Appendix B2
San Bernardino Kangaroo Rat Assessment

BERGAMOT SPECIFIC PLAN
INITIAL STUDY

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

November 6, 2020
(2020-174)

Ms. Emily Elliott
Associate, Project Manager
Michael Baker International
3536 Concours, Suite 100
Ontario, CA 91764
Via Email: Emily.Elliott@mbakerintl.com

Subject: **Results of a San Bernardino Kangaroo Rat Habitat Assessment conducted at the Approximately 58-acre Citrus Valley Specific Plan Project Site, Redlands, California**

Dear Ms. Elliott:

This letter report presents the results of a San Bernardino kangaroo rat (*Dipodomys merriami parvus;* SBKR) habitat assessment conducted by ECORP Consulting, Inc (ECORP) at the request of Michael Baker International (MBI) for the proposed approximately 58-acre Citrus Valley Specific Plan Project site (Project site) in Redlands, San Bernardino County, California. Included in this letter report is a site description, description of the methods used to conduct the survey, and a discussion of the survey results.

Project Description and Location

The Project site consists of an approximately 58-acre property located in the City of Redlands, San Bernardino County (Attachment A). The property is located west of Texas Street and is generally bounded by Domestic Avenue to the south, Interstate 210 (I-210) to the west, and fallow (recently disked) agriculture to the north and east (Attachment B). Surrounding land uses include Citrus Valley High School to the south, the I-210 and commercial warehouses to the west, fallow and active agriculture to the north, and fallow agriculture and residential developments to the east. The Project site is located within the northwest quadrant of the U.S. Geological Survey (USGS) Redlands 7.5-minute topographic quadrangle in Section 16, Township 1 South, Range 3 West. The elevation on the Project site is approximately 1,285 feet above mean sea level. The Project site does not occur within United States Fish and Wildlife Service (USFWS) designated critical habitat for SBKR (USFWS 2008). However, designated critical habitat is located approximately 0.16 mile north of the Project site.

San Bernardino Kangaroo Rat Natural History and Occurrence in the Project Area

SBKR is a federally listed (endangered) species and a California candidate species for listing as endangered (USFWS 1998a, USFWS 1998b, and CDFW 2020a). SBKR occur primarily in the pioneer and intermediate phases of Riversidean alluvial sage scrub (RAFSS), a plant community with coastal sage scrub and chaparral elements on alluvial terraces and braided river channels in southern California (McKernan 1997). SBKR also can occur in Riversidean sage scrub (RSS), abandoned agricultural fields, and orchards, but usually only when such habitats are near suitable natural habitats. SBKR abundance is greatest where there is sandy substrate with low to moderate perennial

vegetative cover (less than 30 to 50 percent), and without a dense cover of non-native annual grasses (McKernan 1997; MEC 2000). Root's (2008a and 2008b) extensive analysis of SBKR occurrence in the Santa Ana River Wooly Star Preserve Area found that SBKR occupancy is negatively correlated with a dense cover of non-native grasses and areas where boulders and rocks dominate the surface, and positively correlated with sandy sparse ground cover and the perennial shrub scalebroom (*Lepidospartum squamatum*). SBKR generally occur in habitats associated with active stream channels.

The SBKR is known to be abundant within the Santa Ana River (SAR) wash system to the north, and undoubtedly occurred more broadly in the general area of the Project site historically. However, over time, various types of development north and south of the property have restricted the populations of this species to small, isolated, and less disturbed parcels of land. Most of these parcels are located away from the SAR wash system and now likely lack the animal. Nonetheless, the species can occur in abandoned agricultural fields and orchards, but usually only when such habitats are adjacent to suitable natural habitats. Additionally, SBKR have been identified approximately 1,050 feet to the north, and approximately 700 feet to the east. (CDFW 2020b). Thus, it was necessary to evaluate the Project site and the habitats present to determine if there is potential for SBKR to occur on the Project site.

Protocol level trapping for SBKR has not been conducted on the Project site, but a previously conducted Biological Resources Assessment and San Bernardino Merriam's Kangaroo Rat Habitat Assessment survey conducted in May 2020 did not identify any sign of SBKR, including burrows, tracks, or scat (First Carbon 2020).

