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Via email only

September 22, 2025
Oliver Mujica, Contract Planner III
County of San Bernardino
Land Use Services Department, Planning Division
385 N. Arrowhead Ave 1st Floor
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Oliver.Mujica@lus.sbcounty.gov

Re: Kramer Junction Travel Stop (PROJ-2022-00111)

Dear Mr. Mujica,

The Desert Tortoise Council (DTC) is a non-profit organization comprising hundreds of professionals and laypersons who share a common concern for wild desert tortoises and a commitment to advancing the public's understanding of desert tortoise species. Established in 1975 to promote conservation of tortoises in the deserts of the southwestern United States and Mexico, the DTC routinely provides information and other forms of assistance to individuals, organizations, and regulatory agencies on matters potentially affecting desert tortoises within their geographic ranges.

The Desert Tortoise Preserve Committee (DTPC) is a non-profit organization formed in 1974 to promote the welfare of the desert tortoise in its native wild state. DTPC members share a deep concern for the continued preservation of the tortoise and its habitat in the southwestern deserts and are dedicated to the recovery and conservation of the desert tortoise and other rare and endangered species inhabiting the Mojave and western Sonoran deserts. The DTPC has a long track record of protecting desert tortoises and their habitat through land acquisition, preserve management, mitigation land banking, and educational outreach.

The Mohave Ground Squirrel Conservation Council (MGSCC) is a nonprofit organization established in 2023 to assure the perpetual survival of viable populations of Mohave Ground Squirrels (MGS) throughout their historical range and any future expansion areas. The MGS, for the purposes of the MGSCC, means the mammal species known scientifically as *Xerospermophilus mohavensis*. Among our objectives pertinent to this letter is to support and to advocate for such legislative, policy, and conservation measures as will contribute to ensuring the continued survival of viable MGS populations, the connectivity of these populations, and the maintenance of their habitats in a natural condition.

Our physical and email addresses are provided above for your use when providing future correspondence to us. When given a choice, we prefer to receive emails for future correspondence, as mail delivered via the U.S. Postal Service may take several days to be delivered. Email is an "environmentally friendlier way" of receiving correspondence and documents rather than "snail mail."

The Mojave desert tortoise is among the top 50 species on the list of the world's most endangered tortoises and freshwater turtles. The International Union for Conservation of Nature's (IUCN) Species Survival Commission, Tortoise and Freshwater Turtle Specialist Group, now considers the Mojave desert tortoise to be Critically Endangered (Berry et al. 2021), "… based on population reduction (decreasing density), habitat loss of over 80% over three generations (90 years), including past reductions and predicted future declines, as well as the effects of disease (upper respiratory tract disease/mycoplasmosis). *Gopherus agassizii* (sensu stricto) comprises tortoises in the most well-studied 30% of the larger range; this portion of the original range has seen the most human impacts and is where the largest past population losses have been documented. A recent rigorous rangewide population reassessment of *G. agassizii* (sensu stricto) has demonstrated continued adult population and density declines of about 90% over three generations (two in the past and one ongoing) in four of the five *G. agassizii* recovery units and inadequate recruitment with decreasing percentages of juveniles in all five recovery units."

This status, in part, prompted the DTC to join Defenders of Wildlife and DTPC to petition the California Fish and Game Commission in March 2020 to elevate the listing of the Mojave desert tortoise from Threatened to Endangered under the California Endangered Species Act (CESA) (Defenders of Wildlife et al. 2020). Importantly, following California Department of Fish and Wildlife's (CDFW) (2024a) status review, in their April 2024 meeting the California Fish and Game Commission voted unanimously to accept the CDFW's petition evaluation and recommendation to uplist the tortoise from Threatened to Endangered under the CESA based on the scientific data provided on the species' status, declining trend, numerous threats, and lack of effective recovery implementation and land management (CDFW 2024b). On July 15, 2025, the tortoise was officially uplisted to endangered status under the CESA (Commission 2025).

On December 13, 2023[1], the MGSCC joined Defenders of Wildlife, DTPC, and Dr. Phillip Leitner in a petition to have the U.S. Fish and Wildlife Service (USFWS) federally list MGS as Threatened and to designate critical habitat. On January 17, 2025, the USFWS published a 90-day finding in the Federal Register[2]. In that document, the USFWS determined that the petition to list the MGS under the Federal Endangered Species Act (FESA) presented substantial scientific and commercial information indicating that listing the MGS as an Endangered or Threatened species may be warranted, pending a 12-month status review. With the issuance of this 90-day finding, the USFWS's next step is to conduct a status review of the MGS and publish a 12-month finding. That 12-month finding will declare that listing is warranted, not warranted, or warranted but precluded. If the USFWS's 12-month finding is that the listing is warranted, then the species becomes a candidate for listing.

We appreciate that we were contacted directly by the San Bernardino County Planning Department (County) in an email on 9/2/2025 providing us with an opportunity to comment on this proposed project. The Notice of Intent (NoI) describes the proposed Project as follows: "Tentative Parcel Map No. 35944 for the subdivision of a vacant 35.97-acre parcel to create four (4) parcels totaling 4.69 acres and a remainder parcel containing 31.28 acres, Policy Plan Amendment from the Rural Living (RL) to the Commercial (C) Land Use Category, Zoning Amendment from the Rural Living, 5-Acre Minimum (RL-5) to the Rural Commercial (CR) Zoning District, Major Variance to increase the height of the freestanding pole sign from twenty five (25) feet to fifty (50) feet, and Conditional Use Permit to allow the construction and operation of a travel stop. The proposed Project is comprised of a 9,349 square foot convenience store with quick serve restaurant and trucker lounge, and auto fueling (8 pumps and 16 stations) on Parcel 1 (1.9 acres); 2,454 square foot Dairy Queen with drive-thru on Parcel 2 (0.64 acres); 2,432 square foot Starbucks with drive-thru on Parcel 3 (0.65 acres); and four (4) truck fueling pumps on Parcel 4 (1.5 acres)."

Because this is a discretionary action by the County and future development on the remaining 31.28 acres would not require discretionary approval, we consider the proposed Project and Project site to encompass the entire 35.97 acres.

[1] https://www.dropbox.com/scl/fi/7h890e4r25ljpyyhvwq5c/Defenders-et-al.-MGS-Listing-Petition-12-13-23-FINAL.pdf?rlkey=f7ln6at8apxcovi8qgtr5g2qk&dl=0

[2] https://www.dropbox.com/scl/fi/iq0yvn5zd9mz5s7yn77wr/USFWS-finding-on-1-17-2025.pdf?rlkey=9arr6vzkq9td2ss9dggjln5nr&dl=0

Consultant's General Biological Resources Assessment (January 25, 2022)

RCA Associates, Inc.'s (herein "consultant") 2022 General Biological Resources Assessment (biological report) was provided as a link to the NoI. Although the Draft Initial Study/Mitigated Negative Declaration (Draft IS/MND) references a biological report completed by the consultant in April 2025, that report was not available at the County's website. We requested in email on 9/19/2025 that Mr. Mujica provide us with a copy of the 2025 study, but he did not respond in time for us to review it. However, the conclusions given in the Draft IS/MND are verbatim to those presented in the 2022 January report, so we believe that our concerns are still relevant. Herein, page numbers refer to the 2022 biological report.

The following erroneous statement is made at the bottom of page 2, the bottom of page 6, and again in the middle of page 9: "…no sensitive habitats (e.g., sensitive species, *critical habitats*, etc.) [*emphasis added*] have been documented in the immediate area." The same erroneous information is quoted at the bottom of page 25 in the Draft IS/MND. In fact, the site is located in the western-central portion of the Fremont-Kramer Critical Habitat Unit (CHU) that was designated in 1994 (USFWS 1994), and in the Fremont-Kramer Area of Critical Environmental Concern (ACEC) designated by the Bureau of Land Management (BLM) in 2006 (BLM 2006) and retained in 2016 (BLM 2016) to conserve and recover tortoises. Since the site is vegetated by spiny saltbush scrub (see discussion below), we note that CDFW (2025) lists this plant community as a Sensitive Natural Community.

The site is also located in the Mohave Ground Squirrel Conservation Area (MGSCA) that was designated by the BLM in 2006 (BLM 2006), which was retained by the BLM in its Desert Renewable Energy Conservation Plan (DRECP) in 2016 (BLM 2016), and is located within an important MGS linkage area located just south of the North of Edwards Core Population Area (CDFW 2019). We consider lands within these State- and federally-designated areas to constitute "sensitive habitats" (i.e., habitats that, if not occupied, are suitable and located in or surrounded by regions important to the conservation and recovery of desert tortoises and MGS), which the consultant says are lacking.

