State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region
3602 Inland Empire Boulevard, Suite C-220
Ontario, CA 91764
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

November 18, 2021
Sent via e-mail

Mary Blais, Planning Consultant
City of Adelanto Community Development Department, Planning Division
11600 Air Expressway
Adelanto, CA 92301

CUP 20-05, LDP 20-06, TPM 20245 - Patel (PROJECT)
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION (IS/MND) SCH# 2021100451

Dear Ms. Blais:

The California Department of Fish and Wildlife (CDFW) received a Notice of Intent to Adopt an MND from the City of Adelanto (City) for the CUP 20-05, LDP 20-06, TPM 20245 - Patel (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.

CDFW is also submitting comments as a Responsible Agency under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need

[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.

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 proponent may seek related take authorization as provided by the Fish and Game Code.

PROJECT DESCRIPTION SUMMARY

Proponent: City of Adelanto

Objective: The Project proposes to subdivide 11.26 acres of Assessor's Parcel Number (APN) 0460-171-24-0000 into 8 lots for commercial cannabis production. The proposed cannabis cultivation would include the following:

- Grading and construction of 8 greenhouses (each building 25,000 sq. ft.; structures to include metal and plastic materials with "translucent roof panels")
- Pavement (154,404 sq. ft.) and concrete hardscape/curb (15,649 sq. ft)
- Parking spaces (204)
- Landscaping around the perimeter (47,772 sq. ft.)
- Bioretention basin to capture stormwater runoff (12,328 sq. ft.)
- Water storage (1,200 gallons) and discharge of water used in cannabis cultivation to "evaporation pads between the buildings" (p. 57, IS/MND)

Eight-foot security fencing with barbed wire or concertina wire at the top will be installed around the perimeter. Water will be supplied by the Adelanto Water Department and Adelanto Public Utility Authority but will require extension of existing water lines. Water supply for the City of Adelanto is from local groundwater. Wastewater will be treated on-site by a septic system (750-gallon tank for each greenhouse).

Location: The Project is located at APN 0460-171-24-0000 (Highway 395, Adelanto, CA 92301), an undeveloped parcel of 11.54 acres in the high desert. Highway 395 runs through the western side of the parcel. The 11.26 acres east of Highway 395 would be developed for the Project. The Project site is southeast of Calleja Rd. and Highway 395 in the City of Adelanto, San Bernardino County. The Mojave River and Interstate 15 lie to the east, and El Mirage Lake lies to the west. Fremont wash lies less than 2 miles northeast of the site. The Project lies within the Mojave River watershed and the Upper Mojave River Valley Groundwater Basin.

Timeframe: Project construction is planned in phases and will take 6 months after permits are issued by the City of Adelanto.

COMMENTS AND RECOMMENDATIONS

CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (i.e., biological resources). The IS/MND has not adequately identified and

disclosed the Project's impacts (i.e., direct, indirect, and cumulative) to biological resources and whether those impacts are less than significant. CDFW offers the following comments and recommendations to assist the City in adequately identifying and mitigating the Project's potentially significant impacts to biological resources. In addition to the sections below, CDFW has the following concerns:

