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DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region
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January 12, 2026
Sent via email

Chris Heldreth
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City of Barstow
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SUBJECT: CITY OF BARTSOW GENERAL PLAN AND BARSTOW INTERNATIONAL GATEWAY PROJECT (PROJECT)
DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR)
SCH# 2024020501

Dear Chris Heldreth:

The California Department of Fish and Wildlife (CDFW) received a Notice of Availability of a DEIR from the City of Barstow (City) for the Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on Projects and related activities that have the potential to adversely affect fish and wildlife resources.

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the Project Proponents may seek related take authorization as provided by the Fish and Game Code.

PROJECT DESCRIPTION SUMMARY

Proponents: City of Barstow and BNSF Railway

Objective: The objective of the Project is to develop a 5,000-acre logistics facility on the western side of the City of Barstow. The Project will construct a rail yard (including a block swap yard and an Intermodal Facility or IMF), a private solar energy plant, and a transload warehouse center comprising approximately nine million square feet of space. The Project also proposes to incorporate an approximately 680-acre buffer of open space around the Mojave River along the northern boundary of the Project footprint. The Project's primary function is to convert the contents of international shipping containers into domestic containers for placement back onto the rail line. The Project also includes two major planning efforts: (1) an update to the City of Barstow's General Plan to include the annexation of 2,676 acres into the City's limits and (2) the creation of a new Barstow International Gateway (BIG) Specific Plan.

Primary Project activities include the design, construction, and operation of a rail-centric supply chain hub to reduce reliance on long-haul heavy-duty trucking. The BIG IMF will facilitate the transfer of shipping containers between the rail line and the on-site transload center via zero-emission electric hostlers, reducing emissions and congestion. Offsite construction activities include public infrastructure improvements, including widening the Lenwood Channel to mitigate flooding and replacing the existing Hinkley Road bridge over the Mojave River with a longer bridge to improve its capacity for flood conditions. Approximately 6.7 miles of road improvements are anticipated to accommodate the new railway right-of-way and include Holcom Ranch, Lords, and Jiggs Roads.

Location: The Project Site is located in the Mojave Desert in the western portion of the City of Barstow, San Bernardino County, California. The Project is bounded by the Mojave River to the north, Lenwood Road to the east, Main Street to the south, and Hinkley Road to the west and is centered at approximately latitude 34.96° N and longitude -117.23° W. Approximately one-third of the Project Site lies within the City of Barstow, while the remaining two-thirds are within the City's Sphere of Influence (SOI)

in unincorporated San Bernardino County. The Project will annex approximately 2,676 acres of undeveloped land from the City's SOI into Barstow's city limits. This expansion will increase the City's footprint beyond its current boundaries, substantially enlarging Barstow's overall size to accommodate the planned development associated with the Project.

Timeframe: Construction of the Project is scheduled to begin in late 2026 and conclude in 2028.

COMMENTS AND RECOMMENDATIONS

CDFW appreciates the ongoing coordination with CDFW regarding obtaining a CESA Incidental Take Permit and a Lake and Streambed Alteration Agreement for the Project.

CDFW previously submitted comments on March 25, 2025 (Attachment 1), in response to the Notice of Preparation of the DEIR and recommended that the DEIR include comprehensive biological resource assessments, focused surveys for sensitive species, an analysis of impacts to wildlife connectivity, and avoidance and mitigation measures to reduce the Project's impacts to less than significant. Additionally, CDFW has collaborated with the City and its consultants to provide recommendations, including design plans for culverts, to ensure wildlife connectivity. CDFW appreciates that focused surveys were conducted for several sensitive species; however, the DEIR did not fully incorporate CDFW's recommendations and lacks: a comprehensive alternatives analysis, CDFW's prior input on wildlife connectivity and culvert design, and in some instances appropriate mitigation measures to avoid or minimize potential Project impacts.

CDFW is concerned that the DEIR has not adequately identified and disclosed the Project's impacts (i.e., direct, indirect, and cumulative) to biological resources, specifically impacts to Mojave fringe-toed lizard (*Uma scoparia*) as detailed in comment 3 below, nor has it provided sufficient supporting documentation to determine whether impacts to Mojave fringe-toed lizard will be mitigated to a level that is less than significant. It is recommended that the DEIR include an analysis of the Project's impacts to Mojave fringe-toed lizard and include specific detailed documentation that supports the analysis and determination of impacts. Without this information, with evidence to support the DEIR's determinations, the DEIR may not be able to determine whether the Project can mitigate its impacts to Mojave fringe-toed lizard to a less than significant level. **CDFW recommends the DEIR be revised and recirculated to provide this information. If the DEIR is not revised to sufficiently address these concerns, CDFW recommends the impact analysis to Mojave fringe-toed lizard be elevated to a Potentially Significant Impact.**

Additionally, the DEIR did not adequately describe and analyze a range of reasonable alternatives to the Project that are potentially feasible, would "feasibly attain most of the

basic objectives of the Project," and would avoid or substantially lessen any of the Project's significant effects (CEQA Guidelines § 15126.6[a]). The alternatives analysis should also evaluate a "no Project" alternative (CEQA Guidelines § 15126.6[e]). **CDFW recommends the DEIR be revised and recirculated to provide this information.**

CDFW offers the following comments and recommendations to assist the City in identifying and mitigating significant or potentially significant impacts to fish and wildlife resources for consideration in the revised and recirculated DEIR. Editorial comments or other suggestions have also been included to improve the DEIR.

COMMENT 1: Western Burrowing Owl (*Athene Cunicularia*)

Section 5.4, Pages 5.4-19, 40 to 47, 85; Appendix 5.4 BIG-1, Pages 1, 34

Issue: Western burrowing owl, their sign, and suitable burrows were observed within the Project footprint during surveys within the non-breeding seasons of 2021 and 2022 as well as in the 2024 and 2025. Thus, the Project may result in take of western burrowing owl, a candidate species under CESA. 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" (Take).

Specific impact: The Project contains western burrowing owl habitat and will likely result in the permanent loss of habitat used by western burrowing owls for foraging, nesting, or breeding. Western burrowing owl is a CESA-listed species and Project activities have the potential to Take western burrowing owl. Staging construction equipment, vehicles, and foot traffic may result in the collapse of occupied burrows and result in direct mortality and/or injury to western burrowing owls. Project construction and related activities may result in collision with or crushing by vehicles or heavy equipment; entrapment within open trenches and pipes; entrapment or entanglement within materials and equipment staged and moved; crushing or burying individuals or eggs in burrows; destruction of burrows and refugia; and increased predation. The Project may result in Take of western burrowing owl if proper avoidance and minimization measures are not implemented. The Project will most likely require translocation of western burrowing owls since burrowing owls have been detected on the Project site.

CDFW appreciates that western burrowing owl surveys were conducted during the breeding and non-breeding season following CDFW's *2012 Staff Report on Burrowing Owl Mitigation*[2] (Staff Report), and that the data was provided in the

[2] California Department of Fish and Wildlife (CDFW). 2012. Staff Report on Burrowing Owl Mitigation. https://www.wildlife.ca.gov/conservation/survey-protocols.

DEIR. CDFW also appreciates the inclusion of mitigation measure (MM) MM BIG BIO-21 (Western Burrowing Owl Pre-construction Surveys), which contemplates an Incidental Take Permit (ITP). However, MM BIG BIO-21 only considers an ITP if impacts to western burrowing owl cannot be avoided through measures such as establishing avoidance buffers during the breeding and non-breeding season. CDFW is concerned that these measures may not *fully avoid* impacts to western burrowing owl and strongly recommends that the Project Proponents apply for a CESA ITP for western burrowing owl prior to commencing Project activities.

Why impact would occur: MM BIG BIO-21 proposes to implement avoidance buffers for western burrowing owl that are present during the non-breeding and breeding season according to the 2012 Staff Report on Burrowing Owl Mitigation. However, MM BIG BIO-21 does not identify the level of disturbance that the Project will consider when determining the appropriate size of the buffer. CDFW considers the level of disturbance for the Project as “High” due to extensive habitat disturbance and length of construction regardless of whether owls are breeding or not breeding. Further, MM BIG BIO-21 proposes translocation of burrowing owl via a Burrowing Owl Plan, and while MM BIG BIO-21 contemplates an ITP, it is not clear whether an ITP will be secured. An ITP must be secured prior to implementing burrowing owl translocation.

Absent an ITP, CDFW is concerned that the Project will not implement appropriate avoidance and minimization to ensure full avoidance of impacts to western burrowing owl, which may result in unauthorize Take of burrowing owls, their nest, or eggs, and destruction of nesting, foraging, and over-wintering habitat, impacting burrowing owl populations. Indirect impacts to burrowing owl may also occur from noise, vibration, lighting, dust, grading, earthmoving, and equipment use.

The DEIR also includes MM BIG BIO-22 (Burrowing Owl Compensatory Mitigation), which provides compensatory mitigation for temporary and permanent impacts to western burrowing owl habitat, which is reported to be at a minimum of 495 acres and proposed to be mitigated at a minimum 1:1 mitigation ratio. MM BIG BIO-22 should clarify that compensatory mitigation will occur through a CESA ITP and any impacts to western burrowing owl should be minimized and fully mitigated at a mitigation ratio determined by CDFW in the CESA ITP.

MM BIG BIO-22 also discusses compensatory mitigation for western burrowing owl may include conservation or mitigation bank credits at a CDFW-approved bank and refers to the Mojave Desert Conservation Bank, land acquisition and permanent conservation and management, or payment to an in-lieu fee program. CDFW would like to clarify that at this time, there are currently no conservation or mitigation banks approved by CDFW to sell burrowing owl credits and CDFW does not accept payment to an in-lieu fee program as mitigation pursuant to an ITP. Compensatory

mitigation required by an ITP can be fulfilled by one or more of the following options: 1) Conservation or Mitigation Bank credits (if available) 2) Permittee-responsible mitigation land acquisition protected by a conservation easement in perpetuity.

Further, MM BIG BIO-22 proposes nesting compensatory mitigation for burrowing owl with either desert tortoise and/or Mojave fringe-toed lizard mitigation either through land acquisition or the purchase of mitigation bank credits. Please note that if conservation or mitigation bank credits are proposed, the bank must cover the species that the ITP requires compensatory mitigation for. Currently no CESA burrowing owl or Mojave fringe-toed lizard credits are available at a CDFW-approved conservation/mitigation bank and compensatory mitigation can only be fulfilled through Permittee-responsible mitigation land acquisition.

Evidence impact would be significant: Habitat loss has resulted in either extirpation or drastic reduction of burrowing owl populations (Gervais et al. 2008). This Project will develop 5,000 acres of undeveloped desert habitat within the range of western burrowing owl. The EIR identifies at least 495 acres of occupied western burrowing owl habitat. Additionally, the DEIR's reports the potential loss of approximately 450 acres of agricultural lands and other open lands that may provide suitable foraging and nesting habitat for western burrowing owl. CDFW requests further clarification on why the remaining acreage was not considered suitable habitat for burrowing owl within the DEIR. CDFW considers the Take of burrowing owl and the loss of the species' habitat as a significant impact, unless mitigated to a level of less than significant, which would occur through a CESA ITP.

Recommended Potentially Feasible Mitigation Measure(s): CDFW recommends that the following changes to MM BIG BIO-21 and MM BIG BIO-22 be adopted in the recirculated DEIR (additions are in **bold** and edits in ~~strikethrough~~):

MM BIG BIO-21: Western Burrowing Owl Construction Requirements

No less than 14 days prior to **the** start of **any** ~~construction mobilization~~ **Project** activities within suitable habitat, a **qualified** Species-Specific biological monitor shall conduct pre-construction surveys for burrowing owl and/or occupied nest burrows within the limits of the BIG construction footprint plus a 500-foot buffer**, according to the 2012 Staff Report on Burrowing Owl Mitigation**.

Additionally, time lapses between BIG construction within suitable habitat shall trigger subsequent take avoidance surveys including but not limited to a final survey conducted within 24 hours prior to ground disturbance. The pre-construction surveys shall be repeated if there is a time lapse between construction activities of 14 days or more within previously surveyed areas. All surveys shall be conducted in accordance with the most current CDFW survey methods.

If burrowing owl, active burrows, **or sign (e.g., molted feathers, cast pellets, prey remains, eggshell fragments, decoration, or excrement)** are not observed during the pre-construction surveys, no additional conditions shall be required to avoid direct impacts on burrowing owl within the surveyed areas.

If burrowing owl is documented during pre-construction surveys, occupied burrowing owl burrows shall not be disturbed during the nesting season (February 1 through August 31) **and all impacts to burrowing owl shall be fully avoided** ~~unless~~ **until** a **CDFW**-approved Species-Specific biological monitor verifies through non-invasive methods that either the birds have abandoned or failed nesting attempts, or that juveniles from the occupied burrows are foraging independently and capable of independent survival. A Species-Specific biological monitor shall establish exclusion buffers to protect active nests in accordance with the recommendations included in CDFW's Staff Report on Burrowing Owl Mitigation (2012 **or most recent version**) **for projects with a "High" level of disturbance**. A **qualified** Species-Specific biological monitor shall conduct ongoing monitoring during construction activities.

If burrowing owl is observed during the non-breeding season (September 1 through January 31) or confirmed to not be nesting during pre-construction surveys, a non-disturbance buffer between construction activities and the occupied burrow shall be installed by a **qualified** Species-Specific biological monitor in accordance with the recommendations included in the Staff Report on Burrowing Owl Mitigation (CDFW, 2012 **or most recent version**) **for projects with a "High" level of disturbance**.

The implementing entity shall submit at least one burrowing owl pre-construction survey report for each surveyed area to the satisfaction of CDFW to document compliance with BIG's western burrowing owl mitigation measures. Survey reports shall also be submitted to the City.

If **full** avoidance is not possible, either directly or indirectly, an Incidental Take Permit (ITP) under CESA shall be obtained from CDFW and a Burrowing Owl Plan shall be prepared and submitted for **review and** approval by CDFW. The plan shall also be submitted to the City. Once approved **by CDFW**, the plan**, in conjunction with the CESA ITP,** shall be implemented to relocate non-breeding burrowing owls from BIG. The plan **and CESA ITP** shall detail methods for relocation of burrowing owls and provide guidance for the monitoring and management of the replacement burrow sites and associated reporting requirements. Details of the Burrowing Owl Plan shall be determined in consultation with CDFW, and is anticipated to include, but may not be limited to, the following:

- **Proposed avoidance, and monitoring actions.**

- **Number and location of occupied burrow sites, acres of burrowing owl habitat that will be impacted, details of site monitoring, and details on proposed buffers and other avoidance measures if avoidance is proposed.**
- Seasonal restrictions of relocation efforts – Relocation efforts shall occur during the non-breeding season (September 1 through January 31). Relocation during the breeding season (February 1 through August 31) may only occur if a qualified biologist determines that the birds have not begun egg-laying, or that the fledged juveniles are foraging independently and are capable of independent survival.
- Climatic restrictions of relocation efforts – Relocation shall not occur when temperatures exceed **8**~~9~~5 degrees Fahrenheit or during rain or high wind.
- Monitoring schedule and length – Full-time monitoring shall occur for at least two weeks following passive relocation and periodically thereafter **or as required by the CESA ITP**.

