

**Focused Survey for Agassiz's Desert Tortoise,
Habitat Assessments for Burrowing Owl and Mohave Ground Squirrel, and
General Biological Resource Assessment for a
on a 4.53-acre± site (TT20674) in the City of Hesperia,
San Bernardino County, California**

(U.S. Geological Survey 7.5' Hesperia Quadrangle,
Township 4N, Range 5W, a portion of the NW ¼
of the SE ¼ of Section 23, S.B.B.&M)

Job#: 23-022

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I hereby certify that the statements furnished herein, including 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 nondisclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project.



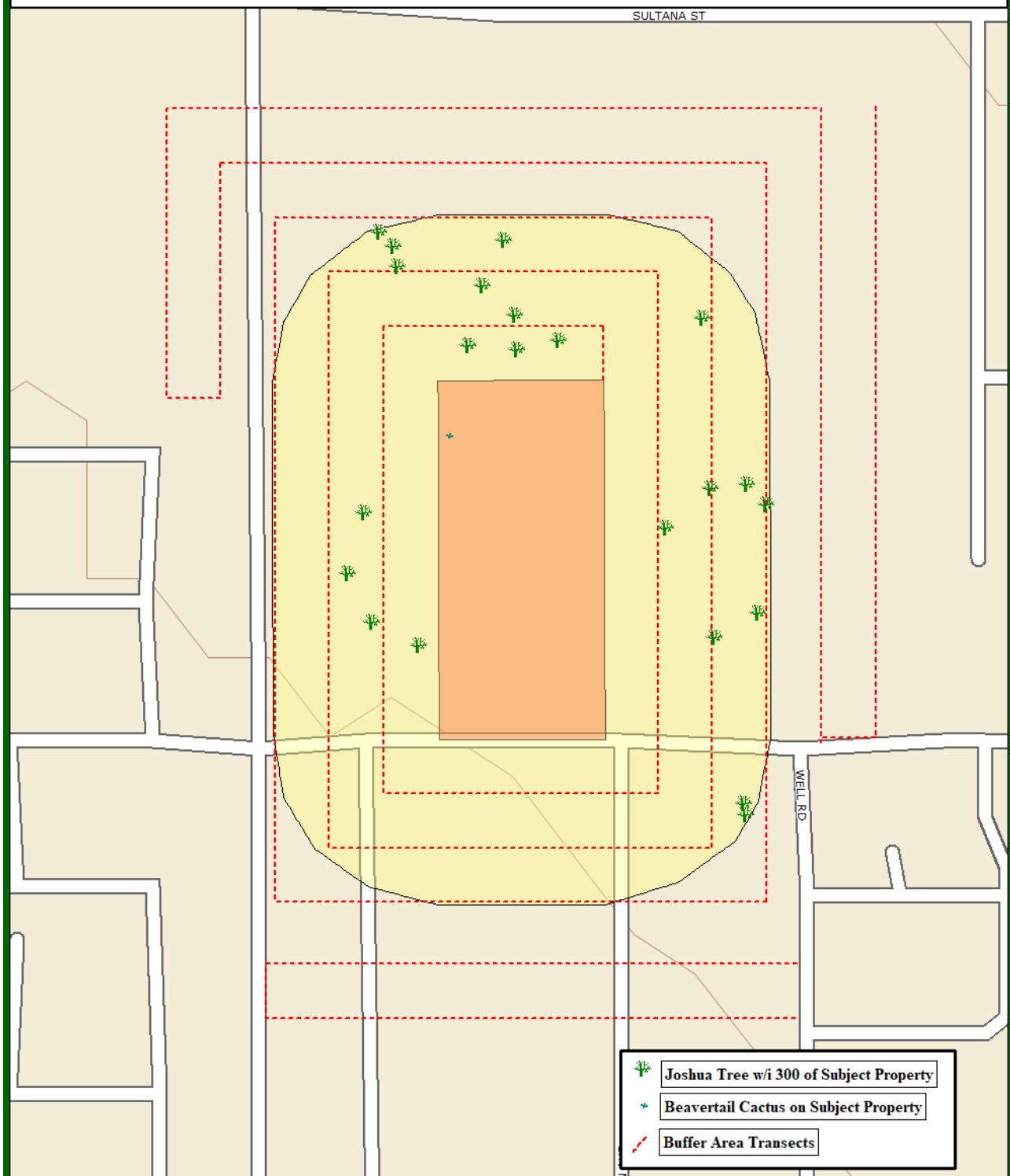
Circle Mountain Biological Consultants, Inc.

Author: Sharon Dougherty

Field Investigator: Susan Seville

May 2023

Figure 2. TT 20674: Site Map



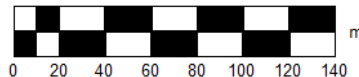
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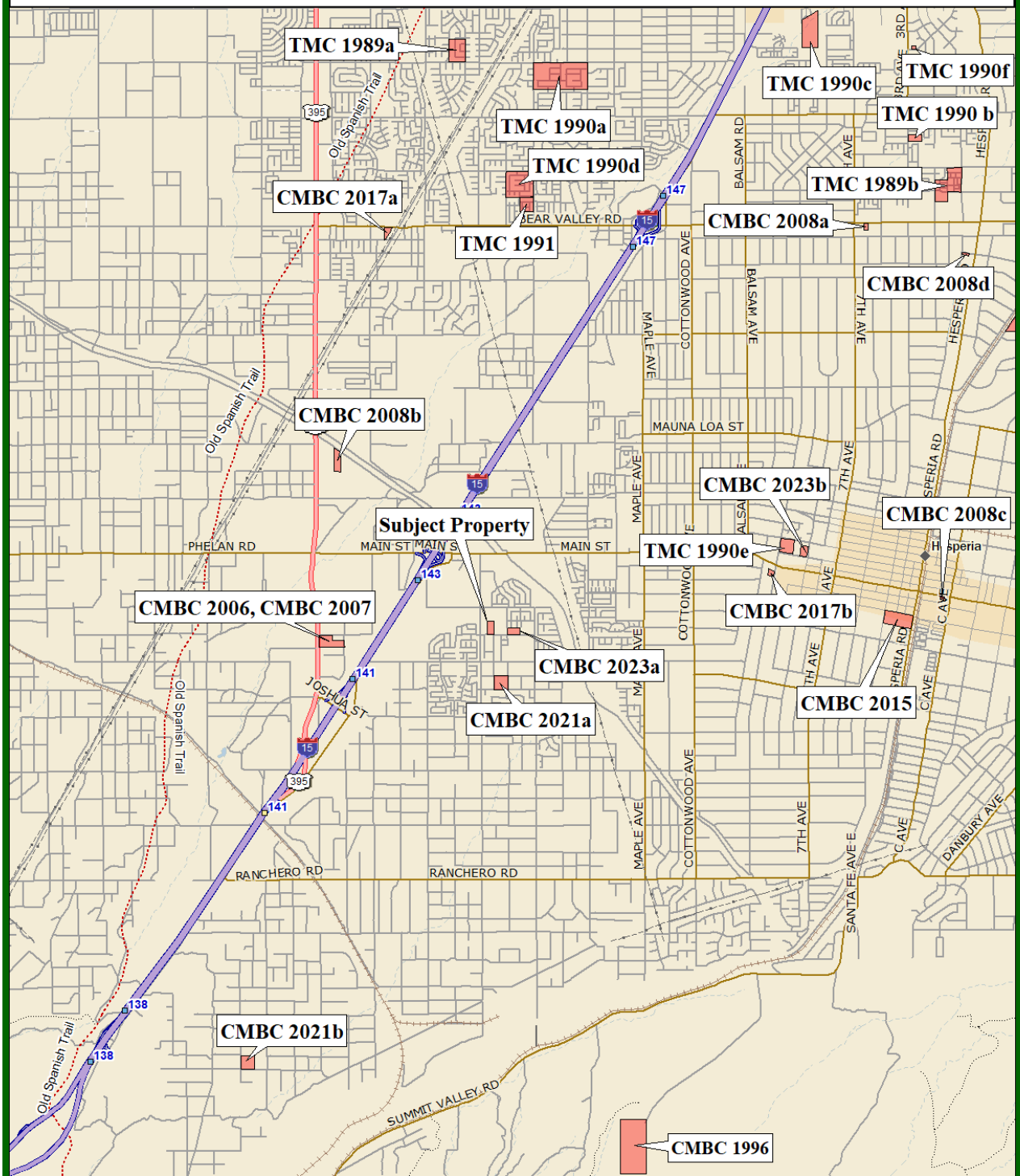