The statement is made at the bottom of page 2, "Meandering transects were walked on the site and in surrounding areas (i.e., the zone of influence) where accessible at a pace that allowed for careful documentation of the plant and animal species present on the site." Reconnaissance surveys below about 1,525-meters (5,000 feet) elevation in potential tortoise habitats are unacceptable to the CDFW and USFWS to determine the presence or absence of tortoise signs. Rather, protocol surveys (USFWS 2019) are required where transects are surveyed by walking at 10-meter intervals through the "action area." The consultant does not document how many biologists surveyed the site nor how long it took to survey it. Personal experience since 1990 on level ground such as comprise the Project site suggests that it should take approximately nine person hours to survey this site for tortoises and tortoise signs.

The "action area" is defined in 50 Code of Federal Regulations 402.2 and the USFWS Desert Tortoise Field Manual (USFWS 2009) as "all areas to be affected directly or indirectly by proposed development and not merely the immediate area involved in the action." Thus, the action area is larger than the project footprint/project site. The size of the action area is usually determined through coordination between the project proponent and the USFWS and CDFW.

Since the inadequate, recon survey was performed on January 20, 2022, the Council advises the County that a planner, the consultant, or the proponent should contact the USFWS to see if another survey is required, which we feel is necessary solely based on the survey type performed and the passage of three-and-a-half years. (Again, the County did not provide the public with the 2025 report in a timely enough manner for review). USFWS (2019) states the following with regards to the longevity of the validity of a given survey: "If the survey data *are more than a year old* [*emphasis added*], 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." We note that the consultant also makes this statement on page 7: "The protocol survey results are valid for one year as per CDFW and USFWS requirements," although a protocol survey would not be performed along "meandering transects."

Without revealing how close the nearest MGS records are in the California Natural Diversity Data Base (CNDDB), the consultant makes the following statement in Table 4-2 on page 4: "The site does support suitable habitat for the species [MGS]. Species has not been identified in the area; therefore, species is not likely to inhabit the site."

Figure 1 below shows mapped locations of MGS in the CNDDB as of 2022 (CDFW 2022). The map reveals that the Project site is surrounded by MGS records, with the nearest one being 4,200 feet away in 1987.

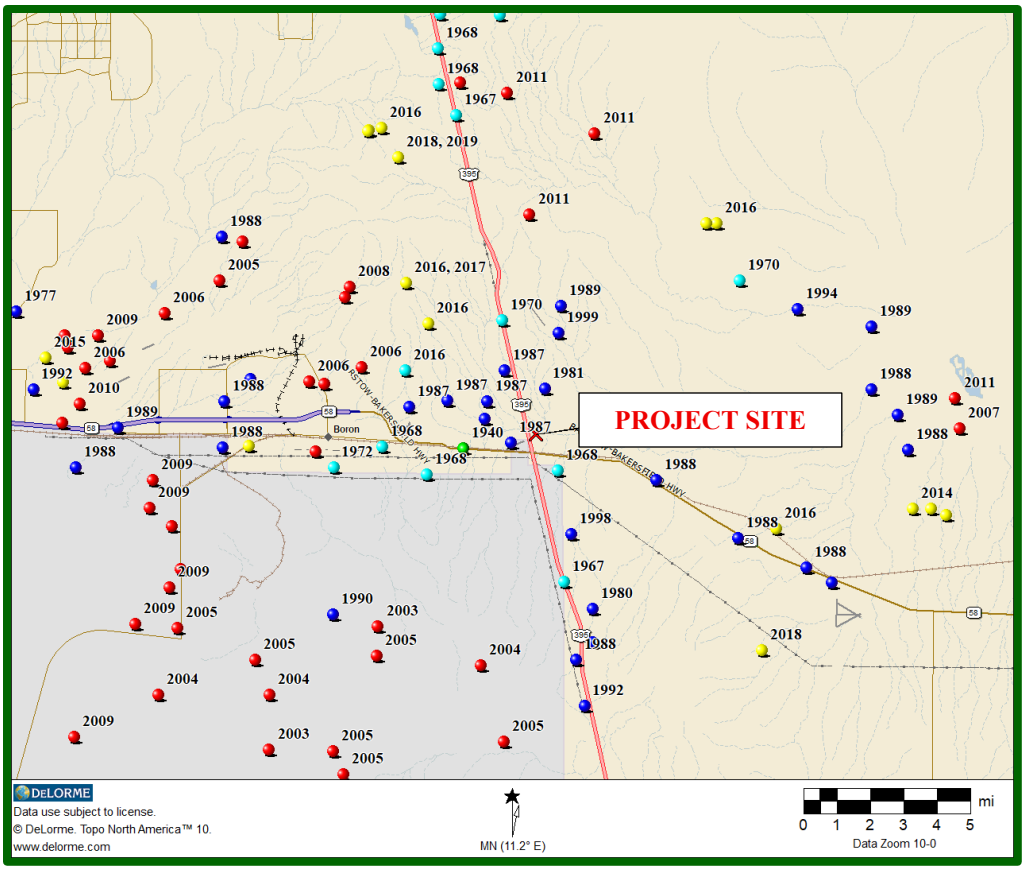


Figure 1. Reported incidences of MGS to the CNDDB (CDFW 2022).

MGS records have been reported as (1) incidental observations, or during (2) camera studies, which are variable in their exposure times, (3) protocol trapping surveys over a 15-day period, or (4) regional surveys that typically run for five days (Leitner 2015). Whether or not MGS have been reported depends on how frequently the site is visited by knowledgeable persons able to identify MGS and formal surveys. Figure 2 shows the locations of MGS observations and (importantly) the locations of live trap grids (regional and protocol surveys) and camera grids.

Leitner (2021) performed a similar summary of observations and trapping results for the period between 2013 and 2020, which are shown in Figure 3. Although no MGS were trapped during a five-day trapping effort south of Kramer Junction, they were trapped at all other nearby sites. And like the previous summary, there have been no trapping surveys in the vicinity of the Project site.

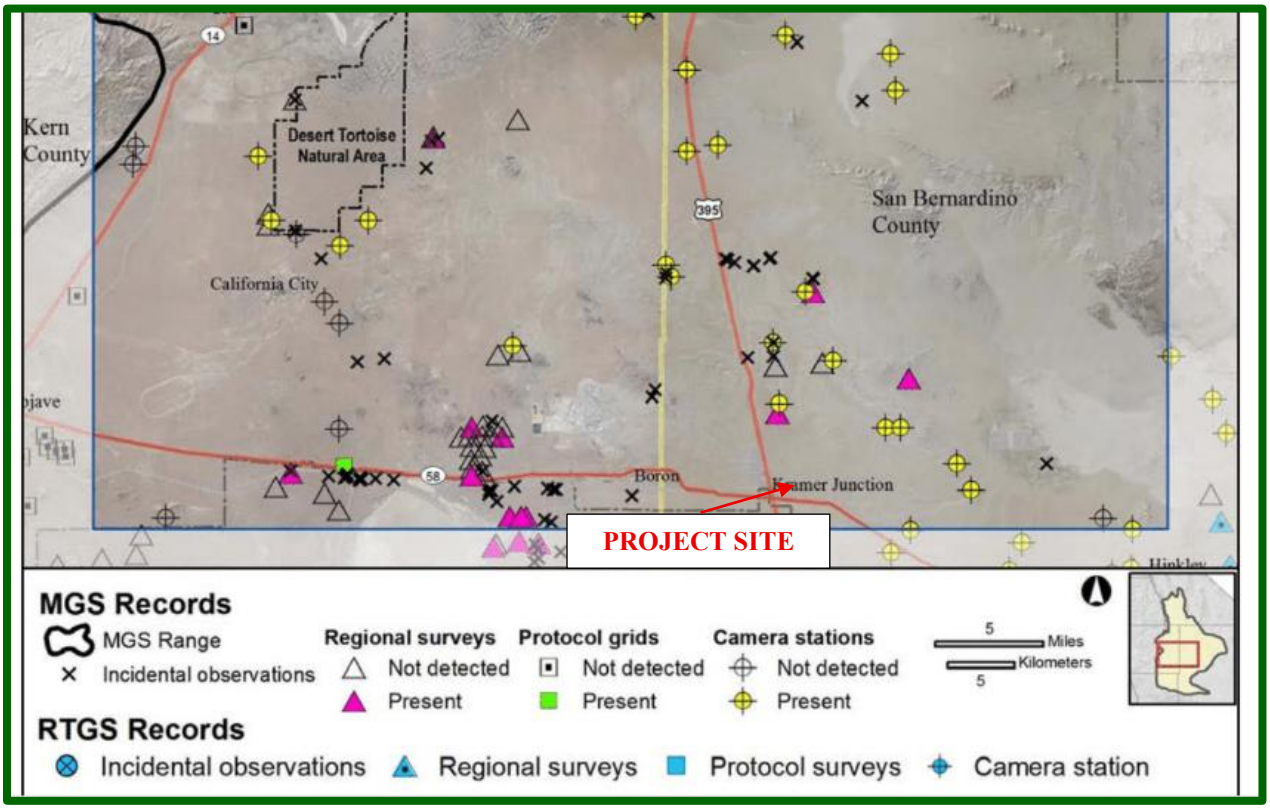


Figure 2. Reported studies and incidences of MGS between 2008 and 2012 (Leitner 2015).