Methods

The SBKR habitat assessment was conducted by ECORP Senior Biologist, Phillip Wasz (TE-12973-12). During the habitat assessment the Project site was evaluated for habitat conditions potentially suitable for SBKR and to determine if trapping of the site is warranted. During the survey numerous transects were walked across the property in search of clear evidence of kangaroo rats (e.g., tracks, tail-drag marks, scat, obvious burrows). Transects were spaced appropriately to achieve 100% visual coverage of the Project site, and the biologist also conducted a focused analysis of all areas exhibiting potentially suitable habitat for SBKR. Locations with diagnostic kangaroo rat sign were marked with a global positioning system (GPS) receiver and flagged as potential trapping areas.

Results

Habitat Conditions

The property is relatively level with the elevation increasing slightly from west to east. Soils on the site are generally suitable for SBKR, consisting mainly of Hanford sandy loam (NRCS 2018). However, decades of active agricultural have highly modified the surfaces and soils on site. No natural vegetation communities occur on the Project site, as the project site consists mainly of unmaintained citrus orchards with some areas of fallow (recently disked) agriculture land. The vegetation on the Project site was typical of active/fallow agriculture and disturbed/disked land and consisted mainly of

citrus trees and non-native forbs and grasses. The citrus orchards on and adjacent to the project site were comprised mainly of orange trees (*Citrus sinensis*) with an understory of predominantly non-native annual species, including common sowthistle (*Sonchus oleraceus)*, prickly lettuce (*Lactuca seriola*), red brome (*Bromus madritensis*), soft brome (*Bromus hordeaceus*), Russian thistle (*Salsola tragus*), flax-leaved horseweed (*Erigeron bonariensis*), and telegraphweed (*Heterotheca grandiflora*), among others. Additional disturbances observed on site included dirt roadways, sporadic graded areas, recently disked fallow areas, trash dumping, and homeless encampments. The project site is bound on the north by other former or current orchards, on the east by residential development, on the south by a high school, and on the west by a channelized drainage and I-210. No undisturbed habitat or natural lands exist on the Project site.

Redlands has a long history of citrus agriculture starting in the late 1800s and based on historic aerial images the Project site and immediately adjacent areas have remained in active agricultural production (citrus orchards) for at least the last 82 years, dating back to 1938 (NETR 2018). Thus, the project site has not supported natural vegetation communities and has been subjected to soil disturbances associated with agricultural use for many decades. Representative photographs of the Project site can be found in Attachment C.

Potential for SBKR on the Project Site

Habitat conditions on the site are generally not suitable for SBKR and the site is disconnected from areas of high-quality suitable habitat. Although soils on the property are somewhat acceptable for SBKR, areas of deep, sandy soil are mostly not present. The property has been separated from the effects of periodic alluvial flooding from the SAR for many decades, and no natural vegetation communities were identified on the Project site. Additionally, the habitat conditions on the project site, including the presence of citrus orchards with dense canopies and overgrown unmaintained and/or heavily disturbed understories, have likely prevented SBRK from occupying the site for as long as the site has been used for citrus orchards. Suitable burrows, likely created by gophers, were observed along the periphery and within the Project site but no definitive kangaroo rat sign (tail drags and/or scat) was identified during the survey.

Discussion

The lack of suitable habitat and the absence of definitive kangaroo rat sign indicates that the potential for SBKR to occur on the property is extremely low and the species is very likely absent from the Project site. Furthermore, the Project site has been completely disconnected from areas of suitable high-quality habitat and the effects of periodic alluvial flooding from the SAR for many decades. Therefore, the lack of adjacent suitable habitat, coupled with the lack of suitable SBKR habitat on the Project site, make the likelihood of future colonization of the project site by SBKR extremely low as well. Based on these findings and the lack of suitable habitat on the project, it was determined by the biologist that a protocol-level trapping survey was not recommended and no impacts to SBKR are expected with the development of the Project. If conditions on the project site change or if there is an extended gap (>1 year) between when the survey was conducted and

construction of the project site, then the survey may need to be repeated to confirm the site conditions and that SBKR are still absent from the Project site.

Thank you for the opportunity to work on your Project. If you have any questions regarding the contents of this letter report, please contact me at (909) 307-0046/pwasz@ecorpconsulting.com.