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Data Zoom 16-1

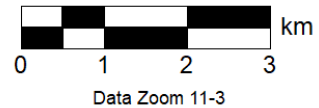
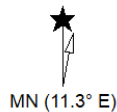
Figure 3. Results of 24 Tortoise Surveys in the Area between 1989 and 2023



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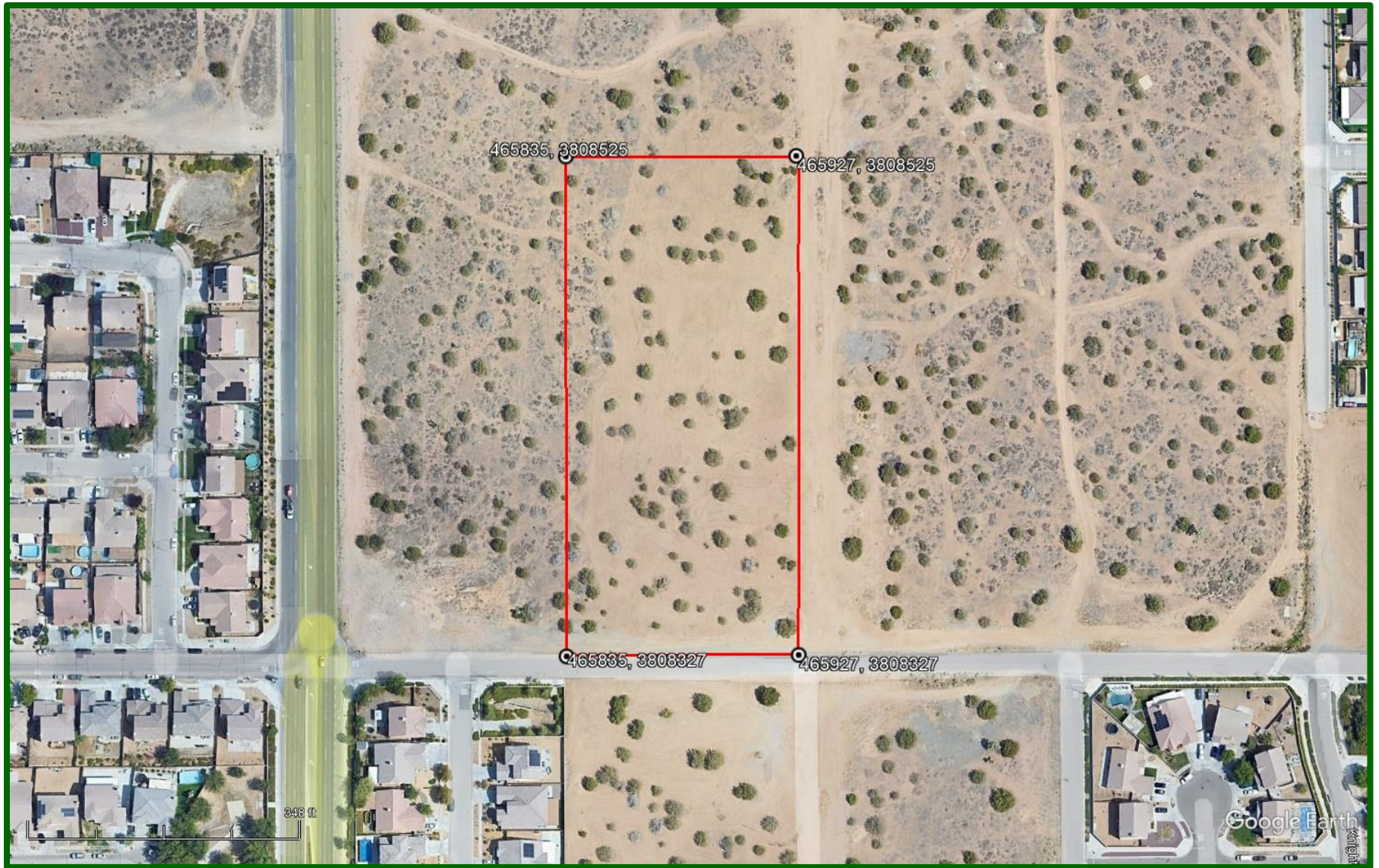
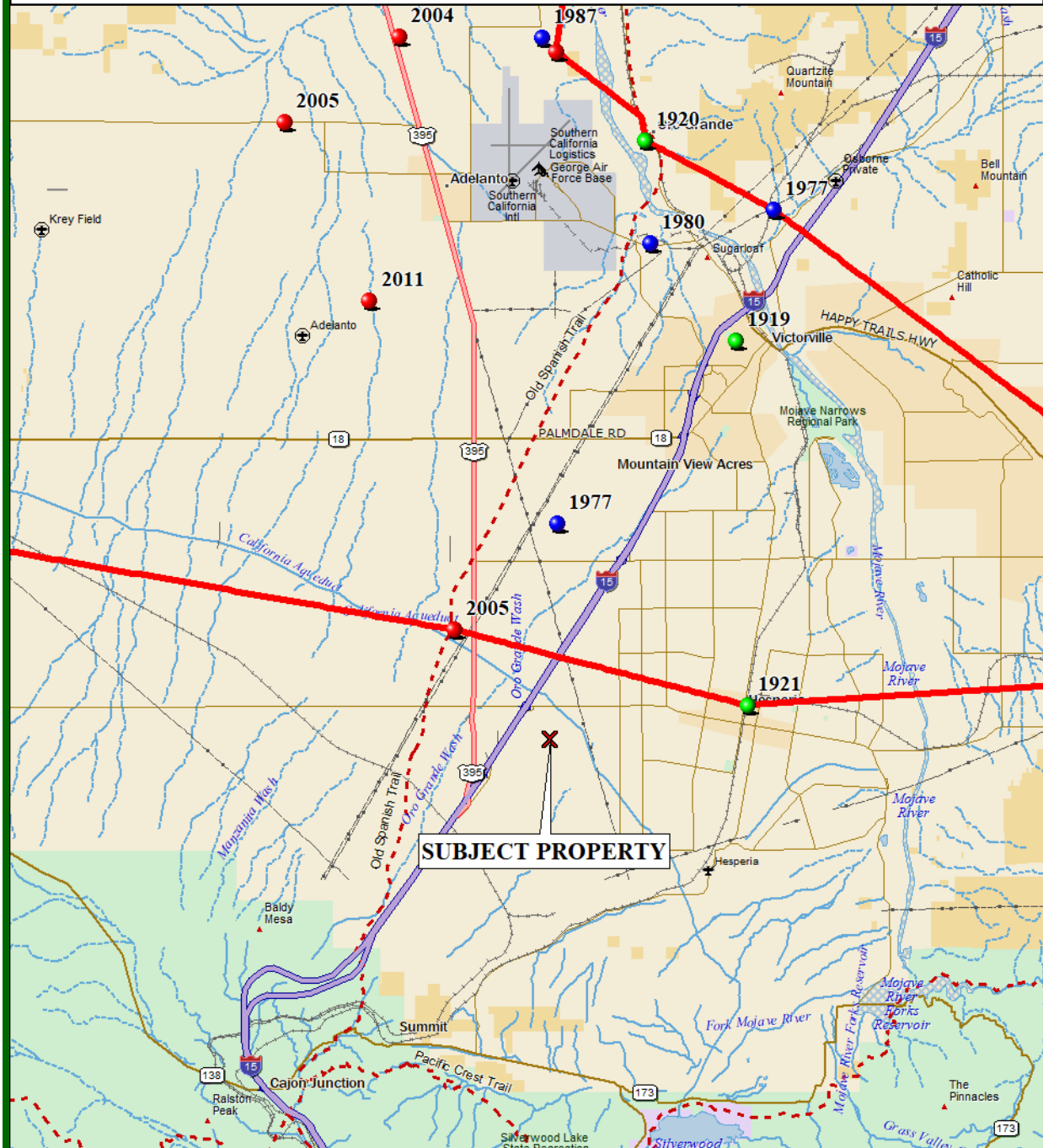