MM BIG BIO-22: Western Burrowing Owl Compensatory Mitigation

Prior to **the** start of ~~construction mobilization~~ **any Project** activities, the implementing entity shall **provide compensatory mitigation for burrowing owl as described in a CESA ITP and shall** prepare a Compensatory Mitigation Plan (CMP) **to be included in the CESA application** ~~in consultation with CDFW~~ that describes the compensatory mitigation that the implementing entity proposes to ~~shall be~~ provide~~d~~ at a minimum 1:1 ratio to offset permanent and temporary impacts on burrowing owl habitat. The CMP shall describe the following:

- A description of burrowing owl and habitat types for which compensatory mitigation is being **proposed** ~~provided~~.
- A description of the methods used to identify and evaluate mitigation options. Options may include one or more of the following:
    - Purchase of mitigation credits from a~~n agency~~ **CDFW**-approved **conservation and/or** mitigation bank**, if CESA credits for burrowing owl are available** ~~(e.g., Mojave Desert Tortoise Conservation Bank or other CDFW approved mitigation bank)~~.
    - Protection of burrowing owl habitat through ~~acquisition of fee title or~~ **a** conservation easement and funding for long-term management of the habitat. Endowment funds shall be transferred to the applicable agency or entity and conservation easements shall be held by an entity approved in writing by **CDFW**~~the applicable regulatory agency~~. ~~In circumstances where the implementing entity protects habitat through a conservation easement~~, **T**~~t~~erms of the conservation easement shall be subject to approval of **CDFW**~~the applicable regulatory agencies~~, and the conservation easement shall identify ~~applicable regulatory~~

~~agencies~~ **CDFW** as third-party beneficiar**y**~~ies~~ with a right of access to the easement areas.

- ~~Payment to an existing in-lieu fee program.~~

- A summary of the estimated direct permanent and temporary **Project** impacts on burrowing owl and burrowing owl habitat.
- A description of the process that ~~shall~~ **is proposed to** be used to confirm **Project** impacts. Actual **Project** impacts on burrowing owl and burrowing habitat could differ from estimates. Should this occur, ~~adjustments shall be made to the proposed compensatory mitigation in consultation with~~ **the Permittee shall be responsible for providing compensatory mitigation for final Project impacts**~~CDFW~~.

The burrowing owl CMP **shall be updated per the requirements in the CESA ITP** and mitigation requirements shall be submitted to the City for review. If all or any portion of ~~the acquired desert tortoise and/or Mojave fringe-toed lizard compensatory mitigation for other CESA-listed species (MM BIG BIO-16 and MM BIG BIO-24, respectively) or other~~ required compensatory mitigation lands/credits meet the criteria for burrowing owl compensatory mitigation **in the CESA ITP**, it may be used to fulfill that portion of the obligation for burrowing owl compensatory mitigation requirements.

COMMENT 2: Desert Tortoise (*Gopherus agassizii*)

Section 5.4, Pages 5.4-16 to 17, 35 to 36, 70 to 79; Appendix 5.4 BIG-1, Pages 32-38

Issue: Desert tortoise was observed on the Project site during focused surveys in 2021, 2022, 2023, and 2024. Thus, the Project may result in Take of desert tortoise, an endangered species protected under CESA. However, based on the mitigation measures provided for desert tortoise, the DEIR did not specify whether a CESA ITP will be obtained for impacts to desert tortoise.

Specific impact: Desert tortoises are being impacted by ongoing threats from habitat loss, habitat degradation, and habitat fragmentation due to development. Desert tortoise is a CESA-listed species and Project activities have the potential to Take desert tortoise. Staging construction equipment, vehicles, and foot traffic may result in the collapse of occupied burrows and result in direct mortality and/or injury to desert tortoise. Project construction and related activities may result in collision with or crushing by vehicles or heavy equipment; entrapment within open trenches and pipes; entrapment or entanglement within materials and equipment staged and moved; crushing or burying individuals or eggs in burrows; destruction of burrows and refugia; and increased predation.

CDFW appreciates the inclusion of mitigation measures MM BIG BIO-13 (Desert Tortoise Clearance Survey), MM BIG BIO-14 (Desert Tortoise Relocation and Translocation), MM BIG BIO-15 (Common Raven Management), and MM BIG BIO-16 (Desert Tortoise Compensatory Mitigation Plan) in the DEIR.

Why impact would occur: MM BIG BIO-13 begins by stating "Prior to construction mobilization activities, desert tortoise exclusion fencing shall be installed and maintained to avoid Take of desert tortoise…" and continues without considering that installation of desert tortoise exclusionary fencing should only occur through a CESA ITP. Installation of exclusionary desert tortoise fencing may result in indirect and direct impacts to desert tortoise, which may include Take of desert tortoise, for which authorization should be attained for; for example, through a CESA ITP from CDFW.
Further, while MM BIG BIO-13 is titled "Desert Tortoise Clearance Surveys", the measure is not clear when the area will be cleared of desert tortoise in regard to the installation of the exclusionary fencing and it is assumed that the clearance of desert tortoise will occur at some point after installation of the exclusionary fencing. Installation of exclusionary fencing could result in impacts to desert tortoise if clearance surveys are not performed at locations where exclusionary fencing will be installed and these impacts should be avoided or minimized.

MM BIG BIO-14 outlines requirements for relocation/translocation of desert tortoise and discusses obtaining a CESA ITP for the specific purpose of authorizing relocation/translocation. CDFW greatly appreciates that the DEIR considered raven management as a way to avoid and minimize impacts to desert tortoise in MM BIG-BIO-15. Ravens are one of the biggest threats to desert tortoise, particularly hatchlings. MM BIG BIO-16 considers mitigation to offset permanent and temporary impacts to desert tortoise habitat; however, the measure does state that compensatory mitigation for impacts to desert tortoise will occur through a CESA ITP.

Evidence impact would be significant: Project activities described in the DEIR could result in Take under CESA and is prohibited unless authorized by state law (Fish and Game Code, §§ 2080 & 2085) such as a CESA ITP.

Additionally, desert tortoise populations have declined significantly in recent decades largely as a result of human activities in their native habitat, including land development, off-road vehicle use, overgrazing, agricultural development, disease, military activities, predation, and the spread of invasive species (USFWS, 2011). The desert tortoise population in the western Mojave Desert has declined by 90% since the 1980s. Desert tortoise can take up to 20 years to reach sexual maturity, which limits their ability to recover even small losses in population numbers (USFWS, 2011).

Recommended Potentially Feasible Mitigation Measure(s): CDFW recommends the following edits be incorporated into recirculated DEIR (additions in **bold** and edits in ~~strikethrough~~):

MM BIG BIO-13: Desert Tortoise Clearance Surveys

Prior to **commencement of Project** ~~construction mobilization~~ activities, desert tortoise exclusion fencing shall be installed and maintained **according to a CESA ITP and Biological Opinion** to avoid take of desert tortoise **during Project activities**, including destruction of nests or their potential habitat in the impact footprint, where individuals are known to occur, recent sign has been observed, or construction activities have the potential to result in take. A **qualified** Species-Specific biological monitor **shall first conduct a pre-construction survey for desert tortoise according to the CESA ITP at the locations where exclusionary fencing will be installed and translocate or relocate any desert tortoise present at exclusionary fence installation locations as required by the CESA ITP and only then the exclusionary fencing shall be installed and the qualified Species-Specific biological monitor** shall be present during exclusion fence installation. Desert tortoise exclusion fencing in desert tortoise habitat shall be constructed to standards outlined in Chapter 8 of the Desert Tortoise (Mojave Population) Field Manual (*Gopherus agassizii*) (USFWS, 2009b) and shall be used to delineate the area. The desert tortoise exclusion fencing shall be maintained and monitored daily during the desert tortoise activity period (i.e., early March through early June and September through early November) to allow for fencing to be maintained in good condition, and to determine if tortoises are “trapped” along the fencing searching for a way to access the other side. Outside of the desert tortoise activity period, fence inspections shall occur at least once weekly by a **qualified** Species-Specific biological monitor. If failures in the exclusion fence are documented, desert tortoise clearance surveys shall be repeated for affected areas. At the discretion of the **CESA ITP and Biological Opinion** ~~designated biologist~~, desert tortoise exclusion fencing design shall incorporate areas of shade and/or predation protection (e.g., artificial burrows) in the event a desert tortoise becomes trapped along the fence. Desert tortoise guards, or other agency approved design, shall be installed and connected to the exclusionary fencing at construction area entry points to prohibit desert tortoise from crossing into the construction right-of-way. The desert tortoise guard shall have a clear escape route away from construction activity for any desert tortoise that should fall into the guard. The guard shall be inspected daily by a **qualified** biological monitor for desert tortoise and to ensure the escape route is free of obstruction and debris.

Immediately following the installation of desert tortoise exclusion fencing, Species Specific biological monitors **and/or designated biologists** approved by **USFWS** ~~the~~

~~agencies~~ in accordance with the Desert Tortoise Authorized Biologist Qualifications Form (Section 3.2) of the *Desert Tortoise (Mojave Population) Field Manual (Gopherus agassizii*) (USFWS, 2009b) **and CDFW** shall conduct clearance surveys in suitable habitat for desert tortoise. The survey(s) shall be conducted in general accordance with Chapter 6 of the *Desert Tortoise (Mojave Population) Field Manual (Gopherus agassizii*) (USFWS, 2009) or current clearance survey protocol **and shall align with requirements in the CESA ITP and Biological Opinion**. ~~The survey(s) may be conducted any time of year, but preferably during the desert tortoise active period (i.e., early March through early June, and September through early November).~~ Survey results shall be provided to the City**, CDFW, and USFWS**.

If active desert tortoise burrows are identified in the impact footprint during desert tortoise clearance surveys and required to be moved off site, a desert tortoise translocation plan will be implemented as approved by USFWS and CDFW. All unoccupied desert tortoise pallets and burrows that are not practical to avoid shall be examined and excavated by hand during the clearance survey by the **qualified** Species Specific biological monitors and collapsed to prevent reentry following the procedures and precautions outlined in the *Desert Tortoise (Mojave Population) Field Manual (Gopherus agassizii)* (USFWS, 2009b)**, CESA ITP, and Biological Opinion**.

MM BIG BIO-14: Desert Tortoise Relocation and Translocation

Prior to start of ~~construction mobilization~~ **Project** activities, a designated biologist **approved by CDFW through a CESA ITP and USFWS through a Biological Opinion** shall prepare a BIG-specific Desert Tortoise Translocation Plan, based on the *Translocation of Mojave Desert Tortoises from Project Sites: Plan Development Guidance* (USFWS, 2020), H*ealth Assessment Procedures for the Mojave Desert Tortoise (Gopherus agassizii): A Handbook Pertinent to Translocation* (USFWS, 2016) and *Desert Tortoise (Mojave Population) Field Manual (Gopherus agassizii)* (USFWS, 2009b) or other current USFWS guidelines and in accordance with applicable Incidental Take Permits and Biological Opinions. The BIG-specific Desert Tortoise Translocation Plan shall identify suitable relocation and translocation sites, provide details on desert tortoise surveys and for moving desert tortoise out of harm's way, and include the methodology for visual desert tortoise body condition assessments. ~~A~~ **The** designated biologist shall provide the BIG-specific Desert Tortoise Translocation Plan to the USFWS and CDFW for review and approval **at least 30 days** prior to start of **Project activities before** translocation. At a minimum, the Desert Tortoise Translocation Plan shall include the following measures:

- The **qualified** Species-Specific biological monitor **or the designated biologist** shall implement the Desert Tortoise Translocation Plan during BIG construction. Only **qualified** Species-Specific biological monitors **or**

designated biologists authorized by the USFWS **and CDFW** to handle desert tortoise shall move the animal and project-specific ITPs for desert tortoise shall be acquired under CESA and FESA prior to such actions.

- The **approved** Species-Specific biological monitor **or designated biologist** shall move the desert tortoise found in construction work areas out of danger outside of the potential impact footprint, following the procedures and conditions outlined in the Incidental Take Permit and Biological Opinion.
- Prior to the **approved** Species-Specific biological monitor **or designated biologist** moving desert tortoise out of the construction work area, the biological monitor **or designated biologist** shall survey the relocation and translocation site to confirm that suitable burrows for desert tortoise exist. If few or no burrows are available, artificial burrows and/or shade structures shall be created along the outer perimeter of the desert tortoise exclusion fencing following the guidelines in the *Desert Tortoise (Mojave Population) Field Manual (Gopherus agassizii)* (USFWS 2009b) and *Shade Structures for Desert Tortoise Exclusion Fence: Design Guidance* (USFWS 2018), or as updated or replaced by the USFWS **and in accordance with the CESA ITP and Biological Opinion**.
- If needed, artificial burrows shall be installed outside of the construction work area (along the outer perimeter of the desert tortoise exclusion fencing if applicable) from where the individual was relocated to provide cover and prevent exposure to predators and dehydration. Prior to excavation of an occupied burrow, artificial burrows shall be installed.

MM BIG BIO-16: Desert Tortoise Compensatory Mitigation Plan

Prior to start of ~~construction mobilization~~**Project** activities, the implementing entity shall prepare a Compensatory Mitigation Plan (CMP) ~~in consultation with~~ **proposed to** CDFW **in the CESA ITP application** that describes the compensatory mitigation that shall be provided at a minimum 1:1 ratio to offset permanent and temporary impacts on desert tortoise habitat. The **CMP** shall describe the following:

- A description of desert tortoise and habitat types for which compensatory mitigation is being **proposed** ~~provided~~.
- A description of the methods used to identify and evaluate mitigation options. Options may include one or more of the following:
  - Purchase of mitigation credits from an agency-approved mitigation bank (e.g., Mojave Desert Tortoise Conservation Bank or other CDFW/USFWS approved mitigation bank).
  - Incidental take permit coverage through an existing agency general conservation plan (e.g., USFWS Desert Tortoise General Conservation Plan).
  - Protection of desert tortoise habitat through acquisition **and** ~~of fee title or~~ **a** conservation easement and funding for long-term management of the

habitat. Endowment funds shall be transferred to the applicable agency or entity **approved by CDFW and USFWS** and **the** conservation easements shall be held by an entity approved in writing by the applicable regulatory agency**; for example, CDFW and USFWS**. In circumstances where BNSF protects habitat through a conservation easement, the terms of the conservation easement shall be subject to approval of the applicable regulatory agencies, **such as CDFW and USFWS** and the conservation easement shall identify applicable regulatory agencies as third-party beneficiaries with a right of access to the easement areas.

- ~~Payment to an existing in-lieu fee program~~.

- A summary of the estimated direct permanent and temporary impacts on desert tortoise and desert tortoise habitat.
- A description of the process that **is proposed to** be used to confirm impacts. Actual impacts on desert tortoise and desert tortoise habitat could differ from estimates. Should this occur, compensatory mitigation **shall occur as determined by** ~~in consultation with~~ CDFW~~/~~ and USFWS. **CDFW shall describe in the CESA ITP the process for satisfying compensatory mitigation.**
- ~~Adjustments to impact estimates and compensatory mitigation shall occur in the following circumstances:~~
  - ~~Impacts on desert tortoise (typically measured as habitat loss) are reduced or increased as a result of changes in BIG design;~~
  - ~~Pre-construction site assessments indicate that desert tortoise habitat features are absent (e.g., because of errors in land cover mapping or land cover conversion);~~
  - ~~The desert tortoise habitat is determined to be unoccupied based on negative species surveys; or~~
  - ~~Impacts initially categorized as permanent qualify as temporary impacts.~~
  - ~~An overview of the strategy for mitigating effects on desert tortoise. The overview shall include the ratios to be applied to determine mitigation levels and the resulting mitigation totals.~~
  - ~~A description of habitat restoration or enhancement Projects, if any, that would contribute to compensatory mitigation commitments.~~
  - ~~A description of the success criteria that shall be used to evaluate the performance of habitat restoration or enhancement Projects, and a description of the types of monitoring that shall be used to verify that such criteria have been met.~~
  - ~~A description of the management actions that shall be used to maintain the habitat on the mitigation sites, and the funding mechanisms for long-term management, if applicable.~~
  - ~~A description of adaptive management approaches, if applicable, that shall be used in the management of species habitat.~~
  - ~~A description of financial assurances that shall be provided to demonstrate that the funding to implement mitigation is assured.~~

Final compensatory mitigation **in a CESA ITP** shall be determined **by**~~in consultation with~~ CDFW. The CMP shall be submitted to the City.