Finally, in the most recent regional MGS camera studies, one can see in Figure 4, again, that none of the cameras were positioned in the immediate vicinity of the site but that many cameras located within 5-10 miles of the Project site had the most MGS images, as evidenced by the larger red circles in Figure 4.

Referring back to the consultant's quote on page 4, "Species [MGS] has not been identified in the area; therefore, species is not likely to inhabit the site," one can see that the absence of data is due to the absence of focused studies, and that all of the camera stations north and immediately south of Highway 58 have detected MGS in relatively large numbers.

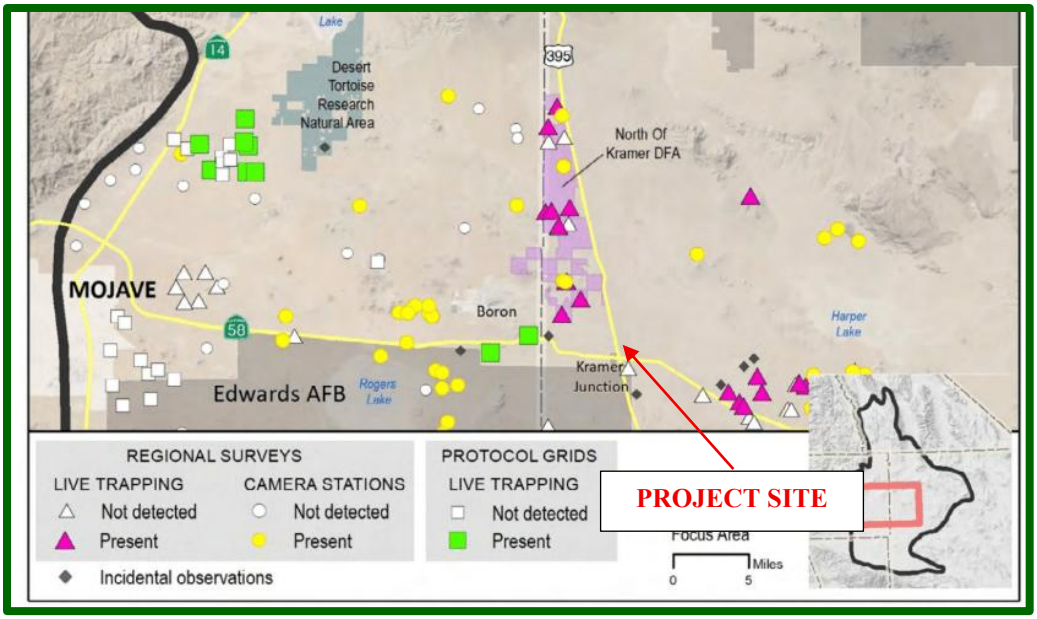


Figure 3. Reported studies and incidences of MGS between 2013 and 2020 (Leitner 2021).

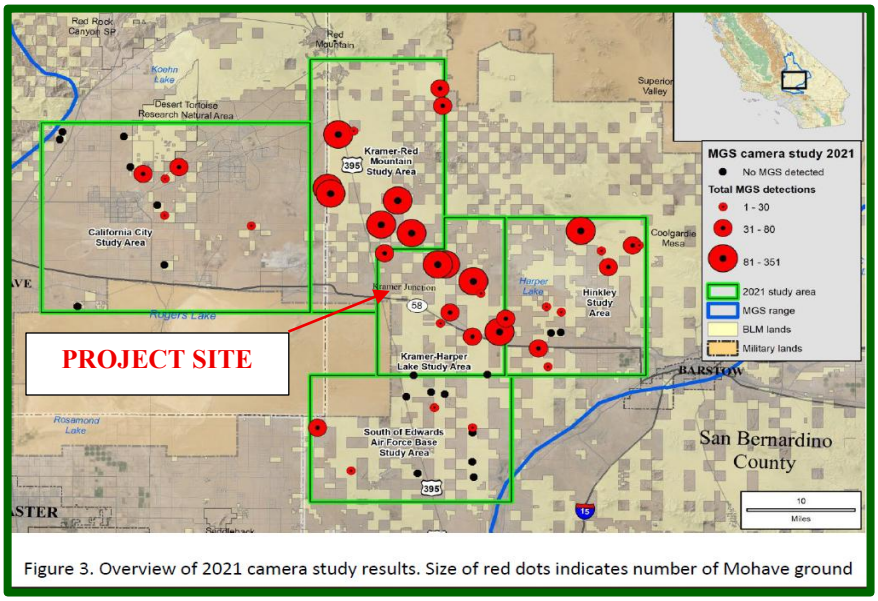


Figure 4. Results of 2021 camera studies (Leitner 2022).

The consultant's results at the bottom of page 7 state: "It is the opinion of RCA Associates, Inc. that the habitat is not prime Mohave ground squirrel habitat and is very unlikely to support populations of the species based on the following criteria, that there have been two recent sightings, within 20 years, of the species in the area."

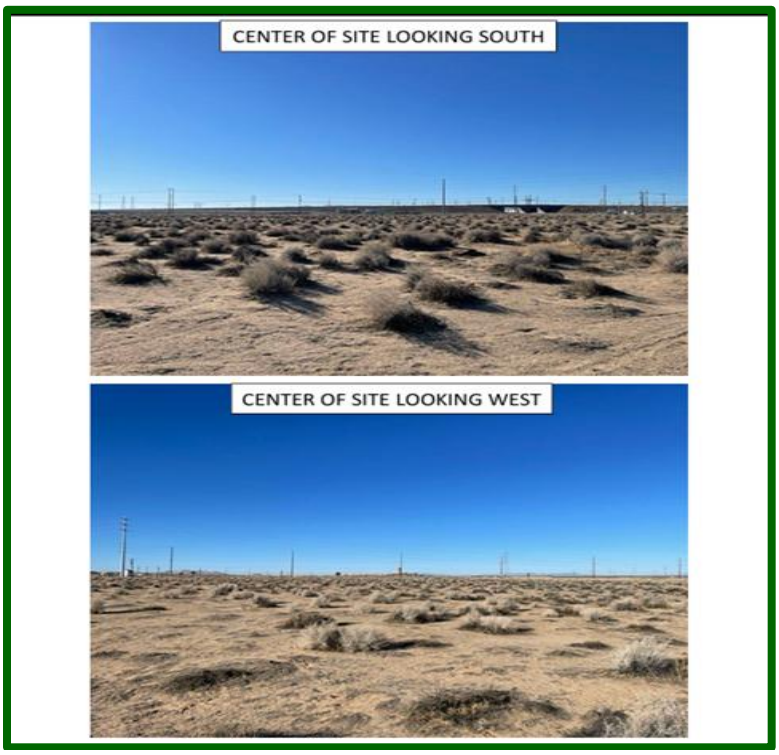
There are two important conclusions pertaining to these MGS data. (1) There had been no surveys in the vicinity between 2008 and 2012, and (2) except for two regional surveys performed 7-8 miles north of the Project site, there have not been any focused MGS surveys in the immediate area of the Project site.

In addition, the consultant did not perform CDFW required surveys for the MGS (CDFW 2023) or assume presence and obtain an incidental take permit. The consultant was not hired to implement CDFW trapping protocol for the MGS for the proposed Project. Consequently, the consultant should provide information to the County and Project proponent on the CDFW protocol for determining presence of absence of MGS for the Project site. To our knowledge, it reflects current management for the County to require consultants to have a memorandum of understanding (MOU) to declare a site devoid of MGS. To our knowledge, the biologists at RCA Associates, Inc. do not possess the requisite MOU.

Given the wealth of recent information showing MGS occurring throughout the region including near the Project site when and where the various types of surveys have been performed, we ask that the County reconsider its conclusions that MGS will not be negatively impacted by development of the proposed project.