Figure 4. TT 20674: Aerial Photograph (©2023GoogleTM Earth)

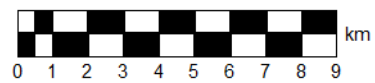
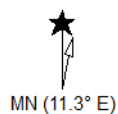
Figure 5. TT 20674: Estimated Range and Known Mohave Ground Squirrel Locations



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Data Zoom 10-1

Executive Summary

Circle Mountain Biological Consultants, Inc. (CMBC) was contacted by ZAB, LLC (Proponent) to perform a focused survey for Agassiz's desert tortoise, habitat assessment for burrowing owl, and a general biological resource assessment on a parcel located in Hesperia, California (see Figures 1 and 2). TT 20674 is a 4.53-acre± parcel located immediately north of Hollister Street with Afton Avenue bordering the east side of the property. The legal description for the subject property is Township 4 North, Range 5 West, a portion of the NW ¼ of the SE ¼ of Section 23, S.B.B.&M. The Proponent plans to develop the site with 20 lots ranging from 5,727 square feet to 9,812 square feet, for single-family homes and a 12,670 cubic-foot floodwater retention basin. Colorado Street from the east and Arizona Avenue from the north will be built to provide access.

For a total of 4.5 hours, between 0630 and 1100 on 1 May 2023, Susan Seville of CMBC surveyed the site and adjacent areas as described herein. This entailed a survey of 10 transects, spaced at 10-meter (30-foot) intervals throughout the 4.53-acre± parcel. As depicted in Figure 2, peripheral transects were surveyed for detection of burrowing owls at 30-meter (100-foot) intervals to the north, south, east, and west, except where precluded by existing development.

Based on DeLorme Topo USA™ 10.0 software, elevations on the subject property range from approximately 1,080 meters (3,543 feet) at the southwest corner down to 1,075 meters (3,525 feet) at the northeast corner. Terrain is relatively flat. No blueline streams designated by the U.S. Geological Survey (USGS) occur on-site. The 19 plant species identified during the survey are listed in Appendix A. The site was graded at some point between 2009 and 2013, based on historical aerial photographs from Google Earth ©2023. The 3 bird and 1 mammal species identified during the survey are listed in Appendix B.

Based on the absence of tortoise sign on-site and in adjacent areas, and available information reviewed for this habitat assessment, CMBC concludes that tortoises are absent from the subject property. As such, no impacts are anticipated, and no mitigation measures are recommended.

No evidence of burrowing owl was found on the subject property or in the 150 m buffer area surveyed for sign. No impacts to this species are expected.

Although a focused Mohave ground squirrel trapping survey was not performed, CMBC assessed habitats and reviewed available information to provide a professional opinion as to the presence or absence of this species on the subject property. Given the information discussed herein, CMBC concludes that habitat loss and degradation on-site and isolation of the site from suitable habitat in the vicinity due to adjacent development have significantly diminished the likelihood of occurrence, and judges that Mohave ground squirrel is absent from the site and that protocol trapping surveys are not warranted. The City and/or CDFW would need to concur with this determination (or not) before the conclusion and decision not to trap are considered final.

Based on the field survey and habitat assessment, CMBC concludes that none of the following special status species reported from the region with potentially suitable habitat on-site will be adversely affected by site development: loggerhead shrike, pallid San Diego pocket mouse, American badger, Crotch bumble bee, Mojave milkweed, pinyon rockcress, short-joint beavertail, Beaver Dam breadroot, Booth's evening primrose, white pigmy poppy, and white-bracted spineflower. As such, no adverse impacts have been identified and no mitigation measures are recommended.

Based on the field survey and habitat assessment, CMBC concludes that the only special status species that could be affected by the planned project are six Joshua trees located on adjacent properties but within 150 feet of the subject property. These trees are mapped in Figure 2. Since CDFW recommends a 300-foot buffer around each Joshua tree, development should be planned to avoid impacts within 150 feet of each of these trees to the extent possible. A detailed project plan would be needed to carry out such an analysis. Where such a buffer cannot be established, it may be necessary to obtain an ITP for the affected Joshua trees.

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San Bernardino County, California**

1.0. Introduction

1.1. Purpose and Need for Study. Circle Mountain Biological Consultants, Inc. (CMBC) was contacted by ZAB, LLC (Proponent) to perform a focused survey for Agassiz's desert tortoise (*Gopherus agassizii*), habitat assessments for burrowing owl (*Athene cunicularia*) and Mohave ground squirrel (*Xerospermophilus mohavensis*), and a general biological resource assessment on a 4.5-acre± site located in the City of Hesperia, San Bernardino County, California (see Figures 1 and 2). Given that the City of Hesperia has not developed guidelines for biological assessments, this report has been prepared, in part, according to County of San Bernardino's *Report Protocol for Biological Assessment Reports* (County of San Bernardino 2006).

As the California Environmental Quality Act (CEQA) Lead Agency, the City of Hesperia is required to complete an initial study to determine if site development will result in any adverse impacts to rare biological resources. The information may also be useful to federal and State regulatory agencies, including U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW), respectively, if the Lead Agency asks them to assess impacts associated with proposed development. Results of CMBC's focused tortoise survey, burrowing owl and Mohave ground squirrel habitat assessments, and general biological resource assessment are intended to provide sufficient baseline information to these agencies to determine if significant impacts will occur and to identify mitigation measures, if any, to offset those impacts.

1.2. Project Description. Tentative Tract 20674 is a 4.5-acre± site located immediately north of Hollister Street with Afton Avenue bordering the east side of the property. The legal description for the subject property is Township 4 North, Range 5 West, a portion of the NW ¼ of the SE ¼ of Section 23, S.B.B.&M. The Proponent plans to develop the site with 20 lots ranging from 5,727 square feet to 9,812 square feet, for single-family homes and a 12,670 cubic-foot floodwater retention basin. Colorado Street from the east and Arizona Avenue from the north will be built to provide for access.