COMMENT 3: Mojave Fringe-Toed Lizard (*Uma scoparia*)

Section 5.4, Pages 5.4-16 to 17, 70 to 79, 89 to 90; Appendix 5.4 BIG-1, Pages 32-38

Issue: The Project will impact rare dune habitat, which includes the Mojave-Sonoran Desert dunes which are classified as S3 according to the California Sensitive Natural Communities. Natural Communities with ranks of S1-S3 are considered Sensitive Natural Communities to be addressed in the environmental review processes of CEQA and its equivalents. For alliances with State ranks of S1-S3, all associations within them are also considered Sensitive, which includes Mojave fringe-toed lizard, a Species of Special Concern (SSC), that depends on dunes in the Mojave Desert.

MM BIG BIO-24 (Mojave Fringe-toed Lizard Compensatory Mitigation) identifies impacts to 1,009.1 acres of occupied Mojave fringe-toed habitat. Due to the large impacts described in the DEIR and the lack of information to support the DEIR's significance determination, CDFW believes impacts to Mojave fringe-toed lizard will not be mitigated to less than significant even with the DEIR's proposed mitigation strategy.

Specific Impacts: The Project will permanently remove unique and sensitive sand dune habitat in the Mojave Desert and in doing so, will impact the ability of the remaining sand dune system to function naturally. MM BIG BIO-24 identifies impacts to 1,009.1 acres of occupied Mojave fringe-toed lizard habitat within the Lenwood dune complex, a system of aeolian sand dunes located in the Barstow reach of the Mojave River within the Project footprint and the SOI. Removing approximately 1,000 acres of this habitat/system is likely to disrupt the sand transport system, which replenishes the fine sand deposits for the entire reach of the Mojave River.[3] Muhs and Holliday (1995) demonstrated that the Mojave River dune system is dependent on wind-driven transport of Mojave River-derived sand, and any disruption to sediment supply or airflow would degrade these habitats. Barrows and Allen (2009) demonstrated that the Mojave fringe-toed lizard relies on the dunes of the Mojave River and its reaches, interference with natural sand movement could cause significant impacts to this sensitive species. The DEIR specifies that the

[3] BIG Project Draft Environmental Impact Report. (2024). *Biological Resources – Missing Linkages* (Section 5.4, p. 5.4-58). BNSF Railway and City of Barstow.
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Project footprint "…partially overlaps with the Mojave River – Barstow/Camp Cody Linkage," a critical linkage spanning 79-miles and important for sand transport to the Kelso Dunes. The DEIR did not sufficiently analyze this impact on the dune habitat. With disruption to the sand transport system and its corresponding effect on dune habitat, the Project will likely drastically impact the subpopulation of Mojave fringe-toed lizard endemic to this reach of the Mojave River, which is genetically distinct from other populations of the species. Mojave fringe-toed lizard was observed throughout dune habitat within the transload warehouse center portion of the Project Site during focused surveys in 2023. The highest concentration of Mojave fringe-toed lizard was observed in the central and northeastern portions for the Project Site. Previous genetic studies from Murphy et al. (2006) have revealed that the population of Mojave fringe-toed lizard within the Mojave River is a separate clade, providing evidence of the uniqueness of the species at this location. This population is on the western edge of the range of this species. Typically, peripheral populations have the potential to maintain substantial genetic variation allowing the population to adapt to environmental conditions at the edge of the species' range thus increasing the importance of this sub-population.

Appendix 5.4 BIG-1 (Appendix) recognizes that the sub-population "could be of added ecological value if its members have unique genetic variation that may be beneficial to the species in allowing for adaptations to changing environmental conditions." The Appendix also acknowledges that "[a] decrease in transfer of genetic variation will likely negatively affect the long-term viability of the species." However, the Appendix goes on to state that over 500 acres of suitable dune habitat will be avoided during construction, this unimpacted dune area will continue to support the species, and is connected to suitable habitat to the north, northeast, and southwest. Accordingly, the Appendix determined that indirect impacts to the species are less than significant. CDFW disagrees with this determination for several reasons. First, the DEIR provides no evidence as to how removing approximately two-thirds of the dune habitat for the subpopulation would not be a significant effect. As mentioned above, removing the habitat will impact the sand transport system and as a result it is unclear if or how the dunes will persist into the future. Moreover, there is no evidence that the remaining 500 acres will continue to provide habitat for Mojave fringe-toed lizard in the same way it does today. More importantly, in CDFW's experience, removing two-thirds of unique, sensitive habitat is likely to result in a significant impact to the habitat and the species it supports. Second, development adjacent to the remaining dune habitat is likely to have additional spillover effects (e.g. noise, vibration, light, etc.) impacting the value of the remaining habitat, but the DEIR did not discuss these effects or consider them when relying on the remaining habitat to make its significance determination. Third, figure 5.1-7 from Appendix 5.4 BIG-1, shows the highest density of Mojave fringe-toed lizards to be within the impact footprint, not in the 500 acres that would be preserved. As a result, it's unclear how preserving the remaining 500 acres would help mitigate impacts to

the species such that impacts would be less than significant. **A revised impact analysis should address the issues identified above, explain how the remaining approximately 500 acres of dune habitat will help mitigate impacts to the species considering the impacts to the genetic diversity of this species, the specific population being impacted, and the impacts to sand transport and provide additional minimization and mitigation measures to reduce impacts to a less than significant level.**

Why Impacts Would Occur: Mojave fringe-toed lizard is a SSC due to its declining population levels, limited ranges, and/or continuing threats, which have made the species vulnerable to extinction. The Mojave fringe-toed lizard is a habitat specialist, relying on the creosote bush scrubland and desert grasses directly adjacent to fine, windblown sand dunes for burrowing, thermoregulation, foraging, and reproduction (Dr. William Persch, personal communication, December 24, 2025). Project activities that disturb or compact sand, alter wind flow, or introduce invasive vegetation can significantly degrade these habitats. Removing approximately 1,000 acres of dune habitat for the species will negatively affect the sub-population. Cumulative impacts, including this Project, may result in local extirpation of this isolated genetic sub-population within the Mojave Desert (Dr. William Persch, personal communication, December 24, 2025). Appendix 5.4 BIG-1 recognizes that “a decrease in genetic variation will likely negatively affect the long-term viability of [Mojave fringe-toed lizard].”

MM BIG BIO-24 considers nesting mitigation for Mojave fringe-toed lizard with burrowing owl and desert tortoise mitigation. However, as CDFW pointed out previously, nesting of mitigation for Mojave fringe-toed lizard should not occur because the habitat occupied by Mojave fringe-toed lizard is different from desert tortoise and burrowing owl habitat. Mojave fringe-toed lizard requires dry and loose, sandy soils with vegetation, and their burrowing, breeding, thermoregulation, and foraging behavior are affected by the specific grain size of wind-blown sands directly connected to the unvegetated dunes and riparian habitats. Mojave fringe-toed lizard occupies a distinct ecological niche in the Mojave Desert. Burrowing owl requires open, flat terrain with pre-existing burrows and low vegetation while desert tortoise requires firm soils for burrows and thermoregulation as well as herbaceous plants and annual wildflowers for foraging.

Evidence Impacts Would Be Significant: Mojave fringe-toed lizard has experienced population declines due to habitat fragmentation, habitat loss, and habitat degradation. Mojave fringe-toed lizard is an extreme habitat specialist that is restricted to fine sand environments found in dune environments that have a patchy and limited distribution on the landscape (Hollingsworth et al. 1999). The Mojave fringe-toed lizard’s narrow habitat requirements make it extremely vulnerable to habitat destruction (USFWS, 2011). The species is highly sensitive to changes in

sand movement and vegetation cover. Additionally, as mentioned above, the population of Mojave fringe-toed lizard within the Mojave River is a separate clade, providing evidence of the uniqueness of the species at this location. Given this species' limited range, specialized habitat requirements, and genetic uniqueness, the Project's removal of approximately two-thirds of active sand dune systems within the subpopulation's known distribution range may not be able to be mitigated, especially without any analysis of the Project's impacts on sand transport system. Moreover, the DEIR lacks any information indicating that, as discussed more fully below, preserving 1,009.1 acres of occupied dune habitat would help reduce impacts to this separate clade to below a level of significance. Furthermore, the DEIR's mention of placing conservation easements on either side of the Mojave River to help mitigate indirect impacts lacks any explanation as to how such mitigation would actually mitigate the impacts (i.e. no evidence of where CEs would be placed, type of habitat within the CEs, etc.). **CDFW requests that the recirculated DEIR provides evidence to support the DEIR's determination that the Project can mitigate impacts to a less than significant level, including consideration of alternatives.**

Recommended Potentially Feasible Mitigation Measure(s): CDFW appreciates that the DEIR includes compensatory mitigation for Mojave fringe-toed lizard in MM BIG BIO-24. MM BIG BIO-24 proposes mitigation at a 1:1 for the loss of at least 1,009.1 acres of habitat to Mojave fringe-toes lizard and states, "With implementation of mitigation, BIG's potentially significant construction impacts to the Mojave fringe-toed lizard would be less than significant". However, without detailed impact analysis for the reported 1,009 acres of impact to dune habitat, its sand transport system, and the Mojave fringe-toed lizard, there is no evidence as to how such impacts would be successfully mitigated, let alone to below a level of significance.

Further, the ratio of permanent conservation to loss must, in most cases, exceed 1:1 for any species (i.e., 3:1), particularly for Mojave fringe-toed lizard, who occupies an irreplaceable and rare habitat. As proposed, CDFW believes MM BIG BIO-24 will not reduce impacts to Mojave fringe-toed lizard to less than significant, and CDFW recommends that the recirculated DEIR evaluates alternatives to minimize impacts to Mojave fringe-toed lizard and specifies mitigation that is roughly proportional to the level of impacts, in accordance with the provisions of CEQA (CEQA Guidelines, §§ 15126.4(a)(4)(B), 15064, 15065, and 16355. For example, the DEIR should consider an alternative where no development occurs within the Mojave River, or its floodplain, to help mitigate project impacts on Mojave fringe-toed lizard. By avoiding the Mojave River, not only would the Project avoid risks associated with building within the river, but also avoid and minimize significant impacts to fish and wildlife resources. It is anticipated that at least 3,000 acres of Mojave fringe-toed lizard habitat within the Mojave River watershed will be needed, conserved and managed in perpetuity to mitigate impacts to the species to below a level of significance. Due

to limited sand dune habitat in the Mojave River, CDFW should be consulted on this to best determine how impacts to Mojave fringe-toed lizard can be mitigated to below a level of significance.

In consideration of the above, at this time, CDFW only offers minor edits (in **bold** and ~~strikethrough~~) to MM BIG BIO-24 until a recirculated DEIR is provided.

MM BIG BIO-24: Mojave Fringe-toed Lizard and Compensatory Mitigation

Prior to **Project** ~~construction mobilization~~ activities, the implementing entity shall prepare a compensatory mitigation plan for direct impacts on Mojave fringe-toed lizard and 1,009.1 acres of occupied dune habitat (active desert dunes, stabilized and partially stabilized dunes, disturbed stabilized and partially stabilized dunes). Dune habitat shall be mitigated ~~in-kind~~ through the acquisition and preservation of dune habitat suitable for Mojave fringe-toed lizard at a minimum **3**~~1~~:1 ratio to offset permanent and temporary impacts on Mojave fringe-toed lizard habitat. Land selected for compensatory mitigation must be:

- Deposits of aeolian or fine windblown sands associated with dunes, washes, hillsides, margins of dry lakes, and/or sandy hummocks within the Mojave Desert;
- Occupied with Mojave fringe-toed lizard or with potential for connectivity to lands occupied by Mojave fringe-toed lizard;
- **Within the Mojave River Watershed;**
- Near land currently under or planned for protection; and
- Not characterized as highly disturbed.

A long-term management plan and endowment for land acquisition, preservation, and management in perpetuity shall be established by a qualified land manager/ conservancy. ~~All or any portion of the compensatory mitigation lands/credits acquired for impacts on other sensitive resources (i.e., aquatic resources or sensitive vegetation communities) may also be used to fulfill compensatory mitigation requirements for Mojave fringe-toed lizard. For example, compensatory mitigation pursuant to MM BIG BIO-16 and MM BIG BIO-22 may also be used to fulfill compensatory mitigation requirements for Mojave fringe-toed lizard if acquired mitigation lands/credits meet the criteria above.~~ Final compensatory mitigation for Mojave fringe-toed lizard shall be determined in coordination with CDFW.

COMMENT 4: Arroyo Toad (*Anaxyrus californicus*)

Section 5.4, Pages 5.4-16 to 17, 70 to 79; Appendix 5.4 BIG-1, Pages 32-38

Issue: The footprint of the proposed Project occurs in the vicinity of the furthest northeast known occurrence of arroyo toad**.** Arroyo toads are listed under the Federal Endangered Species Act as Threatened and are SSC**.** On March 25, 2024, CDFW commented on the Notice of Preparation for the Project and recommended that an analysis of known arroyo toad occurrences and a thorough review of scientific literature on the arroyo toad season migration patterns be conducted to determine the nature of impacts to the species and potential mitigation measures to offset both Project construction impacts to potentially resident and migratory arroyo toads. However, in regards to Arroyo toad, the DEIR simply stated, “Arroyo toad is not anticipated to occur within the BIG footprint and is not further discussed in this section” and according to the DEIR: “per coordination with USFWS, this species is not expected to occur in the area”. However, the lead agency has the responsibility to analyze and disclose any potential impacts and arroyo toad has historically occurred in the Project footprint as depicted in Figure 1. Although no recent records exist for arroyo toad, the absence of data does not preclude presence and **CDFW requests that pre-construction surveys for arroyo toad be conducted per MM BIG BIO-38 below to determine presence/absence of arroyo toad.**

Specific Impacts: The Project may result in loss of habitat and impacts from Project lighting, dust, noise, and water quality to both potentially resident and migratory arroyo toads.

Why Impacts Would Occur: Arroyo toad depends on ephemeral streams and associated shallow, sandy or gravelly pools and sandy terraces for breeding and foraging. Construction activities, ground disturbance, alteration of hydrology, and increased human and vehicular presence can degrade or eliminate these critical habitats. Additionally, changes in water flow, sedimentation, and vegetation cover can disrupt breeding cycles and larval development.

Evidence Impacts Would Be Significant: The Arroyo toad has experienced significant population declines due to habitat loss, water diversion, and invasive species, and the predicted habitat and range of this species is within 10 miles of the Project Site (CNDDB, [ds129 and 2001]. The Barstow region includes intermittent streams and washes that may provide suitable habitat or serve as dispersal corridors. Absent an impact analysis and avoidance, minimization, and mitigation measures, the DEIR has not demonstrated that potential impacts to Arroyo toad will be less than significant.

Recommended Potentially Feasible Mitigation Measure: CDFW recommends the following new mitigation measure (MM BIG BIO-38), in addition to an impact analysis, be incorporated into the recirculated EIR.

MM BIG BIO-38: Arroyo Toad Pre-Construction Surveys (NEW)

A qualified biologist(s) shall survey the Project site prior to commencement of Project activities according to the USFWS's Survey Protocol for the Arroyo Toad (available at: https://www.wrc-rca.org/species/survey_protocols/1999_ArroyoToad_protocol.pdf). If arroyo toads are found in the Project area and impacts are unavoidable, the Project Proponents shall not initiate Project activities at arroyo toad occupied locations and contact CDFW and the USFWS immediately within 24 hours to coordinate on appropriate avoidance and minimization measures to avoid impacts to arroyo toad. Unavoidable impacts to arroyo toad compensatory mitigation at a 3:1 mitigation ratio. Compensatory mitigation shall include permanent conservation of acquired lands through a conservation easement and an endowment to ensure management of the lands in perpetuity.