The available information confirms that the consultant also did not perform the requisite surveys for western burrowing owl (*Athene cunicularia*), which among other things, require that areas adjacent to the Project site be surveyed along straight-line transects spaced at 30-, 60-, 90-, 120-, and 150-meter intervals (CDFG 2012). We believe the consultant is correct in assuming that CDFW will require pre-construction burrowing owl surveys as stated at the bottom of page 9 and the top of page 10. However, given the inadequate survey methodology, we do not believe the County can make an informed decision under CEQA about potential impacts associated with the Project, which is necessary to assess if a mitigated negative declaration is appropriate for this Project.

The following four photographs (Exhibits 1 and 2), showing sparse saltbush scrub habitats on the site, are taken from Appendix A of the consultant's 2022 report.



Exhibits 1 and 2. Photographs of the saltbush scrub habitat at the proposed Kramer Junction Travel Stop project site.

An erroneous statement is made at the top of page 5: "The site has been graded and cleared of all vegetation with the exception of a few ruderal plant species," which conflicts with the statement made on page 2 of the same report: "The vegetation community present on site supports a mildly disturbed desert scrub habitat encompassing a community of mainly native plants and some non-native grasses." The four photos included in Appendix A of the 2022 biological report, which we included above, clearly show intact, albeit sparsely-vegetated saltbush scrub habitats, which resembles the statement on page 2 about native plant species but not on page 5 about ruderal plant species.

Table 1 in Appendix A of the biological report lists plant species found onsite, including white bursage, silver cholla, Mojave cotton-thorn, California buckwheat, beavertail cactus, and "water jacket" (i.e., Anderson's boxthorn), which would not occur on the site if it had been graded, nor are they "ruderal plants" as described on page 5. In fact, close scrutiny of the images reveals that most of the shrubs are saltbush species, in the *Atriplex* genus, yet that genus is missing from the consultant's species list. We note that spiny saltbush scrub is considered to be a Sensitive Natural Community (CDFW 2025).

Although Section 6, Impacts and Mitigation Measures, on pages 9 and 10, mentions desert tortoise, western Joshua tree, and burrowing owl, there is no mention of MGS in this section. In Section 7, Conclusions and Recommendations, on page 11, we agree that it is appropriate to perform focused surveys for plants, burrowing owls, desert tortoises, and nesting birds. The consultant's use of the term, "pre-construction surveys," does not conform to the two types of tortoise surveys, which include presence/absence surveys (USFWS 2019) and clearance surveys (USFWS 2009). (Please see our discussion below on the types of surveys).

As with the results section on pages 9 and 10, the consultant fails even to mention MGS in the conclusions and recommendations section on page 11. The prudent recommendation would have been – and still is – to require protocol MGS trapping surveys as recently revised (CDFW 2023). The following photographs (Exhibits 3 and 4) were taken by biologist, Greg Winton, in 2020 near Boron, a few miles west of the Project site. These photographs show adult MGS sitting in areas that are totally devoid of any shrubs. If MGS can be found in such truly ruderal habitats, they certainly may occur on the Project site, which is densely vegetated in comparison.

Exhibits 3 and 4. Photographs of Mohave ground squirrels in ruderal habitats near Boron, CA.

Kathy Simon of the MGSCC also provided the following image of the western side of the 2024-25 research area, which shows similar habitat. She said that the most MGS were trapped across this site.

Exhibit 5. Barren areas in which MGS were trapped during a long-term MGSCC study south of Red Mountain (shown in the background).

On page 3 of the 2022 biological report, the author says that "General biological surveys were conducted on January 20, 2022, during which biologists from RCA Associates, Inc. initially walked meandering transects throughout the property." On page 7, the 2022 biological report says, "No tortoises were observed anywhere within the property boundaries during the January 20, 2022 surveys."

Because the County did not provide information on their web page regarding protocol level surveys conducted for the tortoise in 2025, we are providing the County with the following information. The survey methods described in the biological report (RCA Associates 2022) do not comply with the tortoise survey methodology adopted by USFWS and CDFW for several reasons including the type of transects and transect width, whether the entire action area was surveyed (e.g., "No tortoises were observed anywhere within the property boundaries during the January 20, 2022 surveys"), and the time that has lapsed since the surveys were conducted (i.e., more than 2.5 years).

We advise the County that if it wishes to comply with CEQA, it must also comply with CESA and FESA. Therefore, the County should contact the USFWS and CDFW and ask whether a new presence and absence survey is required. For example, USFWS (2019) states the following with regards to the longevity of the validity of a given survey: "If the survey data are *more than a year old* [*emphasis* added], 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."

In addition, CDFW usually accepts survey results for up to one year after they were performed. For surveys completed more than a year ago, CDFW usually requires that the formal survey protocol for presence and absence for the tortoise be implemented again and cover the action area.

There is a substantial difference between conducting a general biological survey of a project site for evidence of use by special status species and conducting a survey protocol whose methodology is tailored to the ecological and behavioral characteristics specific to each special status species. The formal survey protocol for MGS, for example, has been developed using ecological and behavioral parameters for the MGS and requires surveys be conducted when the species is active/above ground, which is spring to mid-summer for the MGS. So, MGS would not likely have been active during the consultant's surveys in January 2022.

For the tortoise, the formal protocol survey for presence and absence has been developed using ecological and behavioral parameters for the tortoise as well as statistical analysis of the ability of qualified biologists to detect tortoises when they are above ground. Detection rates decline substantially when tortoises are in burrows, which is much of the year. Consequently, a general biological survey is more likely to result in a finding of no evidence of the special status species present on a project site, which in many cases would be an incorrect representation on the use of the project site by the special status species.

On page 11 of the biological report, is the following statement, "Future development activities include the grading and removal of all vegetation from the .9-acre parcel." We are confused by this statement because the County reported that 4.69 acres would be developed. We request that the County explain this discrepancy between the information provided in the biological report and the IC/MND, which we suspect is just a typographical error.

Also on page 11 of the biological report is the following statement, "If any sensitive species are observed on the property during future activities, CDFW and USFWS (as applicable) should be contacted to discuss specific mitigation measures which may be required for the individual species." CDFW and USFWS are the only agencies that can grant authorization for the "take" of any sensitive species and can approve the implementation of any applicable mitigation measures.

This statement supports our conclusion that the USFWS and CDFW are the agencies that have the knowledge, experience, and authority to determine the appropriate mitigation and monitoring to mitigate/offset the impacts of the proposed Project after appropriate surveys are conducted. The County cannot effectively assess the potential significance of impacts to the tortoise based on the promise of future surveys. And, as given above, nor can the County assess direct, indirect, cumulative, growth-inducing, and synergistic impacts based on the results of implementing a survey methodology that was inadequate to find presence of tortoise, MGS, and burrowing owl or their signs, did not cover the action area, and the results of which are 2.5 years old. We contend that these data in the biological report that the County provided on its webpage should not be used to ascertain the current status of tortoises on/near the proposed Project site.

County's Draft Initial Study/Mitigated Negative Declaration

It would have been helpful had the consultant shown both the proposed Project site (35.97 acres) (the red polygon in Figure 5) and the proposed area to be developed (4.69 acres) (in yellow).

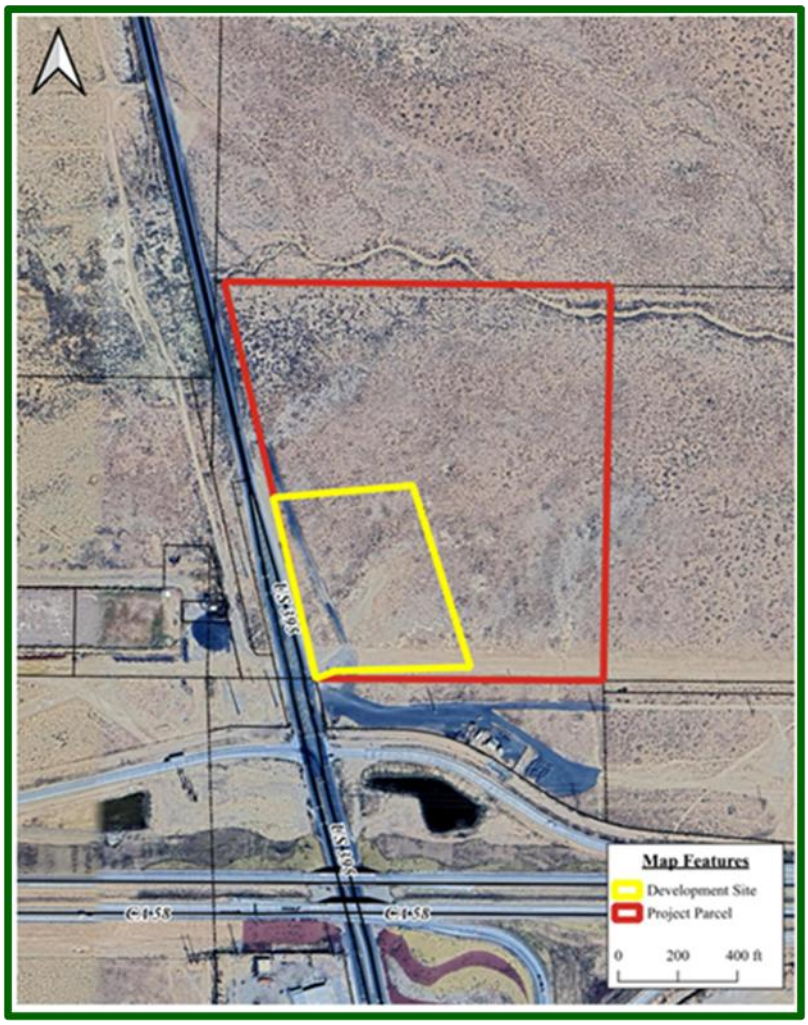


Figure 5. Location of initial development (yellow = 4.96-acre development site) and future development (red = 35.97 project parcel).

