

San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*) and Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) Presence/Absence Trapping and Burrowing Owl (*Athena cunicularia*) Re-Surveys for Main Street and Ramona Proposed Project



Prepared for:

Soboba Band of Luiseño Indians

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Survey Dates: June 10 to 15, 2019

Report Date: June 25, 2019

CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present 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.

This report was prepared in accordance with professional requirements and recommended protocols for small mammal trapping and burrowing owl surveys.

Philippe Vergne (TE831207-4) *Philippe Jean Vergne* Date: June 25, 2019

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Executive Summary

Philippe Vergne of ENVIRA, was contacted by Origin Environmental Planning, LLC on behalf of the Soboba Band of Luiseño Indians to conduct a protocol trapping re-survey for their proposed 9.5 acre commercial development project. The Project Site is located within an area described for Conservation in the Western Riverside County Multiple Species Habitat Conservation Plan (MSCHP). The Project Site is located within the Criteria Area of Subunit 3, Upper San Jacinto River/Bautista Creek for the San Jacinto Valley Area Plan, specifically within Criteria Cells 3098 and 3099.

The focused trapping survey was required because of the potential presence on site of sensitive biological resources as identified in the MSCHP. The live-trapping effort targeted the federally endangered San Bernardino kangaroo rat (*Dipodomys merriami parvus*) - SBKR and the state species of special concern Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) - LAPM. Previous trapping surveys of the project site conducted in September 2017 did not capture SBKR or LAPM. Since the previous surveys were over a year old, a re-survey of the property was undertaken to determine current presence/absence of these species on the project site. A burrowing owl (*Athene cunicularia*) - BUOW survey conducted in August-September 2017.

Protocol-level burrowing owl surveys were also performed to update the results of surveys conducted in 2017.

A literature review and records check were conducted for sensitive resources within the vicinity of the proposed project. In addition to the literature review, a general field survey of the project area was conducted. The field survey provided information on the existing conditions of the site and the potential for sensitive resources to be present.

Four sensitive mammal species were identified as potentially present in the vicinity of the project site: the SBKR, LAPM, northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), and the San Diego desert woodrat (*Neotoma lepida*). Focused trapping surveys for SBKR and LAPM were conducted in areas containing potential SBKR and LAPM habitat.

Trapping surveys were conducted according to U.S. Fish and Wildlife Service (USFWS) protocols established for SBKR. The current protocol calls for five nights of trapping.

The SBKR and LAPM were not captured during the current survey. These species are therefore considered absent from the Project Site.

No potential burrows and no sign of burrowing owls were observed on the Project Site and is BUOW is therefore considered absent from the Project Site.

It should be noted that the USFWS considers small mammal trapping surveys as valid for one year from the date of the trapping.

1.0 Introduction

Philippe Vergne of ENVIRA, was contacted by Origin Environmental Planning, LLC on behalf of the Soboba Band of Luiseño Indians to conduct a protocol trapping re-survey for their proposed 9.5 acre commercial development project in the City of San Jacinto, Riverside County (**Figure 1 – Regional Location**). The Project Site is located within an area described for Conservation in the MSHCP. The Project Site is located within the Criteria Area of Subunit 3, Upper San Jacinto River/Bautista Creek for the San Jacinto Valley Area Plan, specifically within Criteria Cells 3098 and 3099 (**Figure 2 – MSHCP Areas**).

The live-trapping effort targeted the federally listed endangered San Bernardino kangaroo rat (*Dipodomys merriami parvus*) - SBKR and the state species of special concern the Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) - LAPM. Previous trapping surveys of the project site conducted in September 2017 did not capture SBKR or LAPM. Since the previous surveys were over a year old, a re-survey of the property was undertaken to determine current presence/absence of these species on the project site.

Protocol-level burrowing owl surveys were also performed.

This report describes the existing conditions of the project site, the general biological resources observed on site, and the results of the trapping studies. The re-assessment was required to determine the presence or absence of the SBKR, LAPM, and burrowing owl on the property.

2.0 Site Location and Project Description

The approximately 9.5-acre Project Site is located at the southwest corner of East Main Street and Ramona Expressway, in the City of San Jacinto (**Figure 3 – Project Site**). The Assessor Parcel Numbers associated with the Project Site are 433-160-024, 433-160-027, 433-160-028, 433-160-029, 433-160-032, 433-160-033, and 433-160-034.

The Project Site is located within an un-sectioned area of the Rancho San Jacinto Viejo land grant, Township 4 South, Range 1 West (San Bernardino base line and meridian) as shown on the San Jacinto, California 7.5-minute U.S. Geological Survey (USGS) quadrangle.

The proposed Project includes the development of commercial uses (retail, drive-thru fast food restaurants, convenience store, gas station, and car wash) on the Project Site with associated parking, landscape, and site improvements that will be constructed in accordance with the City of San Jacinto's development code

3.0 Methods

A literature review and records check were conducted for sensitive resources within the vicinity of the proposed Project. In addition to the literature review, a general field survey of the project area was conducted. The field survey provided information on the existing conditions of the site and the potential for sensitive resources to be present. Trapping surveys for SBKR and LAPM were conducted on areas containing potential habitat for both species. Surveys for burrowing owl covered 100 percent of the proposed Project footprint and zone of influence.