COMMENT 5: Crotch's Bumble Bee (*Bombus crotchii*)

Section 5.4, Pages 5.4-16 to 17, 36, 70 to 79; Appendix 5.4 BIG-1, Pages 32-38

Issue: The DEIR did not conduct a proper impact analysis for Crotch's bumble bee. Crotch's bumble bee is a candidate species protected under CESA, and the Project Site is within the eastern edge of the current known range. However, the DEIR simply determined that there is no potential for Crotch's bumble bee to occur on the basis that "the arid climate and lack of preferred nectar sources preclude BIG from supporting the species year-round, is not suitable to support the species year round". Focused surveys needed to be conducted to determine whether Crotch's bumble bee is absent from the Project Site.

Specific Impacts: The DEIR does not include any mitigation measures for Crotch's bumble bee, it is assumed to be absent from the Project site. If Crotch's bumble bee is not confirmed to be absent prior to construction; for example, through habitat assessments and surveys, Crotch's bumble bee may be present, and the Project may result in Take of Crotch's bumble bee through the destruction of nests, loss of foraging and breeding habitat, and fragmentation of suitable habitat. These impacts may occur from activities such as grading, vegetation removal, and soil compaction, particularly in areas with native flowering plants and undisturbed soils.

Why Impacts Would Occur: Crotch's bumble bee is a ground-nesting pollinator, historically found in open grasslands, coastal scrub, and desert habitats across Southern California. The presence of native vegetation and suitable soil conditions within the Project Site suggests potential for breeding, foraging, and nesting habitat to occur. Without proper avoidance, minimization, and mitigation, Project activities could result in direct and indirect Take of this CESA protected species.

Evidence Impacts Would Be Significant: As a CESA Candidate Species, Crotch's bumble bee is afforded legal protection under California Fish and Game Code section 2080, which prohibits the unauthorized Take of candidate species. Further, Crotch's bumble bee has a State ranking of S1/S2, which means Crotch's bumble bee is considered critically imperiled and extremely rare (often 5 or fewer populations). Additionally, Crotch's bumble bee is listed as an invertebrate of conservation priority under the California Terrestrial and Vernal Pool Invertebrates of Conservation Priority.

Recommended Potentially Feasible Mitigation Measure(s):
CDFW recommends the following new mitigation measure MM BIG BIO-39 be incorporated into the recirculated EIR to avoid, minimize, and mitigate impacts for Crotch's bumble bee:

MM BIG BIO-39: Crotch's Bumble Bee Avoidance (NEW)

A habitat assessment and in accordance with the *2023 CDFW Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species* (CDFW & Xerces Society, 2023) shall be conducted prior to commencement of Project activities to identify suitable habitat for Crotch's bumble bee. Within suitable habitat for Crotch's bumble, surveys should be conducted during the appropriate season when adult bees are active and floral resources are available in accordance with the *2023 CDFW Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species* (CDFW & Xerces Society, 2023). If Crotch's bumble bee is detected during surveys or construction activities and complete avoidance is not feasible, CDFW strongly recommends that the Project Proponents obtain a CESA ITP from CDFW prior to commencing any vegetation or ground-disturbing activities. Any unauthorized Take of Crotch's bumble bee would constitute a violation of Fish and Game Code §2080.

ADDITIONAL COMMENTS AND RECOMMENDATIONS

COMMENT 6: Alternatives Analysis

Section 8.2.4 Bio Resources Alternatives, Page 8-6

CDFW appreciates the opportunity to review the DEIR, however, the DEIR does not provide an adequate alternatives analysis as required under CEQA Guidelines §15126.6 and established case law. The California Supreme Court in *Laurel Heights Improvement Assn. v. Regents of Univ. of California* (1988) and *Citizens of Goleta Valley v. Board of Supervisors* (1990) affirmed that an EIR must present a reasonable range of alternatives that could feasibly attain most of the basic objectives of the project

while avoiding or substantially lessening significant environmental effects. The Alternative Analysis section of the DEIR, Section 8.2.4, does not appear to meet this standard.

The DEIR identifies numerous sensitive biological resources within the Project footprint, including active desert dunes, riparian habitat, and mapped wildlife corridors associated with the Mojave River watershed. These areas support special-status species such as desert tortoise, arroyo toad, Mojave fringe-toed lizard, willow flycatcher, western yellow-billed cuckoo, Swainson's hawk, and western burrowing owl. The DEIR acknowledges that Project implementation would result in direct, indirect, and cumulative impacts, including permanent habitat loss, fragmentation of wildlife movement corridors, and increased light, noise, dust, and human activity.

Given the scale of the Project—approximately 5,000 acres—and its location within a biologically sensitive landscape, CDFW is concerned that the DEIR does not adequately explore alternatives that could reduce or avoid these impacts to a level less than significant. For example, the DEIR does not analyze all options such as further reducing the Project footprint (only the footprint of the solar power plant was reduced), clustering development to maintain larger contiguous habitat blocks, or limiting development within the Mojave River and adjacent dunes. Avoiding development within the Mojave River and adjacent dune habitats would preserve critical connectivity, protect groundwater and watershed integrity, and maintain ecological functions that are essential for regional biodiversity.

The Reduced-Intensity Alternative provided acknowledges that development under this alternative would still substantially interfere with wildlife movement through established corridors, yet it concludes that impacts would be reduced to less than significant through the incorporation of "similar mitigation", including wildlife crossings, but the DEIR provides no supporting evidence for this conclusion. For example, it does not identify the location, number, dimensions, or design standards of the proposed wildlife crossings, nor does it include biological data, movement modeling, or site-specific analysis demonstrating that such features would function effectively for target species.

CDFW concludes that the DEIR does not meet CEQA's informational requirements and does not provide a defensible basis for Project approval. CDFW strongly recommends that a recirculated DEIR includes a more robust and complete alternatives analysis that would reduce impacts to less than significant. Given CEQA Guidelines §15088.5 and cases such as *Vineyard Area Citizens v. City of Rancho Cordova* (2007), **CDFW is requesting recirculation to ensure the public has a meaningful opportunity to review and comment.**

COMMENT 7: Groundwater Pumping and Impacts to Fish and Wildlife Resources

Groundwater, Hydrology, and Watershed Concerns

The Project Site and Sphere of Influence (SOI) are located in the Mojave Basin Area, where water rights were adjudicated under the *Judgment After Trial* dated January 10, 1996, to address historic groundwater overdraft. The Project Site lies within the Centro Subarea. The DEIR proposes eight new temporary groundwater wells that will supply at least 311 acre-feet per year of potable groundwater for at least 2 years. Additional non-potable water will be required for Project construction activities, and it is unclear what the source of this non-potable water will be; however, it is likely to come from the Golden State Water Company (GSWC) wells. Moreover, the DEIR does not provide a specific timeline for decommissioning the wells, simply stating they will be removed "once construction water demands have been met", which could extend well beyond the Project timeline and into Project operations. The DEIR fails to assess potential impacts on regional hydrology or sensitive biological resources from the draw of groundwater. CDFW is concerned that the DEIR does not sufficiently address the importance of maintaining local groundwater levels to protect the Mojave River and its associated ecosystems and recommends maintaining one or more monitoring wells in the area to measure local groundwater levels if none exist. The specific placement of wells relative to mapped faults and the Mojave River channel—along with the timing, rates, and duration of withdrawals—should be evaluated. CDFW notes that the Mojave Water Agency is currently preparing a numerical groundwater model that could inform this analysis and recommends coordinating with the Mojave Water Agency.

Groundwater in the Mojave Basin sustains the baseflow of the Mojave River, which is critical for maintaining riparian habitats. When groundwater is withdrawn, it reduces baseline flow and disrupts hydrologic connectivity. This reduction indirectly influences sediment availability and wind-driven transport processes that form and maintain adjacent dune ecosystems. Dune habitats adjacent to the river are part of the river's floodplain and hydrologically connected features and are considered associated habitats and resources under Fish and Game Code section 1602. Alterations to local groundwater levels and flow gradients may disrupt surface-water hydrology, degrade water quality, increase erosion, and threaten habitat integrity for sensitive species such as the southwestern willow flycatcher, Mojave fringe-toed lizard, and western yellow-billed cuckoo.

The DEIR acknowledges that the construction phase will be the period of highest groundwater demand and also anticipates long-term increases in water use associated with new residential and commercial development, roadway expansion, and population growth within the SOI. However, the DEIR does not provide a comprehensive cumulative analysis of increased demand on groundwater-dependent ecosystems or stream flows, nor does it sufficiently address hydromodification-the alteration of natural flow through the landscape (e.g., channel lining, flow diversions, culvert installations, armoring). Disturbance and compaction of soils, vegetation removal, increased impervious surfaces, and altered drainage patterns limit absorption, infiltration, and

evapotranspiration, thereby increasing the volume and frequency of runoff and sediment transport. Hydromodification leads to stream channel instability, degraded water quality, altered groundwater recharge processes, aquatic habitat impacts, and can disconnect the river channel from its floodplain—which naturally recharges groundwater, attenuates flood flows, provides habitat, filters pollutants, and stores and releases sediment essential to watershed health.

Further compounding these concerns is the proximity of the Project Site and the SOI to hexavalent chromium-contaminated groundwater plumes in Hinkley. While the DEIR asserts no direct hydraulic connection between the Project Site and the contamination plume, hydrologic shifts induced by new well operations raise concerns about cross-contamination and downstream impacts, particularly to the Lenwood Spreading Grounds groundwater recharge basin and other Fish and Game Code section1602 resources. **A recirculated DEIR should include source-water quality information for all aquifers used to drill new wells and for water proposed for construction activities.**

The proposed 140-acre, 21-MW solar farm and Battery Energy Storage System (BESS) at Main Street and Country Club Drive will require ongoing water use for maintenance (e.g., panel washing). The DEIR does not sufficiently evaluate the long-term groundwater demand or the potential for contamination risks associated with hexavalent chromium plumes, nor does it address implications for nearby water-dependent habitats or hydromodification from site development (e.g., expanded impervious cover, grading, drainage infrastructure).

Recommendations for Groundwater, Watershed Management, and LID

CDFW recommends the final EIR include a standalone groundwater flow model and analysis report, consistent with USGS Scientific Investigations Report 2004-5038 (Riley et al.), including:

- Hydrological modeling approach
- Sensitivity analysis
- Model calibration
- Initial condition representation
- Uncertainty analysis

Additionally, CDFW strongly supports the Lahontan Regional Water Quality Board's recommendations to integrate watershed management, Low Impact Development (LID), and hydromodification reduction into Project design but in a recirculated DEIR analysis. To maintain a landscape functionally equivalent to predevelopment hydrologic conditions and minimize non-point source pollutants, the recirculated DEIR should:

- Maintain natural drainage paths and landscape features to slow and filter runoff and maximize groundwater recharge;
- Reduce compacted and impervious surfaces from development and road networks; and
- Manage runoff at the source using onsite infiltration and vegetated stormwater management areas.

LID practices that protect aquatic values also reduce infrastructure requirements and maintenance costs, and benefit air quality, open space, and habitat. Integrating LID into the Project will help mitigate hydromodification, stabilize channels, maintain floodplain connectivity, and protect groundwater recharge.

Recommended Additions to the Draft EIR Prior to Recirculation

CDFW recommends the draft EIR be revised to include, at minimum, the following recommendations and be recirculated for additional review:

1. Groundwater–Surface Water Interaction Analysis: Quantify effects of proposed pumping on Mojave River baseflow, riparian habitats, and dune ecosystems; assess spatial placement of wells relative to faults, river channel, and floodplain.
2. Cumulative Demand Assessment: Evaluate construction and long-term water use (including solar/BESS O&M) on groundwater-dependent ecosystems and stream flows.
3. Hydromodification Assessment: Quantify expected changes in runoff volume/frequency, sediment transport, channel stability, floodplain connectivity, and groundwater recharge under proposed grading, drainage, and infrastructure; identify avoidance and minimization measures (LID).
4. Water Quality and Public Health Protections: Provide source-water quality characterization for all aquifers and construction water; assess risks of hexavalent chromium plume migration under altered gradients; evaluate implications for Lenwood Spreading Grounds and other Fish and Game Code section1602 resources.
5. Design-Level LID Commitments: Include site-specific LID BMPs (e.g., infiltration galleries, bioswales, permeable pavements, soil amendments), performance targets (infiltration/retention volumes), and maintenance plans.
6. Coordination and Compliance: Early consultation with CDFW to determine whether a Lake and Streambed Alteration (LSA) Agreement is required (See Comment 16); coordinate with Lahontan RWQCB to ensure watershed management objectives and LID practices are integrated; incorporate Mojave Water Agency modeling as available.

COMMENT 8: Wildlife Connectivity and Crossings

The Project is situated in a biologically rich and ecologically sensitive region of the Mojave Desert and Mojave River Watershed, which support a diversity of native and special-status species which depend on intact habitat corridors for seasonal movement, dispersal, and access to critical resources such as water and breeding grounds.

Despite the ecological significance of this landscape, the DEIR does not entirely assess the Project's potentially significant impacts on wildlife connectivity. The analysis lacks sufficient detail on how the proposed infrastructure (roads, rail lines, and facility security fencing) will fragment habitat and disrupt wildlife movement patterns. While Appendix 5.4 (BIG-1) includes wildlife movement studies, it does not adequately address the direct, indirect, and cumulative impacts on wildlife connectivity, nor does it provide appropriate mitigation to compensate for those impacts.

The proposed mitigation measure, mitigation measure MM BIG BIO-32, outlines the construction of a single 84-inch diameter wildlife culvert at Milepost 12.5, accompanied by four smaller water conveyance culverts. While this is a step toward addressing connectivity, the design is not appropriate. For example, the current culvert design is insufficient to prevent water from filling the structure during storm events, which does not allow for the installation of cover and structure (for boulders, logs, and brush) that are needed to facilitate the use of the crossing for many species present in the Project area. This is particularly concerning for species like the desert kit fox (*Vulpes macrotis*), American Badger (*Taxidea taxus*), and other small mammals and reptiles like Mojave fringe-toed lizard (*Uma scoparia*), which rely on structural cover, substrate, and vegetative debris within crossings for shelter and safe passage. CDFW recommends increasing the wildlife culvert size to dimensions that exceed the hydraulic needs of the culvert to allow for all weather crossings and the installation structural cover elements. Additionally, the structure should be moved to location where it is not co-located with a hydraulic structure.

Moreover, implementation of MM BIG BIO-32 is geographically limited to the southern portion of the Project footprint and the SOI. Thus, the installation of a single wildlife culvert at this location and no others fails to address connectivity impacts across the broader Project Site, leaving significant gaps in mitigation and undermining the integrity of regional wildlife corridors.

Scientific literature underscores the importance of maintaining landscape connectivity in desert ecosystems. Fragmentation from roads and fencing has been shown to isolate populations, reduce genetic diversity, and increase mortality rates (Boarman & Sazaki, 2006; Beier et al., 2008).

To meet CEQA's mandate of reducing impacts to a level that is less than significant, the final EIR must go beyond the current mitigation framework. Specifically, it should:

- Conduct a comprehensive 12-month wildlife movement study to capture seasonal patterns and inform crossing design allowing crossing structures to be placed in locations informed by locations where wildlife are currently moving through the Project Site;
- Evaluate the hydraulic performance of all proposed culverts and underpasses to ensure they remain functional during storm events;
- Design wildlife crossings with appropriate substrate, structural complexity, and microhabitat features to support a range of species;
- Implement directional fencing and median barriers to guide wildlife and prevent access to hazardous infrastructure;
- Fully assess direct, indirect, and cumulative impacts to wildlife connectivity, including effects on desert tortoise, Mojave fringe-toed lizard, bobcat, coyote, American badger and desert kit fox.