On page 24 of the Draft IS/MND, "Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? ● Less than Significant Impact with mitigation."

The County should have required the Project proponent to conduct USFWS and CDFW protocol presence/absence surveys for the tortoise, trapping surveys for the MGS, and breeding bird surveys for the burrowing owl before concluding that mitigated impacts would be less than significant. Once these data are available, then the County would have a better understanding of the direct impacts of the proposed Project to these species on which to render a MND ruling.

In addition, the proposed Project may result in indirect, cumulative, synergistic, and growth-inducing impacts to the tortoise. We remind the County of the demographic status of the tortoise. The USFWS has documented substantial declines in tortoise abundance and density since 2004, especially in California (see attachment "Appendix A – Demographic Status and Trend of the Mojave Desert Tortoise including the Tortoises in Western Mojave Recovery Unit"). The primary reason for its substantial decline has been from increased mortality caused by indirect impacts from human activities. These include human activities that result in the destruction, degradation and/or fragmentation of tortoise habitat; surface disturbance and introduction of non-native invasive plant species via construction equipment, vehicles, and other sources; replacement of native forbs with high nutritional and water value with low nutritional non-native invasive grasses (Drake et al. 2016); increased occurrence of fire size, intensive, and frequency of human-caused wildfires from fuels provided by non-native invasive plant species (Brooks and Esque 2002); increased predation from substantially increased numbers of predators that utilize subsides of food, water, and nesting locations (Boarman 2003); and increased human access that provides opportunities for vandalism and collecting tortoises for pets. Major sources of surface disturbance include residential, commercial, and industrial development projects and associated roads/highways (such as the proposed project); military training; and off-highway vehicle use (USFWS 2011, Tuma et al. 2016).

An example of one indirect impact from the Project's construction, use, operations, and maintenance and how it is likely to result in take of the tortoise is increased tortoise predation. Common ravens are known to prey on juvenile desert tortoises based on direct observations and circumstantial evidence, such as shell-skeletal remains with holes pecked in the carapace (Boarman 1993). The number of common ravens increased by 1,528% in the Mojave Desert since the 1960s (Boarman 1993). This increase in raven numbers is attributed to unintentional subsidies provided by humans in the Mojave Desert.

In the Mojave Desert, common ravens are subsidized predators because they benefit from resources associated with human activities that allow their populations to grow beyond their "natural" carrying capacity in the desert habitat. Kristan et al. (2004) found that human developments in the western Mojave Desert affect raven populations by providing food subsidies, particularly trash and road-kill. Boarman et al. (2006) reported raven abundance was greatest near resource subsidies, specifically food (= trash) and water. Human subsidies include food and water from landfills and other sources of waste, reservoirs, sewage ponds, agricultural fields, feedlots, gutters. Subsidies also include perch, roost, and nest sites on power towers, telephone poles, light posts, billboards, fences, freeway or railroad overpasses, abandoned vehicles, and buildings (Boarman 1993). The human-provided subsidies allow ravens to survive in the desert during summer and winter when prey and water resources are typically inactive or scarce. Boarman et al. (1993) concluded that the human-provided resource subsidies must be reduced to facilitate a smaller raven population in the desert and reduced predation on the tortoise.

Coyotes are known predators of tortoises. High adult tortoise mortality from coyote predation was reported by Petersen (1994), Esque et al. (2010) and Nagy et al. (2015) in part of the range of the tortoise. In some areas, numbers of ravens correlated positively with coyote abundance (Boarman et al. 2006). Lovich et al. (2014) reported tortoise predation may be exacerbated by drought if coyotes switch from preferred mammalian prey to tortoises during dry years. Because the Mojave Desert has been in a multi-decade drought (Stahle 2020, Williams et al. 2022) due to climate change and drought conditions are expected to continue and intensify in future years, increased predation pressure from coyotes on tortoises is expected to continue.

The proposed Project would likely increase the availability of human-provided subsidies for predators of the tortoise including the common raven and coyote during the construction, operation, and maintenances phases of the Project. For example, during the construction phase the water used to control dust and the waste generated during construction including food brought to the Project site by workers for meals, etc., are examples of food and water subsidies for ravens and coyotes that would attract these predators to the Project site and potentially increase their numbers in the surrounding area. Grading the site would expose, injure, or kill fossorial animals and provide a subsidized food source for ravens and coyotes. During operation and maintenance phase, the presence of food waste in uncovered trash cans and dumpsters would provide food subsidies for ravens and coyotes that would attract them to the project area and increase the likelihood of them preying on tortoises in the project area. Vertical structures (e.g., light poles, structural canopies, etc.) provide nesting subsidies for common ravens and increase their numbers in the project area resulting in greater predation on tortoises in nearby areas.

Currently the priority for managing the tortoise is to substantially reduce mortality and manage desert tortoise habitat for persistence and connectivity of the species (Averill-Murray et al. 2021, Holcomb 2025 personal communication). The major threat to the tortoise is mortality from human sources, either directly or indirectly. These sources of mortality must be substantially reduced or eliminated if the tortoise is to survive in the near future. The indirect impacts from the proposed Project that are not addressed in the Draft IS/MND include all the indirect impacts listed above and possibly more (e.g., presence of unleased dogs, etc.).

These and other indirect impacts to the tortoise and its habitat from implementation of the proposed Project should be described and analyzed in the CEQA document.

There is a confusing and conflicting statement on page 25 of the Draft IS/MND that says the biological survey was performed on April 24, 2025 and that it is included in Appendix B. However, Appendix B accessed through the County's NoI includes only the consultant's January 25, 2022 report, not one dated April 24, 2025. The Draft IS/MND then proceeds to use the same wording, verbatim, as in the consultant's 2022 study. Although DTC, MGSCC, and DTPC are unable to review the more recent survey because we were unable to find it on the County's website and because the County did not provide the report when requested on 9/19/2025, since the consultant's conclusions given in 2022 are quoted verbatim in the Draft IS/MND, our concerns expressed herein are still valid.

On page 27, we appreciate that the following provisions are made for tortoises, which reflect what we said above relative to the consultant's report. However, we note inconsistencies with the USFWS and CDFW protocol survey for tortoises, which are explained below.

"BIO-2. A CDFW-approved biologist shall conduct a *protocol level presence or absence survey* [*emphasis* added] within the Project area and 500-foot buffer of suitable habitat, no more than 48-hours prior to Project activities and after any pause in Project activities lasting 30 days or more, in accordance with U.S. Fish and Wildlife Service 2009 desert tortoise survey methodology. The survey shall utilize perpendicular survey routes and 100 percent visual coverage for desert tortoise and their sign. Preconstruction surveys cannot be combined with other surveys conducted for other species while using the same personnel. Project activities cannot start until 2 negative results from consecutive surveys using perpendicular survey routes for desert tortoise are documented."

BIO-2 first states that "presence or absence surveys" would be performed but then describes methodology for "clearance surveys." These are two different tortoise survey protocols developed by the USFWS (2009, 2019) and adopted by CDFW.

Protocol presence or absence tortoise surveys are conducted prior to any surface disturbance at the project site. Biologists deemed qualified by the USFWS and CDFW walk 10-meter wide transects that cover the entire "action area" one time. Protocol presence or absence surveys are conducted to determine whether desert tortoises are present, estimate the number of desert tortoises when appropriate, and provide information on habitat conditions in the project area. The results of the protocol presence or absence surveys are shared with USFWS and CDFW.