2.0. Methods

2.1. Literature Review. CMBC consulted materials included in our library to determine the nearest tortoise locations and other special status plant and animal species that have been reported from the vicinity of the subject property. Of relevance given their proximity to the subject property are 24 other focused tortoise surveys located between approximately 685 feet east (CMBC 2023a) and 6 miles north of the parcel (Tierra Madre Consultants, 1990c), between 1989 (Tierra Madre Consultants 1989a) and 2023 (CMBC 2023), which, along with the subject property, are mapped in Figure 3. These and other materials used in the completion of this report are listed in Section 5.0, below.

In accordance with *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFG 2009), CMBC also consulted the latest version of the California Natural Diversity Data Base (CDFW 2023a) for rare plant (and animal) records reported from the USGS 7.5' Hesperia quadrangle, which encompasses the site, and the eight surrounding quadrangles (Baldy Mesa, Cajon, Silverwood Lake, Lake Arrowhead, Apple Valley South, Apple Valley North, Victorville, and Adelanto).

2.2. Field Survey.

2.2.1. *Survey and Habitat Assessment Protocols.* A significant paper was published in June 2011 (Murphy et al. 2011) whereby the “desert tortoise” of the Mojave Desert was split into two species, including *Gopherus agassizii*, referred to as “Agassiz’s desert tortoise,” and a newly described species, *G. morafkai*, referred to as “Morafka’s desert tortoise,” which occurs in the Sonoran Desert. According to Murphy et al. (2011), “...this action reduces the distribution of *G. agassizii* to only 30% of its former range. This reduction has important implications for the conservation and protection of *G. agassizii*, which may deserve a higher level of protection.” Then in 2016 (Edwards et al. 2016), a third species of tortoise was described, referred to as the “Goode’s Thornscrub Tortoise” (*Gopherus evgoodei*), which further reduced the perceived range of Morafka’s desert tortoise. Agassiz’s desert tortoise is the threatened species that occurs in the region surrounding the subject property.

For **Agassiz’s desert tortoise**, CMBC followed the presence-absence survey protocol first developed by the USFWS in 1992 and revised in 2019. USFWS (2019) protocol recommends surveying transects at 10-meter (30-foot) intervals throughout all portions of a given parcel and its associated action area. The *action area* is defined by regulation as all areas to be affected directly or indirectly by proposed development and not merely the immediate area involved in the action (50 CFR §402.02). For this site, the action area is the same as the subject property. Since the site is smaller than 500 acres, it may be surveyed year-round but there is no opportunity to estimate the density of tortoises on the 4.5-acre± subject property (USFWS 2019), particularly for this site where no tortoise sign was found.

For **burrowing owl**, although the formal habitat assessment does not specify a given interval to survey a site (Appendix C in CDFG 2012), subsequent breeding and nonbreeding studies identify that transects are surveyed at 7 to 20 meters (23 to 65 feet) apart, with five additional transects surveyed at 30-meter intervals out to 150 meters (500 feet) in adjacent areas in potential habitat (i.e., excluding areas substantially developed for commercial, residential, and/or industrial purposes) (Appendix D in CDFG 2012). With its narrower transect intervals, the tortoise survey is sufficient to cover the site for burrowing owl. The focus of the survey is to find and inspect all burrows sufficiently large to be used by burrowing owls. Importantly, this methodology is considered a formal *habitat assessment* for presence of burrowing owls, which can be conducted any time of the year. Had burrowing owl sign been found, which it was not, it would have then been necessary to perform breeding burrowing owl surveys during the spring and summer as outlined in CDFG (2012).

For **Joshua tree**, in October 2020, the California Fish and Game Commission accepted as complete a petition to list Joshua tree as a California Endangered Species. The Commission had a year to consider the petition and publish its determination, which was expected in October 2021. A determination was expected in April 2023, but has been delayed. All living Joshua trees found within 150 feet of the property’s boundary were mapped using a Garmin GPS unit, which has a horizontal accuracy of 2 to 3 meters. Additional information taken for each tree included number of trunks, height(s), range of heights from the shortest to tallest trunks, and a general health assessment of poor, moderate, or good based on the color of leaves (i.e., spikes), necrosis on the leaves, posture (i.e., erect versus leaning), dead versus live branches on each tree, and adherence of bark to the trunk(s). The tabulated information for each Joshua tree is included in Appendix E.

For **Mohave ground squirrel**, some jurisdictions require that habitat assessments be performed by individuals certified by CDFW for trapping the species. Ed LaRue who performed the fieldwork and drafted this assessment possesses a Mohave ground squirrel Memorandum of Understanding with CDFW, dated January 21, 2020, as an attachment to scientific collecting permit (SC-001544), which expires on December 31, 2023. The primary assessment herein asks the following questions: (1) Is the site within the range of the species? (2) Is there native habitat with a relatively diverse shrub component? And (3) is the site surrounded by development and therefore isolated from potentially occupied habitat?

2.2.2. *Field Survey Methods.* For a total of 4.5 hours, between 0630 and 1100 on 1 May 2023, Susan Seville of CMBC surveyed the site and adjacent areas as described herein. This entailed a survey of 10 transects, spaced at 10-meter (30-foot) intervals throughout the 4.53-acre± parcel. As depicted in Figure 2, peripheral transects were surveyed for detection of burrowing owls at 30-meter (100-foot) intervals to the north, south, east, and west, except where precluded by existing development. A copy of the USFWS’ (2019) pre-project survey data sheet is included in this report (see Appendix C).

As the site was surveyed, Seville kept tallies of observable human disturbances encountered on the 10 transects she surveyed. The results of this method provide *encounter rates* for observable human disturbances. For example, two roads observed on each of 10 transects yields a tally of 20 roads (i.e., two roads encountered 10 times). Habitat quality, adjacent land uses, and this disturbance information are discussed below in Section 3.2 relative to the potential occurrence of Agassiz’s desert tortoise and other special status species on and adjacent to the subject property.

Weather conditions recorded at the beginning and ending of the survey included temperatures measured approximately 5 centimeters (2 inches) above the ground, percent cloud cover, and wind speeds measured by a hand-held Kestrel® weather and wind speed meter, as reported in Table 1.

Date	Begin to End = Total hours	Weather Conditions	
		Beginning	Ending
5/1/23	0630 to 1100 = 4.5 hrs	58°F, 6 ↑ 10 mph, 0% cloud	62°F, 6 ↑ 10 mph, 0% cloud

All plant and animal species identified during the survey were recorded in field notes. Garmin® hand-held, global positioning system (GPS) units were used to survey straight-line transects and record Universal Transverse Mercator (UTM) coordinates (North American Datum – NAD 83) for property boundaries, rare species locations, and other pertinent information (Appendix C). Representative photographs were taken with a cell phone (Appendix D), with locations and directions of exhibits shown in Figure 6. ©2023 Google™ Earth was accessed via the internet to provide available aerial photographs of the subject property and surrounding areas (Figure 4).

3.0. Results

3.1. Common Biological Resources. The common plant and animal species identified during the survey are listed in Appendices A and B, respectively. Based on DeLorme Topo USA® 10.0 software, elevations on the subject property range from approximately 1,080 meters (3,543 feet) at the southwest corner down to 1,075 meters (3,525 feet) at the northeast corner. Terrain is relatively flat. No blueline streams designated by the U.S. Geological Survey (USGS) occur on-site.

3.1.1. *Common Flora.* The 19 plant species identified during the survey are listed in Appendix A. The site was graded at some point between 2009 and 2013, based on historical aerial photographs from Google Earth ©2023. Remaining and naturally regrowing perennials and shrubs include California juniper (*Juniperus californica*), peach thorn (*Lycium cooperi*), and Mormon tea (*Ephedra* sp.). Annual plants are mostly exotic invasive species or disturbance-adapted natives. The most common species are red brome (*Bromus madritensis* ssp. *rubens*) and red-stemmed filaree (*Erodium cicutarium*), both non-native.