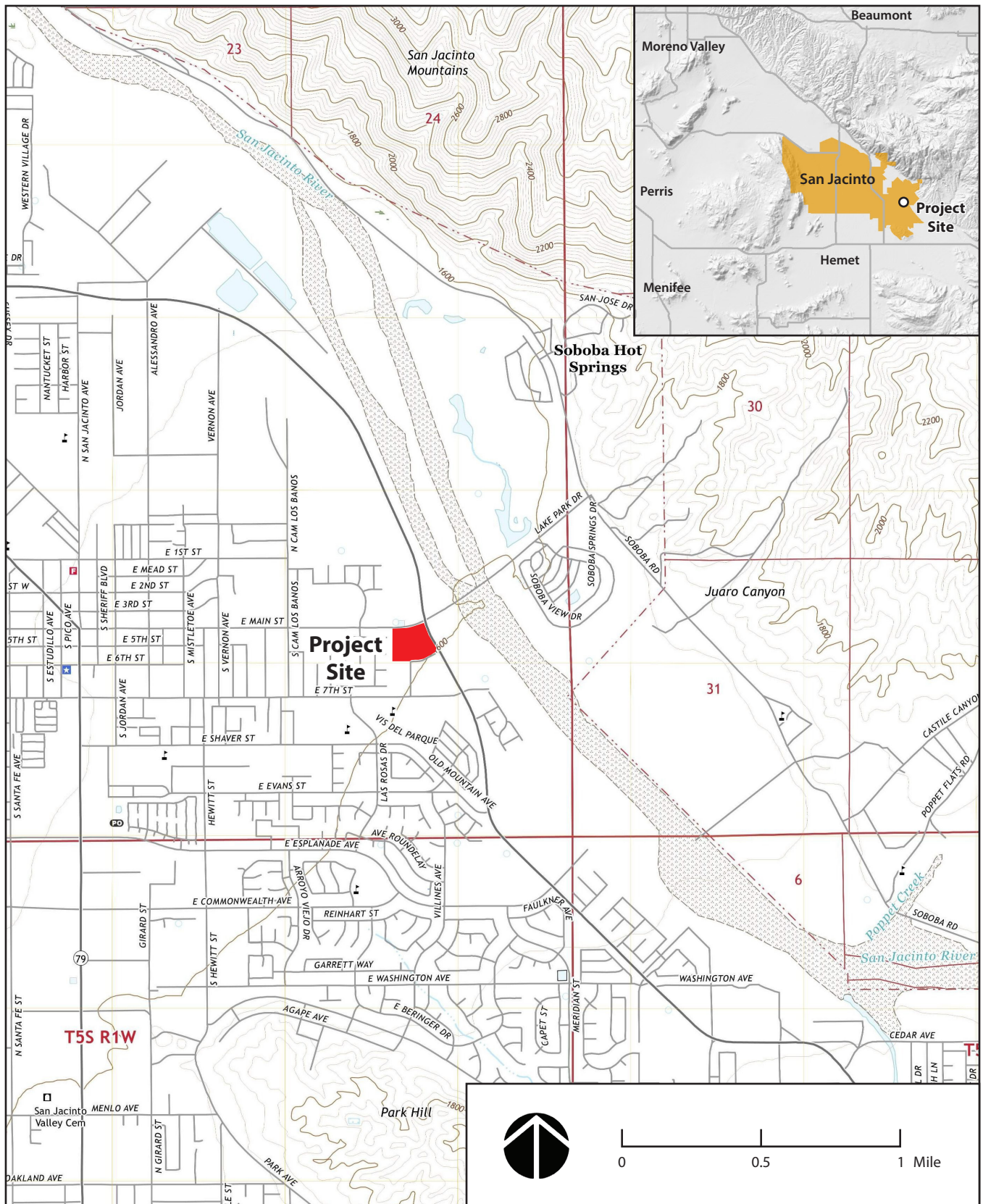


Figure 1
Regional Location Map

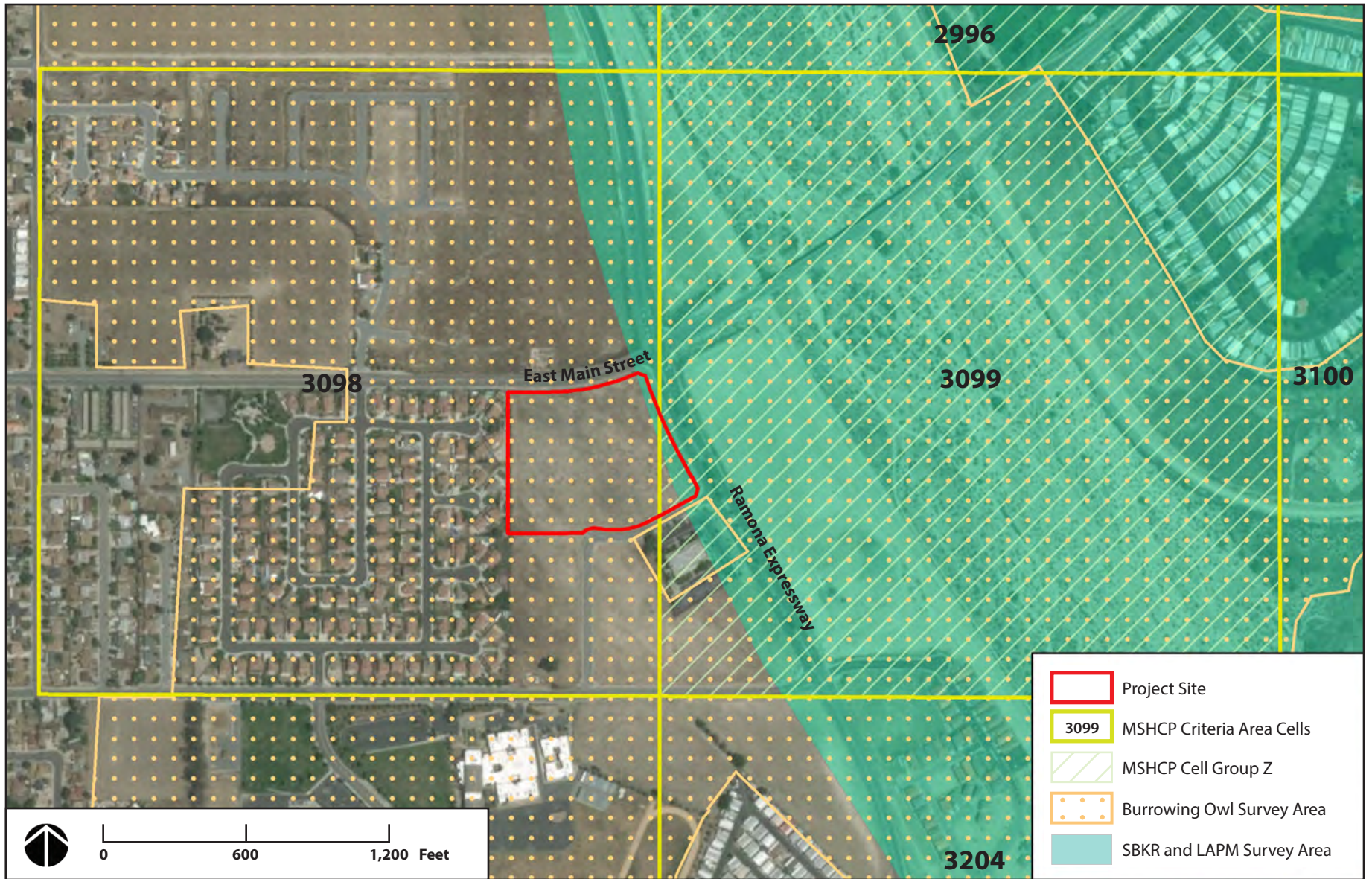


Figure 2
MSHCP Areas



Figure 3
Project Site

3.1 Literature Review and Records Check

The literature review and records check included a review of standard field guides and texts on sensitive and non-sensitive biological resources potentially onsite, as well as the following sources:

List of sensitive biological resources provided by the California Natural Diversity Data Base (CNDDB).

*The Status and Known Distribution of the San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*). Field surveys conducted between 1987 and 1996 (McKernan 1997).*

Endangered and Threatened Wildlife and Plants; Final Rule to List the San Bernardino Kangaroo Rat as Endangered; and Notice of Public Hearing (U. S. Fish and Wildlife Service 1998).

Information provided by the MSHCP including “Burrowing Owl Survey Instructions”

A compilation of burrowing owl observations in the vicinity of the property were derived from the CNDDB. This information was used to help determine if the burrowing owl was previously reported on, or adjacent to the subject property. Observations of burrowing owls in the region were also obtained from other resources such as the U.S. Fish and Wildlife Service (USFWS) and various scientific research papers. This information allows us to better predict probabilities of occupation by burrowing owls.

3.2 Habitat Evaluation Surveys

Mr. Philippe Vergne, a certified kangaroo rat biologist holding U. S. Fish and Wildlife Permit No. TE831207-4 and current California Department of Fish and Game (CDFW) Memorandum of Understanding, inventoried and evaluated the condition of the soils and plant communities on site in August 2017 (initial survey) and 2019 (current survey) in order to assess the potential for SBKR, LAPM, and BUOW or other sensitive species. Mr. Vergne took notes during the surveys of all plant and animal species observed.

In addition, site characteristics such as soils, topography, the condition of the plant communities, and evidence of human use of the site were noted. A list of plant and wildlife species observed during the survey is included in **Appendix A**.

3.3 Sensitive Biological Resources

Four sensitive mammal species were identified as potentially present in the vicinity of the project site. They are SBKR, LAPM, the northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), and the San Diego desert woodrat (*Neotoma lepida*). Of the animal species potentially present, only SBKR (USFWS) and the LAPM (MSHCP) requires specific survey protocols to establish presence or absence. These specific survey protocols are required for areas where impacts may occur to the sensitive species or their occupied habitat. The remaining mammal species are usually identified through casual observation or as part of the overall trapping effort.