- Incomplete description of Project activities: The IS/MND does not adequately describe the cultivation facilities, so it is unclear if impacts to biological resources are less than significant. To be considered indoor cultivation, a structure should have a permanent roof and walls, as well as an impermeable floor. Figure 6 of the IS/MND indicates that the roof of greenhouses will be constructed of corrugated metal. However, the text of the IS/MND indicates that the greenhouses will be constructed of metal and plastic, with "translucent roof panels" that will "transmit approximately 90 percent of natural sunlight" (p. 3). Cultivation structures that allow light to pass through them will have different impacts on biological resources than completely enclosed structures (e.g., artificial light will have greater impacts if structures are not completely enclosed; see the "Cannabis-Specific Impacts on Biological Resources" below). Figure 5 provides building specifications; however, the figure is not high-resolution, so details cannot be read when enlarged. CDFW recommends the IS/MND include a detailed and accurate description of the cultivation facilities and analyze the impacts to biological resources. In addition, the IS/MND indicates that water used in cannabis cultivation would be discharged to "evaporation pads between the buildings," but that the design has not been completed (p. 57, IS/MND). Without information on the design and scope of the evaporation pads, it is not possible to determine whether impacts to biological resources are less than significant. Concentrated water sources act as attractants to wildlife in arid climates. CDFW is concerned that concentrated salts from fertilizers used in the cultivation operation could pose a hazard to wildlife attracted to water in the evaporation pads. CDFW recommends the IS/MND include a complete description of the evaporation pads between buildings and analyze the impacts to biological resources.
- Management of bioretention basin: CDFW is concerned about potential impacts to biological resources resulting from management of the onsite bioretention basin to capture stormwater runoff. Because retention basins have the potential to create habitat that attracts wildlife, CDFW is concerned that the basins need proper management. The retention basins will have to be maintained, which poses concerns about work period/season, nesting birds, vegetation removal, and sensitive species surveys, as well as the potential need for a Lake and Streambed Alteration Agreement to maintain the basin. The IS/MND should include an analysis of these issues.
- Landscaping: The IS/MND indicates that landscaping is proposed around the perimeter of the property. Because California has entered another period of extended drought, CDFW recommends xeriscaping with locally native California species and installing water-efficient and targeted irrigation systems (such as drip irrigation). Local water agencies/districts and resource conservation districts in your area may be able to provide information on plant nurseries that carry locally native species. Information on drought-tolerant landscaping and water-efficient irrigation systems is available on California's Save our Water website: http://saveourwater.com.
- Cumulative impacts to biological resources: The IS/MND (p. 23) acknowledges the potential for cumulative impacts to biological resources in the form of habitat loss:

"While this 11.26 acre site development will not be a significant impact on biological resources, the cumulative impact of many of these site developments could result in such impact. It is recommended that the City of Adelanto devise recommendations for setting aside biological open space areas as further development of the City occurs." The IS/MND also (p. 63) acknowledges the potential for cumulative impacts of water use for cannabis cultivation but defers the analysis: "Due to the unique features of Cannabis cultivation, there will be a contribution to cumulative impacts of water use. As facilities continue to be permitted in Adelanto for Cannabis cultivation, it is recommended that the impact of the size and number of such facilities be studied by the City and that appropriate mitigation measures be developed." Cannabis cultivation and related activities require large quantities of water, which can impact groundwater-dependent species and ecosystems. These impacts may be further compounded by current drought conditions. Although the IS/MND analyzes impacts of the Project on groundwater recharge, it does not analyze the potential for the Project to decrease groundwater supplies. CDFW recommends that the IS/MND include an analysis of impacts of the Project on groundwater supplies and groundwater-dependent species and ecosystems. The IS/MND should also include an analysis of cumulative impacts (e.g., groundwater overdraft and loss of habitat) from the increasing concentration of cannabis-related projects in the City of Adelanto and the surrounding area.

Assessment of Impacts to Biological Resources

Biological Report and Adequacy of Surveys

The IS/MND bases its analysis of impacts to biological resources on a biological assessment conducted on August 17, 2020, by RCA Associates Inc. No details of the scope and methods of the biological assessment are given in the IS/MND, and the biological assessment report has not been made available with the IS/MND. The IS/MND also indicates a focused survey was conducted for burrowing owl (*Athene cunicularia*) a CDFW Species of Special Concern, the State listed threatened, proposed endangered desert tortoise (*Gopherus agassizii*), and the State listed threatened Mohave ground squirrel (*Xerospermophilus mohavensis*) but does not provide information on the timing and scope of the focused survey or the survey protocol(s) used. In addition, the title page of the IS/MND indicates that field work was completed on November 10, 2020, and April 26, 2021, but no further mention of this field work appears in the IS/MND. CDFW is unable to determine whether impacts to biological resources have been disclosed and analyzed due to incomplete and/or inaccurate information about the timing, scope, and methods of the biological assessment and focused survey. CDFW recommends that the IS/MND be revised to provide accurate and complete information about the biological assessment, focused survey, and other field work. CDFW generally considers field assessments for wildlife valid for a 1-year period. Focused surveys must be conducted at the appropriate time of year to detect the presence of special status species on-site, such as desert tortoise and special status plant species.