CERTIFICATION: I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

SIGNED:  DATE: November 6, 2020

Phillip Wasz
SBKR Permitted Biologist (TE-12973-12)
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215 N. 5th Street
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Attachments:
Attachment A: Project Vicinity Map
Attachment B: Project Location Map
Attachment C: Representative Site Photographs

Literature Cited

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USFWS. 1998b. Final rule to list the San Bernardino kangaroo rat as endangered. Fed. Reg. 63:51005-51017.

ATTACHMENT A

Project Vicinity Map

ATTACHMENT B

Project Location Map

ATTACHMENT C

Representative Site Photographs

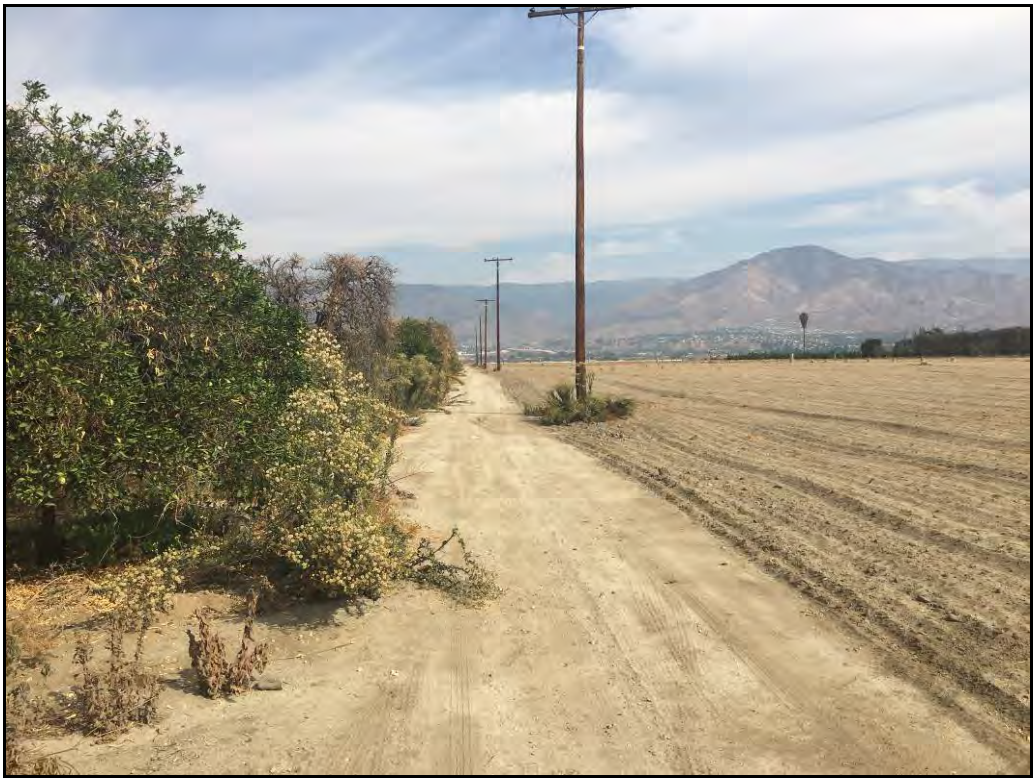

Photo 1: Southeast corner of Project site looking north.