Based on the prevalence of Joshua trees in adjacent areas, the site was previously occupied by a Joshua tree woodland plant community with California junipers interspersed, but now is highly disturbed and can not be considered such.

3.1.2. *Common Fauna.* The 3 bird and 1 mammal species identified during the survey are listed in Appendix B. Birds include common raven (*Corvus corax*), Anna's hummingbird (*Calypte annae*), and northern mockingbird (*Mimus polyglottus*). The only mammal detected was the California ground squirrel (*Otospermophilus beecheyi*). All of these species are tolerant of or benefit from human disturbance. No reptiles were found, likely due to the disturbed nature of the site, cool temperatures, and the short duration of the survey.

3.2. Uncommon Biological Resources.

3.2.1. *Agassiz's Desert Tortoise.* No tortoise sign was found either on-site or in adjacent areas during this focused protocol survey for the species (USFWS 2019). Based on the absence of tortoise sign on the subject property, in adjacent areas, and reported from the region (see Figure 3), CMBC concludes that Agassiz's desert tortoise is absent from the subject property and action area. Also, there is no likelihood of wild tortoises entering the site from adjacent areas, either to pass through the site or establish residency.

Observable human disturbances included several dump sites, trash, and a few established bicycle or OHV trails. A felled Joshua tree was found near the northeast corner of the site but was not recently cut.

As depicted in Figure 3, CMBC personnel have surveyed 24 sites between 1989 and 2023, within approximately 4.5 miles of the subject property. None of these surveys has found any evidence of desert tortoise.

With the publication of the Bureau of Land Management's (BLM) Record of Decision (BLM 2016), the Desert Renewable Energy Conservation Plan (DRECP) revised the 1980 California Desert Conservation Area Plan (CDCA Plan; BLM 1980) in significant ways for the conservation and recovery of desert tortoises in the California Deserts. Although desert tortoise critical habitat was not changed (USFWS 1994a), Desert Wildlife Management Areas (DWMAs; USFWS 1994b) and Multiple Use Classes on BLM lands were eliminated. In addition to critical habitat, the two main designated areas under the DRECP CDCA Plan amendment that provide for tortoise conservation and recovery are Areas of Critical Environmental Concern (ACECs) and California Desert National Conservation Lands (CDNCLs). The subject property is not found within any of these conservation areas.

The subject property is approximately 19 miles south of the nearest CDNCL-designated lands in the Western Mojave CDNCL subarea. As per the official DRECP website (www.drecp.databasin.org) and Appendix B, which depicts boundaries of management areas, the subject property is located 19 miles south of the nearest desert tortoise ACEC, which is the Fremont-Kramer ACEC, also the Fremont-Kramer Critical Habitat Unit for desert tortoise, which was designated in 1994 (U.S. Fish and Wildlife Service 1994a).

3.2.2. *Other Special Status Species.* U.S. Fish and Wildlife Service (2008), California Department of Fish and Wildlife [CDFW 2023a for California Natural Diversity Data Base; 2023b for Special Plant Species list; 2023c for Special Animal Species list; and California Native Plant Society (CNPS 2023)] maintain lists of animals and/or plants considered rare, threatened, or endangered, which are herein collectively referred to as "special status species."

Many special status species that have been reported from the CNDDDB (CDFW 2023c) are not expected to occur on the site due to a lack of suitable habitat (e.g., aquatic habitats, riparian areas, forests, etc.) or specific micro-habitat requirements (e.g., abundant spiny shrubs or cacti, specific soil types, rock outcrops, etc.) These species are arroyo toad, California red-legged frog, southern mountain yellow-legged frog, osprey, bald eagle, Swainson's hawk, western yellow-billed cuckoo, long-eared owl, southwestern willow flycatcher, Le Conte's thrasher, least Bell's vireo, gray vireo, yellow-warbler, yellow-breasted chat, summer tanager, Bell's sparrow, tri-colored blackbird, Mohave tui chub, Santa Ana speckled dace, Townsend's big-eared bat, pallid bat, lodgepole chipmunk, San Bernardino flying squirrel, Mohave river vole, western pond turtle, southern California legless lizard, coastal whiptail, southern rubber boa, San Bernardino ringneck snake, two-striped garter snake, southern sycamore alder riparian woodland, Dohrn's elegant eucnemid beetle,

Morrison bumble bee, Andrew's marble butterfly, San Emigdio blue butterfly, quino checkerspot butterfly, Victorville shoulderband, westfork shoulderband, desert cymopterus, Parish's yampah, Parish's daisy, Mojave tarplant, San Bernardino aster, Greata's aster, sagebrush loeflingia, San Bernardino Mountains dudleya, southern mountains skullcap, silver-haired ivesia, Parish's alumroot, San Bernardino Mountains owl's-clover, Mojave monkeyflower, Parish's desert-thorn, black bog-rush, Palmer's mariposa-lily, Plummer's mariposa-lily, and lemon lily. These species have been eliminated from further consideration.

Regulatory agency-designated special status species other than desert tortoise that were identified during the current survey are limited to Joshua trees on the adjacent properties. Other special status species reported from the CNDDDB, for which appropriate habitat is locally present are discussed below. Life history and occurrence information for such species are given in the next few subsections.

Burrowing owl is designated as a California Species of Special Concern by CDFW (2023c), as a Bird of Conservation Concern by the USFWS (2008) and is considered Sensitive by the BLM (CDFW 2023a). It is one of the focal species specifically sought during field surveys, particularly in adjacent areas, and is usually detected by distinctive feathers, zygodactyl (x-shaped) tracks, and whitewash (fecal material deposited away from burrows may be from other bird species). Although pellets and feathers are sufficiently distinctive that they may be identified away from burrows, it is one or more of these signs at sufficiently large burrows that are the most definitive means of determining burrowing owl use of a given site.

In the case of the subject property, there was no evidence of burrowing owl. Burrowing owls do not create their own burrows; rather they find existing burrows, which they may slightly modify in order to occupy. Typical existing burrows used by burrowing owls include abandoned kit fox dens, both active and inactive tortoise burrows, deeper badger digs, and inactive California ground squirrel burrows.

The CNDDDB report (CDFW 2023c) has 61 records for burrowing owl. The closest records are 1.9 miles to the west-southwest in 1989, 2.2 miles northeast in 2006, and 4.4 miles north-northwest in 2006. Burrowing owl sign was also detected 5.2 miles north by CMBC staff (TMC 1989a). No evidence of burrowing owl was observed on the site or in adjacent areas included in the burrowing owl buffer area survey. The species is considered absent from the site.

Mohave ground squirrel is designated as a Threatened species by the California Fish and Game Commission and is not federally listed. Despite two petitions, one in 1993 and another in 2005, to list the Mohave ground squirrel as a federally Endangered species, the USFWS ruled in both instances that listing was not warranted at those times. In recent years, the CDFW has considered three criteria in assessing potential impacts to the Mohave ground squirrel: (1) Is the site within the range of the species? (2) Is there native habitat with a relatively diverse shrub component? (3) Is the site surrounded by development and therefore isolated from potentially occupied habitats?

Figure 5 shows known locations of Mohave ground squirrels relative to the subject property (CDFW 2023a) and the extrapolated range of the species (Gustafson 1993; U.S. Bureau of Land Management 2005). The nearest reported occurrence was approximately 4.2 miles east-northeast where a squirrel was found in 1921. Other proximate occurrences have been 4.4 miles north (1977), 9.1 miles north-northeast (1919), 9.8 miles north-northwest (2011), and 10.5 miles north (1980). Numerous surveys performed in the surrounding region in much more suitable habitats (Leitner 2008) have failed to capture the species.