The IS/MND states that there are five special status species in the USGS Adelanto quadrangle and lists the following four: burrowing owl, Swainson's hawk (*Buteo swainsoni*), desert tortoise, and Le Conte's thrasher (*Toxostoma lecontei*). The IS/MND (p.

20) states that the results of the focused survey for burrowing owl, desert tortoise, and Mohave ground squirrel indicated “no suitable burrows or other signs” for burrowing owl and desert tortoise and that these species are not expected to occur. The survey results for Mohave ground squirrel do not appear to be mentioned. The IS/MND indicates that impacts to these species are less than significant with incorporation of mitigation measures BIO-1, 2, and 3; however, the mitigation measures do not include any protections for desert tortoise and Mohave ground squirrel. The IS/MND also indicates that there are 13 western Joshua trees (*Yucca brevifolia*) on-site and indicates that a Joshua Tree Protection Plan was completed by RCA Associates Inc. on January 27, 2021, but this document has not been provided with the IS/MND.

Biological Resources

The California Natural Diversity Database (CNDDB) is a positive-detection database only, meaning the absence of species data reported by CNDDB does not indicate absence of species from a project site. A recent query of the California Natural Diversity Database (CNDDB) and Biogeographic Information and Observation System (BIOS), including unprocessed data, for the USGS Adelanto quadrangle, which contains the Project site, returned 18 records, including the following species:

- **Birds—**Swainson’s hawk (*Buteo swainsoni*; state threatened species), burrowing owl (*Athene cunicularia*; CDFW Species of Special Concern [SSC]), Le Conte’s thrasher (*Toxostoma lecontei*; CDFW SSC), loggerhead shrike (*Lanius ludovicianus*; CDFW SSC), northern harrier (*Circus hudsonius*; CDFW SSC), prairie falcon (*Falco mexicanus*; CDFW Watch List), Brewer’s sparrow (*Spizella breweri*).
- **Mammals—**Mohave ground squirrel (*Xerospermophilus mohavensis*; state threatened species), southern grasshopper mouse (*Onychomys torridus ramona*; CDFW SSC), American badger (*Taxidea taxus*; CDFW SSC).
- **Reptiles—**desert tortoise (*Gopherus agassizii*; federal and state threated species, state candidate for uplisting), coast horned lizard (*Phrynosoma blainvillii*; CDFW SSC).
- **Plants—**western Joshua tree (*Yucca brevifolia*; state candidate threatened species), Beaver Dam breadroot (*Pediomelum castoreum*; California Rare Plant Rank 1B.2), sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*; California Rare Plant Rank 2B.2), white pygmy-poppy (*Canbya candida*; California Rare Plant Rank 4.2), Mojave spineflower (*Chorizanthe spinosa*; California Rare Plant Rank 4.2), crowned muilla (*Muilla coronata*; California Rare Plant Rank 4.2).

CNDDB/BIOS reports occurrences of desert tortoise overlapping the Project parcel, Mohave ground squirrel less than 0.5 mile north of the parcel, and Le Conte’s thrasher than 0.5 mile east of the parcel. In addition, BIOS data layers showing connectivity modeling for the California Desert Linkage Network indicate that the Project site falls within core breeding habitat (i.e., continuous area of suitable habitat large enough to sustain at least 50 individuals) for desert tortoise, Mohave ground squirrel, burrowing owl, loggerhead shrike, Le Conte’s thrasher, and kit fox (*Vulpes macrotis*). CDFW’s California Wildlife Habitat Relationship model indicates that the Project site is located within high-quality habitat for desert tortoise, burrowing owl, Le Conte’s thrasher, and kit fox, as well as medium-quality habitat for Mohave ground squirrel and loggerhead shrike. US Fish and Wildlife Service (USFWS) critical habitat for desert tortoise (Fremont-Kramer critical habitat

unit, which occurs within the Western Mojave Recovery Unit) is less than 5 miles north of the Project site.

