Biological Technical Report

Coachella Valley Water District East Side Dike Improvement Project

City of Indio, Riverside County, California

Prepared for:

Coachella Valley Water District
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30 YEARS
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1.0 INTRODUCTION

ECORP Consulting, Inc. (ECORP) was retained by Coachella Valley Water District (CVWD) to provide California Environmental Quality Act (CEQA) services for the East Side Dike Improvement Project (project) located in the City of Indio, Riverside County, California (

Figure 1). A reconnaissance-level biological survey was conducted to document the existing biological resources, to assess the habitat for its potential to support sensitive plant and wildlife species, and to determine whether impacts would occur to sensitive biological resources, as required under CEQA. The project site is located in an area that is covered by the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) and will be subject to the requirements of the plan. The following report summarizes the results of the reconnaissance survey.

1.1 Project Location

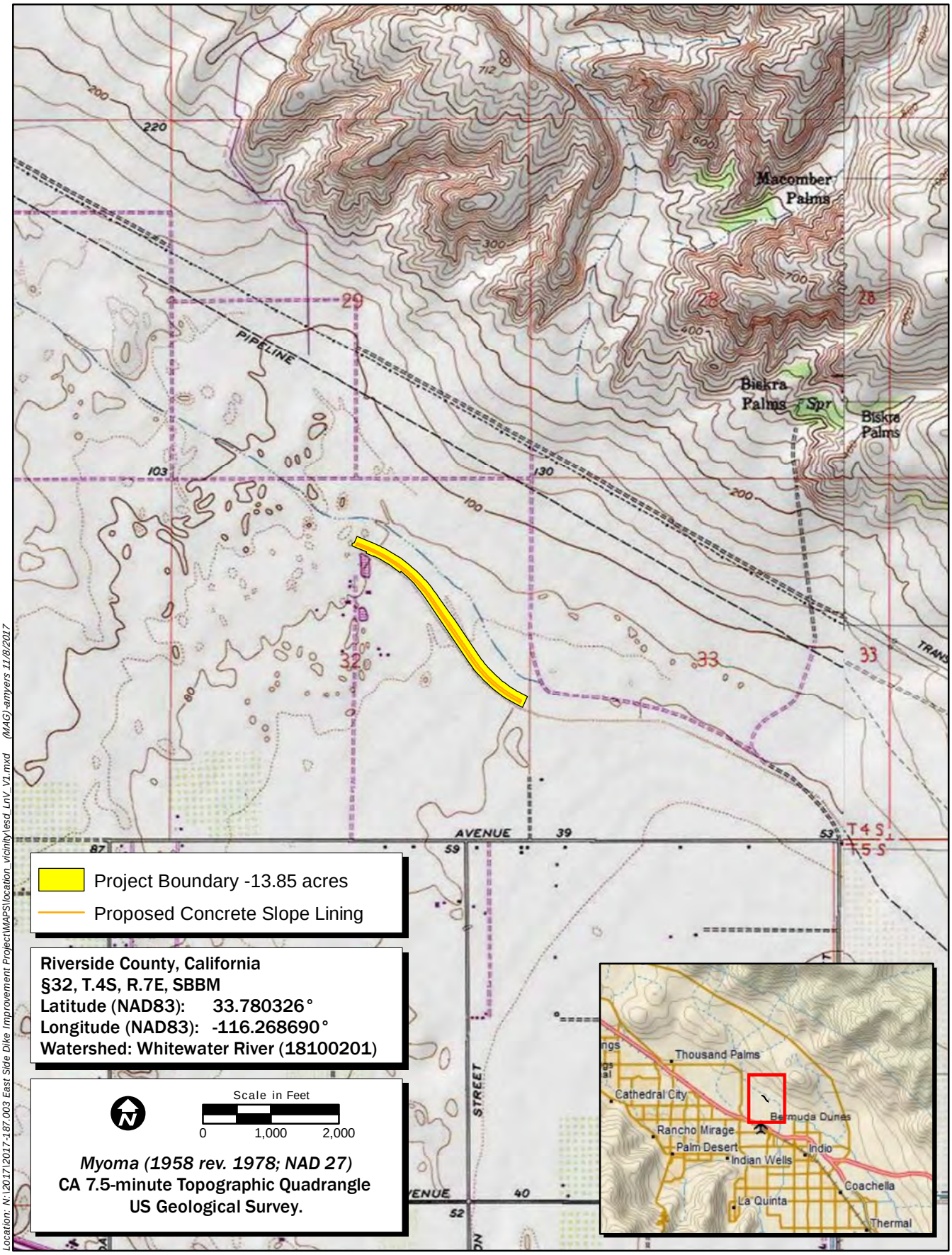
The project is located in the western portion of the Coachella Valley area of Riverside County. Specifically, the project is within the City of Indio, north of Avenue 38 and the Talavera development and northeast of Dune Palms Road (Figure 1). Elevation at the site is approximately 80 feet above mean sea level. The project site is situated within Section 32 of Township 4 South, Range 7 East, United States Geological Survey (USGS) Myoma 7.5-minute topographic quadrangle. The project is located along the southern boundary of the East Indio Hills Conservation Area associated with the CVMSHCP.

1.2 Project Description

The CVWD proposes the construction of approximately 3,420 lineal feet of concrete slope lining along the north side of the East Side Dike (Dike) beginning at the Dike's intersection with Dune Palms Road and continuing in a south easterly direction ending adjacent (north) of the Talavera residential development in the City of Indio, Riverside County (Figure 1). The project footprint is located on APNs 750-290-003; 750-300-015; 750-310-016; and 750-330-007. The East Side Dike is located along the southern boundary of the East Indio Hills Conservation Area associated with the Coachella Valley Multiple Species Conservation Habitat Plan. The temporary, construction-area within the conservation area is limited to approximately 7.2 acres. The total temporary, construction limit is approximately 13.8 acres.

The East Side Dike was designed and built by the U.S. Bureau of Reclamation (USBR) to protect the All-American Branch of the Coachella Canal and agricultural lands from damage by floodwaters originating in the watersheds. As a result, it also physically protects North Indio from flooding from these same watersheds although the Dike is not recognized by the Federal Emergency Management Agency (FEMA) as providing flood protection.

The purpose of the project is to make the necessary improvements required for FEMA certification of the East Side Dike as a regional flood protection facility. The construction of the improvements allows CVWD to process a flood map revision through FEMA to remove the Talavera community and surrounding area, and CVWD's Water Reclamation Plant No 7 facilities from the existing Special Flood Hazard Area.



Location: N:\2017\2017-187.003 East Side Dike Improvement Project\MAPS\location_vicinity\esd_LnV_V1.mxd (MAG)-amyers 11/8/2017

Map Date: 11/8/2017

iService Layer Credits: Copyright:© 2015 DeLorme
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Figure 1. Project Vicnity and Location

2017-187.003 East Side Dike Improvement Project

The concrete slope lining width would vary from 27 feet to 34.5 feet and will extend from near the top of the existing Dike down below the toe of the slope where a 20-foot excavated trench will be required for construction of the footing required for scour protection. Temporarily excavated material will be stored to the northeast of the trench and will be backfilled on top of the completed work to match the existing topography of the Dike. The slope lining project will require approximately 2,700 cubic yards of concrete and 22 cubic yards of rebar to be placed. The temporary work area required during construction will be approximately 4,000 feet in length and approximately 90-feet wide.

Construction equipment staging would occur within these limits. Estimated earthwork includes excavation of approximately 115,000 CY of balanced cut/fill. Construction equipment required at the site includes excavators, dozers, backhoe, graders, concrete trucks, dump trucks, water trucks and utility trucks. Construction access to the site will be from Dune Palms Road and from the intersection of Avenue 38 and Madison Street.

2.0 REGULATORY REQUIREMENTS

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects plants and animals that are listed as endangered or threatened by the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). Section 9 of FESA prohibits the taking of endangered wildlife, where taking is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 USC 1538). Under Section 7 of FESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise lawful activity provided the activity will not jeopardize the continued existence of the species. Section 10 of FESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan is developed.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has

incorporated the protection of native, non-game birds, including birds of prey, in Sections 3800, 3513, 3503, and 3503.5 of the California Fish and Game Code (CFGC).

2.1.3 Federal Clean Water Act

Tiering off of the Rivers and Harbors Act of 1899, which primarily pertains to discharge of fill into navigable waters, the federal Clean Water Act's (CWA) purpose is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA regulates the discharge of dredged or fill material into "Waters of the United States" through the U.S. Army Corps of Engineers (USACE) via a general or nationwide permit. The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and 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 7b). The U.S. Environmental Protection Agency (EPA) acts as a cooperating agency to set policy, guidance and criteria for use in evaluation of permit applications and also reviews USACE permit applications.

The USACE regulates "fill" or dredging of fill material within its jurisdictional features. "Fill material" means any material used for the primary purpose of replacing an aquatic area with dry land or changing the bottom elevation of a water body. Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required in conjunction with any Section 404 permit actions; this certification or waiver is issued by the State Water Resources Control Board (SWRCB), administered by each of nine California Regional Water Quality Control Boards (RWQCBs). For this project, the Colorado River RWQCB has jurisdiction.

2.2 State and Local Regulations

2.2.1 California Endangered Species Act

The California Endangered Species Act (CESA) generally parallels the main provisions of FESA, but unlike its federal counterpart, CESA applies the take prohibitions to species proposed for listing (called "candidates" by the state). Section 2080 of the CFGC prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the CFGC as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with the California Department of Fish and Wildlife (CDFW) to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

2.2.2 Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of CESA and FESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under CESA and/or FESA. The

regulations that implement the Fully Protected Species Statute (CFGC Section 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW prohibits any state agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (CFGC Sections 1900-1913) was created with the intent to "preserve, protect, and enhance rare and endangered plants in this State." The NPPA is administered by CDFW. The Fish and Wildlife Commission has the authority to designate native plants as "endangered" or "rare" and to protect endangered and rare plants from take. The CESA of 1984 (CFGC Section 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the CFGC.

2.2.4 California Fish and Game Code

Streambed Alteration Agreement

Section 1602 of the CFGC requires that a Notification of Lake or Streambed Alteration be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the Applicant is the Streambed Alteration Agreement. Often, projects that require a Streambed Alteration Agreement also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the Streambed Alteration Agreement may overlap.

Migratory Birds

CDFW enforces the protection of non-game native birds in Sections 3503, 3503.5, and 3800 of the CFGC. Section 3513 of the CFGC prohibits the possession or take of birds listed under the MBTA. These sections mandate the protection of California non-game native birds' nests and also make it unlawful to take these birds. All raptor species are protected from "take" pursuant to CFGC Section 3503.5 and are also protected at the federal level by the Migratory Bird Treaty Act of 1918.

2.2.5 Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP)

The project site is located in an area that is covered by the CVMSHCP, which was finalized in 2008. The CVMSHCP is managed by the Coachella Valley Conservation Commission (CVCC) and participants include Riverside County, the Cities of Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, Rancho Mirage, as well as Coachella Valley Water District, Imperial Irrigation District, Mission Springs Water District, Coachella Valley Association of Governments, and Caltrans (CVAG 2007). The CVMSHCP is a long-term program designed to conserve federally protected species, state-protected species, and/or other species of concern. The CVMSHCP program aims to conserve over 240,000 acres of open space and protect 27 plant and animal species by providing comprehensive compliance with federal and state endangered species laws. The CVMSHCP includes most of the Coachella Valley floor portion of Riverside County (CVAG 2007).

The project site is located within the East Indio Hills Conservation Area (Figure 3). The project is a covered activity within a Conservation Area under the CVMSHCP (see Table 7-6 in Section 7.3.1 of the CVMSHCP) and implementation of the CVMSHCP will provide coverage for take of species covered under the plan. A Joint Project Review (JPR) process for the project was conducted in April 2018, and the concurrence letter is included as Appendix D. The JPR process for the project determined that the project will need to comply with the Land Use Adjacency Guidelines in Section 4.5 of the CVMSHCP and the applicable avoidance, minimization, and mitigation measures outlined in Section 4.4 of the CVMSHCP. Furthermore, CVWD has an established Operations and Maintenance (O&M) Manual that outlines avoidance and minimization measures to be implemented when working within a CVMSHCP-designated Conservation Area, and the project will need to be in compliance with that document. These guidelines are discussed in greater detail in Sections 4.7 and 5.6 of this document.

2.2.6 CEQA Significance Criteria

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- 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 CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the

impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of an important resource on a population-wide or region-wide basis.

3.0 METHODS

3.1 Literature Search

Prior to conducting the biological reconnaissance survey, ECORP biologists performed a literature search to determine the special-status species that have been documented in the Myoma, Cathedral City, Rancho Mirage, La Quinta, Indio, West Berdoo Canyon, Keys View, East Deception Canyon, and Seven Palms Valley 7.5-minute topographic quadrangles. This literature search included the CDFW California Natural Diversity Database (CNDDB; CDFW 2017a) and the California Native Plant Society's (CNPS) Electronic Inventory (CNPSEI; CNPS 2017). Additional information was gathered from the following sources:

- CDFW CNDDB Special Animals List (CDFW 2017b);
- California Natural Diversity Database Special Vascular Plants, Bryophytes and Lichens List (CDFW 2017c);
- The Jepson Manual: Vascular Plants of California (Baldwin et al. 2012);
- Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP; USFWS 2008);
- Documents published by the regulatory agencies and other scientific literature; and
- Various online websites (e.g., CalFlora 2017).

Using this information and observations in the field, a list of special-status plant and animal species that may have the potential to occur within the project site was generated. For the purposes of this assessment, special-status species are defined as plants or animals that:

- Have been designated as either rare, threatened, or endangered by CDFW or the USFWS, and are protected under either the CESA or FESA;
- Are candidate species being considered or proposed for listing under these same acts;
- Are fully protected by the California Fish and Wildlife Code, Sections 3511, 4700, 5050, or 5515; and/or
- Are of expressed concern to resource and regulatory agencies, or local jurisdictions.

Sensitive species reported for the region in the literature search or for which suitable habitat occurs in the project site were assessed for potential to occur within the area based on the following guidelines:

Present:	Species was observed within the project site during a site visit or focused survey.
High:	Habitat (including soils and elevation factors) for the species occurs within the project site and a known occurrence has recently been recorded (within the last 20 years) within five miles of the project site.
Moderate:	Habitat (including soils and elevation factors) for the species occurs within the project site and a documented observation occurs within the database search,

	but not within five miles of the area; a historic documented observation (more than 20 years old) was recorded within five miles of the project site; or a recently documented observation occurs within five miles of the area and marginal or limited amounts of habitat occurs in the project site.
Low:	Limited or marginal habitat for the species occurs within the project site and a recently documented observation occurs within the database search, but not within five miles of the area; a historic documented observation (more than 20 years old) was recorded within five miles of the project site; or suitable habitat strongly associated with the species occurs on site, but no records or only historic records were found within the database search.
Presumed Absent:	Species was not observed during a site visit or focused surveys conducted in accordance with protocol guidelines at an appropriate time for identification; habitat (including soils and elevation factors) does not exist on site; or the known geographic range of the species does not include the project site.

(Note: Location information on some sensitive species may be of questionable accuracy or unavailable; therefore, for survey purposes, environmental factors associated with species occurrence requirements may be considered sufficient reason to give a species a positive potential for occurrence).

Plant nomenclature follows that of *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012). Wildlife nomenclature follows the Checklist of North American Birds (AOU 2016), Society for the Study of Amphibians and Reptiles (SSAR 2017) for reptiles and amphibians, and the Revised Checklist of North American Mammals North of Mexico (Bradley et al. 2014).

3.2 Field Survey

The reconnaissance survey was performed throughout the entire project site so that 100 percent visual coverage of the project site and surrounding vicinity was achieved. The field survey included the following:

- Recording all plant and animal species observed on the project site and in immediately adjacent areas;
- Characterizing plant communities present on the project site;
- Searching for animal sign (e.g., detections of burrows, scat, tracks, vocalizations);
- Taking photographs at the project site; and
- Recording weather data including time, temperature, cloud cover, and wind speed at the beginning and end of the survey.

Plant species not recognized in the field were collected and identified using botanical references (e.g., Baldwin et al. 2012).