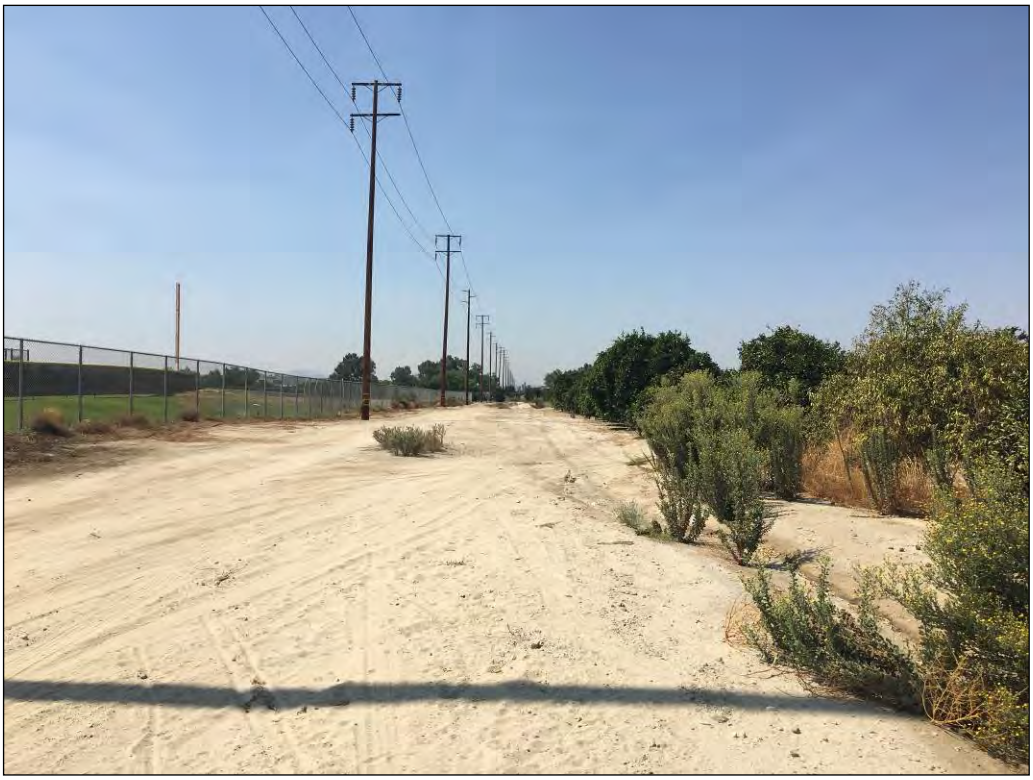

Photo 2: North border of the Project site looking west along Domestic Avenue.

Photo 3: Adjacent fallow agriculture/unsuitable habitat along the eastern border of the Project site.

Photo 4: Adjacent fallow agriculture/unsuitable habitat along the northern border of the Project site.

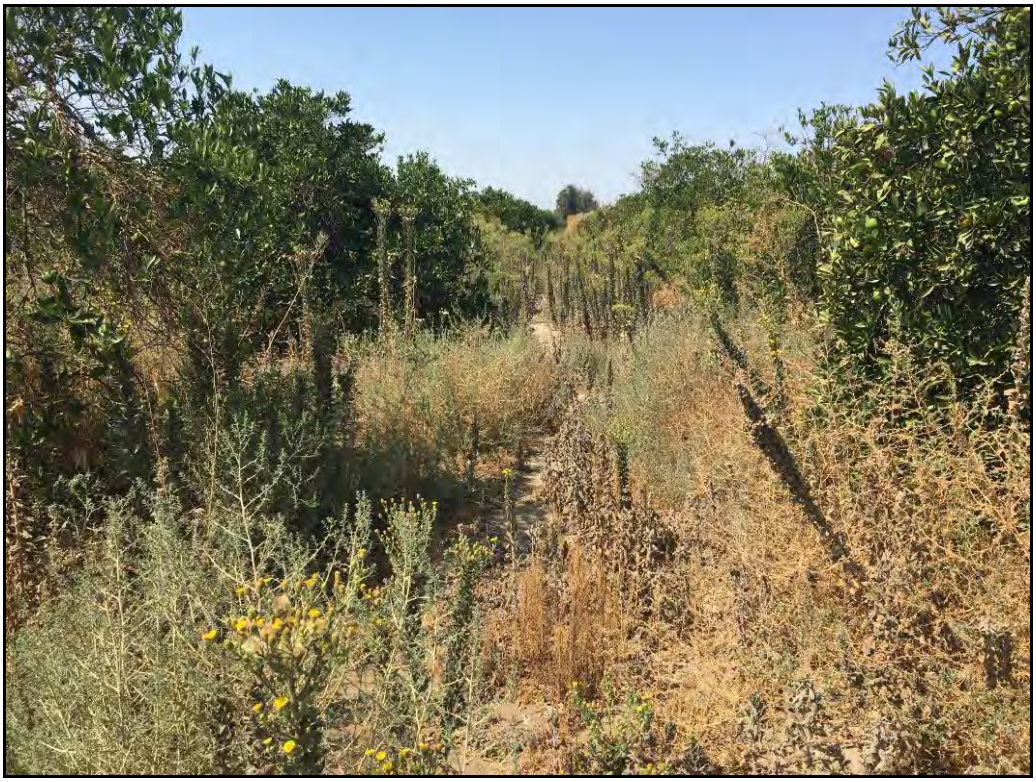

Photo 5: Example of unsuitable habitat consisting of dense unmaintained citrus orchards.