In addition, BUOW has been known to occur in the vicinity of the project site in recent years. The MSHCP requires specific survey protocols to establish presence or absence.

3.3.1 San Bernardino Kangaroo Rat

SBKR is described as being confined to primary and secondary alluvial fan scrub habitats, with sandy soils deposited by fluvial (water) rather than aeolian (wind) processes (McKernan 1997, U. S. Fish and Wildlife Service 1998a and 1998b). In recent years, they have been found in highly disturbed habitats adjacent to otherwise suitable habitat. Burrows are dug in loose soil, usually near or beneath shrubs.

SBKR is one of three subspecies of the Merriam kangaroo rat (*Dipodomys merriami*). The Merriam kangaroo rat is a widespread species that can be found from the inland valleys to the deserts (Hall 1981 and Ingles 1965). The subspecies known as SBKR, however, is confined to inland valley scrub communities, and more particularly, to scrub communities occurring along rivers, streams and drainages.

Like all kangaroo rats, SBKR is primarily a seed eater, feeding on the seeds of both annual and shrub species. It also feeds on green vegetation and insects when these are available. Being primarily a desert species, SBKR obtains nearly all of its water from the food it eats, and can subsist indefinitely on water extracted from dry seeds. It forages in open ground and underneath shrubs.

The breeding season extends primarily from January through late November, with peak reproduction occurring in late June. Usually, only one litter is produced per year with an average of only two to three young.

Most of the original drainages used by this species have been historically altered as a result of flood control efforts. This resulted in the increased use of river resources, including mining, off road vehicle use and road and housing development. This increased use of river resources has resulted in a reduction in both the amount and quality of habitat available for SBKR. The past habitat losses and potential future losses prompted the emergency listing of SBKR as an endangered species (U. S. Fish and Wildlife Service, 1998a).

The edge of the Project Site is located within the USFWS designated critical habitat for SBKR. The SBKR was not captured during the 2017 focused surveys.