During the field survey, the project site was checked for the presence of potential areas subject to USACE jurisdiction pursuant to Section 404 of the CWA and CDFW jurisdiction pursuant to Section 1602 of the CFGC. A formal delineation was conducted at the site and the results are provided under separate cover (ECORP 2017).

4.0 RESULTS

4.1 Field Survey

ECORP biologists Scott Taylor and Ryan Villanueva conducted the biological reconnaissance field survey on October 19, 2017. Summarized below are the results of the literature review and field survey, including area characteristics, plant communities, wildlife, special-status species, and special-status habitats (including any potential wildlife corridors). Weather conditions during the survey are summarized in Table 1.

Table 1. Weather Conditions During the Survey

Date	Time		Temperature (˚F)		Cloud Cover (%)		Wind Speed (mph)	
	start	end	start	end	start	end	start	end
10/19/2017	1030	1230	87	91	0	0	0-2	0-2

4.1.1 Site Characteristics and Land Use

The project site consists of an existing berm that was constructed by the Bureau of Reclamation for flood control purposes. Areas adjacent to the project site consist primarily of open space with native vegetation and disturbed areas resulting from nearby residential development and off-highway vehicle use. Residential developments border the project site to the south and open space borders the project site to the west, north, and east. Representative site photographs are included in Appendix A.

4.1.2 Soils

Soils types were determined using the Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2017). Soils within the project site consisted of three types: Borrow pits, Myoma fine sand (5 to 15 percent slopes), and Coachella fine sand (0 to 2 percent slopes).

4.1.3 Plants

Plant species observed on the project site were characteristic of disturbed desert habitats. Sparse occurrences of tree species on the project site include Athel tamarisk (*Tamarix aphylla*) and honey mesquite (*Prosopis glandulosa*). The majority of vegetation cover on the project site includes fourwing saltbush (*Atriplex canescens*) and the nonnative common Mediterranean grass (*Schismus barbatus*) as an herbaceous layer. Another common nonnative species observed includes Saharan mustard (*Brassica tournefortii*). Of the 10 plant species observed on the project site, a total of seven species were native and the other three were exotic species. A list of all plant species observed and identified during the reconnaissance survey is included in Appendix b.

4.1.4 Wildlife

The project site provides habitat for species adapted to high levels of disturbance and adjacent to urban environments. Nine wildlife species were observed during the reconnaissance visit including two reptiles, four birds, two mammals, and one insect. Common species observed include western side-blotched lizard (*Uta stansburiana elegans*), common raven (*Corvus corax*), and black-tailed jackrabbit (*Lepus californicus*). A

complete list of wildlife species observed or detected during the survey on and adjacent to the project site is found in Appendix C.

4.2 Vegetation Communities/Habitats

The project site is subjected to repeated and ongoing disturbance from off-highway vehicle use. Despite this, the dominant vegetation community on the project site is fourwing saltbush scrub. Mesquite thickets are located at the extreme west end of the project site. Several small stands of tamarisk thickets are present adjacent to, but not within, the project site. In addition, two land cover types, disturbed areas and developed areas, were observed on and adjacent to the project site. The plant species observed within these cover types consisted of nonnative or invasive weedy species. Classification of the vegetation communities and land cover types within the project site are described in detail below, acreages are provided in Table 2, and those that occur on and adjacent to the project site are displayed in Figure 2.

Table 2. Vegetation Communities and Land Cover on Project Site

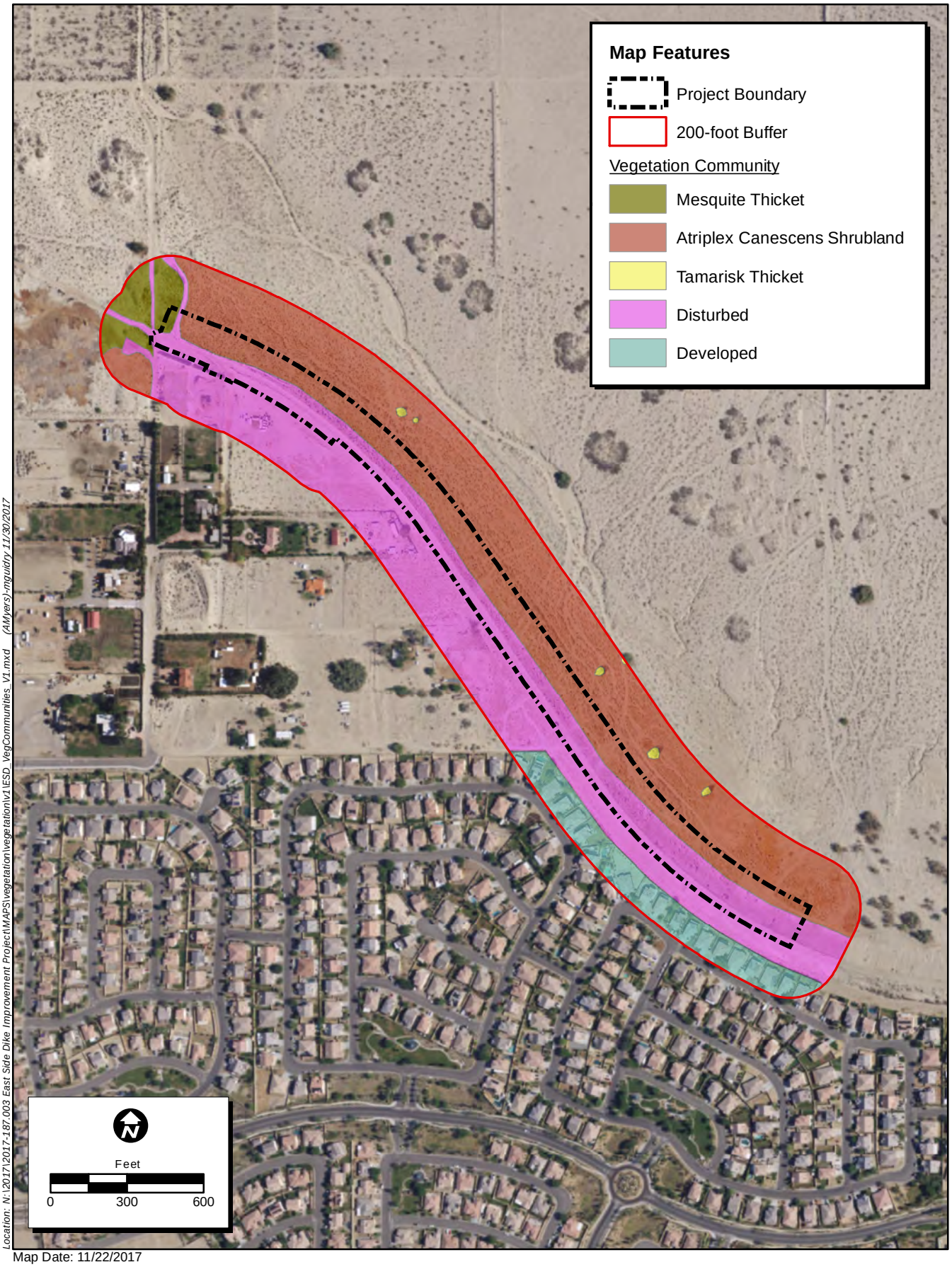
Vegetation Community/Land Cover	Acreage
Vegetation Community	
Fourwing Saltbush Scrub	6.69
Mesquite Thicket	0.08
Land Cover	
Disturbed	7.08
TOTAL:	**13.85**

4.2.1 Fourwing Saltbush Scrub (Atriplex canescens Shrubland Alliance)

Atriplex canescens Shrubland Alliance (fourwing saltbush scrub) is a vegetation type characterized by low-growing shrubs where fourwing saltbush, a drought resistant, deciduous or evergreen shrub, represents more than 50 percent of the relative cover in the shrub canopy (Sawyer et al. 2009). Another plant species commonly found in this vegetation community is white bursage (*Ambrosia dumosa*). White bursage was the second most common plant observed within the fourwing saltbush scrub on the site. This vegetation community was the dominant native community on the project site. It covered approximately 6.69 acres within the project site and was present only along the northern edge.

4.2.2 Mesquite Thickets (Prosopis glandulosa Woodland Alliance)

Prosopis glandulosa Shrubland Alliance (mesquite thickets) is a vegetation type dominated or co-dominated by mesquite that is often found on sand dunes, floodplains, edges of playa lakes, rarely flooded margins of washes and arroyos, river terraces, and stream banks. Mesquite often represents 3 percent of the absolute cover in this community, with other shrubby and herbaceous species such as saltbush (*Atriplex* spp.) and willows (*Salix* spp.) intermittently spaced in the understory. Mesquite thickets is considered a state-sensitive vegetation community and has a State Rarity Rank of S3.2 indicating that it is a vulnerable community with 21 to 100 viable occurrences and/or more than 2,590 to 12,950 hectares statewide. The mesquite thickets on the project site consisted solely of mesquite and did not have an understory. This community represented approximately 0.08 acre and was located only at the extreme western end within the project site.



Location: N:\2017\2017-187.003 East Side Dike Improvement Project\MAPS\vegetation\vegetation\v1\ESD_VegCommunities_V1.mxd (AMyers)-mguidry 11/30/2017

Map Date: 11/22/2017
Photo Source: ESRI and ECORP Consulting Inc.

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Figure 2. Vegetation Communities

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4.2.3 Disturbed

Disturbed is not a vegetation classification, but rather a land cover type. Areas mapped as disturbed were largely devoid of native vegetation due to human disturbance and were dominated by open areas or nonnative weedy vegetation. Areas of dirt roads and bare dirt were also mapped as disturbed. The disturbed land cover type covered approximately 7.08 acres within the project site and was present mostly in the middle of the project site and along the southern edge. Plants present in this land cover type included nonnative weedy species such as common Mediterranean grass and Saharan mustard.

4.3 Special-Status Species

Special-status plant and wildlife species were evaluated for their potential to occur within the project site based on the results of the literature searches and the site visit. The literature review and database searches resulted in records for 34 special-status plant species and 27 special-status wildlife species that could occur on and/or in the vicinity of the project site. Although the project site is located within the East Indio Hills Conservation Area, it does not fall into any designated critical habitat for federally listed plant or wildlife species.

4.3.1 Special-Status Plants

The literature search documented 34 special-status plant species (three federally and/or state listed, four covered by the CVMSHCP) in the project vicinity, 27 of which were presumed absent from the site. One species was determined to have a high potential to occur on the project site, one species was determined to have a moderate potential to occur on the project site, and the remaining five species were determined to have a low potential to occur on the project site. A brief natural history and discussion of the special-status plant species with high potential to occur in the project site follows the table. The remaining 33 plant species are then listed with their potential for occurrence and their status designation. Descriptions of the CNPS designations are found in Table 3.

Table 3. CNPS Status Designations

List Designation	Meaning
1A	Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B	Plants Rare, Threatened, or Endangered in California and Elsewhere
2A	Plants Presumed Extirpated in California, But Common Elsewhere
2B	Plants 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
List 1B, 2, and 4 extension meanings:	
.1	Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2	Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

Note: According to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the CFGC (California Department of Fish and Game 1984). This interpretation is inconsistent with other definitions.

Plant Species with a High Potential to Occur

The following species has a high potential to occur on the project site due to the presence of suitable habitat (including soils and elevation factors) for the species occurring on the project site and a known recent occurrence (less than 20 years old) that has been recorded within five miles of the project site:

Mecca-aster (Xylorhiza cognata)

Mecca-aster is a plant species with a CNPS status of 1B.2. It is a perennial herb that is known mostly from Indio Hills and Mecca Hills. Habitat for this species consists of Sonoran Desert scrub at elevation ranging from 20 meters to 400 meters. Multiple recent records have been documented within five miles of the project site, with the closest record located within one-mile northeast of the project site in 2005 (Occurrence #17; CDFW 2017a). Based on the presence of desert scrub habitat on the project site and the recently documented records of the species within five miles, this species has been determined to have a high potential to occur on the project site. This species is covered within the CVMSHCP (CVAG 2007).

Plant Species with a Moderate Potential to Occur

The following species has a moderate potential to occur on the project site because either habitat for the species occurs on site and a known recent occurrence (less than 20 years old) has been reported in the database, but not within five miles of the site, or a known recent occurrence has been reported within five miles of the site and marginal or limited amounts of habitat occurs on site. This species is not covered by the CVMSHCP:

- Glandular ditaxis (*Ditaxis claryana*), CNPS 2B.2

Plant Species with a Low Potential to Occur

The following species have a low potential to occur on the project site because limited habitat for the species occurs on site and a known recent occurrence (less than 20 years old) has been reported in the database, but not within five miles of the site, or suitable habitat strongly associated with the species occurs on site, but no recent records were found in the database search. Unless otherwise noted, these species are not covered by the CVMSHCP:

- Gravel milk-vetch (*Astragalus sabulonum*), CNPS 2B.2
- California ditaxis (*Ditaxis serrata* var. *californica*), CNPS 3.2
- Abrams' spurge (*Euphorbia abramsiana*), CNPS 2B.2
- Slender cottonheads (*Nemacaulis denudata* var. *gracilis*), CNPS 1B.2
- Narrow-leaf sandpaper-plant (*Petalonyx linearis*), CNPS 2B.3

Plant Species Presumed Absent

The following species are presumed absent from the project site due to the lack of suitable habitat, soil type, and/or elevation range at the project site. Unless otherwise noted, these species are not covered by the CVMSHCP:

- Chaparral sand-verbena (*Abronia villosa* var. *aurita*), CNPS 1B.1
- Alkali marsh aster *(Almutaster pauciflorus*), CNPS 2B.2

- San Bernardino milk-vetch (*Astragalus bernardinus*), CNPS 1B.2
- Coachella Valley milk-vetch (*Astragalus lentiginosus* var. *coachellae*), Federally Listed (Threatened) and CNPS 1B.2, covered under the CVMSHCP
- Lancaster milk-vetch (*Astragalus preussii* var. *laxiflorus*), CNPS 1B.1
- Triple-ribbed milk-vetch (*Astragalus tricarinatus*), Federally Listed (Threatened) and CNPS 1B.2, covered under the CVMSHCP
- California ayenia (*Ayenia compacta*), CNPS 2B.3
- San Jacinto mariposa-lily (*Calochortus palmeri* var. *munzii*), CNPS 1B.2
- Peninsular spineflower (*Chorizanthe leptotheca*), CNPS 4.2
- Pointed dodder (*Cuscuta californica* var. *apiculate*), CNPS 3
- Booth's evening-primrose (*Eremothera boothii* ssp. *boothii*), CNPS 2B.3
- Parish's daisy (*Erigeron parishii*), Federally Listed (Threatened) and CNPS 1B.1
- Arizona spurge (*Euphorbia arizonica*), CNPS 2B.3
- Flat-seeded spurge (*Euphorbia platysperma*), CNPS 1B.2
- Slender bedstraw (*Galium angustifolium* ssp. *gracillimum*), CNPS 4.2
- Southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), CNPS 4.2
- Little San Bernardino Mountains linanthus (*Linanthus maculatus* ssp. *maculatus*), CNPS 1B.2, covered under the CVMSHCP
- California marina (*Marina orcuttii* var. *orcuttii*), CNPS 1B.3
- Spearleaf (*Matelea parvifolia*), CNPS 2B.3
- Creamy blazing star (Mentzelia tridentata), CNPS 1B.3
- Robison's monardella (*Monardella robisonii*), CNPS 1B.3
- Deep Canyon snapdragon (Pseudorontium cyathiferum), CNPS 2B.3
- Latimer's woodland-gilia (*Saltugilia latimeri*), CNPS 1B.2
- Desert spike-moss (*Selaginella eremophila*), CNPS 2B.2
- Coves' cassia (*Senna covesii*), CNPS 2B.2
- Purple stemodia (*Stemodia durantifolia*), CNPS 2B.1
- Rigid fringepod (*Thysanocarpus rigidus*), CNPS 1B.2

4.3.2 Special-Status Wildlife

The literature search documented 27 special-status wildlife species (eight federally and/or state-listed species, 13 covered by the CVMSHCP) in the vicinity of the project site. The list of special-status wildlife includes species that are federally and state-listed, which are protected under FESA and/or CESA, and CDFW Species of Special Concern (SSC). Of these 27 species, seven were found to have a high potential to occur, one was found to have a moderate potential to occur, three were found to have a low potential to occur, and the remaining 15 species are presumed absent from the project site. A brief natural history and discussion of the 12 special-status wildlife species found to have potential to occur on the project site are discussed below.