CDFW is concerned about the potential for special status and other species to occur on the Project site. In the absence of complete and accurate information on the timing and scope of the biological assessment and focused survey conducted for the IS/MND, CDFW cannot determine whether the mitigation measures as proposed would reduce impacts to special status species to less than significant. Mitigation measures in the IS/MND are largely confined to pre-construction surveys. CDFW is concerned that waiting to assess the site for the presence of special status species until the time of construction will not reduce impacts to less than significant, particularly for species such as special status plants, desert tortoise, Mohave ground squirrel, burrowing owl, and desert kit fox (see below).

California Endangered Species Act (CESA)

CESA prohibits the take (under Fish & G. Code, § 86, "take" means to hunt, pursue, catch, capture, or kill, or to attempt to hunt, pursue, catch, capture, or kill) of any endangered, threatened, or candidate species that results from a proposed project, except as authorized by state law (Fish & G. Code, §§ 2080, 2085). Consequently, if Project construction or any Project-related activity during the life of the proposed Project would result in take of a CESA-listed species, CDFW recommends that the Project applicant seek appropriate take authorization under CESA prior to implementing the proposed Project. Appropriate authorization from CDFW may include an Incidental Take Permit (ITP), a consistency determination, or other permitting options (Fish and G. Code, §§ 2080.1, 2081, subds. (b), (c)). CDFW encourages early consultation, as significant modification to the proposed Project and avoidance, minimization, and mitigation measures may be necessary to obtain a CESA ITP. Proposed avoidance, minimization, and mitigation measures must be sufficient for CDFW to conclude that the Project's impacts are fully mitigated.

CDFW is responsible for ensuring appropriate conservation of fish and wildlife resources including threatened, endangered, and/or candidate plant and animal species, pursuant to CESA. A CESA ITP is issued to conserve, protect, enhance, and restore state-listed CESA species and their habitats. Western Joshua tree, desert tortoise, and Mohave ground squirrel are species protected under CESA that have potential to occur within the Project site.

Western Joshua Tree (*Yucca brevifolia*)

Western Joshua tree is a candidate threatened species under CESA. During the candidacy period, no person shall import into California, export out of California, or take, possess, purchase, or sell within California, Joshua trees or any part or product thereof, or attempt any of those acts, except as authorized pursuant to CESA. Pursuant to section 2081, subdivision (b) of the Fish and Game Code, CDFW may issue an ITP authorizing the take of candidate species provided that the following conditions apply: it is incidental to an otherwise lawful activity, the impacts of the take are minimized and fully mitigated, the

applicant ensures there is adequate funding to implement any required measures, and take is not likely to jeopardize the continued existence of the species.

The IS/MND indicates that the Project would result in take of all 13 western Joshua trees observed on the Project site during the biological assessment, and that 8 of those trees would be transplanted according to the Protected Plant Preservation Plan written by RCA Associates Inc., which has not been provided with the IS/MND. The IS/MND incorrectly indicates on page 62 that the Project will require an ITP only "for those trees that cannot be transplanted" (p. 62). The City should be aware that any activity that results in the removal, translocation, possession, or destruction of a western Joshua tree, or any part thereof, or impacts the seedbank surrounding one or more western Joshua trees may result in take of the species, which is prohibited by State law unless otherwise authorized.