When a line is drawn to connect the known occurrences to determine the approximate range of the species (the “red line” in Figure 5 from U.S. Bureau of Land Management 2005), the site is approximately 1.65 miles south of the extrapolated southern boundary, or approximately 1.65 miles outside the suspected species range.

Mohave ground squirrel has been reported between 550 meters (1,800 feet) and 1,710 meters (5,620 feet) elevation from a wide range of habitats including creosote bush scrub, saltbush scrub, Joshua tree woodland, juniper woodland, and Mohave mixed woody scrub (U.S. Bureau of Land Management 2005). Although at 1,075 meters (3,525 feet) elevation, the site is within the known elevational range of the species, habitats on the subject property appear too disturbed and isolated to support the species. There is a relatively low level of diversity of native perennial plants, with only three shrub species identified.

Based on studies by Phil and Barbara Leitner (as summarized in U.S. Bureau of Land Management 2005), in the northern part of the range, winterfat and spiny hopsage are ecologically important shrubs for Mohave ground squirrel. Neither species was present on the subject property. In any case, the presence of these plants does NOT imply that the Mohave ground squirrel occurs. There are no data to suggest that these plants are important to the species in the south as they appear to be in the Coso Range, near the northern extent of the Mohave ground squirrel known range. Finally, contiguous lands are a patchwork of single-family housing and undeveloped land.

Given the above information, CMBC concludes that the Mohave ground squirrel are expected to be absent from the subject property.

Loggerhead shrike (*Lanius lanovicianus*) is designated as a California Species of Special Concern by CDFW (2023a) and a Bird of Conservation Concern by the USFWS (2008). There are four records for loggerhead shrikes in the CNDDDB report, with the closest about 3.2 miles to the northwest in 2007. Shrikes have been observed by CMBC staff 4.6 miles south-southeast of the subject (CMBC 1996). This species is known from a variety of open habitats, including desert scrub. They feed on insects and other arthropods, amphibians, reptiles, small mammals, and birds, and are known for their habit of impaling prey on thorns or barbed wire as cached food for later consumption. Habitat on the subject property is very marginal for this species, and they are not expected to occur.

Pallid San Diego pocket mouse (*Chaetodipus fallax pallidus*) is designated as a California Species of Special Concern by CDFW (2023a). There are three records for the pocket mouse in the CNDDDB report, with the most recent about 15 miles to the east-southeast in 1976. The other two records are from the 1920s and are not specific, but merely reference “Victorville” and “Oro Grande.” This species is a resident of sandy herbaceous areas, usually in association with rocks or coarse gravel in southwestern California. It is most often found near desert borders in habitats with stony soils above sandy desert fans and rocky areas within shrub communities. Habitat on the subject property is very marginal for this species, and they are not expected to occur.

American badger (*Taxidea taxus*) is designated as a California Species of Special Concern by CDFW (2023a). There are two records for the species in the CNDDDB report (CDFW 2023c), both from the vicinity of Silverwood Lake. This species is most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. It typically feeds on burrowing rodents and leaves distinctive digs in its search for prey. No evidence of American badger was found on the site, and the species is considered absent.

Crotch bumblebee (*Bombus crotchii*) is a federal Candidate species for listing as Endangered. This insect is known primarily from “coastal California east to the Sierra-Cascade crest and south into Mexico.” Food plant genera include *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*. The CNDDDB report lists one record for the species, from about 17 miles to the northeast from 1944. None of the food plants listed for the species are present, and it is expected to be absent from the site.

Mojave milkweed (*Asclepias nyctaginifolia*) has been ranked as 2B.1 (rare, threatened, or endangered in California but more common elsewhere) by the California Native Plant Society. It is found in Mojavean desert scrub and pinyon and juniper woodland, at elevations between 775 and 1,605 m. The CNDDDB report (CDFW 2023c) has one report for the species, near the summit of Cajon Pass in 1916, about 7 miles from the subject property. The species should have been detectable at the time of surveys but was not seen. Thus, it is considered absent from the site.

Pinyon rockcress (*Boechera dispar*) has been ranked as 2B.3 (rare, threatened, or endangered in California but more common elsewhere) by the California Native Plant Society. It is found primarily in Joshua tree woodland, pinyon and juniper woodland, and Mojavean desert scrub, on granitic, gravelly slopes and mesas between 1,005 and 2,805 m. It is often found growing under and through desert shrubs. The CNDDDB report (CDFW 2023c) has one report for the species, near Juniper Flats in 2011, about 10.8 miles from the subject property. The species should have been detectable at the time of surveys but was not seen. Thus, it is considered absent from the site.

Short-joint beavertail (*Opuntia basilaris* var. *brachyclada*) has been ranked as 1B.2 (rare, threatened, or endangered in California and elsewhere) by the California Native Plant Society, and is designated “Rare” by the US Forest Service and US Bureau of Land Management. It is found primarily in chaparral, Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland, mostly on the desert facing foothills of the San

Gabriel and San Bernardino mountains and nearby desert areas. Typically, elevations range from 425 to 2,015 m and soils are sandy or coarse, granitic loam. The CNDDDB report (CDFW 2023c) has 42 reports for the species. The closest are about 1.8 miles southwest of the subject property in 1989, 3.4 miles west in 2006, and 4.6 miles west-southwest in 1986. The species is detectable year-round but was not seen. It is considered absent from the site.

Beaver Dam breadroot (*Pediomelum castoreum*) has been ranked as 1B.2 (rare, threatened, or endangered in California and elsewhere) by the California Native Plant Society, and is designated “Sensitive” by the US Bureau of Land Management. It is found primarily in Joshua tree woodland and Mojavean desert scrub at elevations between 605 to 1,485 m. It prefers sandy soils and road cuts. The CNDDDB report (CDFW 2023c) has 3 reports for the species. The closest is about 9 miles southeast of the subject property in 1992. The species should have been detectable but was not seen. It is considered absent from the site.

Booth's evening-primrose (*Eremothera boothii* ssp. *boothii*) has been ranked as 2B.3 (rare in California but more common elsewhere) by the California Native Plant Society. It is found on sandy flats and steep, loose slopes in Joshua tree woodland and pinyon and juniper woodland at elevations from 900 to 2,400 m. The CNDDDB report (CDFW 2023c) has 6 reports for the species. The closest are about 8.3 miles southeast of the subject property in 1991, and about 8.6 miles north in 1989. The species should have been detectable but was not seen. It is considered absent from the site.

White pygmy-poppy (*Canbya candida*) has been ranked as 4.2 (Watch List: Plants of limited distribution) by the California Native Plant Society and is considered “Sensitive” by the US Forest Service. It is found in the western Mojave Desert in Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland, in sandy soils from 600 to 1,350 m. The CNDDDB report (CDFW 2023c) has 5 reports for the species. The closest are about 3.9 miles southeast of the subject property in 1980, and about 4.0 miles east-northeast in 1958. The species should have been detectable but was not seen. It is considered absent from the site.

White-bracted spineflower (*Chorizanthe xanti* var. *leucotheca*) has been ranked as 1.B2 (rare, threatened, or endangered in California and elsewhere) by the California Native Plant Society and is considered “Sensitive” by the US Forest Service and US Bureau of Land Management. It is found in the eastern slopes of the San Bernardino Mountains foothills and north slopes of San Jacinto Mountain foothills, at elevations from 400 to 1,300 m, in Joshua tree woodland, pinyon and juniper woodland, in sandy or gravelly soils. The CNDDDB report (CDFW 2023c) has 5 reports for the species. The closest is about 7 miles southwest of the subject property from 1993. The species should have been detectable but was not seen. It is considered absent from the site.