Wildlife Species with a High Potential to Occur

The following species have a high potential to occur on the project site due to the presence of suitable habitat (including soils and elevation factors) for the species occurring on the project site and a known recent occurrence (less than 20 years old) that has been recorded within five miles of the project site:

Burrowing owl (Athene cunicularia)

The burrowing owl is a CDFW SSC (CDFW 2017b). It is typically found in dry open areas with few trees and short grasses; it is also found in vacant lots near human habitation. It uses uninhabited mammal burrows for roosts and nests. It primarily feeds on large insects and small mammals but will also eat birds and amphibians. The project site contained suitable open habitat with soils suitable for burrowing; in addition, several burrows of adequate size were observed during the survey. There have been multiple recent recorded observations within five miles, with the closest observation recorded within one mile west of the project site (Occurrence #1119; CDFW 2017a). The presence of suitable habitat and the documented recent records within five miles resulted in this species having a high potential to occur on the project site. This species is covered within the CVMSHCP (CVAG 2007). Burrowing owls were not observed during the survey.

Loggerhead shrike (Lanius ludovicianus)

The loggerhead shrike is a CDFW SSC (CDFW 2017b). It prefers open areas with scattered trees and shrubs including savanna, desert scrub, and open woodland habitats. Its diet includes large insects and other invertebrates, but it will also prey upon small mammals, lizards, and snakes. Suitable foraging and nesting habitat (i.e., seldom stands of Athel tamarisk) is present on the project site. One observation was recorded in 2005 approximately three miles west of the project site (Occurrence #45; CDFW 2017a). The presence of suitable habitat and the documented record within five miles resulted in this species having a high potential to occur on the project site. This species is not covered by the CVMSHCP (CVAG 2007). Loggerhead shrikes were not observed during the survey.

Palm Springs pocket mouse (Perognathus longimembris bangsi)

The Palm Springs pocket mouse is a CDFW SSC (CDFW 2017b). It inhabits a variety of desert habitats including desert riparian, desert wash, and desert scrub. It is most common in creosote bush dominated desert scrub. Desert scrub habitat in the form of fourwing saltbush scrub was available throughout a large portion of the project site. The literature review identified multiple observations of this species within the vicinity, with the closest observation recorded in 2005 approximately two miles west of the project site (Occurrence #13; CDFW 2017a). The presence of suitable habitat and the documented records within five miles resulted in this species having a high potential to occur on the project site. This species is covered within the CVMSHCP, and a small portion of modeled habitat for the Palm Springs pocket mouse occurs along the southern border of the project site (CVAG 2007).

Flat-tailed horned lizard (Phrynosoma mcallii)

The flat-tailed horned lizard is a CDFW SSC (CDFW 2017b). It typically inhabits sandy desert flatlands with sparse vegetation. It feeds almost exclusively on harvester ants but will also eat other insects. Suitable habitat on the project site consisted of fourwing saltbush scrub with sandy soils. The literature review identified multiple records of this species within the vicinity, with the closest observation recorded in 2014

approximately one mile west of the project site (Occurrence #80; CDFW 2017a). The presence of suitable habitat and the documented records within five miles resulted in this species having a high potential to occur on the project site. This species is covered within the CVMSHCP, and a small portion of modeled habitat for the Flat-tailed horned lizard occurs along the southern border of the project site (CVAG 2007). Flat-tailed horned lizards were not observed during the survey.

American badger (Taxidea taxus)

The American badger is a CDFW SSC (CDFW 2017b). This mammal species prefers habitat that includes dry open areas consisting of shrubs, forest, and herbaceous habitats, with loose soils for digging burrows. This species is typically solitary and is scattered at low densities throughout the Colorado Desert, but has the ability to move long distances to find suitable habitat and mates. The project site contains suitable habitat within the sandy soils of fourwing saltbush scrub. The literature review identified one record of this species in 2004 approximately four miles southeast of the project site (Occurrence #303; CDFW 2017a). The presence of suitable habitat and the documented record within five miles resulted in this species having a high potential to occur on the project site. This species is not covered by the CVMSHCP (CVAG 2007). American badgers were not observed during the survey.

Coachella Valley fringe-toed lizard (Uma inornata)

The Coachella Valley fringe-toed lizard is a federally listed threatened and state-listed endangered species (CDFW 2017b). It is found in sparsely vegetated habitat with windblown sand dunes or flats. This species requires fine, loose sand for burrowing. It feeds on flowers, foliage, and arthropods. Suitable sandy habitat with sparse vegetation is available on the project site. The literature review identified numerous records of this species within five miles of the project site; however, most of the records were historic. Only one recent observation from 2005 was recorded within one mile west of the project site (Occurrence #25; CDFW 2017a). The presence of suitable habitat and the documented records of this species within five miles resulted in this species having a high potential to occur on the project site. This species is covered within the CVMSHCP, and modeled habitat for the Coachella valley fringe-toed lizard is present throughout the entire project site (CVAG 2007). Coachella Valley fringe-toed lizards were not observed during the survey.

Palm Springs round-tailed ground squirrel (Xerospermophilus tereticaudus chlorus)

The Palm Springs round-tailed ground squirrel (formally Coachella Valley round-tailed ground squirrel [*Spermophilus tereticaudus chlorus*]) is a CDFW SSC (CDFW 2017b). It inhabits various desert habitats with sandy soils for burrowing. This species feeds on seeds, foliage, and insects. Suitable desert scrub habitat (i.e., fourwing saltbush scrub) with sandy soils was available on the project site. The literature review identified several records of this species within the vicinity, with the closest observation recorded in 2002 approximately five miles south of the project site (Occurrence #12; CDFW 2017a). Therefore, this species has a high potential to occur on the project site. This species is covered within the CVMSHCP, and a small portion of modeled habitat for the Palm Springs round tailed ground squirrel occurs along the southern border of the project site (CVAG 2007). Palm Springs round-tailed ground squirrels were not observed during the survey.

Wildlife Species with a Moderate Potential to Occur

The following species have a moderate potential to occur on the project site because either habitat for the species occurs on site and a known recent occurrence (less than 20 years old) has been reported in the database, but not within five miles of the site, or a known recent occurrence was documented within five miles of the site and marginal or limited amounts of habitat occurs on site. Unless otherwise noted, these species are not covered by the CVMSHCP:

Desert tortoise (Gopherus agassizii)

The desert tortoise is a federally and state-listed threatened species (CDFW 2017b). This species is typically associated with creosote bush scrub, succulent scrub, cheesebush scrub, blackbush scrub, hop sage scrub, shadscale scrub, microphyll woodland, and saltbush-allscale scrub vegetation communities. Desert tortoises prefer loamy substrate, southwest exposures, and areas with relatively high plant coverage. They typically inhabit flats, gently sloping terrain, valleys and bajadas, washes, rocky hillsides, and open flat desert areas with sandy to sandy-gravel soils that offer suitable substrates for burrowing and nesting. The project site contained suitable habitat throughout consisting of fourwing saltbush scrub. The literature review identified several observations of the species within the vicinity of the project site, with the closest being recorded in 2002 approximately six miles north of the project site (Occurrence #272; CDFW 2017a). The presence of suitable habitat and the documented records of this species, but not within five miles, resulted in this species having a moderate potential to occur on the project site. This species is covered within the CVMSHCP (CVAG 2007). Desert tortoises were not observed during the survey.

Wildlife Species with a Low Potential to Occur

The following species have a low potential to occur on the project site because limited habitat for the species occurs on site and a known occurrence has been reported in the database, but not within five miles of the site, or suitable habitat strongly associated with the species occurs on site, but no recent records (less than 20 years old) were found in the database search:

Pallid San Diego pocket mouse (Chaetodipus fallax pallidus)

The pallid San Diego pocket mouse is a CDFW SSC (CDFW 2017b). It is typically found in desert wash and desert scrub habitats with sandy soils. Suitable habitat was available throughout the project site. Suitable habitat (i.e., fourwing saltbush scrub with sandy soils) was present on the project site and the nearest documented occurrence (Occurrence #79; CDFW 2017a) was recorded in 1995 three miles northwest of the project site. Since this documented occurrence is historic, this species has a low potential to occur on the project site. This species is not covered by the CVMSHCP (CVAG 2007).

Crissal thrasher (Toxostoma crissale)

The crissal thrasher is a CDFW SSC (CDFW 2017b). It can be found in dense shrubby vegetation and is frequently found in mesquite thickets. This species forages primarily on the ground and eats insects, invertebrates, seeds, and berries. Crissal thrasher builds its nests on forked branches of small trees found in desert thickets. Suitable foraging and nesting habitat was present on the project site within the mesquite thickets; however, the nearest documented occurrence (Occurrence #3; CDFW 2017a) was recorded in 1924 nearly four miles southeast of the project site. Since this documented occurrence is historic, this species has

a low potential to occur on the project site. This species is covered within the CVMSHCP, and a small portion of modeled habitat for the Crissal thrasher occurs on the eastern border of the project site (CVAG 2007). Crissal thrashers were not observed during the survey.

Le Conte's thrasher (Toxostoma lecontei)

The Le Conte's thrasher is a CDFW SSC (CDFW 2017b). It can be found in desert scrub, mesquite, tall riparian brush, or chaparral habitats. This species feeds primarily on insects and spiders, and some seeds and berries. This species builds its nests in thick, dense, and thorny desert shrubs or cholla cactus. Suitable foraging and nesting habitat was present on the project site within the fourwing saltbush scrub; however, the nearest documented occurrence (Occurrence #26; CDFW 2017a) was recorded in 1926 three miles southeast of the project site. Since this documented occurrence is historic, this species has a low potential to occur on the project site. This species is covered within the CVMSHCP, and modeled habitat for the Le Conte's thrasher occurs throughout the project site (CVAG 2007). Le Conte's thrashers were not observed during the survey.

Wildlife Species Presumed Absent

The following species are presumed absent from the project due to the lack of suitable habitat on the project site. Unless otherwise noted, these species are not covered by the CVMSHCP:

- Golden eagle (*Aquila chrysaetos*), CDFW Fully Protected
- Red-diamond rattlesnake (*Crotalus ruber*), CDFW SSC
- Desert pupfish (*Cyprinodon macularius*), Federally and State-listed (Endangered), covered under the CVMSHCP
- Casey's June beetle (*Dinacoma caseyi*), Federally Listed (Endangered)
- Southwestern willow flycatcher (*Empidonax traillii extimus*), Federally and State-listed (Endangered), covered under the CVMSHCP
- Western mastiff bat (*Eumops perotis californicus*), CDFW SSC
- Western yellow bat (*Lasiurus xanthinus*), CDFW SSC, covered under the CVMSHCP
- San Diego desert woodrat (*Neotoma lepida intermedia*), CDFW SSC
- Pocketed free-tailed bat (*Nyctinomops femorosaccus*), CDFW SSC
- Desert bighorn sheep (*Ovis canadensis nelsoni*), CDFW Fully Protected
- Peninsular bighorn sheep, federal Distinct Population Segment (DPS) (*Ovis canadensis nelsoni* pop. 2), Federally Listed (Endangered), State-listed (Threatened). This species is covered under the CVMSHCP
- Coast horned lizard (*Phrynosoma blainvillii*), CDFW SSC
- Coastal California Gnatcatcher (*Polioptila californica californica*), Federally Listed (Threatened)
- Vermilion flycatcher (*Pyrocephalus rubinus*), CDFW SSC
- Bendire's thrasher (*Toxostoma bendirei*), CDFW SSC
- Least Bell's vireo (*Vireo bellii pusillus*), Federally and State-listed (Endangered), covered under the CVMSHCP

4.3.3 Raptors and Migratory Birds

All raptor species are protected from "take" pursuant to CFGC Section 3503.5. Raptors and migratory birds are protected by the MBTA (USFWS 1918). Large trees were not observed within the project site. Mature

Athel tamarisk trees were present within the 200-foot buffer along the northern border of the project site. Other mature trees included ornamental trees south of the project site. These trees may provide hunting perches and nesting habitat for larger raptors. The project site and surrounding vicinity support meager population of small mammals, reptiles, and songbirds and provide marginal foraging habitat due to heavy levels of human disturbance and nonnative plant cover. The survey was conducted outside of nesting season, but it is likely that various species of birds have constructed nests on or near the site previously. Raptors in the area typically breed between January and July while songbirds protected under the MBTA generally nest between March and August.

4.4 Jurisdictional Waters

A formal delineation was conducted at the site and the results are provided under separate cover (ECORP 2017).

4.5 Wildlife Movement Corridors, Linkages, and Significant Ecological Areas

The concept of habitat corridors addresses the linkage between large blocks of habitat that allow the safe movement of mammals and other wildlife species from one habitat area to another. The definition of a corridor is varied, but corridors may include such areas as greenbelts, refuge systems, underpasses, and biogeographic land bridges, for example. In general, a corridor is described as a linear habitat, embedded in a dissimilar matrix, which connects two or more large blocks of habitat. Wildlife movement corridors are critical for the survivorship of ecological systems for several reasons. Corridors can connect water, food, and cover sources, spatially linking these three resources with wildlife in different areas. In addition, wildlife movement between habitat areas provides for the potential of genetic exchange between wildlife species populations, thereby maintaining genetic variability and adaptability to maximize the success of wildlife responses to changing environmental conditions. This is especially critical for small populations subject to loss of variability from genetic drift and effects of inbreeding. Naturally, the nature of corridor use and wildlife movement patterns varies greatly among species.

Drainages generally serve as movement corridors because wildlife can move easily through these areas, and fresh water is available. Corridors also offer wildlife unobstructed terrain to forage in and for the dispersal of young individuals. Movement corridors are particularly important to larger terrestrial species, such as mountain lions (*Felis concolor*), coyotes (*Canis latrans*), and desert kit foxes (*Vulpes macrotis*) due to the protective cover afforded by dense vegetation.

The project site was heavily disturbed and contained very little cover that would only allow for limited movement of smaller, resident populations of wildlife. Furthermore, the entire site is bordered by residential development along the south side, which limits wildlife movement through the project site. The existing berm associated with the project site may influence wildlife travel through the area, but the project site itself does not serve as a regional movement corridor.

4.6 Local Policies and Ordinances

Aside from being located within the CVMSHCP planning area, the project is not subject to any local policies or ordinances. The CVMSHCP is discussed below in Section 4.7.