Upon their review of the results, CDFW and/or USFWS may require that clearance surveys be conducted on the project site. Clearance surveys would be required when a tortoise is found in the action area. Clearance surveys (USFWS 2009) are conducted shortly before surface disturbance would occur at the project site (e.g., initiation of construction activities) and usually after tortoise exclusion fencing has been installed. Qualified biologists walk the entire project site at least twice along transects spaced at 5-meter intervals. The second set of transects are walked perpendicular to the direction of the first set. The clearance survey protocol requires that two full sets of transects be completed with no tortoises located before the clearance survey is deemed complete. Thus, if a tortoise is found during the second set of transects, two more sets must be completed with no tortoise found.

When tortoises are found they are removed from the project site and translocated following a protocol that must be approved by the USFWS (2020) and CDFW prior to initiating the pre-construction/clearance surveys.

Prior to conducting a clearance survey for a project, an incidental take permit (ITP) under Section 10(a)(1)(B) of FESA and Section 2081 permit under CESA is required. This is because the biologists conducting the clearance survey will capture and remove all tortoise found in the development area of the proposed project, which is take. Take of a listed species under FESA and CESA is prohibited unless an ITP is obtained prior to conducting the activity that is likely to result in take.

The County should require that the Project proponent fully comply with CESA and FESA. This would include conducting new protocol presence and absence surveys for the tortoise, new trapping surveys for the MGS, and breeding bird surveys for burrowing owl to determine whether these species are using the action area/project site and adjacent areas to the 35.97-acre Project site. Depending on the results, the CDFW and USFWS may require incidental take permits, which for the tortoise, would include implementing clearance surveys and other mitigation and monitoring. During a clearance survey, when a tortoise is found, it is removed from the project site and translocated following a protocol that must be approved by the USFWS (2020) and CDFW prior to initiating the clearance surveys.

Because the proposed Project would result in the loss of critical habitat for the tortoise, the Project proponent should be required to compensate for this loss by acquiring equivalent habitat at a location that is managed in perpetuity for the tortoise. This is because the loss of critical habitat would be permanent. The CDFW and USFWS should be the approving authorities for determining this mitigation measure.

On pages 26 to 28 of the Draft IS/MND, which documents the consultant's statements concerning the MGS (which are neglected in both the results and conclusions sections of the 2022 report), there are no mitigation measures identified for the MGS. The information included herein and our personal knowledge of the species suggest that the site should not be developed until the absence of MGS can be confirmed.

The only way to document MGS absence is to perform a protocol trapping survey. There is no way that biologists can perform ambulatory, visual surveys of the site to determine that MGS are absent. In its decision to approve the proposed Persistence Mine on 9/18/2025, the County Commissioners accepted the proponent's mitigation measure that pre-construction surveys would be performed for MGS to ensure no take will occur. There is no such thing as a visual pre-construction survey for MGS. MGS burrows cannot be differentiated from other rodent burrows by any known means (Leitner and LaRue 2014). Although this inconsistency was pointed out to the Commissioners at the public hearing, they unanimously voted to approve the project adopting mitigation measures that do not exist. The same mistake must not be made for this Project.

The Draft IS/MND is seriously flawed in its failure to address impacts to the MGS, which is State-listed as Threatened and is being considered for federal listing as Threatened by the USFWS. We suspect that because the consultant failed to make any recommendations regarding the MGS in its 2022 report (and presumably the 2025 report), that the failure to foresee and mitigate the impact has been perpetuated in the Draft IS/MND. *A new "BIO-#" mitigation measure needs to be amended to the final IS/MND requiring that a protocol MGS trapping survey (CDFW 2023) be performed on the site prior to ground disturbance*.

On page 28 of the Draft IS/MND, "Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory life corridors, or impede the use of native wildlife nursery sites? ● No Impact. The project site has no utility as a wildlife migration corridor due to busy roadways and developments in the immediate area that may act as barriers to migration to certain wildlife species such as the federally threatened desert tortoise. As a result, no impacts would occur."

Whereas the 36-acre± Project site extends away from the roadway, it is still located within the west-central portion of the Fremont-Kramer Tortoise Conservation Area (TCA), a BLM-designated ACEC for the tortoise, and designated critical habitat for the tortoise. Averill-Murray et al. (2021) analyze the importance of linkage habitats and population connectivity for the tortoise both within TCAs and between them. The site is also located within an MGS linkage area connecting adjacent core population areas for the MGS (CDFW 2019). So, contrary to the conclusion given in the Draft IS/MND, developing the project would affect designated travel corridors.

Several scientific reports and journal articles have been written on this issue of connectivity between populations for the tortoise. A recent publication by Averill-Murray et al. (2021), mentioned above, discusses the importance of connectivity of Mojave desert tortoise populations and linkage habitats. The authors emphasized that "[m]aintaining an ecological network for the Mojave desert tortoise, with a system of core habitats (TCAs) connected by linkages, is necessary to support demographically viable populations and long-term gene flow within and between TCAs."

"Ignoring minor or temporary disturbance on the landscape could result in a cumulatively large impact that is not explicitly acknowledged (Goble, 2009); therefore, understanding and quantifying all surface disturbance on a given landscape is prudent" (Averill-Murray et al. 2021). Any development within a TCA has an edge effect (i.e., indirect impact) that extends from all sides into the TCA further narrowing or impeding its ability to provide connectivity for tortoises within a TCA.

Recently in California, the BLM established 0.1–1.0 percent caps on new surface-disturbance for TCAs and mapped linkages that address the issues of managing habitat for persistence and connectivity of the tortoise. Considering how proposed projects (inside or outside of TCAs) affect ". . . the ability of TCAs to support at least 5,000 adult tortoises (the numerical goal for each TCA) could help managers to maintain the resilience of TCAs to population declines" (Averill-Murray et al. 2021), the designation of TCAs assumes that they will be managed to provide population connectivity within the TCAs.

Please revise the CEQA document to include this information and the information on requirements for habitats to provide population connectivity within TCAs for the tortoise in Averill-Murray et al. (2021) when the County conducts its analysis of impacts to the tortoise on movements and population connectivity from the proposed Project. After completing this analysis, the County should require appropriate mitigation to offset the impacts of the proposed Project in the Fremont-Kramer TCA, ACEC, and critical habitat.

Later, on page 28 of the Draft IS/MND, "Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? ● No Impact."

The proposed Project is located in designated critical habitat for the tortoise. "Critical habitat helps focus conservation activities by identifying areas that contain essential habitat features (primary constituent elements) regardless of whether or not they are currently occupied by the listed species, thus, alerting the public to the importance of an area in the conservation of a listed species. Critical habitat also identifies areas that may require special management or protection" (USFWS 1994). "Critical habitat identifies specific areas essential to the conservation of a species."

We contend that the designation of critical habitat is similar to the conservation areas designated under a habitat conservation plan. The process of designation is similar to the incidental take permit process with a habitat conservation plan in that the public is invited to review and comment on the proposed designation. Consequrenlty, we believe that the conclusion of "No Impact" should be changed to address the loss of designated critical habitat and the degradation to adjacent areas from the indirect impacts of the proposed Project.

On page 71 of the Draft IS/MND – In the section on "Mandatory Findings of Significance," **t**wo of the three questions under the CEQA Handbook are applicable to the tortoise. They are:

> Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

and

> Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?

To assist the County in answering these two questions regarding the impacts to the tortoise from the construction, operations, and maintenance of the proposed Project, we are attaching "Appendix A – Demographic Status and Trend of the Mojave Desert Tortoise including Tortoises in the Western Mojave Recovery Unit." Note that the proposed Project is in the Western Mojave Recovery Unit, where the tortoise populations in this Unit are below the density needed for population viability (Allison and McLuckie 2018), and the density of tortoises continues to decline in the Western Mojave Recovery Unit (USFWS 2025). The adult tortoise population declined by about 50 percent and the number of juvenile tortoises decline by 91 percent between 2004 and 2014 (Allison and McLuckie 2018), and this downward trend continues (USFWS 2025).

Also note that the tortoise cannot achieve recovery, that is, be removed from the list of threatened species under FESA unless it achieves recovery in all five recovery units including the Western Mojave Recovery Unit (USFWS 2011). This includes having viable populations. We conclude that having populations below the density needed for population viability means these populations are below the level needed to be self-sustaining, and any additional impacts to these populations would exacerbate this declining trend and remain below the level of self-sustaining. Using the information in this Appendix, we conclude the answer to these two questions is "yes," which means the impacts from the proposed Project would be significant. Please include this information in the County's analysis of the Project in the CEQA document.