3.3.2 Los Angeles Pocket Mouse

LAPM is one of two pocket mice found in this area of Riverside County (Williams 1986). Both LAPM and the northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) occupy similar habitats, but the northwestern San Diego pocket mouse has a wider range extending south into San Diego County. The habitat of LAPM is described as being confined to lower elevation grasslands and coastal sage scrub habitats, in areas with soils composed of fine sands (Williams 1986). This species prefers habitat similar to that of the Stephens' kangaroo rat and SBKR. It occurs in open sandy areas in the valley and foothills of southwestern California (Hall 1981).

LAPM, like other subspecies of *Perognathus longimembris*, are granivorous rodents and specialize on grass and scrub seeds, but will take insects when available (French 1999; Meserve 1976). Pocket mice possess external, fur-lined cheek pouches used in collecting and caching of seeds. Seeds are cached for use during the colder months of the year.

They spend most of their foraging time in or near bushes, scrubs, rock crevices, or other sources of cover. LAPM is primarily nocturnal and exhibits a distinct seasonal pattern in surface activity. During colder months the pocket mouse may enter into torpor (dormancy) and not engage in surface activity. This

species may enter torpor as early as the end of September; the exact date may depend on the nightly low temperatures, and the availability of food.

At some point when surface conditions are very cold and food is scarce, the animal cannot meet its energy needs by foraging and thus must shut down surface activity to survive the winter. LAPM must then survive on the food they have cached (Reichman and Price 1993). Los Angeles pocket mice emerge in the spring when the surface ground temperatures are higher than the surrounding ground temperature in their burrows (French 1999).

The present known distribution of this species in Riverside and San Bernardino counties extends from the San Gabriel and San Bernardino mountains south to the Temecula and Aguanga areas, and from the east side of the Santa Ana Mountains east to Cabazon (Hall 1981).

This species was not captured within the Project Site during the 2017 surveys.

3.3.3 *Northwestern San Diego Pocket Mouse*

The northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) is one of five subspecies of the San Diego pocket mouse. The San Diego pocket mouse is a large species of pocket mouse, and is characterized by long spine-like hairs on the rump and hips. This characteristic differentiates this species from the silky pocket mice of the genus *Perognathus*.

The San Diego pocket mouse is a common resident of open, sandy herbaceous areas, usually in association with rocks or coarse gravel in southwestern California. It occurs mainly in arid coastal and desert border areas in San Diego, Riverside and San Bernardino counties. The subspecies designated as the northwestern San Diego pocket mouse occurs in open scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland in the valleys and foothills of southwestern California (Hall 1981; Lackey 1996). This species is reported in high numbers in rocky and gravelly areas (Zeiner, et al 1990). Burrows can be found in sandy or gravelly soils. Higher densities in rocky and graveled areas are attributed to the greater availability of cover from visually oriented predators (Lackey 1996).

The northwestern San Diego pocket mouse primarily is a granivore (seed eater). Like other pocket mice, this species possesses external, fur-lined cheek pouches for collecting and caching seeds. They eat grass seeds from summer to early winter, switching to shrub seeds and annual weed seeds for the rest of the year. They are nocturnal, active all year round (although surface activity is reduced during cold spells) and tend to forage under shrub and tree canopies, or around rock crevices (Lackey 1996).

Typical of desert adapted rodents, the northwestern San Diego pocket mouse likely has a relative low reproductive output. The typical litter size is four young.

The range of the species extends from Orange County to San Diego County, and includes Riverside and San Bernardino counties out into the desert border areas. The northwestern San Diego pocket mouse subspecies is confined to Orange County and the coastal habitats of San Diego, Riverside and San Bernardino counties.

The northwestern San Diego pocket mouse appears to be sensitive to habitat fragmentation and degradation, and its historical range has been reduced by urban development and agriculture (California

Department of Fish and Game 2004). As a result, the subspecies has been designated as a California Species of Special Concern by the California Department of Fish and Game (CDFG 2004; Lackey 1996).

This species was not captured during the 2017 surveys.

3.3.4 San Diego Desert Woodrat

The desert woodrat (*Neotoma lepida*) is a relatively wide-ranging species extending along the coast of California from south of San Francisco through to the border with Baja California. This species also occurs in the Central Valley and the deserts of southern California and extends along the desert side of the Sierra Nevada into southeastern Oregon.

The coastal race of the desert woodrat, the San Diego desert woodrat, prefers scrub habitats such as coastal sage scrub, chaparral and alluvial fan sage scrub. It is more common in areas with rock piles and coarse sandy to rocky soils throughout coastal southern California. The range of this species extends from just south of Sacramento and the San Francisco area to the border with Baja California. The coastal subspecies of the widespread *Neotoma lepida* is listed as a CSC; its historical range has been impacted by the conversion of scrub habitats into residential, commercial and industrial use.

This species was not captured during the 2017 surveys.

3.3.5 Burrowing Owl

The burrowing owl (*Athene cunicularia*) is a small owl that occurs throughout the U.S. and parts of Canada. It typically resides in old rodent, tortoise or mammal burrows in open desert, grasslands and agricultural areas. The owl is most active at dawn and dusk however it can be observed foraging any time of the day or night particularly when young are present. They prey primarily on invertebrates and small reptiles and mammals, however they have been observed taking birds, amphibians, and bats. Breeding season typically begins in late March but it may begin earlier in milder years. Typically, 6-12 eggs are laid in underground nests.