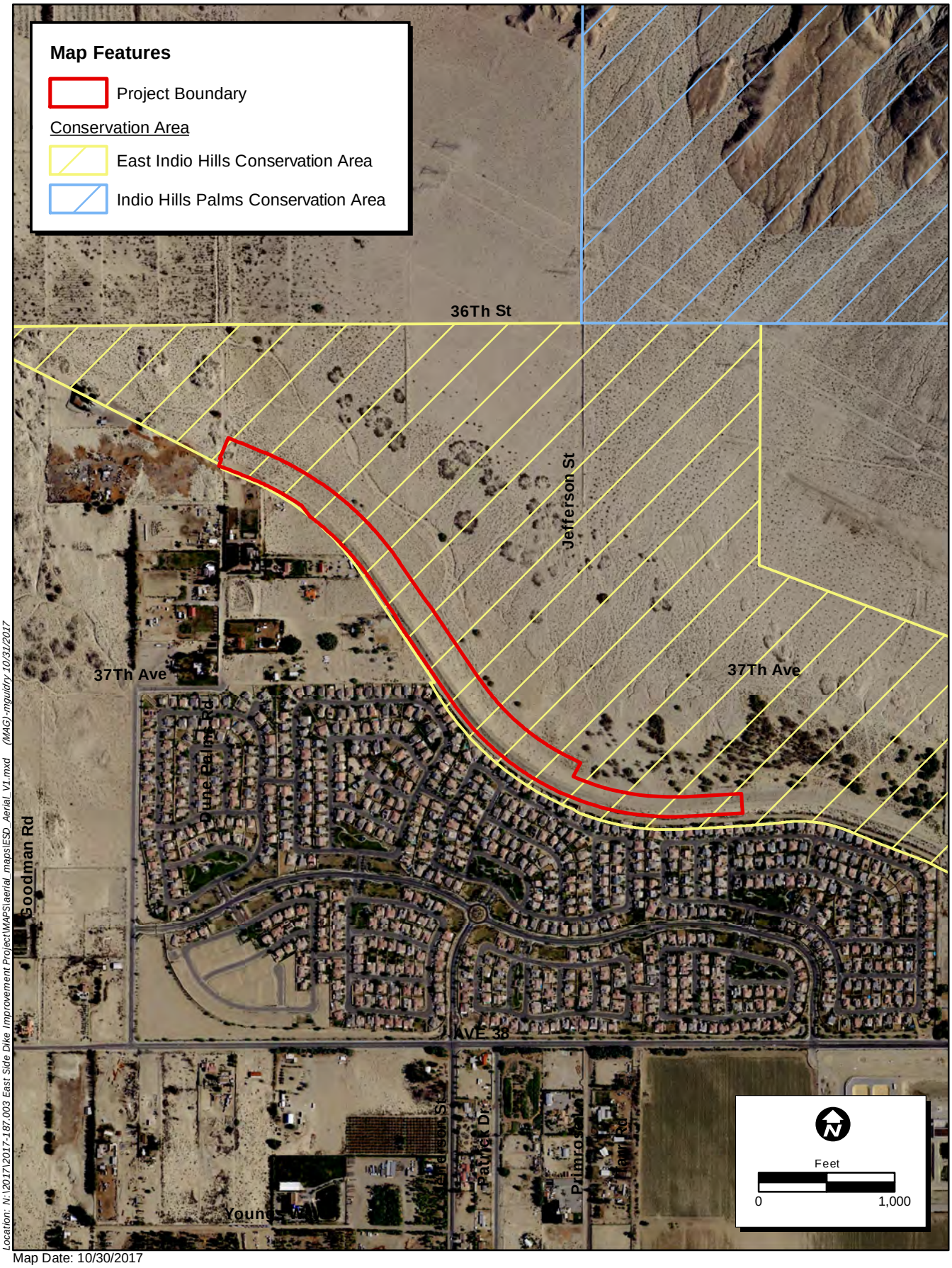
4.7 HCPs and NCCPs – CVMSHCP

The project lies within the boundary of the CVMSHCP, which provides the framework and guidelines for conservation of habitats and natural communities within the area. The project site is located within the East Indio Hills Conservation Area (EIHCA; Figure 3), as designated by the CVMSHCP. The project is a covered activity within a Conservation Area under the CVMSHCP (see Table 7-6 in Section 7.3.1 of the CVMSHCP). A JPR for the project was conducted in April 2018 (Appendix D). The JPR process for the project determined that the project will need to comply with the Land Use Adjacency Guidelines in Section 4.5 of the CVMSHCP and the applicable avoidance, minimization, and mitigation measures outlined in Section 4.4 of the CVMSHCP. Furthermore, CVWD has an established O&M Manual that outlines avoidance and minimization measures to be implemented when working within a CVMSHCP- designated Conservation Area. The following section summarizes the results of the Biological Technical Report and discusses the project in the context of the CVMSHCP the avoidance and minimization measures in the CVWD O&M Manual. Additional details on the EIHCA can be found in Section 4.3.15 of the CVMSHCP.

4.7.1 Conserved Habitats within the EIHCA

The EIHCA, approximately 4,060 acres in size, contains Conserved Habitat for several species covered under the CVMSHCP. Within the project site, Conserved Habitat has been designated for the following covered species:

- Coachella Valley giant sand treader cricket
- Coachella Valley fringe-toed lizard
- Flat-tailed horned lizard
- Crissal thrasher
- Le Conte's thrasher
- Least Bell's vireo
- Southwestern willow flycatcher
- Summer tanager
- Yellow warbler
- Yellow-breasted chat
- Palm Springs round-tailed ground squirrel (referred to in CVMSHCP as former name: Coachella Valley round-tailed ground squirrel)
- Palm Springs pocket mouse



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Map Date: 10/30/2017
Photo Source: NAIP 2016

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Figure 3. East Indio Hills Conservation Area

2017-187.003 East Side Dike Improvement Project

Figures 4 through 7 show the Conserved Habitat polygons that were modeled for these Covered Species within the EIHCA and project site. Although these Conserved Habitats were modeled as part of the CVMSHCP, habitat for many of these species was not found to be present on site during the biological survey. Habitat for sensitive riparian bird species (least Bell's vireo, southwestern willow flycatcher, summer tanager, yellow warbler, and yellow-breasted chat) was not observed within the project site; therefore, these species are not expected to occur or be affected by project activities. Limited amounts of habitat for the remaining covered insect species (Coachella Valley giant sand treader cricket), reptile species (Coachella Valley fringe-toed lizard and flat-tailed horned lizard), bird species (Crissal thrasher and Le Conte's thrasher), and mammal species (Palm Springs round-tailed ground squirrel and Palm Springs pocket mouse) is present in the mesquite thickets and/or fourwing saltbush scrub within and adjacent to the project site.

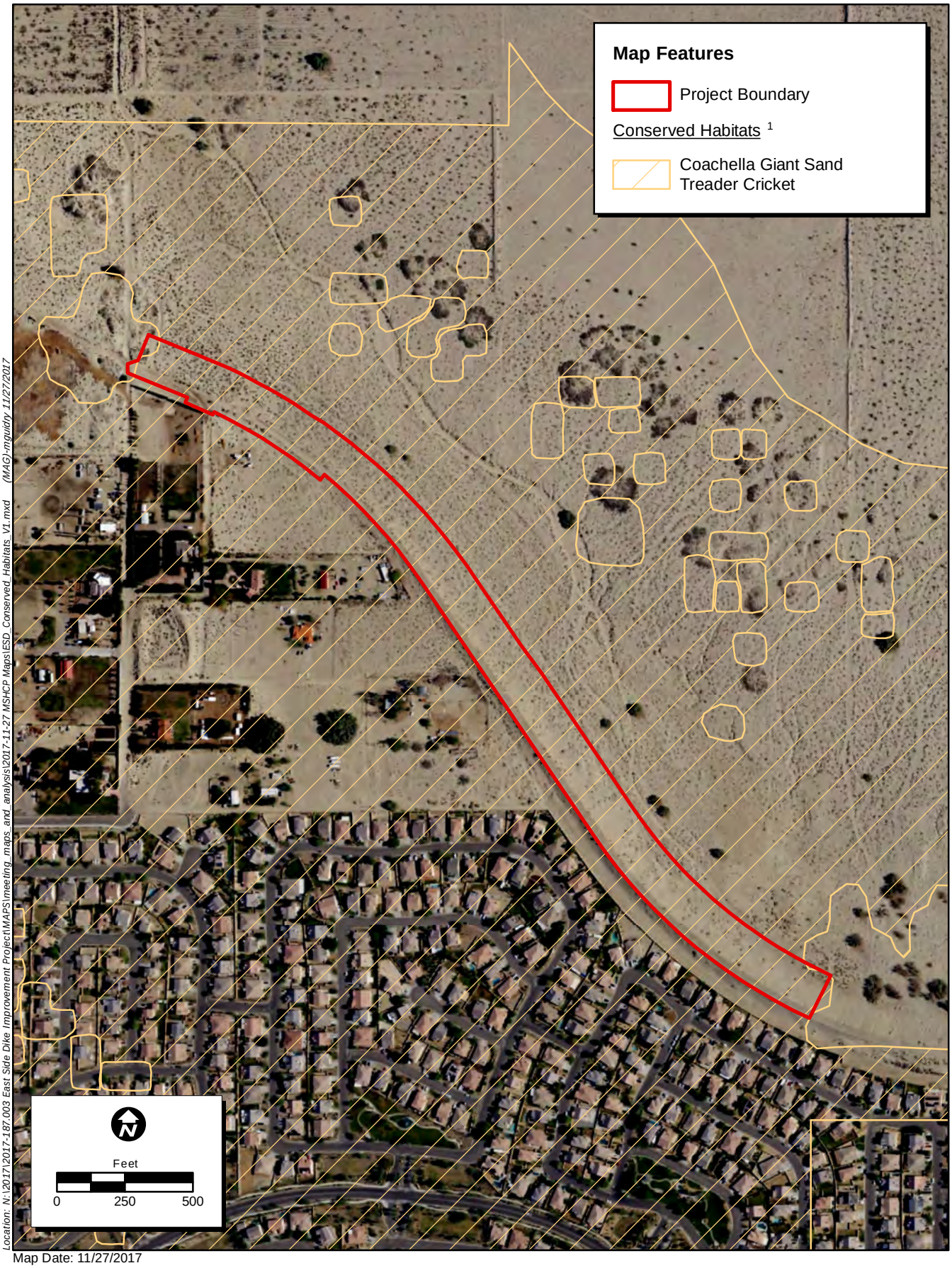
Two additional species, desert tortoise and burrowing owl, do not have modeled Conserved Habitat within the EIHCA but have habitat that is considered prevalent throughout the Coachella Valley so that the CVMSHCP assumes habitat is present for these species within all the Conservation Areas. Both species are protected through Conserved Habitat that was modeled for other desert species within specific Conservation Areas, including the EIHCA. Limited amounts of habitat for both species is present in the fourwing saltbush scrub within and adjacent to the project site.

Core Habitat for Mecca aster is also located within the EIHCA; however, this Core Habitat is not located within or adjacent to the project site. Limited amounts of habitat for Mecca aster is present in the fourwing saltbush scrub within and adjacent to the project site.

More information on Conserved Habitat for the aforementioned Covered Species is found in Section 9.0 of the CVMSHCP.

4.7.2 Conserved Natural Communities within the EIHCA

In addition to containing Conserved Habitats for wildlife and plant species, the project site also supports Natural Communities that have been modeled for the CVMSHCP. Three Natural Communities were modeled within the project site: stabilized shielded sand fields, tamarisk scrub, and mesquite hummocks (Figure 8; note that mesquite hummocks were mapped as mesquite thickets during the biological survey). Only two of these Natural Communities have conservation requirements under the CVMSHCP, stabilized shielded sand fields and mesquite hummocks. More information on Natural Communities within the EIHCA is found in Section 4.3.15 of the CVMSHCP.



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Map Date: 11/27/2017
Photo Source: NAIP 2016

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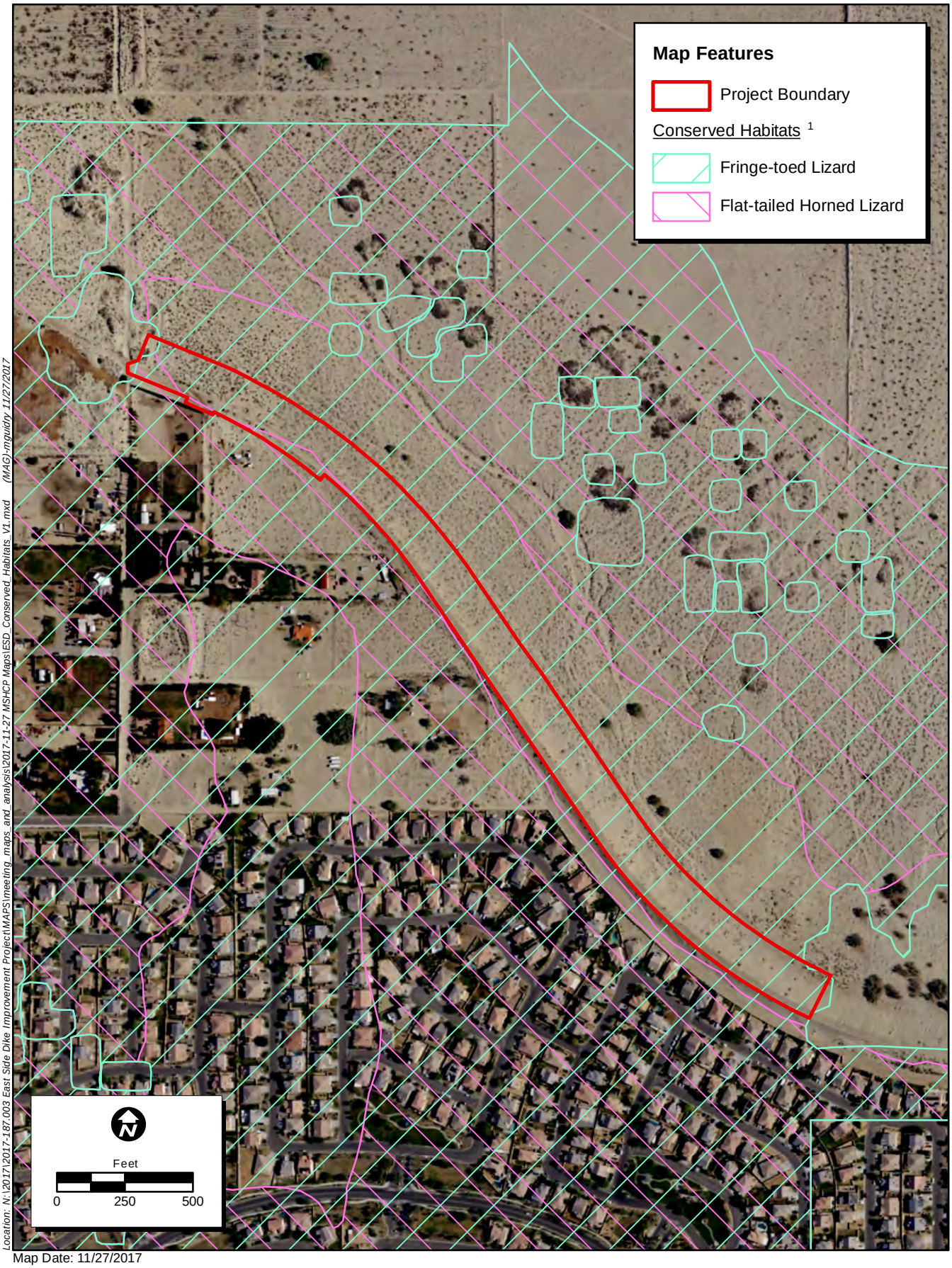
Figure 4. Conserved Insect Habitat

2017-187.003 East Side Dike Improvement Project



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Map Date: 11/27/2017
Photo Source: NAIP 2016

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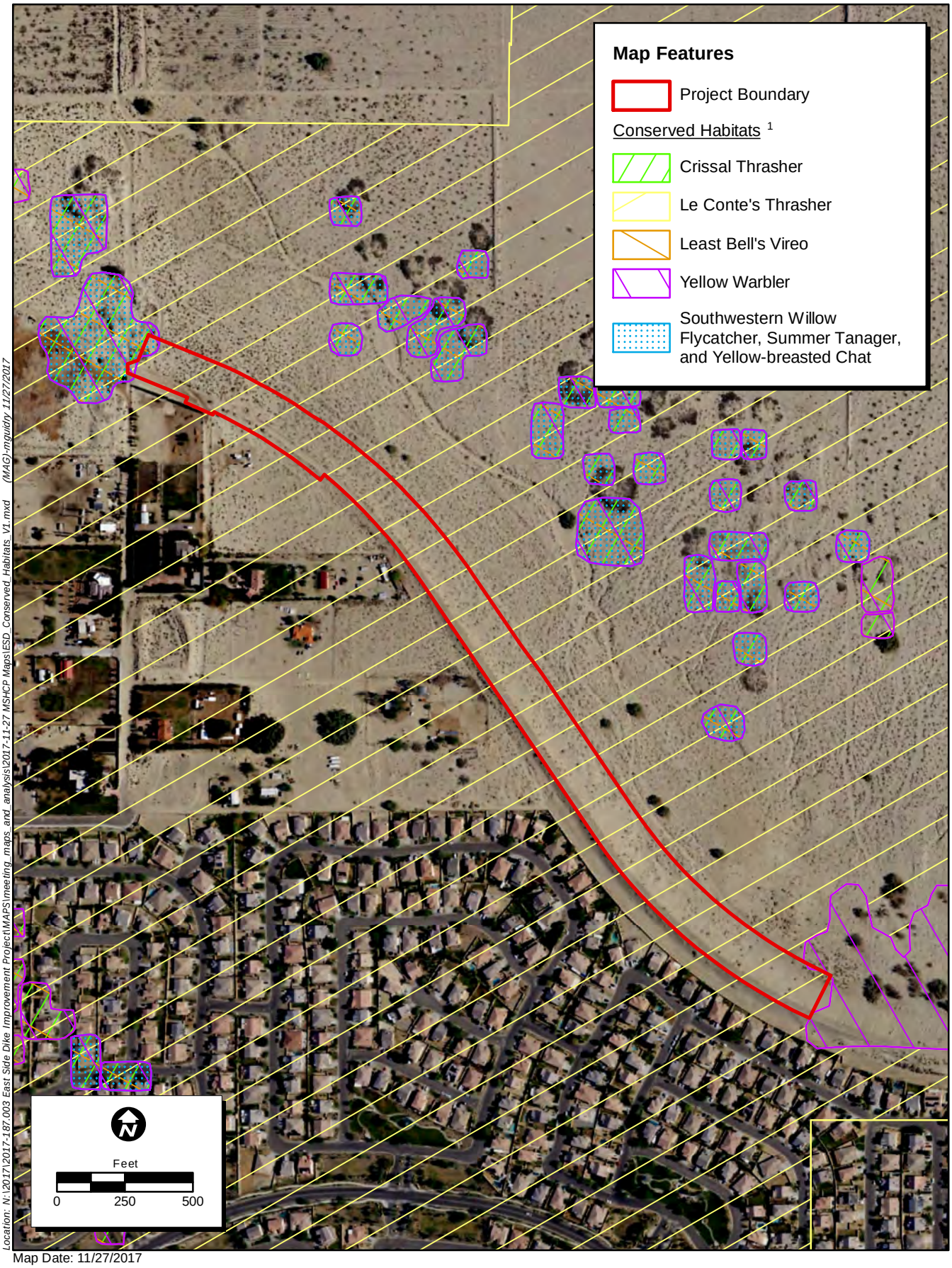
Figure 5. Conserved Reptile Habitat