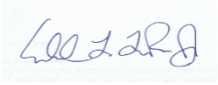
In summary, the County has prepared an Draft IS/MND. Its purpose is to identify and analyze the direct, indirect, cumulative, growth-inducing, and synergistic impacts to the resource issues and the mitigation and monitoring to be implemented that would effectively offset these impacts. The Draft IS/MND should demonstrate that the implementation of mitigation and monitoring actions will reduce the level of impacts from the construction, use, operation, and maintenance of the proposed Project to less that significant. However, until the County (1) determines the use of the Project site and surrounding area by the tortoise, MGS, and burrowing owl; (2) determines the type and extent of the direct, indirect, cumulative, synergistic, and growth-inducing impacts to the tortoise/MGS/burrowing owl and their habitats from the construction, use, operation, and maintenance of the proposed Project; and (3) analyzes these impacts to the tortoise/MGS/burrowing owl, the County is unable to identify the appropriate mitigation and monitoring to offset these impacts.

Consequently, the County is currently unable to determine whether a mitigated negative declaration or an environmental impact report is the appropriate CEQA document to prepare for the proposed Project with respect to impacts to these three species. We especially note that the CEQA document focuses on the construction phase of the proposed Project with little or no discussion or analysis of the impacts from the use, operation, and maintenance and therefore no mitigation and monitoring has been identified to offset these impacts. Please correct this oversight by the County in a revised CEQA document.

We appreciate this opportunity to provide the above comments and trust they will help protect tortoises and MGS during any resulting authorized activities. Herein, we reiterate that the DTC, DTPC, and MGSCC want to be identified as Affected Interests for this and all other projects funded, authorized, or carried out by the County that may affect desert tortoises and/or Mohave ground squirrels, respectively, and that any subsequent environmental documentation for this project is provided to us at the contact information listed above. Additionally, we request that you notify the DTC (eac@deserttortoise.org), DTPC (roger.dale@tortoise-tracks.org), and MGSCC (ed.larue@mgsconservation.org) of any future proposed projects that the County may authorize, fund, or carry out in the ranges of the desert tortoises and/or Mohave ground squirrel.

Please respond in an email that you have received this comment letter so we can be sure our concerns have been registered with the appropriate personnel and office for this Project.

Respectfully,



Edward L. LaRue, Jr., M.S.
Desert Tortoise Council, Ecosystems Advisory Committee, Chairperson
Mohave Ground Squirrel Conservation Council, Ecosystems Advisory Committee, Chairperson

Roger Dale
Desert Tortoise Preserve Committee, President

Attachment: Appendix A – Demographic Status and Trend of the Mojave Desert Tortoise including Tortoises in Western Mojave Recovery Unit.

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Appendix A
Demographic Status and Trend of the Mojave Desert Tortoise including Tortoises in the Western Mojave Recovery Unit

Status of the Population of the Mojave Desert Tortoise: The Council provides the following information for resource and land management agencies so that these data may be included and analyzed in their project and land management documents and aid them in making management decisions that affect the Mojave desert tortoise (tortoise).

There are 17 populations of Mojave desert tortoise described below that occur in Critical Habitat Units (CHUs) and Tortoise Conservation Areas (TCAs); 14 are on lands managed by the BLM; 8 of these are in the California Desert Conservation Area (CDCA).

As the primary land management entity in the range of the Mojave desert tortoise, the Bureau of Land Management's (BLM's) implementation of a conservation strategy for the Mojave desert tortoise in the CDCA through implementation of its Resource Management Plan and Amendments through 2014 has resulted in the following changes in the status for the tortoise throughout its range and in California from 2004 to 2014 (**Table 1**, **Table 2**; USFWS 2015, Allison and McLuckie 2018). The Council believes these data show that BLM and others have failed to implement an effective conservation strategy for the Mojave desert tortoise as described in the recovery plan (both USFWS 1994a and 2011), and have contributed to tortoise declines in density and abundance between 2004 to 2014 (**Table 1, Table 2**; USFWS 2015, Allison and McLuckie 2018) with declines or no improvement in population density from 2015 to 2024 (**Table 3**; USFWS 2016, 2018, 2019, 2020, 2022a, 2022b, 2025).

Important points from these tables include the following:

Change in Status for the Mojave Desert Tortoise Range-wide
● Ten of 17 populations of the Mojave desert tortoise declined from 2004 to 2014.

● Eleven of 17 populations of the Mojave desert tortoise are below the population viability threshold. These 11 populations represent 89.7 percent of the range-wide habitat in CHUs/TCAs.

Change in Status for the Western Mojave Recovery Unit – California
● This recovery unit had a 51 percent decline in tortoise density from 2004 to 2014.

● Tortoise populations in all three TCAs in this recovery unit have densities that are below viability.

Change in Status for the Superior-Cronese Tortoise Population in the Western Mojave Recovery Unit.
● The population in this recovery unit experienced declines in densities of 61 percent from 2004 to 2014. In addition, there was a 51 percent decline in tortoise abundance.

● This population has densities less than needed for population viability (USFWS 1994a).

Table 1. Summary of 10-year trend data for the 5 Recovery Units and 17 CHUs/TCAs for Mojave desert tortoise. The table includes the area of each Recovery Unit and CHU/TCA, percent of total habitat for each Recovery Unit and CHU/TCA, density (number of breeding adults/km^2 and standard errors = SE), and the percent change in population density between 2004 and 2014. Populations below the viable level of 3.9 breeding individuals/km^2 (10 breeding individuals per mi^2) (assumes a 1:1 sex ratio) or showing a decline from 2004 to 2014 are in red.

Recovery Unit: Designated Critical Habitat Unit[1]/Tortoise Conservation Area	**Surveyed area (km^2)**	**% of total habitat area in Recovery Unit & CHU/TCA**	**2014 density/km^2 (SE)**	**% 10-year change (2004–2014)**
Western Mojave, CA	**6,294**	**24.51**	**2.8 (1.0)**	**–50.7 decline**
Fremont-Kramer	2,347	9.14	2.6 (1.0)	–50.6 decline
Ord-Rodman	852	3.32	3.6 (1.4)	–56.5 decline
Superior-Cronese	3,094	12.05	2.4 (0.9)	–61.5 decline
Colorado Desert, CA	**11,663**	**45.42**	**4.0 (1.4)**	**–36.25 decline**
Chocolate Mtn AGR, CA	713	2.78	7.2 (2.8)	–29.77 decline
Chuckwalla, CA	2,818	10.97	3.3 (1.3)	–37.43 decline
Chemehuevi, CA	3,763	14.65	2.8 (1.1)	–64.70 decline
Fenner, CA	1,782	6.94	4.8 (1.9)	–52.86 decline
Joshua Tree, CA	1,152	4.49	3.7 (1.5)	+178.62 increase
Pinto Mtn, CA	508	1.98	2.4 (1.0)	–60.30 decline
Piute Valley, NV	927	3.61	5.3 (2.1)	+162.36 increase
Northeastern Mojave	**4,160**	**16.2**	**4.5 (1.9)**	**+325.62 increase**
Beaver Dam Slope, NV, UT, AZ	750	2.92	6.2 (2.4)	+370.33 increase
Coyote Spring, NV	960	3.74	4.0 (1.6)	+ 265.06 increase
Gold Butte, NV & AZ	1,607	6.26	2.7 (1.0)	+ 384.37 increase
Mormon Mesa, NV	844	3.29	6.4 (2.5)	+ 217.80 increase
Eastern Mojave, NV & CA	**3,446**	**13.42**	**1.9 (0.7)**	**–67.26 decline**
El Dorado Valley, NV	999	3.89	1.5 (0.6)	–61.14 decline
Ivanpah Valley, CA	2,447	9.53	2.3 (0.9)	–56.05 decline
Upper Virgin River	**115**	**0.45**	**15.3 (6.0)**	**–26.57 decline**
Red Cliffs Desert	115	0.45	15.3 (6.0)	–26.57 decline
Range-wide Area of CHUs - TCAs/Range-wide Change in Population Status	**25,678**	**100.00**		**–32.18 decline**

[1] U.S. Fish and Wildlife Service. 1994b. Endangered and threatened wildlife and plants; determination of critical habitat for the Mojave population of the desert tortoise. Federal Register 55(26):5820-5866. Washington, D.C.

Table 2. Estimated change in abundance of adult Mojave desert tortoises in each recovery unit between 2004 and 2014 (Allison and McLuckie 2018). Decreases in abundance are in red.