Typical habitats suitable for the burrowing owl consist of two parts. First, the overall habitat type can vary significantly but would fall under some of these major habitat types: annual and perennial grasslands, deserts, scrublands and agricultural or range lands with low growing, sparse vegetation. Second, and most importantly, the site would support burrows which are the most essential component of burrowing owl habitat. Since the burrowing owl does not typically create its own burrows, it relies on the burrows made by fossorial mammals and reptiles such as ground squirrels, badgers, foxes, coyotes and the desert tortoise. Artificial burrows made by humans such as pipes, rock piles, agricultural ditches and canals also provide suitable burrows.

The burrowing owl was once a very common bird throughout the U.S. and Canada, even as late as 1975. Ornithologists referred to the owls as being ubiquitous throughout most of southern California. Current research has shown that the owls have suffered ~60% decline between 1980 and 1990. The primary reason for the decline of the owl in California is the loss of habitat to development. Other factors affecting the decline of burrowing owls include the use of rodenticides and pesticides, shooting, vehicle mortalities, disking, flood control maintenance, and predation by stray dogs and cats. Currently, the burrowing owl is listed as a Species of Special Concern by the California Department of Fish and Game and is therefore afforded additional protection and mitigation measures to help reduce impacts from projects.

During the 2017 survey no sign of burrowing owls was observed on site. However, burrowing owls were observed in the zone of influence survey to the northeast across Main Street indicating that the Project Site could be used for foraging by burrowing owl or could get colonized in the future.

3.4 San Bernardino Kangaroo Rat and Los Angeles Pocket Mouse Trapping Surveys

Current trapping surveys for SBKR were conducted according to USFWS protocols established for SBKR. The current protocol calls for five nights of trapping, conducted when the species is active aboveground at night and preferably during a new moon phase. Trapping for LAPM is done concurrently with trapping for SBKR. One trapping session was conducted from June 10 to 15 of 2019.

Three areas on the property were trapped. Trapping Grids of seven by seven (49 traps each), set 12 meters apart, were set in trapping areas A through C (**Figure 4 – Trapping Grid Locations**). Traps were placed in areas containing sandy loam soils showing sign of small mammal use.

Each trap was baited with birdseed placed at the back of the traps. The traps were picked up and replaced each day. Each trap was set at dusk each night and inspected once during the night and at dawn each morning. All animals were identified and released at the point of capture.

Notes were taken on the habitat conditions where the traps were placed. Weather conditions at the time of the trapping were also noted.

3.5 Burrowing Owl surveys

As a result of coastal development, the burrowing owl is declining in coastal habitats. CDFW has designated the burrowing owl as a California Species of Special Concern (CSC). These species are so designated because “declining population levels, limited ranges and/or continuing threats have made them vulnerable to extinction.” (California Department of Fish and Wildlife 2012).

Step I: Habitat Assessment

Based on the grassland habitat and soil types on the Project Site and the known occurrence of burrowing owl in the vicinity, ENVIRA determined that the Project Site contains suitable burrowing owl habitat and proceeded to conduct a focused burrow survey.

Step II, Part A: Focused Burrow Surveys

Philippe Vergne of ENVIRA conducted a focused burrow survey on June 10 and 16 of 2019 between the hours of 7:00 and 9:00 AM. Temperatures were in the 60s and 70s (degrees Fahrenheit), with wind of less than 3 miles per hour, and clear skies. No rain had occurred in the previous five days.

Surveys were conducted per the Burrowing Owl Survey Instructions for the MSHCP whereby all suitable habitats on and within 500 feet of a project site were systematically surveyed. Transects were walked across the entire Project Site and within adjacent areas of potential habitat shown in **Figure 5 – Burrowing Owl Survey Area**. On the Project Site and where access permitted on adjacent parcels, transects were spaced no more than 30 meters apart to enable inspection of all potential burrows. Due to fencing that restricted access, areas east of Ramona Expressway were viewed with binoculars while walking along the Ramona Expressway and Lake Park Drive. The assessment included looking for burrowing owl burrows, suitable mammal burrows, whitewash, pellets, animal remains and other