2017-187.003 East Side Dike Improvement Project



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Map Date: 11/27/2017
Photo Source: NAIP 2016

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Figure 6. Conserved Bird Habitat

2017-187.003 East Side Dike Improvement Project

Location: N:\2017\2017-187.003 East Side Dike Improvement Project\MAPS\meeting_maps_and_analysis\2017-11-27 MSHCP Maps\ESD_Conserved_Habitats_V1.mxd (MAG)-mguidry 11/27/2017

Map Date: 11/27/2017
Photo Source: NAIP 2016

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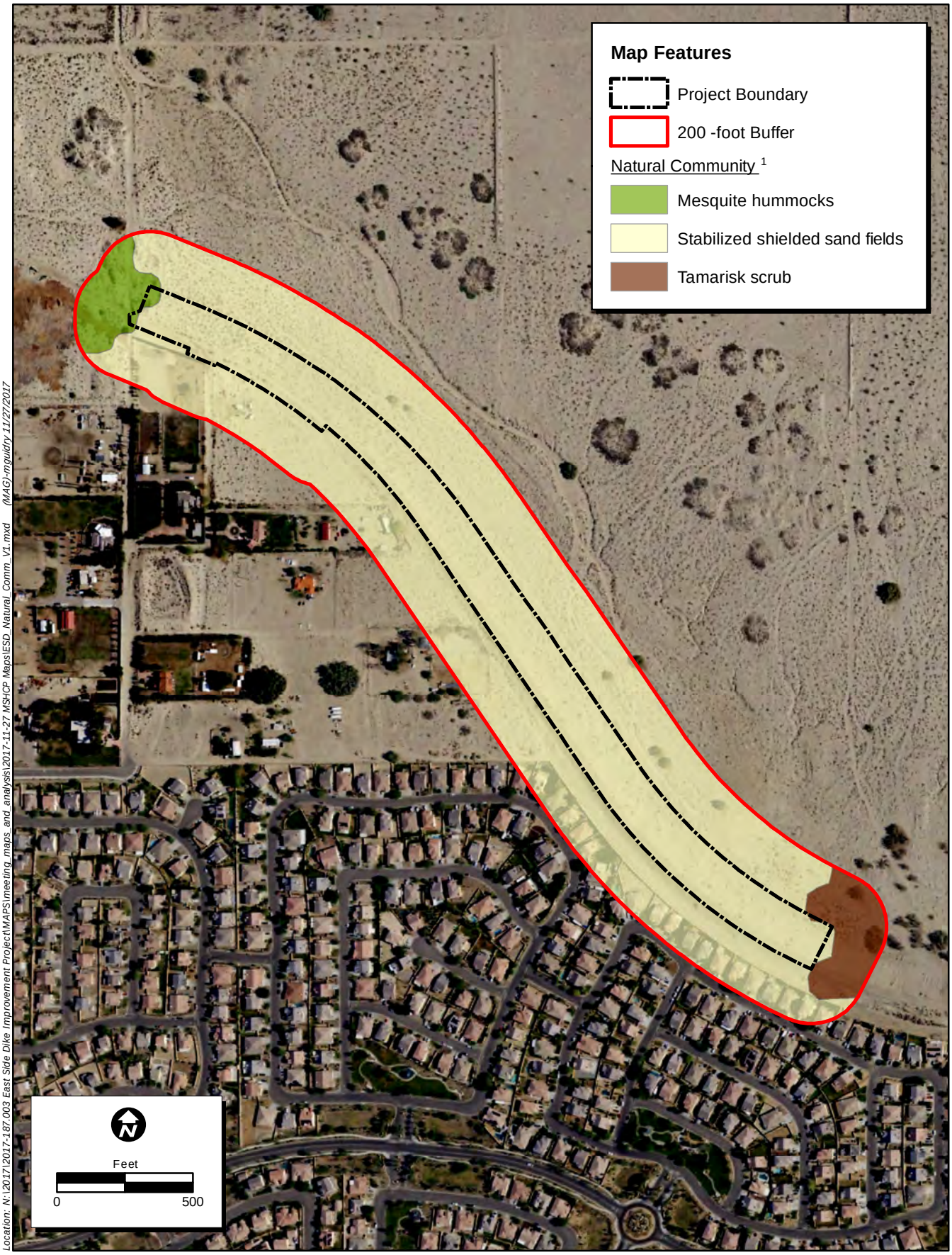
Figure 7. Conserved Mammal Habitat

2017-187.003 East Side Dike Improvement Project



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Map Date: 11/27/2017
Photo Source: NAIP 2016
[1] CVMSHCP

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Figure 8. CVMSHCP Natural Communities

2017-187.003 East Side Dike Improvement Project

4.7.3 Biological Corridors and Linkages

The EIHCA is located adjacent to the Indio Hills Palms Conservation Area and provides contiguous habitat for plant and wildlife species for the Thousand Palms Conservation Area and the Indio Hills Palms Conservation Area. Although there are no CVMSHCP-designated biological corridors or linkages within the EIHCA, its proximity to the biological corridors and linkages in the adjacent Indio Hills Palms Conservation Area may encourage wildlife to use the habitat within the EIHCA for movement.

4.7.4 Joint Project Review Process

Due to its location within the EIHCA, this project was subject to a JPR process with CVCC. The main reason for the JPR process is to ensure the project is in compliance with the CVMSHCP; however, CVCC also requires this process so that CVWD is able to meet the Conservation Objectives through implementation of the required conservation measures for the EIHCA. The JPR process is described in more detail in Section 6.6.1.1 of the CVMSHCP.

The JPR for the project was conducted on April 19, 2018 and a concurrence letter was prepared on September 13, 2018 that documented the results review (Appendix D). The project is a covered activity in a Conservation Area (see activity (e) in Table 7-6 of the CVMSHCP) and it was determined through the JPR and a Rough Step analysis that no impacts to the aforementioned Covered Species, Conserved Habitat, or Natural Communities will result because the project has already been mitigated for through CVWD's mitigation obligations outlined in Section 6.6.1 of the CVMSHCP. The project is consistent with the acreages identified in the Conservation Objectives for the EIHCA. Table 4, taken from the JPR concurrence letter outlines the Conservation Objectives identified for the East Indio Hills Conservation Area. The JPR determined that the project would need to comply with the applicable avoidance, minimization, and mitigation measures (AMMMs) in Section 4.4 of the CVMSHCP and the Land Use Adjacency Guidelines in Section 4.5 of the CVMSHCP.

Table 4. Conservation Objectives for the EIHCA

Conservation Objective	Total Acres of Proposed Disturbance	Acres of Disturbance Authorized by the Plan	Proposed Disturbance as a Percentage of Authorized Disturbance	Rough Step (Acres of Disturbance Currently Available)	Acres Conserved by Project	Acres to be Conserved by Plan	% Required Conservation
Conserve "Other Conserved Habitat" for flat-tailed horned lizard (predicted)	0.00	11	0.00%	11.99	0.00	100	0
Conserve "Other Conserved Habitat" for Le Conte's thrasher	10.25	12	85.42%	12.51	0.00	105	0
Conserve "Other Conserved Habitat" for CV round-tailed ground squirrel	0.25	11	2.27%	11.67	0.00	103	0
Conserve "Other Conserved Habitat" for Palm Springs pocket mouse	0.25	11	2.27%	11.67	0.00	103	0
Conserve stabilized shielded desert sand fields	10.25	11	93.18%	11.99	0.00	100	0
Conserve mesquite hummocks	0.00	0	0.00%	0.00	0.00	2	0

Land Use Adjacency Guidelines

The project will be required to comply with the CVMSHCP Land Use Adjacency Guidelines (Section 4.5 of the CVMSHCP). These measures, cited directly from Section 4.5 of the CVMSHCP, include:

- Drainage: Proposed Development adjacent to or within a Conservation Area shall incorporate plans to ensure that the quantity and quality of runoff discharged to the adjacent Conservation Area is not altered in an adverse way when compared with existing conditions. Storm water systems shall be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials or other elements that might degrade or harm biological resources or ecosystem processes within the adjacent Conservation Area.

- Toxics: Land uses proposed adjacent to or within a Conservation Area that use chemicals or generate bioproducts such as manure that are potentially toxic or may adversely affect wildlife and plant species, Habitat, or water quality shall incorporate measures to ensure that application of such chemicals does not result in any discharge to the adjacent Conservation Area.

- Lighting: For proposed Development adjacent to or within a Conservation Area, lighting shall be shielded and directed toward the developed area. Landscape shielding or other appropriate

methods shall be incorporated in project designs to minimize the effects of lighting adjacent to or within the adjacent Conservation Area in accordance with the guidelines to be included in the Implementation Manual.

- Noise: Proposed Development adjacent to or within a Conservation Area that generates noise in excess of 75 dBA Leq hourly shall incorporate setbacks, berms, or walls, as appropriate, to minimize the effects of noise on the adjacent Conservation Area in accordance with the guidelines to be included in the Implementation Manual.
- Invasives: Invasive, non-native plant species shall not be incorporated in the landscape for land uses adjacent to or within a Conservation Area. Landscape treatments within or adjacent to a Conservation Area shall incorporate native plant materials to the maximum extent Feasible; recommended native species are listed in Table 4-112 [of the CVMSHCP]. The plants listed in Table 4-113 [in the CVMSHCP] shall not be used within or adjacent to a Conservation Area. This list may be amended from time to time through a Minor Amendment with Wildlife Agencies' concurrence.
- Barriers: Land uses adjacent to or within a Conservation Area shall incorporate barriers in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass, or dumping in a Conservation Area. Such barriers may include native landscaping, rocks/boulders, fencing, walls and/or signage.
- Grading/Land Development: Manufactured slopes associated with site Development shall not extend into adjacent land in a Conservation Area.

Applicable Avoidance, Minimization, and Mitigation Measures Identified for the Project

The project will be subject to the applicable AMMMs in Section 4.4 of the CVMSHCP based on the results of the JPR process conducted with the CVCC. The project will also be subject to avoidance and minimization measures in the CVWD O&M Manual for projects located within CVMSHCP-designated Conservation Areas, and because many of the measures in the O&M Manual overlap with the AMMMs from the CVMSHCP, they are also discussed in this section. These measures are summarized below.

Burrowing Owl

Focused burrowing owl surveys will need to be conducted by an Acceptable Biologist (definition of an Acceptable Biologist is found in Section 4.4 of the CVMSHCP) for all projects located within Conservation Areas to determine whether burrowing owls, occupied burrows, or potential burrows are present within the project site or a 500-foot buffer. The protocol for the burrowing owl surveys will be determined by the CVCC in coordination with CVWD and CDFW, likely using the methods described in the *Staff Report on Burrowing Owl Mitigation* (California Department of Fish and Game [CDFG] 2012). If an occupied burrow with an owl present is identified within a project work area, then a no-work buffer will be established around the burrow (160 feet during the non-breeding season and 250 feet during the breeding season) until the burrow is no longer active. A burrow is assumed occupied if records indicate that, based on surveys conducted following protocol, at least one burrowing owl has been observed occupying a burrow on site during the past three years. If there are no records for the site, surveys must be conducted to determine, prior to construction, if burrowing owls are present. If potential (i.e., unoccupied) burrows are identified, then burrow excavation and collapse activities will be necessary; however, burrow excavation and collapse activities shall only be

conducted during the non-breeding season for burrowing owls (September 1 through January 31). Coordination with CDFW on burrow excavation and collapse activities will need to occur, and methods will follow the specific protocols and guidance outlined in the CDFW *Staff Report on Burrowing Owl Mitigation* (2012). This is also consistent with the measures in the CVWD O&M Manual pertaining to burrowing owl.

Covered Riparian Bird Species

Although modeled Conserved Habitat for covered riparian bird species (least Bell's vireo, southwestern willow flycatcher, summer tanager, yellow warbler, and yellow-breasted chat) is present within the project site, there was no suitable habitat for these species identified within or adjacent to the project site during the biological survey. Therefore, the AMMMs in Section 4.4 of the CVMSHCP and the CVWD O&M Manual do not apply to the project. Furthermore, this requirement in the CVMSHCP only pertains to riparian habitat within specific Conservation Areas, and the EIHCA is not included in the list identified in Section 4.4 of the CVMSHCP.

Le Conte's Thrasher

A focused survey for Le Conte's thrasher shall be conducted by an Acceptable Biologist within modeled Conserved Habitat in all Conservation Areas. The survey shall be conducted prior to construction activities if activities are planned to occur during the Le Conte's thrasher breeding season, January 15 through June 15. The survey shall focus on identifying active nests. If active nests occur on the project site or within a 500-foot buffer, then a 500-foot no-work buffer will be established around the nest during the Le Conte's thrasher breeding season until it is no longer active. This is also consistent with the measures in the CVWD O&M Manual pertaining to Le Conte's thrasher.

Mesquite Hummocks and Mesquite Bosque Natural Communities

Mesquite hummocks and mesquite bosque Natural Communities will need to be avoided to the maximum extent possible within specified Conservation Areas, including the EIHCA.

Palm Springs Pocket Mouse

Although modeled Conserved Habitat for Palm Springs pocket mouse is present within the project site, the AMMMs in this section do not apply to the project site. This section in the CVMSHCP only pertains to two specific Conservation Areas, and the EIHCA is not included in the list.

The CVWD O&M Manual requires that a pre-construction survey for Palm Springs pocket mouse be conducted prior to the start of project activities to determine presence. The survey shall include a visual survey and examination of burrowing owl pellets for pocket mouse remains. Project access routes shall be planned in such a way that impacts to occupied Palm Springs pocket mouse habitat is avoided as much as feasible. A biological monitor shall ensure that connected, naturally vegetated areas with sandy soils and typical native vegetation remain intact to the extent feasible and practicable. Temporary impacts associated with the project shall be restored to preexisting conditions and contours to the extent practicable. And lastly, all material and waste associated with the Covered Activity shall be removed from the site upon completion of project activities.

Mecca Aster

The CVWD O&M Manual states that occurrences of this species will be flagged and avoided to the maximum extent feasible. Off-road travel will be limited during Covered Activities to avoid unnecessary take and impacts to the Mecca aster. If this species is found within work areas, then CVWD will determine if salvage of plant and/or seeds is feasible. Lastly, herbicide use will be avoided in areas that are known to support Mecca aster.