CDFW recommends the City revise the EIR to provide sufficient evidence that MM BIG BIO-32 will effectively mitigate the loss of connectivity caused by the Project as currently proposed. Without a more robust and regionally comprehensive approach, the Project risks permanently disrupting critical wildlife corridors and the continued movement of wildlife across the Project Site allowing a reduction of the genetic conservation goals in the Mojave Desert. **CDFW recommends a recirculated DEIR specifically address how the Project Proponents will reduce significant impacts to wildlife connectivity to less than significant.**

Wildlife Connectivity, Movement Corridors, and Desert Tortoise Fencing

The environmental setting described in the DEIR does not adequately characterize the ecological importance of the Project Site as a regional wildlife movement corridor within the Mojave Desert and Mojave River Watershed. This landscape supports several native and special-status species—including desert tortoise, Mojave fringe-toed lizard, American badger, and desert kit fox, that rely on intact habitat linkages for seasonal movement, dispersal, and access to water and breeding sites.

The Project Site intersects several critical connectivity zones identified in regional conservation planning efforts, including the California Desert Linkage Network, Rank 4/5 Areas of Conservation Emphasis (ACE), and the California Essential Habitat Connectivity (CEHC) Potential Riparian Connection. These linkages are not adequately described or mapped in the DEIR's environmental setting, despite their relevance to assessing the Project's potential to fragment habitat and disrupt wildlife movement.

While the DEIR includes mitigation measures such as MM BIG BIO-32 (wildlife Crossing), MM BIG BIO-13 (desert tortoise clearance surveys), and BIO-34 (desert tortoise fencing and clearance protocols), these do not fully address the spatial and functional requirements of maintaining connectivity across the entire Project footprint. For example, the proposed wildlife culvert at Milepost 12.5, while intended to facilitate

movement beneath the BNSF tracks and Main Street, is undersized and hydrologically vulnerable, particularly during storm events. The culvert's design does not account for the potential for flushing and washout, which would eliminate any structural cover elements installed to enhance crossing opportunities and render the crossing ineffective for species such as the desert kit fox and other small mammals and reptiles (i.e., Mojave fringe-toed lizard). Revising the Project Site Plan and locating the wildlife crossing outside of a hydraulic culvert would allow for the permanent installation of habitat elements that would enhance crossing success of species that are hesitant to cross in open areas like American badger, bobcat, coyote, desert kit fox, small mammals, and reptiles (i.e., Mojave fringe-toed lizard).

Moreover, the placement of crossings, including the Lead Track Extension culvert and the Main Street crossing appear disconnected from known movement corridors and habitat use patterns. Locating crossings along the Project Site, in areas with higher ecological value and connectivity potential documented in herein requested wildlife movement study, should be considered to maximize effectiveness.

The DEIR also lacks a comprehensive evaluation of impacts from exclusionary fencing. While fencing is proposed to prevent wildlife from entering hazardous areas, it may inadvertently exacerbate habitat fragmentation if not paired with effective connectivity measures. To mitigate this, CDFW recommends that the exclusionary fencing mentioned in MM BIG BIO-32 (Wildlife Crossings) and MM BIG BIO-34 (Permanent Security Fencing) should be extended at least ½ to 1 mile along both sides of all Project-related rights-of-way, including rail and road medians, and should be designed to guide wildlife toward safe crossing structures. Without such measures, fencing may act as a barrier rather than a protective feature, increasing the risk of isolation and mortality.

CDFW recommends the following revisions to MM BIG BIO-32 and MM BIG BIO-34 (edits are in **bold** and ~~strikethrough~~).

MM BIG BIO-32: Wildlife Crossings

As part of BIG construction, a wildlife crossing shall be constructed at the Unnamed Stream (Milepost 12.5) below the BNSF tracks and Main Street to facilitate wildlife movement between areas of natural habitat on either side of the railway and road. The railway crossing feature shall be placed alongside four smaller culverts constructed to convey water: three 36-inch and one 48-inch diameter culverts. The wildlife crossing shall be an 84-inch diameter culvert designed to facilitate passage beneath the rail right-of-way, which would connect open space east of the railway to the Mojave River, thereby maintaining access to existing linkages (i.e., the Rank 4/5 ACE, California Desert Linkage Network, and CEHC Potential Riparian Connection). Design features for facilitating wildlife culvert usage shall include installing inlet and outlet points.

A long-term management plan for the wildlife crossing shall be submitted to the City for review and approval prior to start of vegetation removal and/or mass grading. The long-term management plan shall include:

- Additional measures to encourage wildlife use include, but are not limited to, maintenance or restoration of native vegetation near, but not obstructing, culvert mouths, and invasive plant removal.
- Routine clearing of debris and trash from the culvert shall be completed on a quarterly basis and following large storm events to allow ample space is available for wildlife travel.
- Access points to the culvert shall contain rocks or woody refuge sites to attract subterranean wildlife. Habitat quality (i.e., the percentage of invasive versus native plants and level of anthropogenic degradation) within a 200-meter radius surrounding the culvert access points shall be monitored quarterly by a qualified biologist to confirm wildlife corridor functionality.
- A mitigation entity responsible for the implementation of the long-term management plan.
- **Exclusionary fencing shall be extended at least ½ to 1 mile along both sides of all Project-related rights-of-way, including rail and road medians, and should be designed to guide wildlife toward safe crossing structures. Without such measures, fencing may act as a barrier rather than a protective feature, increasing the risk of isolation and mortality.**

MM BIG BIO-34: Permanent Security Fencing

Prior to final construction design **and upon securing a CESA ITP for CESA species**, the designated biologist shall review and **submit** ~~approve~~ the fencing plans ~~for portions~~ of the BIG Specific Plan Area **to CDFW for review and consultation** that are adjacent to natural habitats to confirm the fences provide a sufficient barrier to restrict wildlife from entering the BIG Specific Plan area.

The permanent security fencing shall be enhanced with a barrier (e.g., fine-mesh fencing) that extends at least 12 inches below ground and 12 inches above ground to prevent special status reptile and mammal species, including desert tortoise, from moving through or underneath the fencing and gaining access to the BIG Specific Plan area. Where fencing is proposed between natural habitats and roadway right-of-way, at the 12-inch depth of the below-grade portion fence apron, the barrier shall extend or be bent at an approximately 90-degree angle and oriented outward from the roadway right-of-way a minimum of 12 inches to prevent fossorial (burrowing) mammals and reptiles from digging or tunneling below the security fence and gaining access to BIG. A climber barrier (e.g., rigid curved or bent overhang) shall be installed at the top of the apron to prevent reptiles and mammals from climbing over the apron. The designated biologists shall confirm that the selected apron material and climber barrier do not cause harm,

injury, entanglement, or entrapment to wildlife species. **Exclusionary fencing shall be extended at least ½ to 1 mile along both sides of all Project-related rights-of-way, including rail and road medians, and should be designed to guide wildlife toward safe crossing structures. Without such measures, fencing may act as a barrier rather than a protective feature, increasing the risk of isolation and mortality.**

The implementing entity shall provide quarterly inspection and repair of the fencing. The specific design and method for installation method of an apron or barrier may vary as required by regulatory permits issued under the FESA or CESA. Prior to start of operations then quarterly, biological monitors shall field-inspect the fencing that is adjacent to natural habitats and confirm appropriate installation and the implementing entity shall carry out repair of the fencing, as needed. Fencing plan review and field inspection shall be documented in a memorandum from the designated biologists and provided to **CDFW and** the City.

In summary, CDFW recommends updating the final EIR to:

- Accurately map and describe existing wildlife corridors and habitat linkages;
- Evaluate the ecological function and hydrological performance of proposed crossings;
- Implement directional fencing and median barriers to guide wildlife toward safe crossing structures and prevent access to hazardous infrastructure;
- Analyze the spatial adequacy of crossing locations relative to known movement patterns informed by the wildlife movement study;
- Incorporate exclusionary fencing that is combined with directional fencing to support wildlife movement;
- Coordinate with CDFW and USFWS to ensure fencing and crossing designs align with species-specific needs and regional conservation goals.

COMMENT 9: Western Joshua Tree (*Yucca brevifolia*)

CDFW appreciates that a census was conducted for western Joshua tree, a candidate species under CESA. A total of 33 western Joshua trees were documented during the census. The Project anticipates that no demolitions or ground disturbing activities would directly or indirectly impact these western Joshua tree but includes MM BIG BIO-7 (Delineation of Construction Work Limits) and MM BIG BIO-33 (Staging, Stockpiles, Material and Equipment Storage) to require delineation of work limits to prevent work in un-surveyed areas and restrictions on where to stockpile, store, or stage materials or spoils. The DEIR states that with both these measures, impacts to western Joshua tree would be less than significant. However, CDFW is particularly concerned with damage to the roots of western Joshua tree depending on the size class and proximity of a western Joshua tree to Project activities. CDFW recommends the inclusion of the below proposed MM BIG BIO-40 to ensure that if any new western Joshua sprouts or

individuals emerge within the Project Site or roots of western Joshua tree may be severed, authorization is obtained through an ITP.

MM BIG BIO-40: Western Joshua Tree Conservation Act Incidental Take Permit (NEW)

Prior to the initiation of ground disturbing Project activities, if the Project may result in Take of western Joshua tree (*Yucca brevifolia*) (i.e., removal, trimming, relocation, severing of roots), the Project Proponents shall obtain an incidental take permit (ITP) through compliance with the Western Joshua Tree Conservation Act (Fish & G. Code, § 1927 et seq.) or through the California Endangered Species Act (Fish & G. Code, §§ 2080 & 2085).

COMMENT 10: Mohave Ground Squirrel (*Xerospermophilus mohavensis*)

Section 5.4.2, Pages 5.4-41, 89

The Project footprint is at the edge of the predicted range for Mohave ground squirrel (MGS). CDFW appreciates that several focused surveys and trapping efforts were performed. While live trapping occurred in 2025 and no MGS was found, CDFW generally considers biological field assessments for wildlife to be valid for a one-year period. Therefore, depending on when the Project begins, additional surveys may be necessary to verify that MGS remains absent from the Project Site within suitable habitat. For this reason, CDFW recommends MM BIG BIO-41 be adopted in the recirculated DEIR, and if MGS is detected, then impacts shall be fully avoided, or if impacts cannot be avoided, then a CESA ITP should be obtained.

MM BIG BIO-41: Mohave Ground Squirrel Pre-Construction Surveys (NEW)

Prior to commencement of ground disturbing Project activities, a visual survey shall be conducted by a qualified biologist during the period of March 15 through April 15 to determine presence of Mohave ground squirrel. The survey shall be conducted on the Project Site during daylight hours by the qualified biologist who can visually identify Mohave ground squirrel and white-tailed antelope squirrel and detect vocalization calls. If the survey or monitoring confirms presence, the Project Proponents shall contact CDFW immediately (within 24 hours) and fully avoid all impacts to Mohave ground squirrel or obtain an incidental take permit (ITP).

COMMENT 11: American Badger (*Taxidea taxus*), Desert Kit Fox (*Vulpes macrotis*), and Ringtail (*Bassariscus astutus*)

American badger is a SSC, and desert kit fox is a fur bearing mammal protected under the California Code of Regulations (CCR) Title 14 section 460 and Fish and Game code section 4000. While American badger was not observed within the Project footprint, desert kit fox was documented within the Project Site during general and focused surveys, and the DEIR recognizes that suitable habit for both species exists with the Project footprint. As mentioned in the DEIR possible direct and indirect impacts to both species from Project activities exists, including indirect impacts from noise, vibration, and dust as well as direct impacts through harassment, injury, and/or death and concludes that “the direct impacts are potentially significant”.

The potential for ringtail to occur within the Project Site is low, as recognized in the DEIR, and thus an impact analysis was not conducted. However, ringtail is a Fully Protected Species under Fish and Game Code section 4700. Fully protected species are species that are deemed to need additional protection due to their rarity or face possible extinction. Due to this, CDFW recommends that surveys for ringtail cats be conducted prior to Project activities commencing as per the revisions to MM BIG BIO-26 below.

CDFW appreciates that several measures were incorporated to avoid and minimize impacts to American badger and desert kit fox, including MM BIG BIO-26, which requires a pre-construction survey for American badger and desert kit fox. However, CDFW is concerned that MM BIG BIO-26 only requires identifying natal dens for these species. American badger, desert kit fox, and ringtail should be protected regardless of whether they are breeding. For these reasons, CDFW recommends the below revisions to MM BIG BIO-26 (edits are in **bold** and ~~strikethrough~~).

MM BIG BIO-26: **Ringtail,** American Badger and Desert Kit Fox Construction Requirements

Prior to start of construction mobilization activities within suitable habitat, biological monitors familiar with **ringtail,** American badger**,** and desert kit fox shall conduct surveys within the limits of the BIG construction footprint for occupied ~~natal~~ dens. The survey(s) shall occur no more than 48 hours prior to start of ground-disturbing activities in suitable habitat for **ringtail,** American badger**,** and desert kit fox within the potential impact footprint. Survey results shall be provided to CDFW and the City.

If **ringtail,** American badger**,** or desert kit fox ~~natal~~ dens are documented within the survey area, a biological monitor shall establish a no-work exclusion buffer around the den and ~~natal~~ dens shall not be disturbed until a biological monitor verifies through noninvasive methods that either the den is no longer occupied, or that juveniles from **a** ~~the~~ natal den are foraging independently and capable of independent survival **and not dependent on the den**.

A biological monitor shall monitor the ~~natal~~ den during construction activities approximately every other day **if it is a natal den or weekly otherwise**. The definitive frequency and duration of monitoring shall be dependent upon the age and behavior of the **ringtail,** American badger**,** or desert kit fox ~~pups~~ and the efficacy of the exclusion buffers, as determined by a designated biologist or biological monitor and in coordination with CDFW. Passive relocation methods may be employed for non-natal dens that cannot be avoided by construction activities. For individual, non-natal badger and kit fox dens, a plan for passive relocation, burrow monitoring, and excavation of vacated burrows will be developed in coordination with CDFW.

COMMENT 12: Swainson's Hawk (*Buteo swainsoni*)

CDFW appreciates the inclusion of MM BIG BIO-20 for Swainson's hawk and the surveys conducted in the preparation for the DEIR. CDFW recommends the following minor changes to MM BIG BIO-20 to be included in the recirculated DEIR as follows (edits are in ~~strikethrough~~ and **bold**):

MM BIG BIO-20: Swainson's Hawk Construction Requirements

Swainson's hawk nest surveys shall be conducted **during the breeding season immediately prior to start of construction** and provided to the City **and CDFW** ~~for the breeding season~~ ~~immediately prior to start of construction~~. Surveys shall be conducted within the ~~annual~~ area of **the** BIG **Project** construction **footprint** plus a 0.5-mile buffer by agency-approved Species-Specific biological monitors following the protocol outlined in the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee, 2000). The Species-Specific biological monitor shall be familiar with Swainson's hawk identification and life history and be approved to conduct surveys by CDFW.

If active Swainson's hawk nests are found during nest surveys, the Species-Specific biological monitor shall establish an appropriate avoidance buffer around each nest in consultation with CDFW based on work activities proposed. The avoidance buffer will remain in place until a Species-Specific biological monitor confirms that the Swainson's hawk young have fledged or the nest is no longer active. **If full avoidance of active Swainson's hawk nest(s) cannot be achieved, the Project Proponent shall obtain an ITP.**

COMMENT 13: Bats

CDFW appreciates that an impact analysis was conducted for bats and that MM BIG BIO-27 was included, which requires pre-construction surveys, avoidance of maternity roosts, and roost replacement. Bats are important for pest management as the primary predators of nocturnal flying insects, but bat populations are declining throughout

southern California due to the loss of roosting habitat from development and a low reproductive turnover. Most bat species only have one young per year, and juvenile mortality is very high. It can take many years for a bat colony to recover from any impacts that result in mortality or a decrease in reproductive ability. The protection of bat roosting habitats, particularly habitats identified as maternity or nursery sites, is vitally important to prevent adverse effects to, and further loss of, remaining bat populations. Impacts to bat maternity colonies could be considered potentially significant.