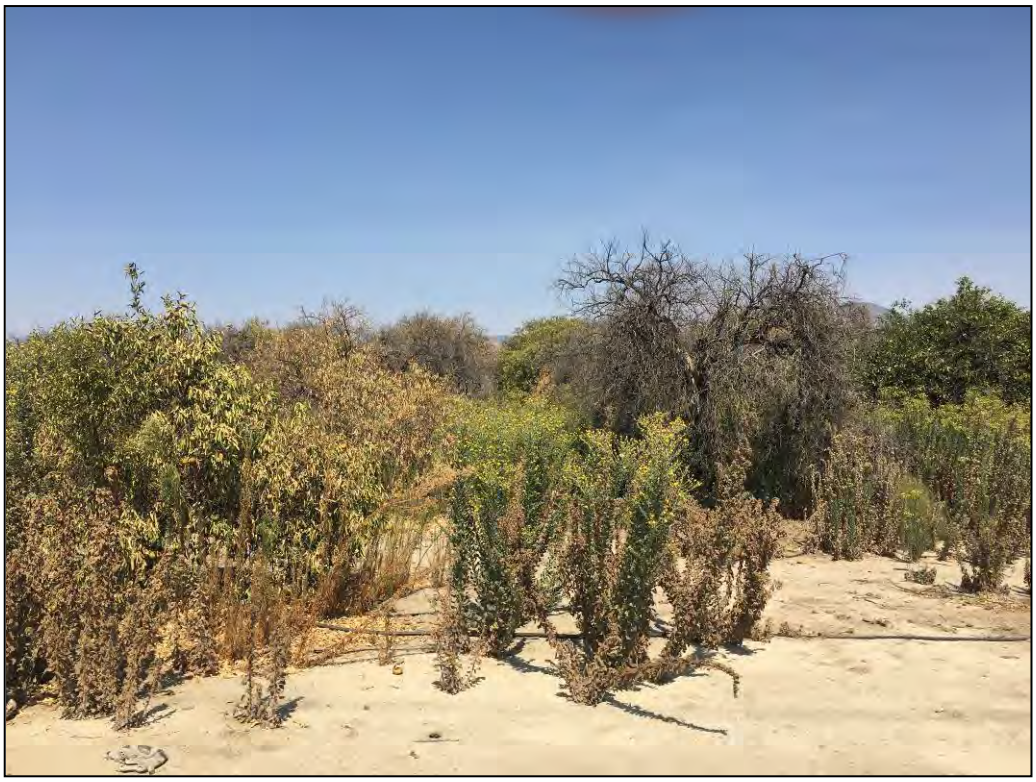

Photo 6: Example of unsuitable habitat consisting of dense unmaintained citrus orchards.