Desert Tortoise

There are no applicable AMMMs in Section 4.4 of the CVMSHCP identified for the project during the JPR process that pertain to desert tortoise; however, there are several desert tortoise avoidance and minimization measures in the CVWD O&M Manual. A desert tortoise presence/absence survey will need to be conducted no more than 15 days prior to the start of ground-breaking activities within work areas and access roads to determine whether desert tortoises or their sign (i.e., burrows, carcasses, tracks, scat, egg shells) are present within the project site or a 100-foot buffer. The survey shall be conducted in accordance with the USFWS desert tortoise survey protocol (2010) and provide 100 percent coverage of the project site. The survey shall be conducted during the desert tortoise active period identified in the CVMSHCP, between February 15 and October 31. If desert tortoise burrows are identified during the survey, then a 100-foot buffer shall be established around the burrow. If desert tortoise individuals are found to be present on the project site, then coordination with the regulatory agencies may need to be conducted prior to the start of ground-breaking activities.

During project activities, avoidance and minimization measures outlined in the CVWD O&M Manual shall be implemented in order to avoid impacts to desert tortoises. These measures include:

- Exclusion fencing around hazards within the work area and providing escape ramps from excavated areas.
- Cap or cover holes, pipes, culverts, or similar structures, or inspect these structures for tortoises before moving, burying, or capping.
- Inspect excavated areas before filling.
- Worker education training,
- Biological monitor available to move desert tortoises out of harm's way.
- Pre-designated access routes for the project.
- Clearly marking or flagging work area boundaries.
- Project personnel to check under vehicles prior to moving.

Lastly, during periods of high desert tortoise activity, approximately March through October, a biologist shall be present to monitor Covered Activities in areas not previously cleared or stabilized.

5.0 IMPACT ANALYSIS

5.1 Special-Status Species

Of the 34 special-status plants identified in the literature search, one species (Mecca-aster, CNPS List 1B.2) was determined to have a high potential to occur on the project site; one species (Glandular ditaxis, CNPS List 2B.2) was determined to have a moderate potential to occur on the project site; and five species (gravel milk-vetch, CNPS List 2B.2; California ditaxis, CNPS List 3.2; Abrams' spurge, CNPS List 2B.2; slender cottonheads, CNPS List 1B.2; and narrow-leaf sandpaper-plant, CNPS List 2B.3) were determined to have a low potential to occur on the project site. All of these species have the potential to occur within the fourwing saltbush scrub on the project site; however, the quality and suitability of the fourwing saltbush scrub is low due to existing disturbances and may preclude the presence of these special-status plant species. Core Habitat for Mecca-aster, a covered species under the CVMSHCP, is present within the EIHCA but the Core Habitat is not located within the project site. The remaining six species are not covered under the MSHCP. Direct impacts to these species may occur during project construction in the form of individual loss and habitat degradation; however, the loss of approximately 6.69 acres of low quality habitat is not considered significant due to the small amount and poor quality of the habitat lost. Furthermore, the presence of individuals is likely precluded due to the high levels of disturbances present within the project site. Impacts to special-status plant species not covered under the CVMSHCP are not expected to be significant.

Of the 27 special-status wildlife species identified in the literature search, seven wildlife species (Coachella Valley fringe-toed lizard, flat-tailed horned lizard, burrowing owl, loggerhead shrike, Palm Springs pocket mouse, American badger, and Palm Springs round-tailed ground squirrel) have a high potential to occur on the project site; one species (desert tortoise) has a moderate potential to occur on the project site; and three species (pallid San Diego pocket mouse, crissal thrasher, and Le Conte's thrasher) have a low potential to occur on the project site. The project would involve the ground-disturbing activities within the existing CVWD easement and removal of existing vegetation. Impacts to special-status wildlife species potentially occurring on the project site are described below.

Indirect and direct project impacts resulting in take of most of the covered species with potential to occur (Coachella Valley fringe-toed lizard, flat-tailed horned lizard, and Palm Springs round-tailed ground squirrel) is addressed under the CVMSHCP and further analysis of these species is not necessary.

Special-status species that are not covered under the CVMSHCP (loggerhead shrike, American badger, and pallid San Diego pocket mouse) may occur on site due to the presence of suitable habitat within the fourwing saltbush scrub on the project site. The loggerhead shrike and American badger were found to have a high potential to occur on the project site due to existing recent documented occurrences of these species in the vicinity of the project and the presence of potentially suitable habitat. The quality and suitability of the fourwing saltbush scrub habitat is low due to existing disturbances and may preclude the presence of these special-status species. However, direct impacts to loggerhead shrike and American badger through ground disturbance, vegetation removal, habitat loss, and mortality and indirect impacts from construction noise and vibrations may occur. Impacts to these species would be less than significant with the implementation of Mitigation Measure BIO-1. Potential impacts to pallid San Diego pocket mouse are not expected to be significant because the species has a very low potential to occur on the project site

due to low quality habitat and no recent records located nearby. Furthermore, the loss of approximately 6.69 acres of habitat for a species that is unlikely to be present would not be considered significant.

Burrowing owl was determined to have a high potential to occur due to the presence of suitable open habitat with soils suitable for burrowing and the observation of several burrows of adequate size. Furthermore, it was determined during the JPR process that the avoidance, minimization, and mitigation measures outlined in Section 4.4 of the CVMSHCP will need to be implemented in addition to the avoidance and minimization measures for burrowing owl in the CVWD O&M Manual to avoid impacts to the species. As such, direct impacts to burrowing owl through ground disturbance and indirect impacts from construction noise and vibrations may occur. Impacts to burrowing owl would be less than significant with the implementation of Mitigation Measure BIO-2 and the avoidance and minimization measures outlined in the CVWD O&M Manual.

Desert tortoise was determined to have a moderate potential to occur due to the presence of suitable habitat in the fourwing saltbush scrub habitat within the project site and a nearby recorded observation of the species. Although presence of desert tortoise is relatively uncommon within the lower elevations of the Coachella Valley, there is potential for this species to be present. As such, direct impacts to desert tortoise through ground disturbance, vegetation removal, habitat loss, and mortality and indirect impacts from construction noise and vibrations may occur. Impacts to desert tortoise would be less than significant with the implementation of Mitigation Measure BIO-3 and the avoidance and minimization measures outlined in the CVWD O&M Manual.

Le Conte's thrasher was determined to have a low potential to occur because suitable foraging and nesting habitat is present within the mesquite thickets on the project site and the fact that there is CVMSHCP modeled habitat within the project site. Only historic records of this species occur within the vicinity. It was also determined during the JPR process that the avoidance, minimization, and mitigation measures outlined in Section 4.4 of the CVMSHCP will need to be implemented to avoid impacts to the species. As such, direct impacts to nesting Le Conte's thrasher through ground disturbance and indirect impacts from construction noise and vibrations may occur. Impacts to Le Conte's thrasher would be less than significant with the implementation of Mitigation Measures BIO-4 and BIO-5.

If construction of the project occurs during the bird breeding season (January 1 through July 31 for raptors and March 1 through September 15 for songbirds), ground-disturbing construction activities could directly affect birds protected by the MBTA and their nests through the removal of habitat and indirectly through increased noise, ground vibrations, and human activity. Impacts to nesting birds would be less than significant with the implementation of Mitigation Measure BIO-5 and the avoidance and minimization measures for nesting bird species outlined in the CVWD O&M Manual.

5.2 Sensitive Natural Communities

One state-sensitive habitat, mesquite thickets, was identified adjacent to the project site. Mesquite thickets has a State Rarity Rank of S3.2, indicating that it is a sensitive plant community. This community is also a modeled Conserved Natural Community that typically requires conservation within the East Indio Hills Conservation Area of the CVMSHCP (under the community classification Mesquite Hummocks and Mesquite Bosque). Approximately 0.08 acre of mesquite thickets occurs within the project site. Direct

impacts to mesquite thickets may occur through ground disturbance and vegetation removal. With the implementation of Mitigation Measure BIO-6 impacts would be less than significant.

5.3 Federally Protected Wetlands and Waters of the US

Impacts to federally protected wetlands and waters of the U.S. are addressed under a separate cover in the Jurisdictional Delineation Report (ECORP 2017).

5.4 Wildlife Corridors and Nursery Sites

The project site is bordered by residential development to the south and open land to the north. No migratory wildlife corridors or native wildlife nursery sites were identified within the project site. Therefore, no impact would occur.

5.5 Local Policies and Ordinances

Except for the CVMSHCP, which is discussed in Section 5.6, below, the project is not subject to any local policies or ordinances.

5.6 HCPs and NCCPs – CVMSHCP

The project lies within the boundary of the CVMSHCP and within the EIHCA. Project impacts specifically related to the CVMSHCP are described in this section.

Due to its location within the EIHCA, this project was subject to a JPR process with CVCC. The JPR for the project was conducted on April 19, 2018 and a concurrence letter was prepared on September 13, 2018 that documented the results review (Appendix D). The project is a covered activity in a Conservation Area (see activity (e) in Table 7-6 of the CVMSHCP) and it was determined through the JPR and a Rough Step analysis that no impacts to the aforementioned Covered Species, Conserved Habitat, or Natural Communities will result because the project has already been mitigated for through CVWD's mitigation obligations outlined in Section 6.6.1 of the CVMSHCP. The project is consistent with the acreages identified in the Conservation Objectives for the EIHCA. The JPR determined that the project would need to comply with the applicable avoidance, minimization, and mitigation measures (AMMMs) in Section 4.4 of the CVMSHCP and the Land Use Adjacency Guidelines in Section 4.5 of the CVMSHCP. The Land Use Adjacency Guidelines and the applicable AMMMs are discussed in detail in Section 4.7.4 of this document. Implementation of Mitigation Measures BIO-1 through BIO-6 would reduce any project-related impacts to sensitive biological resources covered under the CVMSHCP to a less than significant level.

6.0 MITIGATION MEASURES

The project is a Covered Activity within a Conservation Area (see Section 7.3.1 in the CVMSHCP) and the determination from the JPR process found that the project will need to comply with the Land Use Adjacency Guidelines and applicable avoidance, minimization, and mitigation measures described in Section 4.4 of the CVMSHCP. The following mitigation measures have been developed based on the Land Use Adjacency Guidelines, the AMMMs outlined in Section 4.4 of the CVMSHCP for Covered Activities within Conservation Areas, and the avoidance and minimization measures in the CVWD O&M Manual. Implementation of these mitigation measures would reduce impacts to sensitive biological resources to a less than significant level.

BIO-1 General Preconstruction Survey: A general preconstruction survey should be conducted by a qualified biologist familiar with the biological resources of the Coachella Valley in the project site prior to the start of project activities. The biologist will focus the survey on Mecca-aster and Palm Springs pocket mouse in accordance with the avoidance and minimization measures outlined in the CVWD O&M Manual, and special-status wildlife species with a high potential to occur on the project site that are not covered under the CVMSHCP (loggerhead shrike and American badger). The preconstruction survey shall take place a maximum of 14 days prior to the start of ground disturbing activities. The survey shall be conducted so that 100 percent coverage of the project site and surrounding areas is achieved. Visual surveys and examination of burrowing owl pellets shall be conducted in order to identify presence of Palm Springs pocket mouse or their remains in accordance with the CVWD O&M Manual. Should any special-status species not covered under the CVMSHCP be identified during pre-construction surveys, then additional avoidance and minimization measures may need to be developed with CDFW if project impacts to special-status species not covered under the CVMSHCP found present are expected to be significant. If no special-status species are identified during the survey, then project activities may proceed. If Mecca-aster is found within the footprint of any covered activity, then ESD shall be contacted to determine if salvage of plant and/or seeds is feasible. During project activities, avoidance and minimization measures outlined in the CVWD O&M Manual shall be implemented in order to avoid impacts to Mecca-aster and Palm Springs pocket mouse.

BIO-2 Focused Burrowing Owl Surveys: Focused burrowing owl surveys shall be conducted by a qualified biologist familiar with burrowing owl identification and ecology to determine if any burrowing owls, occupied burrows, or potential burrows are present within the project site or a 500-foot buffer in accordance with the burrowing owl avoidance, minimization, and mitigation measure outlined in Section 4.4 of the CVMSHCP and the burrowing owl avoidance and minimization measure outlined in the CVWD O&M Manual. The protocol for the burrowing owl surveys will be determined by the CVCC in coordination with CVWD and CDFW, likely using the methods described in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). If an occupied burrow with an owl present is identified within a project work area, then a no-work buffer will be established around the burrow (160 feet during the non-breeding season and 250 feet during the breeding season) until the burrow is no longer active. A burrow is assumed occupied if records indicate that, based on surveys conducted following protocol, at least one burrowing owl has been observed occupying a burrow on site during the past three years. If there are no records for the site, surveys must be conducted to determine, prior to construction, if burrowing owls are present. If potential (i.e., unoccupied) burrows are identified, then burrow excavation and collapse activities will be necessary; however, burrow excavation and collapse activities shall only be conducted during the non-breeding season for burrowing owls (September 1 through January 31). Coordination with CDFW on burrow excavation and collapse activities will need to occur, and methods will follow the specific protocols and guidance outlined in the CDFW *Staff Report on Burrowing Owl Mitigation* (2012).

BIO-3: Desert Tortoise Presence/Absence Survey: In accordance with the desert tortoise avoidance and minimization measure outlined in the CVWD O&M Manual, a desert tortoise presence/absence survey shall be conducted no more than 15 days prior to the start of ground-breaking activities within work areas and access roads to determine whether desert tortoises or their sign (i.e., burrows, carcasses, tracks, scat, or egg shells) are present within the project site or a 100-foot buffer. The survey shall be conducted by a qualified biologist familiar with desert tortoise identification and ecology in accordance with the USFWS desert

tortoise survey protocol (2010) and provide 100 percent coverage of the project site. The survey shall be conducted by during the desert tortoise active period identified in the CVMSHCP, between February 15 and October 31. If desert tortoise burrows are identified during the survey, then a 100-foot buffer shall be established around the burrow. If desert tortoise individuals are found to be present on the project site, then coordination with the regulatory agencies may need to be conducted prior to the start of ground-breaking activities. Following the survey, the avoidance and minimization measures outlined in the CVWD O&M Manual shall be adhered to, including conducting a worker education briefing for all construction personnel prior to initiation of the project.

During periods of high desert tortoise activity, approximately March through October, a biologist shall be present to monitor Covered Activities in areas not previously cleared or stabilized. During project activities, avoidance and minimization measures outlined in the CVWD O&M Manual shall be implemented in order to avoid impacts to desert tortoises.

BIO-4: Focused Le Conte's Thrasher Survey: A focused survey for Le Conte's thrasher shall be conducted by a qualified avian biologist familiar with the identification and ecology of the species in modeled Le Conte's thrasher habitat within the project site in accordance with the Le Conte's thrasher avoidance, minimization, and mitigation measure outlined in Section 4.4 of the CVMSHCP. The survey shall be conducted prior to construction activities if activities are planned to occur during the Le Conte's thrasher breeding season, January 15 through June 15. The survey shall focus on identifying active nests. If active nests are located on the project site or within a 500-foot buffer, then a 500-foot no-work buffer will be established around the nest during the Le Conte's thrasher breeding season until it is no longer active.

BIO-5: Preconstruction Survey for Nesting Birds: Any development activities within the project site shall be conducted during the non-breeding season for birds (September 16 through December 31). This will avoid violations of the MBTA and California Fish and Game Code Sections 3503, 3503.5 and 3513. If activities with the potential to disrupt nesting birds are scheduled to occur during the bird breeding season (January 1 through July 31 for raptors and March 1 through September 15 for songbirds), a pre-construction nesting bird survey shall be conducted by a qualified biologist in accordance with the CVWD O&M Manual. The nest survey shall include the Project site and adjacent areas where Project activities have the potential to cause nest failure. If no nesting birds are observed during the survey, site preparation and construction activities may begin. If nesting birds (including nesting raptors) are found to be present, then avoidance or minimization measures shall be undertaken in consultation with CDFW. Measures shall include establishment of an avoidance buffer until nesting has been completed. The width of the buffer will be determined by the Project biologist. Typically, this is a minimum of 300 feet from the nest site in all directions (500 feet is typically recommended by CDFW for raptors), until the juveniles have fledged and there has been no evidence of a second attempt at nesting. The monitoring biologist will monitor the nest(s) during construction and document any findings.