CDFW's only concern with MM BIG BIO-27 is that the measure is specific to special status bats. Bat species are protected by the California Fish and Game Code section 4150, which prohibits Take of naturally occurring nongame mammals, including bats. As such CDFW recommends MM BIG BIO-27 is revised to be encompassing of all bats regardless of special status, as per below (edits are in **bold** and ~~strikethrough~~).

MM BIG BIO-27: Bat Construction Requirements

Prior to start of demolition or disturbance of structures suitable for roosting (i.e., bridges), pre-construction surveys for ~~special-status~~ bat species shall be conducted by a biological monitor. Pre-construction surveys shall be conducted no more than 14 days prior to the start of demolition activities. Survey results shall be provided to CDFW and the City. If active bat roosting is documented during pre-construction surveys within structures to be impacted, bat exclusion techniques, consistent with recommendations provided in Caltrans Bat Mitigation: A Guide to Developing Feasible and Effective Solutions (H. T. Harvey & Associates, 2019), shall be implemented. If required, exclusion shall be implemented between September 1 and October 15 to the extent feasible. Exclusion shall not occur during the typical bat maternity season (April through August).

Prior to demolition and/or improvement of structures that could support roosting bats, including Hinkley Road Bridge, or trees that will be removed, a biologist with expertise in chiropterology (study of bats) shall survey these features and any areas that could provide suitable roosting habitat to confirm they do not contain maternity roosts or ~~special-status~~ bats. If ~~special-status~~ bats and/or maternity roosts are confirmed to be absent, MM BIG BIO-1 above will be followed prior to construction to reduce potential impacts to individual roosting bats to a less than significant level and no further mitigation is required. If a potential maternity roost and/or ~~a special status~~ **other type of** bat roost is present, a Bat Avoidance and Mitigation Plan shall be developed in coordination with the City and CDFW, which may include the following measures to reduce potential impacts to ~~special-status~~ bat species to a less than significant level.

- Maternity Roosting Season Avoidance. All proposed demolition activities of active roost sites, including bat roost exclusion, shall occur outside the general bat maternity roosting season of March through August to reduce potentially significant

impacts to maternity roosting bats. If the maternity roosting season cannot be avoided, then roost exclusion can occur outside the maternity roosting season (September through February) to exclude bats from the demolition area prior to the start of demolition during the maternity roosting season. The measures below shall be required to ensure to avoid impacts to roosting bats during the exclusion process.

- Replacement Roost Installation. If there is a potential or known maternity roost within a structure to be demolished, a replacement roost shall be installed outside the maternity roosting season. At least one month prior to the exclusion of bats from a roost, the implementing entity shall procure and install two or more (dependent on colony size) bat boxes from a reputable vendor, such as Bat Conservation and Management, to allow bats sufficient time to acclimate to a new potential roost location. The bat boxes shall be installed within close proximity to the trees and/or structures and in an area that is within close proximity to suitable foraging habitat (i.e., near the Mojave River). Additionally, the bat boxes shall be oriented to the south or southwest, and the area chosen for the bat boxes must receive sufficient sunlight (at least 6 hours) to allow the bat boxes to reach an optimum internal temperature (approximately 90°F) to mimic the existing bat roost. The bat boxes shall be suitable to house crevice roosting bat species, and large enough to contain a minimum of 50 bats (e.g., Four Chamber Premium Bat House or Bat Bunker Plus). The bat boxes shall be installed on a 20-foot-tall steel pole.
- Roost Exclusion. Roost exclusion must only occur during the time when bats are most active (early spring or fall) to increase the potential to exclude all bats from City of Barstow Proposed General Plan and Barstow International Gateway Project EIR Draft Environmental Impact Report 5.4-94 5.4 | Biological Resources roosts and avoid the maternity roosting season, thereby minimizing the potential for a significant impact to occur. Approximately one month after bat boxes have been installed, exclusion of the existing roost shall occur. The primary exit points for roosting bats shall be identified, and all secondary ingress/egress locations shall be covered with a tarp or wood planks to prevent bats from leaving from other locations. The primary exit point shall remain uncovered to allow exclusion devices to be installed. Exclusion devices shall consist of a screen (poly netting, window screen, or fiberglass screening) with mesh 1/6 of an inch or smaller, installed at the top of the roost location and sealed along the sides and passing 2 feet below the bottom of the primary exit point. The exclusion devices shall be installed at night to increase the potential that bats have already left the roost and are less likely to return. Exclusion devices shall be left in place for a 1-week period to ensure that any remaining bats in the roost are excluded. A passive acoustic monitoring detector shall also be deployed during the exclusion period in order to verify excluded species and monitor if bat activity has decreased during the exclusion period. Periodic monitoring during the exclusion period should also be conducted to observe if any bats are still emerging from additional areas at BIG, and an active monitoring survey conducted on the final night of exclusion to ensure that no bats are emerging and determine that exclusion has been successful. Any continued presence of roosting bats shall

require an adjustment to the exclusion devices and schedule. The exclusion devices may remain in place until the start of demolition activities. If any bats are found roosting in any proposed demolition areas prior to demolition, additional exclusion shall be required and follow the same methodology described in this mitigation measure.

- Roost Habitat Creation. If sensitive bat species are present within Hinkley Road Bridge or other structures that will persist post BIG construction but require bat displacement for improvements to be made, bat friendly roost designs shall be developed as part of Project plans as feasible. Bat friendly designs shall be developed in coordination with a qualified biologist, the City, and CDFW.

COMMENT 14: American Beaver (*Castor canadensis*)

American beaver is a furbearing mammal protected by Fish and Game code section 4000. During surveys one American beaver was incidentally observed swimming upstream in the Mojave River near the Project footprint. CDFW appreciates that the Project Proponents will place an area compromising approximately 500 feet on either side of the Mojave River within the Project footprint under a conservation easement. The DEIR establishes that this conserved area would provide a buffer between where American beaver would be expected to occur (i.e., within the Mojave River) and construction activities. However, to quote the Project's Biological Resources section, section 5.4: "should an individual be present during construction activities, construction could result in direct impacts to American beaver through harassment, injury, and/or death. Increased noise, vibration, and dust generated by construction equipment could also result in indirect impacts related to habitat disturbance. Indirect impacts would be potentially significant and would require mitigation."

CDFW appreciates the inclusion of MM BIG BIO-25 (Dry Season Construction) which restricts construction within the Mojave River to the dry season to the extent feasible or requires surveys for American beaver if work within the dry season cannot occur. While MM BIG BIO-25 proposes full avoidance of American beaver, CDFW recommends the following edits to MM BIG BIO-25 to be incorporated in the recirculated DEIR to require mitigation if impacts to American beaver are determined to be unavoidable (edits are in **bold** and ~~strikethrough~~):

MM BIG BIO-25: Dry Season Construction

Construction within the Mojave River corridor shall be restricted to the dry season when there are no observable surface flows within 1,000 feet of the BIG construction footprint, to the extent feasible. If construction must occur outside of the dry season, biological monitors shall conduct daily pre-construction sweeps within 250 feet of direct impact areas occurring within the Mojave River corridor, such as construction associated with the Hinkley Road Bridge. If American beaver is observed, construction cannot be

initiated until the species is able to disperse from the area. Construction activities may resume after a biological monitor confirms American beaver is no longer present within direct and indirect impact area. **If impacts to American beaver are unavoidable, the Project Proponents shall not commence Project activities at the locations where American beaver are found and contact CDFW immediately within 24 hours to discuss proper avoidance, minimization, and mitigation. Mitigation shall occur at no less than a 3:1 mitigation impact ratio and shall include land acquisition, permanent conservation through a conservation easement, and management in perpetuity through an endowment.**

COMMENT 15: Rare and Special Status Native Plants

CDFW appreciates the inclusion of MM BIG BIO-37 for the protection and salvage of any plant species regulated under the California Desert Native Plant Act (DNPA) and County of San Bernardino Code § 88.01.060 for protection. However, this measure does not preserve, avoid, or minimize the potential impacts to rare, sensitive, species of special concern, or other native plants identified by CDFW and California Native Plant Society (CNPS) that are not protected by the CDNPA or County Code § 88.01.060. CDFW recommends the following minor edits to MM BIG BIO-37 to be incorporated in the recirculated EIR (edits are in **bold** and ~~strikethrough~~):

MM BIG BIO-37: Desert Native Plant Salvage Plan

Prior to start of construction mobilization activities, the implementing entity shall prepare a Desert Native Plant Salvage Plan for the removal of any plant species regulated under the CDNPA and County Code § 88.01.060**, as well as any rare, sensitive, species of special concern, or other native plants identified by CDFW or CNPS.** Adequate mitigation for CDNPA/County-protected **and rare and sensitive** plants may include the salvage of plants for translocation to a suitable recipient site if removal cannot be avoided. In the case of translocation, the Desert Native Plant Salvage Plan shall be prepared for review and approval by the City **and CDFW.** The plan shall include a description and map showing plants to be salvaged, salvage and transport methods, the proposed recipient site, and disposition of the plant specimens at the recipient site. Recipient sites may include existing conservation areas, botanical preserves, museums and zoological societies, among other conservation organizations that provide adequate habitat and management of desert native plants.

COMMENT 16: Lake and Streambed Alteration (LSA) Program Notifications

Section 5, Pages 5.4-29, 5.10-6, 65 to 68, 74

CDFW appreciates that a Lake and Streambed Alteration Agreement (LSA Agreement) will be obtained as part of MM BIG BIO-29 and that coordination has begun with CDFW

on the notification pursuant to Fish and Game Code section 1602. CDFW is concerned that MM BIG BIO-29 states that a minimum compensatory mitigation ratio of 1:1 will be required. Please note that CDFW will determine the appropriate mitigation ratio in the LSA Agreement. For this reason, CDFW proposes the edits below, to this section of MM BIG BIO-29 only, for adoption in the recirculated EIR (edits are in **bold** and ~~strikethrough~~):

"Compensatory mitigation to offset impacts on jurisdictional aquatic resources may be implemented through on-site and/or off-site permittee-responsible mitigation, mitigation bank credit purchase (e.g., purchase of enhancement and/or preservation credits at the Mojave River Watershed Mitigation Bank or other approved mitigation bank), or a combination of these options depending on availability. The proposed mitigation strategy shall prioritize in-kind and in-watershed options per the regulatory agencies' preferences. A minimum compensatory mitigation ratio of **no less than** 1:1 will be required; final mitigation ratios and credits shall be determined **by** ~~in consultation with~~ USACE, RWQCB, and CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process."

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB field survey form can be filled out and submitted online at the following link: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

ENVIRONMENTAL DOCUMENT FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of environmental document filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the environmental document filing fee is required in order for the underlying Project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

CDFW appreciates the opportunity to comment on the DEIR to assist the City of Barstow and the Project Proponents in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Scott Jakubowski, Senior Environmental Scientist, at (909) 354-0919 or scott.jakubowski@wildlife.ca.gov.

Sincerely,

DocuSigned by:
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FIGURES

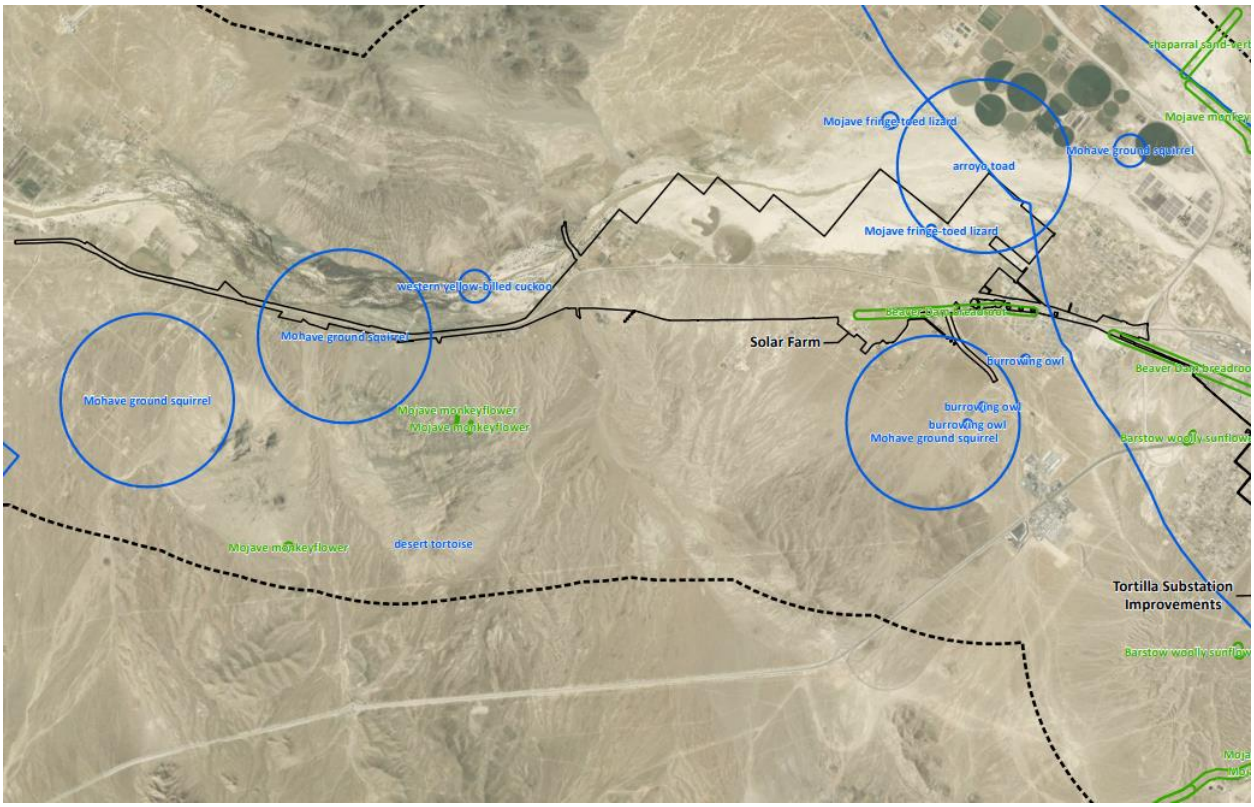

Figure 1. Species occurrences within the Project boundary. Project boundary is depicted by a solid black line.