No living **Joshua trees** were found on the subject property. However, Seville recorded locations of 6 Joshua trees, located off the site but within 150 feet of the property’s boundary. These are mapped in Figure 2. Additional information was collected for each of these trees, including number of trunks, height(s), range of heights from the shortest to

tallest trunks, and a general health assessment of poor, moderate, or good based on the color of leaves (i.e., spikes), necrosis on the leaves, posture (i.e., erect versus leaning), dead versus live branches on each tree, and adherence of bark to the trunk(s). The tabulated information for each Joshua tree is included in Appendix E.

3.3. Other Protected Biological Resources.

3.3.1. *Stream Courses.* Stream courses provide relatively important resources to animals and plants. No washes or streams are found on the site.

3.3.2. *Protected Plant Species.* At the County level, the San Bernardino County Development Code was revised and adopted on 12 April 2007. Chapter 88.01 Plant Protection and Management, Section 88.01.020 states, “The provisions of this Chapter apply to the removal and relocation of regulated trees or plants and to any encroachment (for example, grading) within the protected zone of a regulated tree or plant on all private land within the unincorporated areas of the County and on public lands owned by the County, unless otherwise specified...”

Section 88.01.060 Desert Native Plant Protection states, “This Section provides regulations for the removal or harvesting of specified desert native plants in order to preserve and protect the plants and to provide for the conservation and wise use of desert resources...”

Section 88.01.060(c) Regulated Desert Native Plants states, “The following desert native plants or any part of them, except the fruit, shall not be removed except under a Tree or Plant Removal Permit in compliance within Section 88.01.050 (Tree or Plant Removal Permits):

- (1) The following desert native plants with stems two inches or greater in diameter or six feet or greater in height:
 - (A) *Dalea spinosa* (smoke tree).
 - (B) All species of the genus *Prosopis* (mesquites).
- (2) All species of the family *Agavaceae* (century plants, nolinias, yuccas).
- (3) Creosote Rings, 10 feet or greater in diameter.
- (4) All Joshua trees.
- (5) Any part of the following species, whether living or dead:
 - (A) *Olneya tesota* (desert ironwood).
 - (B) All species of the genus *Prosopis* (mesquites).
 - (C) All species of the genus *Cercidium* (palo verdes).”

At the State level, the 1998 Food and Agricultural Code, Division 23: California Desert Native Plants, Chapter 3: Regulated Native Plants Act, Section 80073 states: The following native plants, or any parts thereof, may not be harvested except under a permit issued by the commissioner or the sheriff of the county in which the native plants are growing:

- (a) All species of the family Agavaceae (century plants, nolinias, yuccas).
- (b) All species of the family Cactaceae (cacti), except for the plants listed in subdivisions (b) and (c) of Section 80072 (i.e., saguaro and barrel cacti), which may be harvested under a permit obtained pursuant to that section.
- (c) All species of the family Fouquieriaceae (ocotillo, candlewood).
- (d) All species of the genus *Prosopis* (mesquites).
- (e) All species of the genus *Cercidium* (palo verdes).
- (f) *Senegalia (Acacia) greggii* (catclaw acacia).
- (g) *Atriplex hymenelytra* (desert holly).
- (h) *Dalea (Psorothamnus) spinosa* (smoke tree).
- (i) *Olneya tesota* (desert ironwood), including both dead and live desert ironwood.

In addition to the 6 Joshua trees located within a 150-foot buffer area around the site, a single beavertail cactus (*Opuntia basilaris*) was the only species included in one or both above lists that were observed on the subject property. It is mapped in Figure 2.

4.0. Conclusions and Recommendations

4.1. Impacts to Agassiz’s Desert Tortoise and Proposed Mitigation. Based on the absence of tortoise sign on-site and in adjacent areas, and available information reviewed for this habitat assessment, CMBC concludes that tortoises are absent from the subject property. As such, no impacts are anticipated, and no mitigation measures are recommended.

Whereas USFWS survey protocols historically indicated that the results of a given survey were valid for the period of only one year (USFWS 2010 and 2018), according to the revised, 2019 USFWS pre-project survey protocol, “*If the survey data are more than a year old, we encourage project proponents to contact us at the earliest possible time to allow us to assess the specific circumstances under which the data were collected (e.g., time of year, drought/rainfall conditions, size and location of the site, etc.) and to discuss whether additional surveys would be appropriate. Spatial information can be provided in pdf and GIS formats.*” At the time of this writing, the Palm Springs office of the USFWS would be the appropriate office to contact [(760) 322-2070] to determine if another survey should be performed prior to ground disturbance if it does not occur before 1 May 2024.

Regardless of survey results and conclusions given herein, tortoises are protected by applicable State and federal laws, including the California Endangered Species Act and Federal Endangered Species Act, respectively. As such, if a tortoise is found on-site at the time of construction, all activities likely to affect that animal(s) should cease and the County contacted to determine appropriate steps.

Importantly, nothing given in this report, including recommended mitigation measures, is intended to authorize the incidental take of Agassiz’s desert tortoises during site development. Such authorization must come from the appropriate regulatory agencies, including CDFW (i.e., authorization under section 2081 of the Fish and Game Code) and USFWS [i.e., authorization under section 10(a)(1)(B) of the Federal Endangered Species Act].

4.2. Impacts to Other Biological Resources and Proposed Mitigation.

4.2.1 *Other Special Status Species.* Based on the field survey and habitat assessment, CMBC concludes that no special status species reported from the region occur on the site or will be adversely affected by site development, except for Joshua trees, which are present on adjacent properties.

The species is currently a Candidate for listing as an Endangered Species by the California Fish and Game Commission. CMBC recommends that all Joshua trees be avoided to the extent possible. If it is necessary to remove and/or salvage a tree, the California Department of Fish and Wildlife should be contacted to obtain the necessary permissions and procedures. CDFW has recently recommended the following analysis for impacts to Western Joshua trees (WJT) and specific permitting and mitigation for a project in Adelanto and are likely to have similar requirements for this project.

- “1) assessing potential impacts to WJTs within a 186-foot buffer zone for each WJT (Vander Wall et al. 2006),
- 2) implementation of a 300-foot buffer around each WJT not scheduled for removal
- 3) a mitigation strategy addressing impacts to Joshua tree individuals, the WJT seedbank, and indirect impacts to WJT, as noted above.”

“Western Joshua Tree Take: If any western Joshua trees are to be relocated, removed, or otherwise taken, the Project Proponent shall obtain an incidental take permit (ITP) from California Department of Fish and Wildlife (CDFW) under CDFW under §2081 of the California Endangered Species Act (CESA), prior to the relocation, removal, or take (California Fish and Game Code Section 86 defines “take” as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”) of western Joshua tree, a Candidate for Threatened CESA-listed species. Take of any CESA listed species is prohibited except as authorized by state law (Fish and Game Code, §§ 2080 & 2085). Permanent protection and perpetual management of compensatory habitat is necessary and required pursuant to CESA to fully mitigate project-related impacts of the taking of CESA-listed species. CDFW recommends permanent protection through either the purchase of conservation or mitigation bank credits or the establishment of a conservation easement, development of a long-term management plan, and securing funding sufficient to implement management plan tasks in perpetuity. These tasks should be completed, or financial security must be provided before starting any Project activities. To execute an ITP, CDFW requires documentation of CEQA compliance. CDFW requires the CEQA document have a State Clearing House number, show proof of filing fees, and proof the document has been circulated.” (CDFW to City of Adelanto Planning, 7 November 2022)

Six trees (none on site) are within 150 feet of the project area boundary. (See Figure 2.) Since CDFW recommends a 300-foot buffer around each Joshua tree, development should be planned to avoid impacts within 150 feet of each of these trees to the extent possible. A detailed project plan would be needed to carry out such an analysis. Where such a buffer cannot be established, it may be necessary to obtain an ITP for the affected Joshua trees.