BIO-6: Conserved Natural Community Avoidance: A total of 0.08 acre of mesquite hummocks, a state-sensitive habitat and a modeled Conserved Natural Community under the CVMSHCP, is present on the extreme western portion of the project site. Impacts to mesquite hummocks shall be avoided to the maximum extent possible within the project site in accordance with the mesquite hummocks and mesquite bosque natural communities AMMM outlined in Section 4.4 of the CVMSHCP. Prior to the start of ground-breaking project activities, the mesquite hummock community will be fenced under the direction of a

biologist or botanist and designated as an environmentally sensitive area (ESA). The fencing will remain in place for the duration of project activities and no work or other project activities will occur within the fenced area to ensure no impacts occur to the area. Upon completion of project activities, the ESA fencing will be removed.

7.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this assessment was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or the applicant's representative and that I have no financial interest in the project.

SIGNED:  DATE: February 25, 2019

Kristen Wasz
Biology Manager/Senior Biologist

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LIST OF APPENDICES

APPENDIX A

Representative Site Photographs

Photo 1. Overview of northern portion of project site from top of dike; facing northwest

Photo 2. Overview of central portion of project site from top of dike; facing NE

Photo 3. View of area north of project site (central portion); facing N

Photo 4. Overview of central portion of project site from top of dike; facing E

Photo 5. Overview of southern portion of project site from top of dike; facing E

Photo 6. View of top of dike within southern portion of project site; facing W

Photo 7. View of fourwing saltbush scrub habitat within central portion of project site; facing NE

Photo 8. View of fourwing saltbush scrub habitat within northern portion of project site; facing SE

Photo 9. Potential burrowing owl burrow within project site; facing N

APPENDIX B

Plant Species List

Scientific Name	Common Name
VASCULAR PLANTS	
ANGIOSPERMS (DICOTYLEDONS)	
ASTERACEAE	**SUNFLOWER FAMILY**
Ambrosia dumosa	white bursage
Palafoxia arida	Spanish needles
BORAGINACEAE	**BORAGE FAMILY**
Tiquilia palmeri	Palmer's tiquilia
BRASSICACEAE	**MUSTARD FAMILY**
*Brassica tournefortii**	wild turnip
CHENOPODIACEAE	**GOOSEFOOT FAMILY**
Atriplex canescens	fourwing saltbush
FABACEAE	**LEGUME FAMILY**
Prosopis glandulosa	honey mesquite
PLANTAGINACEAE	**PLANTAIN FAMILY**
Plantago ovata	woolly plantain
TAMARICACEAE	**TAMARISK FAMILY**
*Tamarix aphylla**	Athel tamarisk
ZYGOPHYLLACEAE	**CALTROP FAMILY**
Larrea tridentata	creosote bush
ANGIOSPERMS (MONOCOTYLEDONS)	
POACEAE	**GRASS FAMILY**
*Schismus barbatus**	common Mediterranean grass

*nonnative species

APPENDIX C

Wildlife Species List

Scientific Name	Common Name
LEPIDOPTERA	**BUTTERFLIES**
Lycaenidae	**Gossomer-winged Butterflies**
Brephidium exile	Western Pygmy-blue
REPTILIA	**REPTILES**
Phrynosomatidae	**Phrynosomatids**
Uta stansburiana elegans	Western side-blotched lizard
Viperidae	**Rattlesnakes**
Crotalus cerastes	sidewinder
AVES	**BIRDS**
Columbidae	**Pigeons and doves**
Zenaida macroura	mourning dove
Corvidae	**Jays and crows**
Corvus corax	common raven
Cuculidae	**Cuckoos and roadrunners**
Geococcyx californianus	greater roadrunner
Emberizidae	**Towhees and sparrows**
Amphispiza belli	sage sparrow
MAMMALIA	**MAMMALS**
Leporidae	**Hares and rabbits**
Lepus californicus	black-tailed jackrabbit
Canidae	**Dogs, wolves, and foxes**
Canis latrans	coyote (scat)

APPENDIX D

Joint Project Review Concurrence Letter

COACHELLA VALLEY CONSERVATION COMMISSION

CVCC

Cathedral City • Coachella • Desert Hot Springs • Indian Wells • Indio • La Quinta • Palm Desert Palm Springs • Rancho Mirage • County of Riverside • Coachella Valley Water District • Imperial Irrigation District

September 13, 2018

William Patterson
Supervisor-Environmental Services
Coachella Valley Water District
75-515 Hovley Lane East
Palm Desert, CA 92211

RE: Revision Joint Project Review 17-003

Dear Mr. Patterson:

The Coachella Valley Conservation Commission (CVCC) has completed Joint Project Review (JPR) 17-003 on April 19, 2018. The project proposes the construction of approximately 3,420 lineal feet of concrete slope lining along the waterside (north side) of the East Side Dike (Dike) beginning at the Dike's intersection with Dune Palms Road and continuing in a south easterly direction ending adjacent (north) of the Talavera residential development in the City of Indio, Riverside County. The project footprint is located on APNs 750-290-003; 750-300-015; 750-310-016; and 750-330-007. The East Side Dike is located along the southern boundary of the East Indio Hills Conservation Area associated with the Coachella Valley Multiple Species Conservation Habitat Plan.

In response to your letter of August 9, 2018, CVCC has revised the Final JPR to show that CVWD is not conserving any land within the project at this time. The revised JPR is attached.

Sincerely,

Katie Barrows

Katie Barrows
Director of Environmental Resources

Enclosure

73-710 Fred Waring Drive, Suite 200 • Palm Desert, CA 92260 • (760) 346-1127 • FAX (760) 340-5949

Final Analysis of Impacts of Coachella Valley Water District in the Coachella Valley Multiple Species Habitat Conservation Plan

Date: August 30, 2018

Summary

Project Information

Permittee/Applicant: Coachella Valley Water District

Applicant/Project Name: East Side Dike Improvement Project-Phase 1

CVCC ID: 17-003

Conservation Area: East Indio Hills Conservation Area

Total Project Acreage: 10.25 acres

Project Acreage within Conservation Area: 10.25 acres

Project Acreage outside Conservation Area: 0 acres

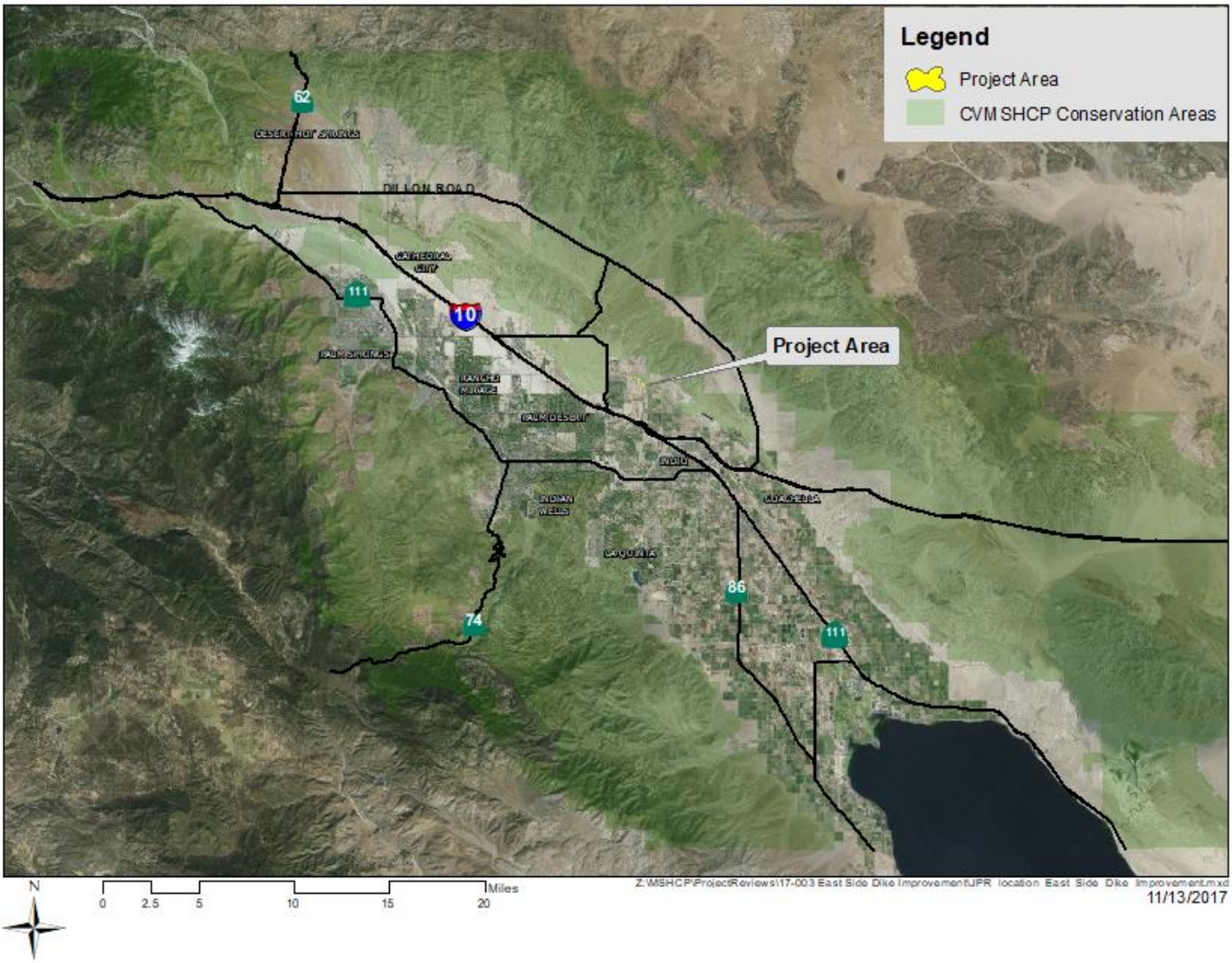
Project Location: APN's 750290003, 750300015, 75031016 and 750330007

Project Summary: Concrete Slope Lining for the East Side Dike.

Acres of Proposed New Disturbance: 10.25 acres

Acres of Proposed Conservation: 0 acres

Project Location: JPR 17-003 East Side Dike Improvement Project



Detailed Project Description

The Coachella Valley Water District (CVWD) proposes the construction of approximately 3,420 lineal feet of concrete slope lining along the waterside (north side) of the East Side Dike (Dike) beginning at the Dike's intersection with Dune Palms Road and continuing in a south easterly direction ending adjacent (north) of the Talavera residential development in the City of Indio, Riverside County (see exhibit). The project footprint is located on APNs 750-290-003; 750-300-015; 750-310-016; and 750-330-007. The East Side Dike is located along the southern boundary of the East Indio Hills Conservation Area associated with the Coachella Valley Multiple Species Conservation Habitat Plan. The temporary, construction-area within the conservation area is limited to approximately 7.2 acres. The total temporary, construction limit is approximately 13.8 acres.

The East Side Dike was designed and built by the U.S. Bureau of Reclamation (USBR) to protect the All-American Branch of the Coachella Canal and agricultural lands from damage by floodwaters originating in the watersheds. As a result, it also physically protects North Indio from flooding from these same watersheds although the Dike is not recognized by the Federal Emergency Management Agency (FEMA) as providing flood protection.

The purpose of the project is to make the necessary improvements required for FEMA certification of the East Side Dike as a regional flood protection facility. The construction of the improvements allows CVWD to process a flood map revision through FEMA to remove the Talavera community and surrounding area, and CVWD's Water Reclamation Plant No 7 facilities from the existing Special Flood Hazard Area.

The concrete slope lining width would vary from 27 feet to 34.5 feet and will extend from near the top of the existing Dike down below the toe of the slope where a 20-foot excavated trench will be required for construction of the footing required for scour protection. Temporarily excavated material will be stored to the northeast of the trench and will be backfilled on top of the completed work to match the existing topography of the Dike. The slope lining project will require approximately 2,700 cubic yards of concrete and 22 cubic yards of rebar to be placed. The temporary work area required during construction will be approximately 4,000 feet in length and approximately 90-feet wide.

Construction equipment staging would occur within these limits. Estimated earthwork includes excavation of approximately 115,000 CY balanced cut/fill. Construction equipment required at the site includes excavators, dozers, backhoe, graders, concrete trucks, dump trucks, water trucks and utility trucks. Construction access to the site will be from Dune Palms Road and from the intersection of Avenue 38 and Madison Street.

CVWD will prepare an Initial Study/Mitigated Negative Declaration and supporting technical studies to evaluate the flood control project. The Final CEQA documents will be considered for approval at a future Board of Directors meeting.

Conservation Objectives Review

CVWD East Side Dike Improvement Project

East Indio Hills Conservation Area - City of Indio Area

Conservation Objective	Total Acres of Proposed Disturbance	Acres of Disturbance Authorized by Plan	Proposed Disturbance as a Percentage of Authorized Disturbance	Rough Step (Acres of Disturbance Currently Available)	Acres Conserved by Project	Acres to be Conserved by Plan	% Required Conservation
Conserve Other Cons. Habitat for flat-tailed horned lizard (predicted)	*0.00*	*11*	*0.00%*	*11.99*	*0.00*	*100*	*0*
Conserve Other Cons. Habitat for Le Conte's thrasher	*10.25*	*12*	*85.42%*	*12.51*	*0.00*	*105*	*0*
Conserve Other Cons. Habitat for CV round-tailed ground squirrel	*0.25*	*11*	*2.27%*	*11.67*	*0.00*	*103*	*0*
Conserve Other Cons. Habitat for Palm Springs pocket mouse	*0.25*	*11*	*2.27%*	*11.67*	*0.00*	*103*	*0*
Conserve stabilized shielded desert sand fields	*10.25*	*11*	*93.18%*	*11.99*	*0.00*	*100*	*0*
Conserve mesquite hummocks	*0.00*	*0*	*0.00%*	*0.00*	*0.00*	*2*	*0*

Required Measures for the Conservation Area Applicable to this Proposed Project

The Permittee shall comply with applicable avoidance, minimization, and mitigation measures described in Section 4.4 and the Land Use Adjacency Guidelines as described in Section 4.5.

Other Plan Requirements

Section 4.4: Avoidance, Minimization, and Mitigation Measures

Burrowing Owl. This measure does not apply to single-family residences and any non-commercial accessory uses and structures including but not limited to second units on an existing legal lot, or to O&M of Covered Activities other than levees, berms, dikes, and similar features that are known to contain burrowing owl burrows. O&M of roads is not subject to this requirement. For other projects that are subject to CEQA, the Permittees will require burrowing owl surveys in the Conservation Areas using an accepted protocol (as determined by the CVCC in coordination with the Permittees and the Wildlife Agencies). Prior to Development, the construction area and adjacent areas within 500 feet of the Development site, or to the edge of the property if less than 500 feet, will be surveyed by an Acceptable Biologist for burrows that could be used by burrowing owl. If a burrow is located, the biologist will determine if an owl is present in the burrow. If the burrow is determined to be occupied, the burrow will be flagged and a 160-foot buffer during the non-breeding season and a 250-foot buffer during the breeding season, or a buffer to the edge of the property boundary if less than 500 feet, will be established around the burrow. The buffer will be staked and flagged. No Development or O&M activities will be permitted within the buffer until the young are no longer dependent on the burrow.

If the burrow is unoccupied, the burrow will be made inaccessible to owls, and the Covered Activity may proceed. If either a nesting or escape burrow is occupied, owls shall be relocated pursuant to accepted Wildlife Agency protocols. A burrow is assumed occupied if records indicate that, based on surveys conducted following protocol, at least one burrowing owl has been observed occupying a burrow on site during the past three years. If there are no records for the site, surveys must be conducted to determine, prior to construction, if burrowing owls are present. Determination of the appropriate method of relocation, such as eviction/passive relocation or active relocation, shall be based on the specific site conditions (e.g., distance to nearest suitable habitat and presence of burrows within that habitat) in coordination with the Wildlife Agencies. Active relocation and eviction/passive relocation require the preservation and maintenance of suitable burrowing owl habitat determined through coordination with the Wildlife Agencies.