ATTACHMENTS

Attachment 1: March 25, 2025 CDFW Comment Letter
Attachment 2: Mitigation and Monitoring Reporting Program (MMRP)

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Attachment 2
Mitigation Monitoring and Reporting Plan

Measure Number	Biological (BIO) Mitigation Measure (MM)	Implementation Schedule	Responsible Party
MM BIG BIO-13	Desert Tortoise Clearance Surveys: Prior to commencement of Project activities, desert tortoise exclusion fencing shall be installed and maintained according to a CESA ITP and Biological Opinion to avoid take of desert tortoise during Project activities, including destruction of nests or their potential habitat in the impact footprint, where individuals are known to occur, recent sign has been observed, or construction activities have the potential to result in take. A qualified Species-Specific biological monitor shall first conduct a pre-construction survey for desert tortoise according to the CESA ITP at the locations where exclusionary fencing will be installed and translocate or relocate any desert tortoise present at exclusionary fence installation locations as required by the CESA ITP and only then the exclusionary fencing shall be installed and the qualified Species-Specific biological monitor shall be present during exclusion fence installation. Desert tortoise exclusion fencing in desert tortoise habitat shall be constructed to standards outlined in Chapter 8 of the Desert Tortoise (Mojave Population) Field Manual (*Gopherus agassizii*) (USFWS, 2009b) and shall be used to delineate the area. The desert tortoise exclusion fencing shall	Prior to commencing ground- or vegetation-disturbing activities	Project Proponents and Qualified Biologist

	be maintained and monitored daily during the desert tortoise activity period (i.e., early March through early June and September through early November) to allow for fencing to be maintained in good condition, and to determine if tortoises are “trapped” along the fencing searching for a way to access the other side. Outside of the desert tortoise activity period, fence inspections shall occur at least once weekly by a qualified Species-Specific biological monitor. If failures in the exclusion fence are documented, desert tortoise clearance surveys shall be repeated for affected areas. At the discretion of the CESA ITP and Biological Opinion, desert tortoise exclusion fencing design shall incorporate areas of shade and/or predation protection (e.g., artificial burrows) in the event a desert tortoise becomes trapped along the fence. Desert tortoise guards, or other agency approved design, shall be installed and connected to the exclusionary fencing at construction area entry points to prohibit desert tortoise from crossing into the construction right-of-way. The desert tortoise guard shall have a clear escape route away from construction activity for any desert tortoise that should fall into the guard. The guard shall be inspected daily by a qualified biological monitor for desert tortoise and to ensure the escape route is free of obstruction and debris. Immediately following the installation of desert tortoise exclusion fencing, Species Specific biological monitors		

	and/or designated biologists approved by USFWS in accordance with the Desert Tortoise Authorized Biologist Qualifications Form (Section 3.2) of the *Desert Tortoise (Mojave Population) Field Manual (Gopherus agassizii*) (USFWS, 2009b) and CDFW shall conduct clearance surveys in suitable habitat for desert tortoise. The survey(s) shall be conducted in general accordance with Chapter 6 of the *Desert Tortoise (Mojave Population) Field Manual (Gopherus agassizii*) (USFWS, 2009) or current clearance survey protocol and shall align with requirements in the CESA ITP and Biological Opinion. Survey results shall be provided to the City, CDFW, and USFWS. If active desert tortoise burrows are identified in the impact footprint during desert tortoise clearance surveys and required to be moved off site, a desert tortoise translocation plan will be implemented as approved by USFWS and CDFW. All unoccupied desert tortoise pallets and burrows that are not practical to avoid shall be examined and excavated by hand during the clearance survey by the qualified Species Specific biological monitors and collapsed to prevent reentry following the procedures and precautions outlined in the *Desert Tortoise (Mojave Population) Field Manual (Gopherus agassizii)* (USFWS, 2009b), CESA ITP, and Biological Opinion.		

MM BIG BIO-14	Desert Tortoise Relocation and Translocation: Prior to start of Project activities, a designated biologist approved by CDFW through a CESA ITP and USFWS through a Biological Opinion shall prepare a BIG-specific Desert Tortoise Translocation Plan, based on the *Translocation of Mojave Desert Tortoises from Project Sites: Plan Development Guidance* (USFWS, 2020), H*ealth Assessment Procedures for the Mojave Desert Tortoise (Gopherus agassizii): A Handbook Pertinent to Translocation* (USFWS, 2016) and *Desert Tortoise (Mojave Population) Field Manual (Gopherus agassizii)* (USFWS, 2009b) or other current USFWS guidelines and in accordance with applicable Incidental Take Permits and Biological Opinions. The BIG-specific Desert Tortoise Translocation Plan shall identify suitable relocation and translocation sites, provide details on desert tortoise surveys and for moving desert tortoise out of harm's way, and include the methodology for visual desert tortoise body condition assessments. ~~A~~ The designated biologist shall provide the BIG-specific Desert Tortoise Translocation Plan to the USFWS and CDFW for review and approval at least 30 days prior to start of Project activities before translocation. At a minimum, the Desert Tortoise Translocation Plan shall include the following measures: • The qualified Species-Specific biological monitor or the designated biologist shall implement the Desert Tortoise Translocation Plan during BIG	Prior to commencing ground- or vegetation-disturbing activities	Project Proponents and Qualified Biologist

	construction. Only qualified Species-Specific biological monitors or designated biologists authorized by the USFWS and CDFW to handle desert tortoise shall move the animal and project-specific ITPs for desert tortoise shall be acquired under CESA and FESA prior to such actions. • The approved Species-Specific biological monitor or designated biologist shall move the desert tortoise found in construction work areas out of danger outside of the potential impact footprint, following the procedures and conditions outlined in the Incidental Take Permit and Biological Opinion. • Prior to the approved Species-Specific biological monitor or designated biologist moving desert tortoise out of the construction work area, the biological monitor or designated biologist shall survey the relocation and translocation site to confirm that suitable burrows for desert tortoise exist. If few or no burrows are available, artificial burrows and/or shade structures shall be created along the outer perimeter of the desert tortoise exclusion fencing following the guidelines in the *Desert Tortoise (Mojave Population) Field Manual (Gopherus agassizii)* (USFWS 2009b) and *Shade Structures for Desert Tortoise Exclusion Fence: Design Guidance* (USFWS 2018), or as updated or replaced by the USFWS and in accordance with the CESA ITP and Biological Opinion. • If needed, artificial burrows shall be installed outside of the construction work area (along the outer perimeter of the desert tortoise exclusion fencing if applicable) from where the individual was relocated to provide cover and		

	prevent exposure to predators and dehydration. Prior to excavation of an occupied burrow, artificial burrows shall be installed.		
MM BIG BIO-16	Desert Tortoise Compensatory Mitigation Plan: Prior to start of Project activities, the implementing entity shall prepare a Compensatory Mitigation Plan (CMP) proposed to CDFW in the CESA ITP application that describes the compensatory mitigation that shall be provided at a minimum 1:1 ratio to offset permanent and temporary impacts on desert tortoise habitat. The CMP shall describe the following: • A description of desert tortoise and habitat types for which compensatory mitigation is being proposed. • A description of the methods used to identify and evaluate mitigation options. Options may include one or more of the following: ○ Purchase of mitigation credits from an agency-approved mitigation bank (e.g., Mojave Desert Tortoise Conservation Bank or other CDFW/USFWS approved mitigation bank). ○ Incidental take permit coverage through an existing agency general conservation plan (e.g., USFWS Desert Tortoise General Conservation Plan). ○ Protection of desert tortoise habitat through acquisition and a conservation easement and funding for	Prior to commencing ground- or vegetation-disturbing activities	Project Proponents

	long-term management of the habitat. Endowment funds shall be transferred to the applicable agency or entity approved by CDFW and USFWS and the conservation easements shall be held by an entity approved in writing by the applicable regulatory agency; for example, CDFW and USFWS. In circumstances where BNSF protects habitat through a conservation easement, the terms of the conservation easement shall be subject to approval of the applicable regulatory agencies, such as CDFW and USFWS and the conservation easement shall identify applicable regulatory agencies as third-party beneficiaries with a right of access to the easement areas. • A summary of the estimated direct permanent and temporary impacts on desert tortoise and desert tortoise habitat. • A description of the process that is proposed to be used to confirm impacts. Actual impacts on desert tortoise and desert tortoise habitat could differ from estimates. Should this occur, compensatory mitigation shall occur as determined by CDFW and USFWS. CDFW shall describe in the CESA ITP the process for satisfying compensatory mitigation. Final compensatory mitigation in a CESA ITP shall be determined by CDFW. The CMP shall be submitted to the City.		
MM BIG BIO-20	Swainson's Hawk Construction Requirements: Swainson's hawk nest surveys shall be conducted during the breeding season immediately prior to start of construction	Prior to commencing ground- or vegetation-disturbing activities	Project Proponents and Qualified Biologist

	and provided to the City and CDFW. Surveys shall be conducted within the annual area of the BIG Project construction footprint plus a 0.5-mile buffer by agency-approved Species-Specific biological monitors following the protocol outlined in the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee, 2000). The Species-Specific biological monitor shall be familiar with Swainson's hawk identification and life history and be approved to conduct surveys by CDFW. If active Swainson's hawk nests are found during nest surveys, the Species-Specific biological monitor shall establish an appropriate avoidance buffer around each nest in consultation with CDFW based on work activities proposed. The avoidance buffer will remain in place until a Species-Specific biological monitor confirms that the Swainson's hawk young have fledged or the nest is no longer active. If full avoidance of active Swainson's hawk nest(s) cannot be achieved, the Project Proponent shall obtain an ITP.		
MM BIG BIO-21	Western Burrowing Owl Construction Requirements: No less than 14 days prior to the start of any Project activities within suitable habitat, a qualified Species-Specific biological monitor shall conduct pre-construction surveys for burrowing owl and/or occupied nest burrows within the limits of the BIG construction footprint plus a 500-foot buffer, according to the 2012 Staff Report on Burrowing Owl Mitigation.	Prior to commencing ground- or vegetation-disturbing activities	Project Proponents and Qualified Biologist

	Additionally, time lapses between BIG construction within suitable habitat shall trigger subsequent take avoidance surveys including but not limited to a final survey conducted within 24 hours prior to ground disturbance. The pre-construction surveys shall be repeated if there is a time lapse between construction activities of 14 days or more within previously surveyed areas. All surveys shall be conducted in accordance with the most current CDFW survey methods. If burrowing owl, active burrows, or sign (e.g., molted feathers, cast pellets, prey remains, eggshell fragments, decoration, or excrement) are not observed during the pre-construction surveys, no additional conditions shall be required to avoid direct impacts on burrowing owl within the surveyed areas. If burrowing owl is documented during pre-construction surveys, occupied burrowing owl burrows shall not be disturbed during the nesting season (February 1 through August 31) and all impacts to burrowing owl shall be fully avoided until a CDFW-approved Species-Specific biological monitor verifies through non-invasive methods that either the birds have abandoned or failed nesting attempts, or that juveniles from the occupied burrows are foraging independently and capable of independent survival. A Species-Specific biological monitor shall establish exclusion buffers to protect active nests in accordance with the recommendations included in CDFW's		

	Staff Report on Burrowing Owl Mitigation (2012 or most recent version) for projects with a “High” level of disturbance. A qualified Species-Specific biological monitor shall conduct ongoing monitoring during construction activities. If burrowing owl is observed during the non-breeding season (September 1 through January 31) or confirmed to not be nesting during pre-construction surveys, a non-disturbance buffer between construction activities and the occupied burrow shall be installed by a qualified Species-Specific biological monitor in accordance with the recommendations included in the Staff Report on Burrowing Owl Mitigation (CDFW, 2012 or most recent version) for projects with a “High” level of disturbance. The implementing entity shall submit at least one burrowing owl pre-construction survey report for each surveyed area to the satisfaction of CDFW to document compliance with BIG’s western burrowing owl mitigation measures. Survey reports shall also be submitted to the City. If full avoidance is not possible, either directly or indirectly, an Incidental Take Permit (ITP) under CESA shall be obtained from CDFW and a Burrowing Owl Plan shall be prepared and submitted for review and approval by CDFW. The plan shall also be submitted to the City. Once approved by CDFW, the plan, in conjunction with the CESA ITP, shall be implemented to relocate non-breeding burrowing owls from BIG.		

	The plan and CESA ITP shall detail methods for relocation of burrowing owls and provide guidance for the monitoring and management of the replacement burrow sites and associated reporting requirements. Details of the Burrowing Owl Plan shall be determined in consultation with CDFW, and is anticipated to include, but may not be limited to, the following: • Proposed avoidance, and monitoring actions. • Number and location of occupied burrow sites, acres of burrowing owl habitat that will be impacted, details of site monitoring, and details on proposed buffers and other avoidance measures if avoidance is proposed. • Seasonal restrictions of relocation efforts – Relocation efforts shall occur during the non-breeding season (September 1 through January 31). Relocation during the breeding season (February 1 through August 31) may only occur if a qualified biologist determines that the birds have not begun egg-laying, or that the fledged juveniles are foraging independently and are capable of independent survival. • Climatic restrictions of relocation efforts – Relocation shall not occur when temperatures exceed 895 degrees Fahrenheit or during rain or high wind. • Monitoring schedule and length – Full-time monitoring shall occur for at least two weeks following passive relocation and periodically thereafter or as required by the CESA ITP.		

MM BIG BIO-22	Western Burrowing Owl Compensatory Mitigation: Prior to the start of any Project activities, the implementing entity shall provide compensatory mitigation for burrowing owl as described in a CESA ITP and shall prepare a Compensatory Mitigation Plan (CMP) to be included in the CESA application that describes the compensatory mitigation that the implementing entity proposes to provide at a minimum 1:1 ratio to offset permanent and temporary impacts on burrowing owl habitat. The CMP shall describe the following: • A description of burrowing owl and habitat types for which compensatory mitigation is being proposed. • A description of the methods used to identify and evaluate mitigation options. Options may include one or more of the following: ○ Purchase of mitigation credits from CDFW-approved conservation and/or mitigation bank, if CESA credits for burrowing owl are available. ○ Protection of burrowing owl habitat a conservation easement and funding for long-term management of the habitat. Endowment funds shall be transferred to the applicable agency or entity and conservation easements shall be held by an entity approved in writing by CDFW. Terms of the conservation easement shall be subject to approval of CDFW, and the conservation easement shall identify CDFW as third-party beneficiary with a right of access to the easement areas. • A summary of the estimated direct permanent and temporary Project	Prior to commencing ground- or vegetation-disturbing activities	Project Proponents

	impacts on burrowing owl and burrowing owl habitat. • A description of the process that is proposed to be used to confirm Project impacts. Actual Project impacts on burrowing owl and burrowing habitat could differ from estimates. Should this occur, the Permittee shall be responsible for providing compensatory mitigation for final Project impacts. The burrowing owl CMP shall be updated per the requirements in the CESA ITP and mitigation requirements shall be submitted to the City for review. If all or any portion of required compensatory mitigation lands/credits meet the criteria for burrowing owl compensatory mitigation in the CESA ITP, it may be used to fulfill that portion of the obligation for burrowing owl compensatory mitigation requirements.		
MM BIG BIO-24	Mojave Fringe-toed Lizard and Compensatory Mitigation: Prior to Project activities, the implementing entity shall prepare a compensatory mitigation plan for direct impacts on Mojave fringe-toed lizard and 1,009.1 acres of occupied dune habitat (active desert dunes, stabilized and partially stabilized dunes, disturbed stabilized and partially stabilized dunes). Dune habitat shall be mitigated ~~in-kind~~ through the acquisition and preservation of dune habitat suitable for Mojave fringe-toed lizard at a minimum 3~~1~~:1 ratio to offset permanent and temporary impacts on Mojave fringe-toed lizard habitat. Land selected for compensatory mitigation must be:	Prior to commencing ground- or vegetation-disturbing activities	Project Proponents