Recovery Unit	Modeled Habitat (km^2)	2004 Abundance	2014 Abundance	Change in Abundance	Percent Change in Abundance
Western Mojave	23,139	131,540	64,871	-66,668	-51%
Colorado Desert	18,024	103,675	66,097	-37,578	-36%
Northeastern Mojave	10,664	12,610	46,701	34,091	270%
Eastern Mojave	16,061	75,342	24,664	-50,679	-67%
Upper Virgin River	613	13,226	10,010	-3,216	-24%
Total	**68,501**	**336,393**	**212,343**	**-124,050**	**-37%**

Table 3. Summary of data for Agassiz's desert tortoise, *Gopherus agassizii* (=Mojave desert tortoise) from 2004 to 2024 for the 5 Recovery Units and 17 Critical Habitat Units (CHUs)/Tortoise Conservation Areas (TCAs). The table includes the area of each Recovery Unit and CHU/TCA, percent of total habitat for each Recovery Unit and CHU/TCA, density (number of breeding adults/km^2 and standard errors = SE), and percent change in population density between 2004-2014 (USFWS 2015). Populations below the viable level of 3.9 breeding individuals/km^2 (10 breeding individuals per mi^2) (assumes a 1:1 sex ratio) (USFWS 1994a, 2015) or showing a decline from 2004 to 2014 are in **red.**

Recovery Unit: Designated CHU/TCA &	% of total habitat area in Recovery Unit & CHU/TCA	2004 density/ km^2	2014 density/ km^2 (SE)	% 10-year change (2004–2014)	2015 density/ km^2	2016 density/ km^2	2017 density/ km^2	2018 density/ km^2	2019 density/ km^2	2020 density/ km^2	2021 density/ km^2	2024 density/ km^2
Western Mojave, CA	**24.51**		**2.8 (1.0)**	**–50.7 decline**								
Fremont-Kramer	9.14		2.6 (1.0)	–50.6 decline	4.5	No data	4.1	No data	2.7	1.7	No data	1.8
Ord-Rodman	3.32		3.6 (1.4)	–56.5 decline	No data	No data	3.9	2.5/3.4*	2.1/2.5*	No data	1.9/2.5*	2.7
Superior-Cronese	12.05		2.4 (0.9)	–61.5 decline	2.6	3.6	1.7	No data	1.9	No data	No data	No data
Colorado Desert, CA	**45.42**		**4.0 (1.4)**	**–36.25 decline**								
Chocolate Mtn AGR, CA	2.78		7.2 (2.8)	–29.77 decline	10.3	8.5	9.4	7.6	7.0	7.1	3.9	7.4
Chuckwalla, CA	10.97		3.3 (1.3)	–37.43 decline	No data	No data	4.3	No data	1.8	4.6	2.6	No data
Chemehuevi, CA	14.65		2.8 (1.1)	–64.70 decline	No data	1.7	No data	2.9	No data	4.0	No data	No data
Fenner, CA	6.94		4.8 (1.9)	–52.86 decline	No data	5.5	No data	6.0	2.8	No data	5.3	No data
Joshua Tree, CA	4.49		3.7 (1.5)	+178.62 increase	No data	2.6	3.6	No data	3.1	3.9	No data	No data
Pinto Mtn, CA	1.98		2.4 (1.0)	–60.30 decline	No data	2.1	2.3	No data	1.7	2.9	No data	No data
Piute Valley, NV	3.61		5.3 (2.1)	+162.36 increase	No data	4.0	5.9	No data	No data	No data	3.9	4.0

Northeastern Mojave AZ, NV, & UT	**16.2**		**4.5 (1.9)**	**+325.62 increase**								
Beaver Dam Slope, NV, UT, & AZ	2.92		6.2 (2.4)	+370.33 increase	No data	5.6	1.3	5.1	2.0	No data	No data	1.7
Coyote Spring, NV	3.74		4.0 (1.6)	+ 265.06 increase	No data	4.2	No data	No data	3.2	No data	No data	2.7
Gold Butte, NV & AZ	6.26		2.7 (1.0)	+ 384.37 increase	No data	No data	1.9	2.3	No data	No data	2.4	No data
Mormon Mesa, NV	3.29		6.4 (2.5)	+ 217.80 increase	No data	2.1	No data	3.6	No data	5.2	5.2	No data
Eastern Mojave, NV & CA	**13.42**		**1.9 (0.7)**	**–67.26 decline**								
El Dorado Valley, NV	3.89		1.5 (0.6)	–61.14 decline	No data	2.7	5.6	No data	2.3	No data	No data	
Ivanpah Valley, CA	9.53		2.3 (0.9)	–56.05 decline	1.9	No data	No data	3.7	2.6	No data	1.8	
Upper Virgin River, UT & AZ	**0.45**		**15.3 (6.0)**	**–26.57 decline**								
Red Cliffs Desert**	0.45	29.1 (21.4-39.6)**	15.3 (6.0)	–26.57 decline	15.0	No data	19.1	No data	17.2	No data	No data	17.5†
Rangewide Area of CHUs - TCAs/Rangewide Change in Population Status	**100.00**			**–32.18 decline**								

*This density includes the adult tortoises translocated from the expansion of the MCAGCC, that is resident adult tortoises and translocated adult tortoises.

**Methodology for collecting density data initiated in 1999.

†Results from 2023

Change in Status for the Mojave Desert Tortoise in California

- Eight of 10 populations of the Mojave desert tortoise in California declined from 29 to 64 percent from 2004 to 2014 with implementation of tortoise conservation measures in the Bureau of Land Management's Northern and Eastern Colorado Desert (NECO), Northern and Eastern Mojave Desert (NEMO), and Western Mojave Desert (WEMO) Plans.

- Eight of 10 populations of the Mojave desert tortoise in California are below the viability threshold for density. These eight populations represent 87.45 percent of the habitat in California that is in CHU/TCAs.

- The two viable populations of the Mojave desert tortoise in California are declining. If their rates of decline from 2004 to 2014 continue, these two populations will no longer be viable by about 2030.

Change in Status for the Mojave Desert Tortoise on BLM Land in California

- Eight of eight populations of Mojave desert tortoise on lands managed by the BLM in California declined from 2004 to 2014.

- Seven of eight populations of Mojave desert tortoise on lands managed by the BLM in California are no longer viable.

Change in Status for Mojave Desert Tortoise Populations in California that Are Moving toward Meeting Recovery Criteria

- The only population of Mojave desert tortoise in California that did not decline is on land managed by the National Park Service, which increased 178 percent from 2004 to 2014.

Important points to note from the data from 2015 to 2024 in Table 3 are:

Change in Status for the Mojave Desert Tortoise in the Western Mojave Recovery Unit:

- The density of tortoises continues to decline in the Western Mojave Recovery Unit
- The density of tortoises from 2015 to 2024 continues to fall below the density needed for population viability.

Change in Status for the Mojave Desert Tortoise in the Colorado Desert Recovery Unit:

- Many of the populations in this recovery unit have densities that are near the threshold for population viability.

Change in Status for the Mojave Desert Tortoise in the Northeastern Mojave Recovery Unit:

- Two of the three population with densities greater than needed for population viability declined to level below the minimum viability threshold.
- Three of the four populations in this recovery unit have densities below the minimum density needed for population viability.

Change in Status for the Mojave Desert Tortoise in the Eastern Mojave Recovery Unit:

- Both populations in this recovery unit have densities below the minimum density needed for population viability.

Change in Status for the Mojave Desert Tortoise in the Upper Virgin River Recovery Unit:
● The one population in this recovery unit is small and appears to have stable densities.

The Endangered Mojave Desert Tortoise: The Council believes that the Mojave desert tortoise meets the definition of an endangered species. In the FESA, Congress defined an "endangered species" as "any species which is in danger of extinction throughout all or a significant portion of its range…" In the California Endangered Species Act (CESA), the California legislature defined an "endangered species" as a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant, which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes (California Fish and Game Code § 2062). Because most of the populations of the Mojave desert tortoise were non-viable in 2014, most are declining, and the threats to the Mojave desert tortoise are numerous and have not been substantially reduced throughout the species' range, the Council believes the Mojave desert tortoise should be designated as an endangered species by the USFWS and California Fish and Game Commission. Despite claims by USFWS (Averill-Murray and Field 2023) that a large number of individuals of a listed species and an increasing population trend in part of the range of the species prohibits it from meeting the definitions of endangered, we are reminded that the tenants of conservation biology include numerous factors when determining population viability. The number of individuals present is one of a myriad of factors (e.g., species distribution and density, survival strategy, sex ratio, recruitment, genetics, threats including climate change, etc.) used to determine population viability. In addition, a review of all the available data does not show an increasing population trend (please see Tables 1 and 3).

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Demographic Status and Trend of the Mojave Desert Tortoise
including Tortoises in the Western Mojave Recovery Unit

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