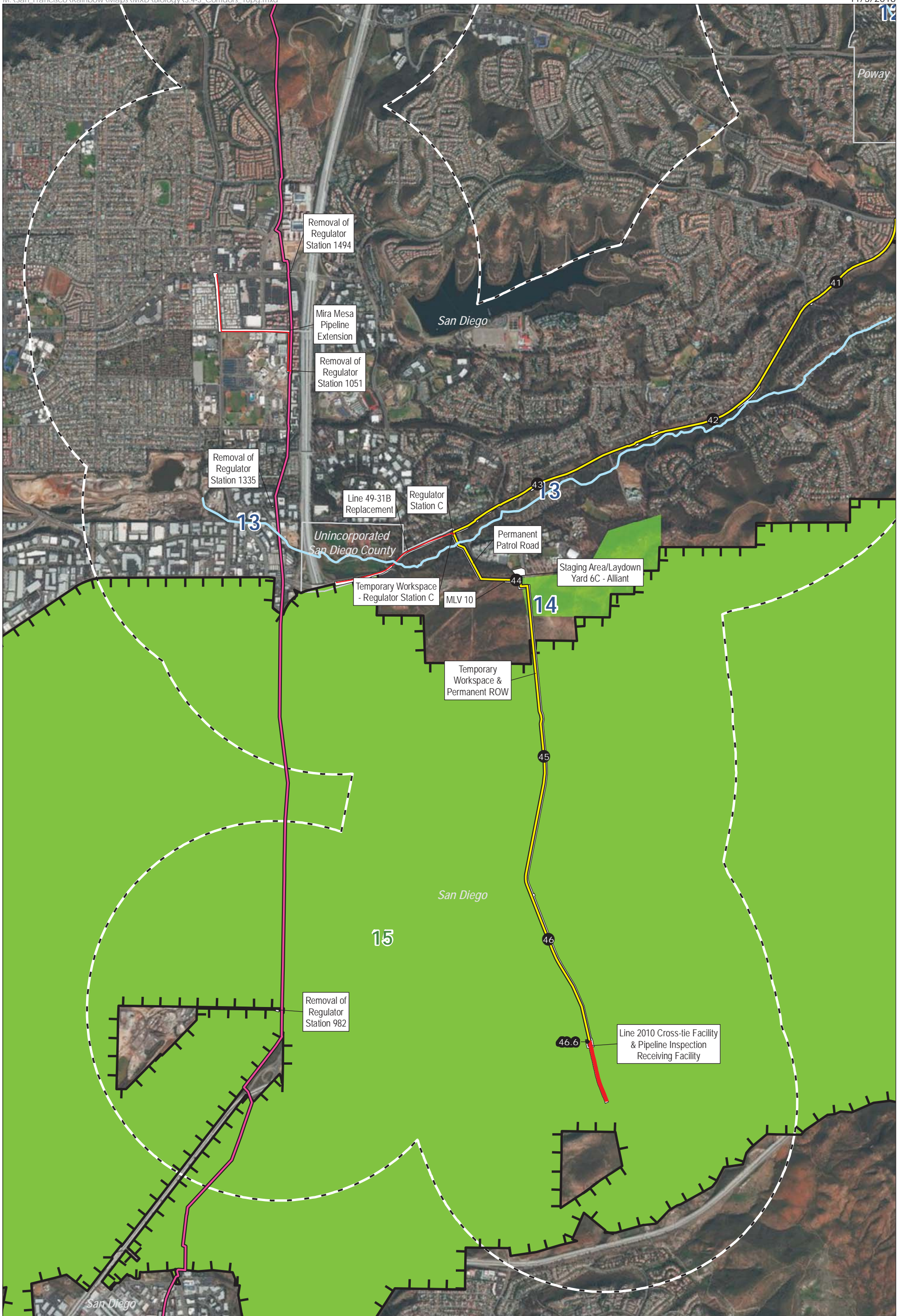
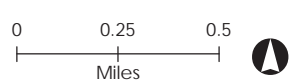