	• Deposits of aeolian or fine windblown sands associated with dunes, washes, hillsides, margins of dry lakes, and/or sandy hummocks within the Mojave Desert; • Occupied with Mojave fringe-toed lizard or with potential for connectivity to lands occupied by Mojave fringe-toed lizard; • Within the Mojave River Watershed; • Near land currently under or planned for protection; and • Not characterized as highly disturbed. A long-term management plan and endowment for land acquisition, preservation, and management in perpetuity shall be established by a qualified land manager/conservancy. Final compensatory mitigation for Mojave fringe-toed lizard shall be determined in coordination with CDFW.		
MM BIG BIO-25	Dry Season Construction: Construction within the Mojave River corridor shall be restricted to the dry season when there are no observable surface flows within 1,000 feet of the BIG construction footprint, to the extent feasible. If construction must occur outside of the dry season, biological monitors shall conduct daily pre-construction sweeps within 250 feet of direct impact areas occurring within the Mojave River corridor, such as construction associated with the Hinkley Road Bridge. If American beaver is observed, construction cannot be initiated until the species is able to disperse from the area. Construction	During Project Construction	Project Proponents

	activities may resume after a biological monitor confirms American beaver is no longer present within direct and indirect impact area. If impacts to American beaver are unavoidable, the Project Proponents shall not commence Project activities at the locations where American beaver are found and contact CDFW immediately within 24 hours to discuss proper avoidance, minimization, and mitigation. Mitigation shall occur at no less than a 3:1 mitigation impact ratio and shall include land acquisition, permanent conservation through a conservation easement, and management in perpetuity through an endowment.		
MM BIG BIO-26	Ringtail, American Badger, and Desert Kit Fox Construction Requirements: Prior to start of construction mobilization activities within suitable habitat, biological monitors familiar with ringtail, American badger, and desert kit fox shall conduct surveys within the limits of the BIG construction footprint for occupied dens. The survey(s) shall occur no more than 48 hours prior to start of ground-disturbing activities in suitable habitat for ringtail, American badger, and desert kit fox within the potential impact footprint. Survey results shall be provided to CDFW and the City. If ringtail, American badger, or desert kit fox dens are documented within the survey area, a biological monitor shall establish a no-work exclusion buffer around the den and dens shall not be disturbed until a biological monitor verifies through noninvasive methods that either the den is no longer	Prior to commencing ground- or vegetation-disturbing activities	Project Proponents and Qualified Biologist

	occupied, or that juveniles from a ~~the~~ natal den are foraging independently and capable of independent survival and not dependent on the den. A biological monitor shall monitor the den during construction activities approximately every other day if it is a natal den or weekly otherwise. The definitive frequency and duration of monitoring shall be dependent upon the age and behavior of the ringtail, American badger, or desert kit fox and the efficacy of the exclusion buffers, as determined by a designated biologist or biological monitor and in coordination with CDFW. Passive relocation methods may be employed for non-natal dens that cannot be avoided by construction activities. For individual, non-natal badger and kit fox dens, a plan for passive relocation, burrow monitoring, and excavation of vacated burrows will be developed in coordination with CDFW.		
MM BIG BIO-27	Bat Construction Requirements: Prior to start of demolition or disturbance of structures suitable for roosting (i.e., bridges), pre-construction surveys for bat species shall be conducted by a biological monitor. Pre-construction surveys shall be conducted no more than 14 days prior to the start of demolition activities. Survey results shall be provided to CDFW and the City. If active bat roosting is documented during pre-construction surveys within structures to be impacted, bat exclusion techniques, consistent with recommendations provided in Caltrans Bat Mitigation: A Guide to Developing	Prior to Project activities	Project Proponents

	Feasible and Effective Solutions (H. T. Harvey & Associates, 2019), shall be implemented. If required, exclusion shall be implemented between September 1 and October 15 to the extent feasible. Exclusion shall not occur during the typical bat maternity season (April through August). Prior to demolition and/or improvement of structures that could support roosting bats, including Hinkley Road Bridge, or trees that will be removed, a biologist with expertise in chiropterology (study of bats) shall survey these features and any areas that could provide suitable roosting habitat to confirm they do not contain maternity roosts or bats. If bats and/or maternity roosts are confirmed to be absent, MM BIG BIO-1 above will be followed prior to construction to reduce potential impacts to individual roosting bats to a less than significant level and no further mitigation is required. If a potential maternity roost and/or other type of bat roost is present, a Bat Avoidance and Mitigation Plan shall be developed in coordination with the City and CDFW, which may include the following measures to reduce potential impacts to bat species to a less than significant level. • Maternity Roosting Season Avoidance. All proposed demolition activities of active roost sites, including bat roost exclusion, shall occur outside the general bat maternity roosting season of March through August to reduce potentially significant impacts to maternity roosting bats. If the maternity roosting season cannot be avoided, then roost exclusion can occur outside the maternity roosting season		

	(September through February) to exclude bats from the demolition area prior to the start of demolition during the maternity roosting season. The measures below shall be required to ensure to avoid impacts to roosting bats during the exclusion process. • Replacement Roost Installation. If there is a potential or known maternity roost within a structure to be demolished, a replacement roost shall be installed outside the maternity roosting season. At least one month prior to the exclusion of bats from a roost, the implementing entity shall procure and install two or more (dependent on colony size) bat boxes from a reputable vendor, such as Bat Conservation and Management, to allow bats sufficient time to acclimate to a new potential roost location. The bat boxes shall be installed within close proximity to the trees and/or structures and in an area that is within close proximity to suitable foraging habitat (i.e., near the Mojave River). Additionally, the bat boxes shall be oriented to the south or southwest, and the area chosen for the bat boxes must receive sufficient sunlight (at least 6 hours) to allow the bat boxes to reach an optimum internal temperature (approximately 90°F) to mimic the existing bat roost. The bat boxes shall be suitable to house crevice roosting bat species, and large enough to contain a minimum of 50 bats (e.g., Four Chamber Premium Bat House or Bat Bunker Plus). The bat boxes shall be installed on a 20-foot-tall steel pole. • Roost Exclusion. Roost exclusion must only occur during the time when bats are most active (early spring or fall) to increase the potential to exclude all		

	bats from City of Barstow Proposed General Plan and Barstow International Gateway Project EIR Draft Environmental Impact Report 5.4-94 5.4 | Biological Resources roosts and avoid the maternity roosting season, thereby minimizing the potential for a significant impact to occur. Approximately one month after bat boxes have been installed, exclusion of the existing roost shall occur. The primary exit points for roosting bats shall be identified, and all secondary ingress/egress locations shall be covered with a tarp or wood planks to prevent bats from leaving from other locations. The primary exit point shall remain uncovered to allow exclusion devices to be installed. Exclusion devices shall consist of a screen (poly netting, window screen, or fiberglass screening) with mesh 1/6 of an inch or smaller, installed at the top of the roost location and sealed along the sides and passing 2 feet below the bottom of the primary exit point. The exclusion devices shall be installed at night to increase the potential that bats have already left the roost and are less likely to return. Exclusion devices shall be left in place for a 1-week period to ensure that any remaining bats in the roost are excluded. A passive acoustic monitoring detector shall also be deployed during the exclusion period in order to verify excluded species and monitor if bat activity has decreased during the exclusion period. Periodic monitoring during the exclusion period should also be conducted to observe if any bats are still emerging from additional areas at BIG, and an active monitoring survey conducted on the final night of exclusion to ensure that no bats are emerging and		

	determine that exclusion has been successful. Any continued presence of roosting bats shall require an adjustment to the exclusion devices and schedule. The exclusion devices may remain in place until the start of demolition activities. If any bats are found roosting in any proposed demolition areas prior to demolition, additional exclusion shall be required and follow the same methodology described in this mitigation measure. • Roost Habitat Creation. If sensitive bat species are present within Hinkley Road Bridge or other structures that will persist post BIG construction but require bat displacement for improvements to be made, bat friendly roost designs shall be developed as part of Project plans as feasible. Bat friendly designs shall be developed in coordination with a qualified biologist, the City, and CDFW.		
MM BIG BIO-29	This section of MM BIG BIO-29 Only: "Compensatory mitigation to offset impacts on jurisdictional aquatic resources may be implemented through on-site and/or off-site permittee-responsible mitigation, mitigation bank credit purchase (e.g., purchase of enhancement and/or preservation credits at the Mojave River Watershed Mitigation Bank or other approved mitigation bank), or a combination of these options depending on availability. The proposed mitigation strategy shall prioritize in-kind and in-watershed options per the regulatory agencies' preferences. A minimum compensatory mitigation ratio of no less than 1:1 will be required; final mitigation ratios and	Prior to commencing ground- or vegetation-disturbing activities	Project Proponents

	credits shall be determined by USACE, RWQCB, and CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process."		
MM BIG BIO-32	Wildlife Crossings: As part of BIG construction, a wildlife crossing shall be constructed at the Unnamed Stream (Milepost 12.5) below the BNSF tracks and Main Street to facilitate wildlife movement between areas of natural habitat on either side of the railway and road. The railway crossing feature shall be placed alongside four smaller culverts constructed to convey water: three 36-inch and one 48-inch diameter culverts. The wildlife crossing shall be an 84-inch diameter culvert designed to facilitate passage beneath the rail right-of-way, which would connect open space east of the railway to the Mojave River, thereby maintaining access to existing linkages (i.e., the Rank 4/5 ACE, California Desert Linkage Network, and CEHC Potential Riparian Connection). Design features for facilitating wildlife culvert usage shall include installing inlet and outlet points. A long-term management plan for the wildlife crossing shall be submitted to the City for review and approval prior to start of vegetation removal and/or mass grading. The long-term management plan shall include: • Additional measures to encourage wildlife use include, but are not limited to, maintenance or restoration of native vegetation near, but not obstructing,	During Project Construction	Project Proponents

	culvert mouths, and invasive plant removal. • Routine clearing of debris and trash from the culvert shall be completed on a quarterly basis and following large storm events to allow ample space is available for wildlife travel. • Access points to the culvert shall contain rocks or woody refuge sites to attract subterranean wildlife. Habitat quality (i.e., the percentage of invasive versus native plants and level of anthropogenic degradation) within a 200-meter radius surrounding the culvert access points shall be monitored quarterly by a qualified biologist to confirm wildlife corridor functionality. • A mitigation entity responsible for the implementation of the long-term management plan. • Exclusionary fencing shall be extended at least ½ to 1 mile along both sides of all Project-related rights-of-way, including rail and road medians, and should be designed to guide wildlife toward safe crossing structures. Without such measures, fencing may act as a barrier rather than a protective feature, increasing the risk of isolation and mortality.		
MM BIG BIO-34	Permanent Security Fencing: Prior to final construction design and upon securing a CESA ITP for CESA species, the designated biologist shall review and submit the fencing plans of the BIG Specific Plan Area to CDFW for review and consultation that are adjacent to natural habitats to confirm the fences provide a sufficient barrier to	Prior to commencing ground- or vegetation-disturbing activities	Project Proponents and Qualified Biologist

	restrict wildlife from entering the BIG Specific Plan area. The permanent security fencing shall be enhanced with a barrier (e.g., fine-mesh fencing) that extends at least 12 inches below ground and 12 inches above ground to prevent special status reptile and mammal species, including desert tortoise, from moving through or underneath the fencing and gaining access to the BIG Specific Plan area. Where fencing is proposed between natural habitats and roadway right-of-way, at the 12-inch depth of the below-grade portion fence apron, the barrier shall extend or be bent at an approximately 90-degree angle and oriented outward from the roadway right-of-way a minimum of 12 inches to prevent fossorial (burrowing) mammals and reptiles from digging or tunneling below the security fence and gaining access to BIG. A climber barrier (e.g., rigid curved or bent overhang) shall be installed at the top of the apron to prevent reptiles and mammals from climbing over the apron. The designated biologists shall confirm that the selected apron material and climber barrier do not cause harm, injury, entanglement, or entrapment to wildlife species. Exclusionary fencing shall be extended at least ½ to 1 mile along both sides of all Project-related rights-of-way, including rail and road medians, and should be designed to guide wildlife toward safe crossing structures. Without such measures, fencing may act as a barrier rather than a protective feature, increasing the risk of isolation and mortality.		

	The implementing entity shall provide quarterly inspection and repair of the fencing. The specific design and method for installation method of an apron or barrier may vary as required by regulatory permits issued under the FESA or CESA. Prior to start of operations then quarterly, biological monitors shall field-inspect the fencing that is adjacent to natural habitats and confirm appropriate installation and the implementing entity shall carry out repair of the fencing, as needed. Fencing plan review and field inspection shall be documented in a memorandum from the designated biologists and provided to CDFW and the City. In summary, CDFW recommends updating the final EIR to: • Accurately map and describe existing wildlife corridors and habitat linkages; • Evaluate the ecological function and hydrological performance of proposed crossings; • Implement directional fencing and median barriers to guide wildlife toward safe crossing structures and prevent access to hazardous infrastructure; • Analyze the spatial adequacy of crossing locations relative to known movement patterns informed by the wildlife movement study; • Incorporate exclusionary fencing that is combined with directional fencing to support wildlife movement; • Coordinate with CDFW and USFWS to ensure fencing and crossing designs align with species-specific needs and regional conservation goals.		

MM BIG BIO-37	Desert Native Plant Salvage Plan: Prior to start of construction mobilization activities, the implementing entity shall prepare a Desert Native Plant Salvage Plan for the removal of any plant species regulated under the CDNPA and County Code § 88.01.060, as well as any rare, sensitive, species of special concern, or other native plants identified by CDFW or CNPS. Adequate mitigation for CDNPA/County-protected and rare and sensitive plants may include the salvage of plants for translocation to a suitable recipient site if removal cannot be avoided. In the case of translocation, the Desert Native Plant Salvage Plan shall be prepared for review and approval by the City and CDFW. The plan shall include a description and map showing plants to be salvaged, salvage and transport methods, the proposed recipient site, and disposition of the plant specimens at the recipient site. Recipient sites may include existing conservation areas, botanical preserves, museums and zoological societies, among other conservation organizations that provide adequate habitat and management of desert native plants.	Prior to commencing ground- or vegetation-disturbing activities	Project Proponents
MM BIG BIO-38	Arroyo Toad Pre-Construction Surveys: A qualified biologist(s) shall survey the Project site prior to commencement of Project activities according to the USFWS's Survey Protocol for the Arroyo Toad. If arroyo toads are found in the Project area and impacts are unavoidable, the Project Proponents shall not initiate Project activities at arroyo toad occupied locations and contact CDFW and the USFWS	Prior to commencing ground- or vegetation-disturbing activities	Project Proponents and Qualified Biologist

	immediately within 24 hours to coordinate on appropriate avoidance and minimization measures to avoid impacts to arroyo toad. Unavoidable impacts to arroyo toad compensatory mitigation at a 3:1 mitigation ratio. Compensatory mitigation shall include permanent conservation of acquired lands through a conservation easement and an endowment to ensure management of the lands in perpetuity.		
MM BIG BIO-39	Crotch's Bumble Bee Avoidance: A habitat assessment and in accordance with the 2023 CDFW Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species (CDFW & Xerces Society, 2023) shall be conducted prior to commencement of Project activities to identify suitable habitat for Crotch's bumble bee. Within suitable habitat for Crotch's bumble, surveys should be conducted during the appropriate season when adult bees are active and floral resources are available in accordance with the 2023 CDFW Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species (CDFW & Xerces Society, 2023). If Crotch's bumble bee is detected during surveys or construction activities and complete avoidance is not feasible, CDFW strongly recommends that the Project Proponents obtain a CESA ITP from CDFW prior to commencing any vegetation or ground-disturbing activities. Any unauthorized Take of Crotch's bumble bee would constitute a violation of Fish and Game Code §2080.	Prior to commencing ground- or vegetation-disturbing activities	Project Proponents and Qualified Biologist

MM BIG BIO-40	Western Joshua Tree Conservation Act Incidental Take Permit: Prior to the initiation of ground disturbing Project activities, if the Project may result in Take of western Joshua tree (*Yucca brevifolia*) (i.e., removal, trimming, relocation, severing of roots), the Project Proponents shall obtain an incidental take permit (ITP) through compliance with the Western Joshua Tree Conservation Act (Fish & G. Code, § 1927 et seq.) or through the California Endangered Species Act (Fish & G. Code, §§ 2080 & 2085).	Prior to commencing ground- or vegetation-disturbing activities	Project Proponents
MM BIG BIO-41	Mohave Ground Squirrel Pre-Construction Surveys: Prior to commencement of ground disturbing Project activities, a visual survey shall be conducted by a qualified biologist during the period of March 15 through April 15 to determine presence of Mohave ground squirrel. The survey shall be conducted on the Project Site during daylight hours by the qualified biologist who can visually identify Mohave ground squirrel and white-tailed antelope squirrel and detect vocalization calls. If the survey or monitoring confirms presence, the Project Proponents shall contact CDFW immediately (within 24 hours) and fully avoid all impacts to Mohave ground squirrel or obtain an incidental take permit (ITP).	Prior to commencing ground- or vegetation-disturbing activities	Project Proponents and Qualified Biologist