Although a focused Mohave ground squirrel trapping survey was not performed [CDFG 2003 (revised 2010)], CMBC assessed habitats and reviewed available information to provide a professional opinion as to the presence or absence of this species on the subject property. Given the information discussed herein, CMBC concludes that habitat loss and degradation on-site and isolation of the site from suitable habitat in the vicinity due to adjacent development have significantly diminished the likelihood of occurrence, and judges that Mohave ground squirrel is absent from the site and that protocol trapping surveys are not warranted. The City and/or CDFW would need to concur with this determination (or not) before the conclusion and decision not to trap are considered final.

4.2.2. Other Protected Biological Resources and Proposed Mitigation.

4.2.2.a. Protected Plants. It is beyond the scope of this focused survey and general resource assessment to provide necessary baseline data and a proposed program to minimize and mitigate impacts to protected native desert plants. The County may require a Desert Native Plant Assessment to identify the numbers and locations of protected plants to be in compliance with the California Native Plant Protection Act. Beavertail cactus is the only species found on-site that may be subject to pertinent development codes. If possible, CMBC recommends avoiding or salvaging this plant.

4.2.2.b. Bird Nests. Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests, including raptors and other migratory nongame birds (As listed under the Migratory Bird Treaty Act). Typically, CDFW requires that vegetation not be removed from a project site between March 15 and September 15 to avoid impacts to nesting birds. If it is necessary to commence project construction between March 15 and September 15, a qualified biologist should survey all shrubs and structures within the project site for nesting birds, within 3 days prior to project activities (including construction and/or site preparation).

Surveys should be conducted at the appropriate time of day during the breeding season, and surveys would end no more than three days prior to clearing. CDFW is typically notified in writing prior to the start of the surveys. Documentation of surveys and findings should be submitted to the CDFW within ten days of the last survey. If no nesting birds were observed project activities may begin. If an active bird nest is located, the plant in which it occurs should be left in place until the birds leave the nest, and an appropriate buffer area should be established. No construction is allowed near active bird nests of threatened or endangered species.

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Appendix A. Plant Species Detected

The following plant species were identified on-site during the focused floral inventory described in this report. Protected plant species are highlighted in red and signified by “(PPS)” following the common names. The species found only in adjacent areas are signified by “+.”

CONIFERAE

Cupressaceae

Juniperus californica

GNETAE

Ephedraceae

Ephedra sp.

ANGIOSPERMAE: DICOTYLEDONES

Apiaceae

Lomatium mohavense

Asteraceae

Ericameria linearifolia

Ericameria (Chrysothamnus) nauseosus

Lastenia sp.

Layia glandulosa

Boraginaceae

Amsinckia tessellata

Cryptantha sp.

Pectocarya penicillata

Cactaceae

Opuntia basilaris

Euphorbiaceae

Euphorbia albomarginata

Fabaceae

Acmispon (Lotus) rigidus

Geraneaceae

**Erodium cicutarium*

CONE-BEARING PLANTS

Cypress family

California juniper

GNETAE

Joint-fir family

Desert tea

DICOT FLOWERING PLANTS

Carrot family

Lomatium

Sunflower family

Interior goldenbush

Rubber rabbitbrush

Goldfields

White tidy tips

Borage family

Fiddleneck

Forget-me-not

Slender combseed

Cactus family

Beavertail cactus (PPS)

Spurge family

Rattlesnake weed

Pea family

Desert rockpea

Geranium family

Red-stemmed filaree

Lamiaceae
Salvia carduacea

Polemoniaceae
Linanthus parryae

Solanaceae
Lycium cooperi

ANGIOSPERMAE: MONOCOTYLEDONES

Liliaceae
+Yucca brevifolia

Poaceae
**Bromus madritensis ssp. rubens*

* - indicates a non-native (introduced) species.

c.f. - compares favorably to a given species when the actual species is unknown.

Some species may not have been detected because of the seasonal nature of their occurrence. Common names are taken from Beauchamp (1986), Hickman (1993), Jaeger (1969), and Munz (1974).

Mint family
Thistle sage

Phlox family
Sand blossoms

Nightshade family
Peach thorn

MONOCOT FLOWERING PLANTS

Lily family
Joshua tree (PPS)

Grass family
Red brome

Appendix B. Animal Species Detected

The following animal species were detected during the general biological inventory described in this report.

AVES

Trochilidae

Calypte anna

Corvidae

Corvus corax

Mimidae

Mimus polyglottos

MAMMALIA

Sciuridae

Otospermophilus beecheyi

BIRDS

Hummingbirds

Anna's hummingbird

Crows and jays

Common raven

Mockingbirds and thrashers

Northern mockingbird

MAMMALS

Squirrels

California ground squirrel

Nomenclature follows Stebbins, *A Field Guide to Western Reptiles and Amphibians* (2003), third edition; Sibley, National Audubon Society, the Sibley Guide to Birds (2000), first edition; and Ingles, *Mammals of the Pacific States* (1965), second edition.

Appendix C. Field Data Sheets Completed on 1 May 2023

The USFWS and County recommend that consultants include copies of field data sheets from which the results and conclusions given in their reports are derived. As such, copies of the data sheets completed by Susan Seville on 1 May 2023 follow.

USFWS DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET						
Date of survey: <u>5-2-2023</u>		Survey biologist(s): <u>Susan Seville</u>				
Site description: <u>47 West</u>		(project name and size; general location)				
County: <u>SB</u>	Quad: _____	Location: <u>11S 470416 3809618</u>				
		(UTM coordinates, lat-long, and/or TRS; map datum)				
Transect #: <u>17</u>	Transect length: <u>340ft</u>	Type of survey: <u>100%</u>				
		(acres to be surveyed: <u>100% coverage</u> /probabilistic sampling)				
GPS Start-point: <u>49 470416 3809618</u>		Start time: <u>11</u> <u>am</u> /pm				
(easting, northing, elevation in meters)						
GPS End-point: <u>11 S 470530 3809550</u>		End time: <u>2:15</u> <u>am</u> /pm				
(easting, northing, elevation in meters)						
Start Temp: <u>14</u> °C		Weather: <u>6-10 mph</u>	<u>Clear</u>	End Temp: <u>12</u> °C		
Live Tortoises						
Detection number	GPS location		Time	Tortoise location (in burrow: all of tortoise beneath plane of burrow opening, or not in burrow)	Approx MCL >160-mm? (Yes, No or Unknown)	Existing tag # and color, if present
	Easting	Northing				
1						
2						
3						
4						
5						
6						
7						
8						
Tortoise Sign (burrows, scats, carcasses, etc)						
Detection number	GPS location		Type of sign (burrows, scats, carcass, etc)	Description and comments		
	Easting	Northing				
1						
2						
3						
4						
5						
6						
7						
8						
¹ See section 4.1.2 for information on burrow condition class and photographing burrows						
December 2009				4-24		

Appendix D. Photographic Exhibits



Exhibit 1. View from NE corner of the property, facing SW



Exhibit 2. View from the NW corner of the property facing SE



Exhibit 3. View from the SE corner of the property facing NW



Exhibit 4. View from the SW corner of the property facing NE