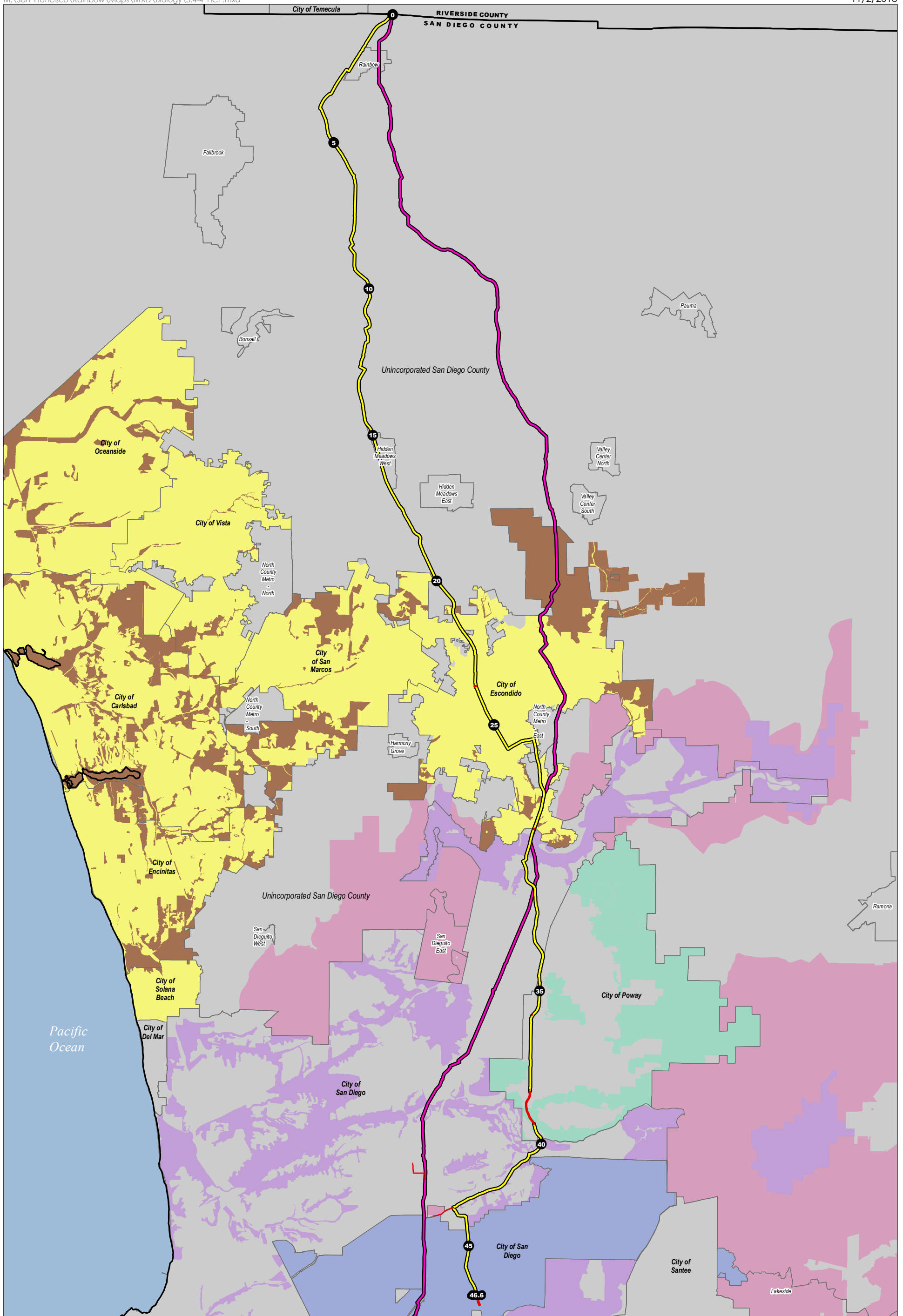
Figure 3.4-3
Wildlife Corridors and Linkages that Cross the Proposed Project
 Page 10 of 11
 Pipeline Safety and Reliability Project - New Natural Gas Line 3602 and De-rating Line 1600
 San Diego County, CA



Milepost	1-Mile Buffer	Wildlife Corridors and Linkages: Drainage	Key: ROW Right-Of-Way
Line 3602	MCAS Miramar	Wildlife Corridors and Linkages: Open Space	
Tie-Ins & Extensions	Municipal Boundary		
Existing Line 1600			
Workspaces			

Figure 3.4-3
Wildlife Corridors and Linkages that Cross the Proposed Project
 Page 11 of 11
 Pipeline Safety and Reliability Project - New Natural Gas Line 3602 and De-rating Line 1600
 San Diego County, CA





<p>1 Milepost</p> <p>Line 3602</p> <p>Tie-Ins & Extensions</p> <p>Existing Line 1600</p>	<p>Habitat Conservation Planning Areas</p> <p>San Diego Multiple Species Conservation Program boundaries</p> <p>San Diego Multiple Species Conservation Program preserves – Multiple Habitat Planning Area</p> <p>San Diego North County Multiple Habitat Conservation Program – Subareas</p> <p>(Not Shown) The SDG&E Subregional NCCP boundary encompasses western San Diego County and includes all of San Diego County shown in this figure.</p>	<p>San Diego North County Multiple Habitat Conservation Program – Preserves</p> <p>Poway Subarea Habitat Conservation Plan/Natural Community Conservation Plan</p> <p>MCAS Miramar Integrated Natural Resource Management Plan</p>
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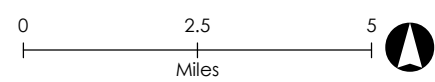


Figure 3.4-4
Habitat Conservation Planning in the Study Area
 Pipeline Safety and Reliability Project - New Natural Gas Line 3602 and De-rating Line 1600
 San Diego County, CA

Sources: City of Escondido 2017; City of Poway 2017; ESRI 2012; SanGIS 2012, 2014, 2016; SDG&E 2017; USMC 2017

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