Covered Riparian Bird Species. This measure does not apply to single-family residences and any non-commercial accessory uses and structures including but not limited to second units on an existing legal lot. Riparian Habitat here refers to the following natural communities: southern arroyo willow riparian forest, Sonoran cottonwood-willow riparian forest, desert fan palm oasis woodland, and southern sycamore-alder riparian woodland in the Cabazon, Stubbe and Cottonwood Canyons, Whitewater Canyon, Upper Mission Creek/Big Morongo Canyon, Thousand Palms, Indio Hills Palms, Joshua Tree National Park, Mecca Hills and Orocopia

Mountains, Dos Palmas, Coachella Valley Stormwater Channel and Delta, and Santa Rosa and San Jacinto Mountains Conservation Areas. Covered Activities, including O&M of facilities and construction of permitted new projects, in riparian Habitat will be conducted to the maximum extent Feasible outside of the March 15 – September 15 nesting season for least Bell's vireo, and the May 1 – September 15 nesting season for southwestern willow flycatcher, summer tanager, yellow warbler, and yellow-breasted chat. If Covered Activities must occur during the nesting season, surveys shall be conducted to determine if any active nests are present. If active nests are identified, the Covered Activity shall not be conducted within 200 feet of an active nest. If surveys conducted during the nesting season document that Covered nesting riparian bird Species are not present, the Covered Activity may proceed.

Le Conte's Thrasher. This measure does not apply to single-family residences and any non-commercial accessory uses and structures including but not limited to second units on an existing legal lot, or to O&M of Covered Activities. In modeled Le Conte's thrasher Habitat in all the Conservation Areas, during the nesting season, January 15 - June 15, prior to the start of construction activities, surveys will be conducted by an Acceptable Biologist on the construction site and within 500 feet of the construction site, or to the property boundary if less than 500 feet. If nesting Le Conte's thrashers are found, a 500 foot buffer, or to the property boundary if less than 500 feet, will be established around the nest site. The buffer will be staked and flagged. No construction will be permitted within the buffer during the breeding season of January 15 - June 15 or until the young have fledged.

Mesquite Hummocks and Mesquite Bosque Natural Communities. This measure does not apply to single-family residences and any non-commercial accessory uses and structures including but not limited to second units on an existing legal lot, or to O&M of Covered Activities. Construction activities in the Cabazon, Willow Hole, Thousand Palms, Indio Hills Palms, East Indio Hills, Dos Palmas, Coachella Valley Stormwater Channel and Delta, and Santa Rosa and San Jacinto Mountains Conservation Areas will avoid mesquite hummocks and mesquite bosque to the maximum extent Feasible.

Palm Springs Pocket Mouse. To avoid impacts to the Palm Springs pocket mouse and its habitat in the Upper Mission Creek/Big Morongo Canyon and Willow Hole Conservation Areas, Flood Control-related construction activities will comply with the following avoidance and minimization measures.

- **Clearing:** For construction that would involve disturbance to Palm Springs pocket mouse habitat, activity should be phased to the extent feasible and practicable so that suitable habitat islands are no farther than 300 feet apart at any given time to allow pocket mice to disperse between habitat patches across nonsuitable habitat (i.e., unvegetated and/or compacted soils). Prior to project construction, a biological monitor familiar with this species should assist construction crews in planning access routes to avoid impacts to occupied habitat as much as feasible (i.e., placement of preferred routes on project plans and incorporation of methods to avoid as much suitable habitat/soil disturbance as possible). Furthermore, during construction activities, the biological monitor will ensure that connected, naturally vegetated areas with sandy soils and typical native vegetation remain intact to the extent feasible and practicable. Finally, construction that involves clearing of habitat should be avoided during the peak breeding season (approximately March

to May), and activity should be limited as much as possible during the rest of the breeding season (January to February and June to August).

- **Revegetation:** Clearing of native vegetation (e.g., creosote, rabbitbrush, burrobush, cheesebush) should be followed by revegetation, including natural reestablishment and other means, resulting in habitat types of equal or superior biological value for Palm Springs pocket mouse.

- **Trapping/Holding:** All trapping activity should be conducted in accordance with accepted protocols and by a qualified biologist who possesses a Memorandum of Understanding with CDFG for live-trapping of heteromyid species in Southern California.

- **Translocation:** Should translocation between distinct population groups be necessary, as determined through the Adaptive Management and Monitoring Program, activity should be conducted by a qualified biologist who possesses a Memorandum of Understanding with CDFG for live-trapping of heteromyid species in Southern California. Trapping and subsequent translocation activity should be conducted in accordance with accepted protocols. Translocation programs should be coordinated by or conducted by the CVCC and/or RMOC to determine the appropriate trapping, holding, marking, and handling methods and potential translocation sites.

Section 4.5 Land Use Adjacency Guidelines

The purpose of Land Use Adjacency Guidelines is to avoid or minimize indirect effects from Development adjacent to or within the Conservation Areas. Adjacent means sharing a common boundary with any parcel in a Conservation Area. Such indirect effects are commonly referred to as edge effects, and may include noise, lighting, drainage, intrusion of people, and the introduction of non-native plants and non-native predators such as dogs and cats. Edge effects will also be addressed through reserve management activities such as fencing. The following Land Use Adjacency Guidelines shall be considered by the Permittees in their review of individual public and private Development projects adjacent to or within the Conservation Areas to minimize edge effects and shall be implemented where applicable.

4.5.1 Drainage

Proposed Development adjacent to or within a Conservation Area shall incorporate plans to ensure that the quantity and quality of runoff discharged to the adjacent Conservation Area is not altered in an adverse way when compared with existing conditions. Storm water systems shall be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials or other elements that might degrade or harm biological resources or ecosystem processes within the adjacent Conservation Area.

4.5.2 Toxics

Land uses proposed adjacent to or within a Conservation Area that use chemicals or generate bio-products such as manure that are potentially toxic or may adversely affect wildlife and plant species, Habitat, or water quality shall incorporate measures to ensure that application of such chemicals does not result in any discharge to the adjacent Conservation Area.

4.5. Lighting

Numerous studies have shown artificial light to negatively impact a variety of wildlife species (see, for example, Ecological consequences of artificial night lighting 2006, Rich, C. and Longcore, T. (eds.). Island Press: Washington, D.C.**).** The purpose of this guideline is to minimize the impact of artificial light on wildlife within Conservation Areas. For proposed Development adjacent to or within a Conservation Area, lighting shall be shielded and directed toward the developed area. Landscape shielding, or other appropriate methods shall be incorporated in project designs to minimize the effects of lighting adjacent to or within the adjacent Conservation Area. Projects requiring discretionary approval shall provide the permitting jurisdiction with a light study showing the proposed methods to minimize escape of light from the project into Conservation Areas. This study shall include all exterior lighting including street lights and security lighting.

4.5.4 Noise

Noise has been shown to negatively impact numerous species of wildlife (see, for example, Bowles**,** A.E. 1995. Responses of wildlife to noise. pp. 109-156. In: Knight, R.L. and K.J. Gutzwiller. (eds.) Wildlife and Recreationists: Coexistence through Management and Research. Island Press: Washington, D.C.**)**. The purpose of this guideline is to minimize the impact the noise on wildlife within Conservation Areas. Proposed Development adjacent to or within a Conservation Area that generates noise in excess of 75 dBA L_{eq} hourly, as measured at the property line, shall incorporate setbacks, berms, or walls, as appropriate, to minimize the effects of noise on the adjacent Conservation Area. Required Measures in any Conservation Area that preclude or limit berms or walls shall have precedence over this guideline. This guideline is intended to apply to land uses that generate noise on a permanent basis such as race tracks, night clubs and shooting ranges and does not apply to temporary noise due to construction or special events. Public safety activities are exempt from this guideline.

4.5.5 Invasives

Invasive species are a known threat to native wildlife and wildlife habitat in the Coachella Valley. Impacts of invasive species on wildlife in the Coachella Valley have been documented in research conducted by the Center for Conservation Biology at the University of California, Riverside. Invasive, non-native plant species shall not be incorporated in the landscape for land uses adjacent to or within a Conservation Area. Landscape treatments within or adjacent to a Conservation Area shall incorporate native plant materials to the maximum extent Feasible;

recommended native species are listed in Table 4-112. The plants listed in Table 4-113 shall not be used within or adjacent to a Conservation Area. This list may be amended from time to time through a Minor Amendment with Wildlife Agencies' concurrence.

Table 4-112: Coachella Valley Native Plants Recommended for Landscaping[1]

BOTANICAL NAME	COMMON NAME
Trees	
Washingtonia filifera	California Fan Palm
Cercidium floridum	Blue Palo Verde
Chilopsis linearis	Desert Willow
Olneya tesota	Ironwood Tree
Prosopis glandulosa var. torreyana	Honey Mesquite
Shrubs	
Acacia greggii	Cat's Claw Acacia
Ambrosia dumosa	Burro Bush
Atriplex canescens	Four Wing Saltbush
Atriplex lentiformis	Quailbush
Atriplex polycarpa	Cattle Spinach
Baccharis sergiloides	Squaw Water-weed
Bebia juncea	Sweet Bush
Cassia (Senna) covesii	Desert Senna
Condalia parryi	Crucilllo
Crossosoma bigelovii	Crossosoma
Dalea emoryi	Dye Weed
Dalea (Psorothamnus) schottii	Indigo Bush
Datura meteloides	Jimson Weed
Encelia farinosa	Brittle Bush
Ephedra aspera	Mormon Tea
Eriogonum fasciculatum	California Buckwheat
Eriogonum wrightii membranaceum	Wright's Buckwheat
Fagonia laevis	(No Common Name)
Gutierrezia sarothrae	Matchweed
Haplopappus acradenius	Goldenbush
Hibiscus denudatus	Desert Hibiscus
Hoffmannseggia microphylla	Rush Pea
Hymenoclea salsola	Cheesebush
Hyptis emoryi	Desert Lavender
Isomeris arborea	Bladder Pod
Juniperus californica	California Juniper
Krameria grayi	Ratany
Krameria parvifolia	Little-leaved Ratany
Larrea tridentate	Creosote Bush
Lotus rigidus	Desert Rock Pea
Lycium andersonii	Box Thorn
Petalonyx linearis	Long-leaved Sandpaper Plant

BOTANICAL NAME	COMMON NAME
Petalonyx thurberi	Sandpaper Plant
Peucephyllum schottii	Pygmy Cedar
Prunus fremontii	Desert Apricot
Rhus ovata	Sugar-bush
Salazaria mexicana	Paper-bag Bush
Salvia apiana	White Sage
Salvia eremostachya	Santa Rosa Sage
Salvia vaseyi	Wand Sage
Simmondsia chinensis	Jojoba
Sphaeralcia ambigua	Globemallow (Desert Mallow)
Sphaeralcia ambigua rosacea	Apricot Mallow
Trixis californica	Trixis
Zauschneria californica	California Fuchsia
Groundcovers	
Mirabilis bigelovii	Wishbone Bush (Four O'Clock)
Mirabilis tenuiloba	White Four O'Clock (Thin-lobed)
Vines	
Vitis girdiana	Desert Grape
Accent	
Muhlenbergia rigens	Deer Grass
Herbaceous Perennials[2]	
Adiantum capillus-veneris	Maiden-hair Fern (w)
Carex alma	Sedge (w)
Dalea parryi	Parry Dalea
Eleocharis montevidensis	Spike Rush (w)
Equisetum laevigatum	Horsetail (w)
Juncus bufonis	Toad Rush (w)
Juncus effuses	Juncus (w)
Juncus macrophyllus	Juncus (w)
Juncus mexicanus	Mexican Rush (w)
Juncus xiphioides	Juncus (w)
Notholaena parryi	Parry Cloak Fern
Pallaea mucronata	Bird-foot Fern
Cacti and Succulents	
Agave deserti	Desert Agave
Asclepias albicans	Desert Milkweed (Buggy-whip)
Asclepias subulata	Ajamete
Dudleya arizonica	Live-forever
Dudleya saxosa	Rock Dudleya
Echinocereus engelmannii	Calico Hedgehog Cactus
Ferocactus acanthodes	Barrel Cactus
Fouquieria splendens	Ocotillo
Mamillaria dioica	Nipple Cactus
Mamillaria tetrancistra	Corkseed Cactus
Nolina parryi	Parry Nolina
Opuntia acanthocarpa	Stag-horn or Deer-horn Cholla
Opuntia bigelovii	Teddy Bear or Jumping Cholla
Opuntia basilaris	Beavertail Cactus
Opuntia echinocarpa	Silver or Golden Cholla

BOTANICAL NAME	COMMON NAME
Opuntia ramosissima	Pencil Cholla, Darning Needle Cholla
Yucca schidigera	Mojave Yucca, Spanish Dagger
Yucca whipplei	Our Lord's Candle

[1] Source: "Coachella Valley Native Plants, Excluding Annuals (0 ft. to approximately 3,000 ft. elevation)." Compiled by Dave Heveron, Garden Collections Manager, and Kirk Anderson, Horticulturist, The Living Desert, May, 2000, for the Coachella Valley Mountains Conservancy.

[2] Common names for herbaceous perennials that are followed by "(w)" indicate a water or riparian species.

Table 4-113: Prohibited Invasive Ornamental Plants[1]

BOTANICAL NAME	COMMON NAME
Acacia spp. (all species except A. greggii)	Acacia (all species except native catclaw acacia)
Arundo donax (✓)	Giant Reed or Arundo Grass
Atriplex semibaccata (✓)	Australian Saltbush
Avena barbata	Slender Wild Oat
Avena fatua	Wild Oat
Brassica tournefortii (✓✓)	African or Saharan Mustard
Bromus madritensis ssp. *rubens (✓)*	Red Brome
Bromus tectorum (✓✓)	Cheat Grass or Downy Brome
Cortaderia jubata [syn.*C. atacamensis*]	Jubata Grass or Andean Pampas Grass
Cortaderia dioica [syn. *C. selloana*]	Pampas Grass
Descurainia sophia	Tansy Mustard
Eichhornia crassipes	Water Hyacinth
Elaegnus angustifolia	Russian Olive
Foeniculum vulgare	Sweet Fennel
Hirschfeldia incana	Mediterranean or Short-pod Mustard
Lepidium latifolium	Perennial Pepperweed
Lolium multiflorum	Italian Ryegrass
Nerium oleander	Oleander
Nicotiana glauca (✓)	Tree Tobacco
Oenothera berlandieri (#)	Mexican Evening Primrose
Olea europea	European Olive Tree
Parkinsonia aculeata (✓)	Mexican Palo Verde
Pennisetum clandestinum	Kikuyu Grass
Pennisetum setaceum (✓✓)	Fountain Grass
Phoenix canariensis (#)	Canary Island Date Palm
Phoenix dactylifera (#)	Date Palm
Ricinus communis (✓)	Castorbean
Salsola tragus (✓)	Russian Thistle
Schinus molle	Peruvian Pepper Tree or California Pepper
Schinus terebinthifolius	Brazilian Pepper Tree
Schismus arabicus	Mediterranean Grass
Schismus barbatus (✓✓)	Saharan Grass, Abu Mashi
Stipa capensis (✓✓)	No Common Name
Tamarix spp. (all species) (✓✓)	Tamarisk or Salt Cedar
Taeniatherum caput-medusae	Medusa-head
Tribulus terrestris	Puncturevine
Vinca major	Periwinkle
Washingtonia robusta	Mexican fan palm

BOTANICAL NAME	COMMON NAME
Yucca gloriosa (#)	Spanish Dagger

[1] Sources: California Exotic Pest Plant Council, United States Department of Agriculture-Division of Plant Health and Pest Prevention Services, California Native Plant Society, Fremontia Vol. 26 No. 4, October 1998, The Jepson Manual; Higher Plants of California, and County of San Diego Department of Agriculture.

Key to Table 4-113:
# indicates species not on CalEPPC October 1999 "Exotic Pest Plants of Greatest Ecological Concern in California" list
✓ indicates species known to be invasive in the Plan Area
✓✓ indicates particularly troublesome invasive species

4.5.6 Barriers

Land uses adjacent to or within a Conservation Area shall incorporate barriers in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass, or dumping in a Conservation Area. Such barriers may include native landscaping, rocks/boulders, fencing, walls and/or signage.

4.5.7 Grading/Land Development

Manufactured slopes associated with site Development shall not extend into adjacent land in a Conservation Area.