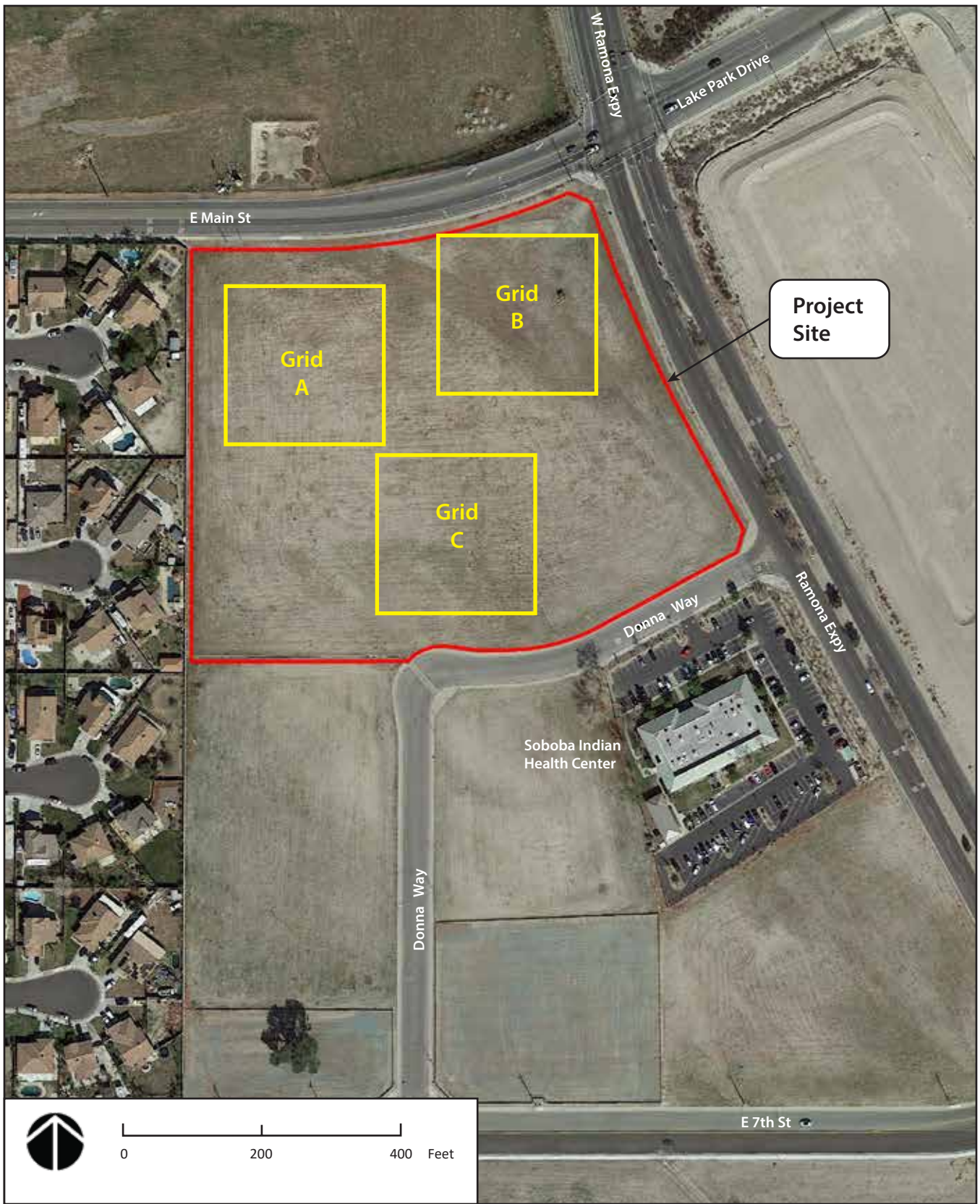


Figure 4
Trapping Grid Locations

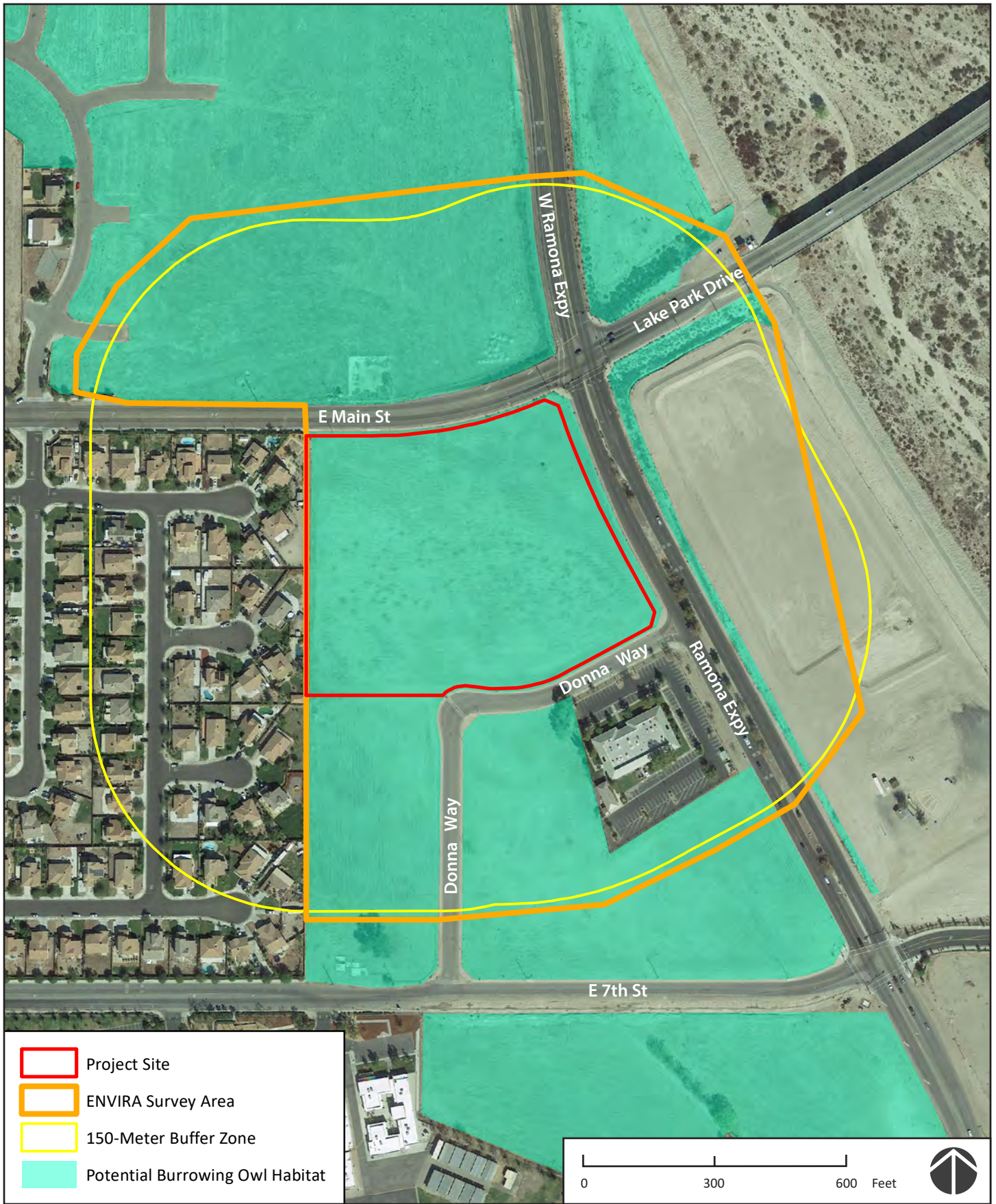


Figure 5
Burrowing Owl Survey Area

burrowing owl indicators. Photos of the project site taken during the survey are provided in **Figure 6 – Site Photos**.