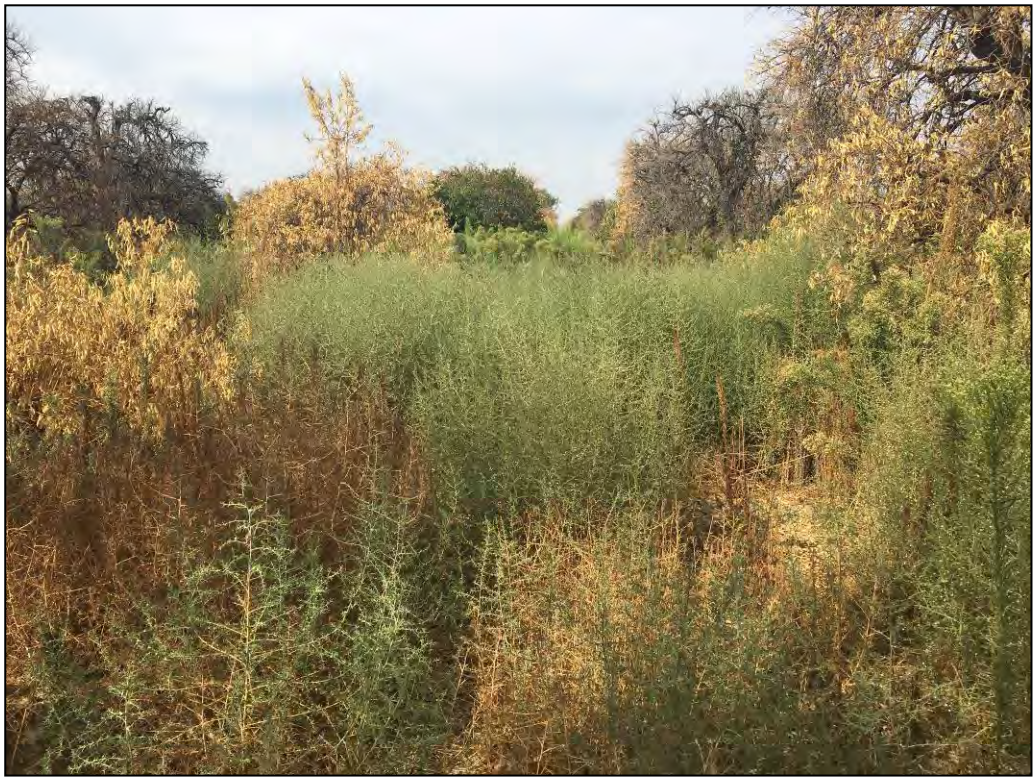

Photo 7: Example of unsuitable habitat consisting of dense unmaintained citrus orchards.

Photo 8: Example of unsuitable habitat consisting of maintained citrus orchards.

Photo 9: Example of unsuitable habitat consisting of fallow (recently disked) agriculture.

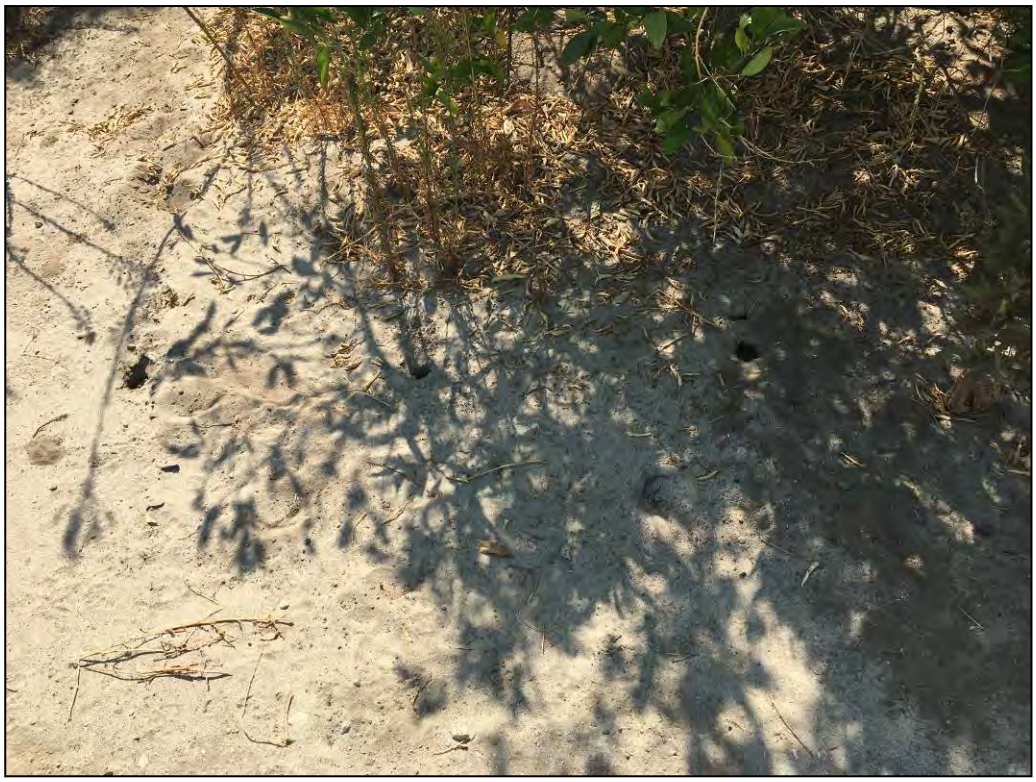

Photo 10: Gopher burrows potentially suitable for SBKR (no sign of SBKR present).