4.0 Results

4.1 Weather, Soils, and Topography

Weather during the survey was clear skies, moderate winds and temperatures ranging from nighttime lows in the 60s to daytime highs in the 80s to 100s (degrees Fahrenheit).

The site is generally flat with a very slight west to east inclination. There are no drainages, culverts or other jurisdictional drainage features on site. There is a concrete swale (about 4 inches high) from the housing development border to the south to Donna Way.

There are two soils on the Project Site (NRCS 2019) (**Figure 7 – Soil Map**). About 90 percent of the site is mapped as Metz loamy fine sand (MgB) which is found on zero to five percent slopes. It has a gravelly sand substratum, and is made up of alluvium from sedimentary rock. Metz loamy fine sand is a somewhat excessively drained soil found on alluvial fans. It varies from non-saline to very slightly saline.

The remainder of the site is mapped as Dello loamy sand (DnB), which is found on zero to five percent slopes. This soil is a loamy sand with a gravelly substrate, made up of alluvium from granite rock. It is a somewhat poorly drained soil, non-saline to very slightly saline soil found on floodplains. It is found along the eastern edge and northeast corner of the property.

All the soils on the site have been impacted by disking for fire control and in the past by farming.

4.2 Land Uses

While formerly farmed, the Project Site appears to have been left fallow since at least the late 1990s. It has been disked occasionally for weed control. The soil surface is broken and furrows were observed across the site.

4.3 Plant Communities

In the current vegetation mapping for the MSHCP, the property was mapped as disturbed annual grassland community.

Currently, the plant community found on site is a ruderal (weedy) grassland composed of a mix of non-native weeds such as Mediterranean grass (*Schismus barbatus*), short-pod mustard (*Hirschfeldia incana*), red-stemmed filaree (*Erodium cicutarium*).

Native shrub species such as California buckwheat (*Eriogonum fasciculatum*), California brittlebush (*Encelia farinosa*) and sweet bush (*Bebbia juncea*) occur as isolated plants. Herbaceous cover is estimated at 85 percent, and shrub cover at less than 1 percent.

A list of all plant species observed is provided in Appendix A.

4.4 Wildlife

Wildlife activity was low during the trapping surveys. One reptile species, the side-blotched lizard (*Uta stansburiana*) was observed. Bird species observed included mourning dove (*Zenaida macroura*) and American kestrel (*Falco sparverius*).



View southwest across site



View east across site

Figure 6
Site Photos

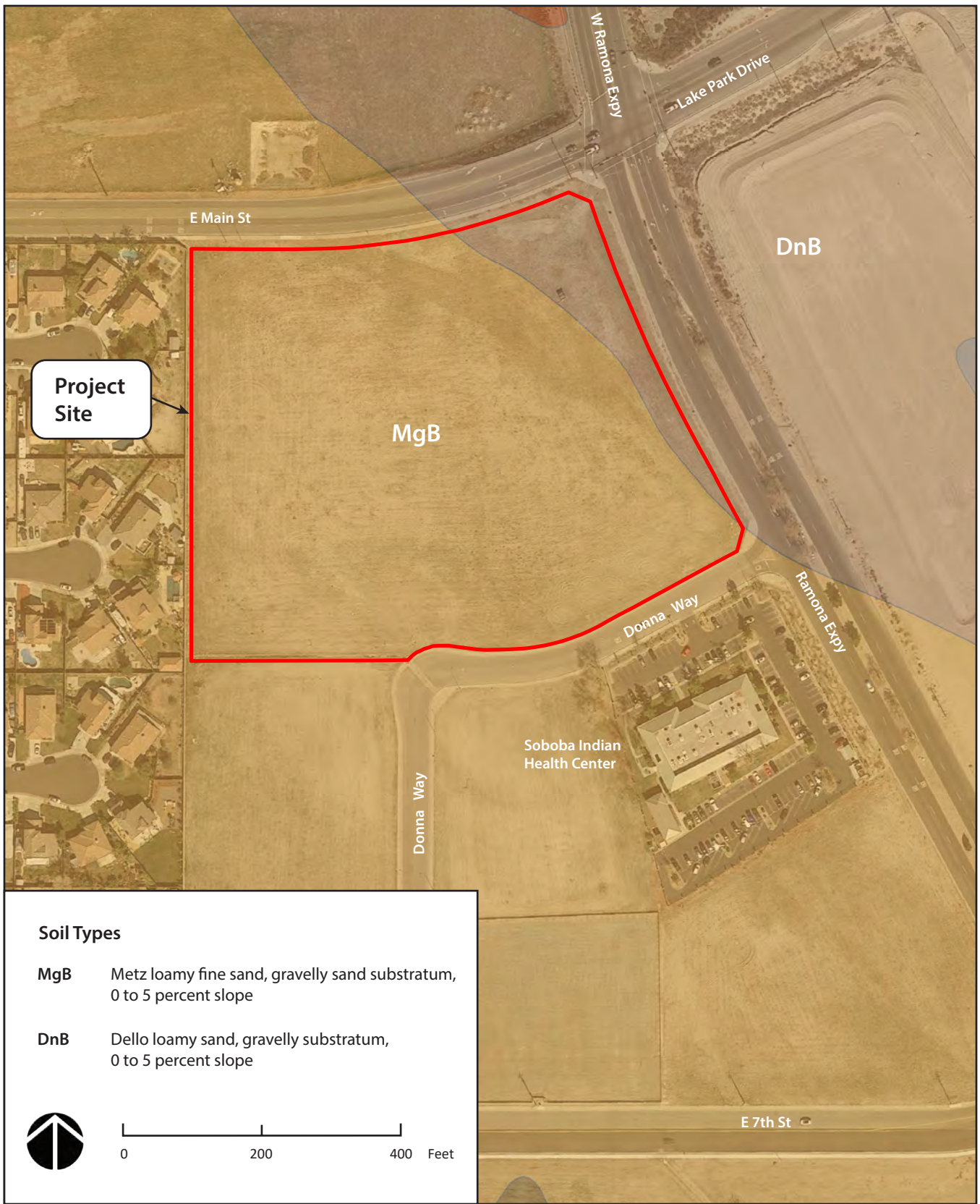


Figure 7
Soil Map

4.5. San Bernardino Kangaroo Rat Trapping Surveys

4.5.1 Weather Conditions

Weather conditions during the trapping surveys included morning temperatures in the 60s and 70s (degrees Fahrenheit), with clear skies and winds of less than five miles per hour. No fog or rain occurred during the survey period or during the preceding five days. Daily weather conditions for each day are summarized in Table 1 below.

Table 1. Weather Summary

Date	Cloud Cover	Morning 8AM Temperatures (F)	Wind Speed (miles per hour)
June 10, 2019	Clear	74	0
June 11, 2019	Clear	78	0
June 12, 2019	Clear	75	0
June 13, 2019	Clear	66	0-3
June 14, 2019	Clear	60	0-5
June 15, 2019	Clear	60	0-3

4.5.2 Trap Site Descriptions

Traps Grids were set within open areas on sites that had small fossorial mammal sign.

4.5.3 Trapping Survey Results

Trapping success was low over the entire trapping period. This is possibly due to past disking of the site for fire control. A total of two small mammal species were trapped during the survey period, within the current project boundaries, in both 2017 and during the current survey.

Table 2 provides summary information on the species trapped per site.

Table 2 Trapping Results

		Western Harvest Mouse	Deer Mouse
Trap Grids	Number of Trap Nights	<i>Reithrodontomys megalotus</i>	<i>Peromyscus maniculatus</i>
A	245	4	26
B	245	6	12
C	245	13	18
Totals	735	23	56

4.6 Burrowing Owl Surveys

No potential burrows and no sign of burrowing owls were observed on the Project Site. No recent sign of burrowing owl was observed within the zone of influence. Actively used burrowing owl burrows that were observed in the zone of influence in 2017 were found to be collapsed during the current survey.

5.0 Discussion

Trapping surveys were conducted according to U.S. Fish and Wildlife Service (USFWS) protocols established for SBKR. The current protocol calls for five nights of trapping.

The SBKR and LAPM were not captured during the current survey. These species are therefore considered absent from the Project Site.

No potential burrows and no sign of burrowing owls were observed on the Project Site and is BUOW is therefore considered absent from the Project Site.

Because the burrowing owl was observed on adjacent properties in the past, a pre-construction BUOW survey will be required thirty days prior to groundbreaking.

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Appendix A - Plant and Animal Species Observed

*denotes non-native plants

ANGIOSPERMAE: DICOTYLEDONES

Apiaceae

**Foeniculum vulgare*

Asteraceae

Ambrosia acanthicarpa

Bebbia juncea

Encelia farinosa

**Chamomilla suaveolens*

Heterotheca grandiflora

Brassicaceae

**Hirschfeldia incana*

**Sisymbrium irio*

Chenopodiaceae

**Chenopodium album*

**Salsola tragus*

**Sisymbrium irio*

Geraniaceae

**Erodium cicutarium*

Lamiaceae

**Marrubium vulgare*

Malvaceae

**Malva parviflora*

Polygonaceae

Eriogonum fasciculatum var. *foliolosum*

ANGIOSPERMAE: MONOCOTYLEDONAE

Poaceae

**Bromus madritensis* ssp. *rubens*

Hordeum jubatum

**Schismus barbatus*

DICOT FLOWERING PLANTS

Carrot family

Sweet fennel

Sunflower family

Annual bur-sage

Sweetbush

Desert brittlebush

Pineapple weed

Telegraph weed

Mustard family

Short-podded mustard

London rocket

Saltbush family

Lamb's quarters

Russian thistle

London rocket

Geranium family

Red-stemmed filaree

Mint family

Horehound

Mallow family

Cheeseweed

Buckwheat family

Interior California buckwheat

MONOCOT FLOWERING PLANTS

Grass family

Red brome

Foxtail barley

Mediterranean grass

Taxonomy and nomenclature follow Hickman 1993 and Munz 1974.

Animals

REPTILIA

Phrynosomatidae

Uta stansburiana

AVES

Falconidae

Falco sparverius

Columbidae

Zenaida macroura

Corvidae

Corvus corax

Mimidae

Mimus polyglottos

Emberizidae

Zonotrichia leucophrys

Chondestes grammacus

Icteridae

Sturnella neglecta

Fringillidae

Carpodacus neomexicanus

Passeridae

Passer domesticus

MAMMALIA

Cricetidae

Reithrodontomys megalotis

Peromyscus maniculatus

Leporidae

Sylvilagus audubonii

Geomyidae

Thomomys bottae

REPTILES

Spiny lizards and their allies

Side-blotched lizard

BIRDS

Caracaras and falcons

American kestrel

Pigeons and doves

Mourning dove

Crows and ravens

Common raven

Mimic thrushes

Northern mockingbird

Sparrows

White-crowned sparrow

Lark sparrow

Blackbirds, orioles and relatives

Western meadowlark

Finches

House finch

Old World sparrows

House sparrow

MAMMALS

Cricetine mice and rats

Western harvest mouse

Deer mouse

Rabbits and hares

Audubon's cottontail

Pocket gophers

Botta's pocket gopher

Nomenclature follows Borror & White 1970, Hall 1981 and Grenfell et al. 2003.