The Project could also result in indirect impacts to western Joshua tree from destruction or modification of habitat at the Project location. Indirect impacts include destruction of western Joshua tree's obligate pollinating moth (yucca moth, *Tegeticula synthetica*), while it is dormant in the soil or while it is in its flight phase, which would impact the ability of western Joshua tree to sexually recruit new individuals (Sweet et al. 2019). Destruction or modification of habitat at the Project location could also disrupt the seed dispersal behavior of rodents, which is the primary way that western Joshua tree seeds are buried at a soil depth suitable for successful germination (Waitman et al. 2012). Destruction or modification of habitat at the Project location could also eliminate nurse plants that are critical for western Joshua tree seedling survival (Brittingham and Walker 2000). CDFW requests the IS/MND adequately identify and disclose the Project's impacts (i.e., direct, indirect, and cumulative) to the biological resources noted above and propose mitigation to offset those impacts and demonstrate that impacts are less than significant and, for the purposes of CESA permitting, fully mitigated.

Currently, the IS/MND has mitigation measure BIO-4 dedicated to potential transplanting of western Joshua trees. CDFW is concerned that transplantation does not meet CESA's standard of full mitigation for take of western Joshua trees. The IS/MND also lacks a mitigation measure to describe how the western Joshua trees, including the seedbank, will be protected in place should the species be listed under CESA and an ITP not be obtained, or if the species remains a candidate at the time of proposed Project implementation. If the Project, including the Project construction or any Project-related activity during the life of the Project, may impact or result in take of a candidate or CESA-listed species, CDFW recommends that the Project proponent seek appropriate CESA authorization prior to Project implementation. CDFW therefore recommends inclusion of the following mitigation measure:

MM BIO-1: All western Joshua trees and parts thereof should be buffered for avoidance. A qualified biologist should establish a 290-foot buffer around each western Joshua tree parent, seedling, and sprout. No project activities may occur within the buffer. Should avoidance be infeasible, CDFW recommends the Project Proponent apply for an Incidental Take Permit from CDFW prior to initiating Project activities.

Pursuant to the CEQA Guidelines, section 15097(f), CDFW has prepared a draft mitigation monitoring and reporting program (MMRP) for proposed MM BIO-1. The draft MMRP with MM BIO-1 through MM BIO-12 is enclosed as Attachment 1 at the end of this letter.

Special Status Plants

Based on review of CNDDB and BIOS, plant species that are state and/or federally listed as endangered and plant species with California Rare Plant Ranks of 1B and 2B have the potential to occur in the Project area. The California Rare Plant Rank 1B indicates plants that are rare, threatened, or endangered in California and elsewhere, and California Rare Plant Rank 2B indicates plants that are rare, threatened, or endangered in California but more common elsewhere. Impacts to these species must be analyzed during preparation of environmental documents relating to CEQA because they meet the definition of rare or endangered under CEQA Guidelines §15125 (c) and/or §15380.

CDFW is concerned that the biological resources assessment was not conducted at the appropriate time of year to detect the presence of special plant status species on the Project site. CDFW therefore recommends a thorough, floristic-based assessment of special status plants at the appropriate time(s) of year, using the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018 or most recent version), before the City of Adelanto adopts the MND. CDFW recommends including the following mitigation measure:

MM BIO-2: A thorough floristic-based assessment of special status plants and natural communities, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018 or most recent version) should be performed by a qualified biologist prior to commencing Project activities. Should any state-listed plant species be present in the Project area, the Project proponent should obtain an Incidental Take Permit for those species prior to the start of Project activities. Should other special status plants or natural communities be present in the Project area, a qualified restoration specialist should assess whether perennial species may be successfully transplanted to an appropriate natural site or whether on-site or off-site conservation is warranted to mitigate Project impacts. If successful transplantation of perennial species is determined by a qualified restoration specialist, the receiver site should be identified, and transplantation should occur at the appropriate time of year. Additionally, the qualified restoration specialist should perform seed collection and dispersal from special status annual plant species to a natural site as a conservation strategy to minimize and mitigate Project impacts. If these measures are implemented, monitoring of plant populations should be conducted annually for 5 years to assess the mitigation's effectiveness. The performance standard for mitigation should be no net reduction in the size or viability of the local population.

Desert Tortoise (*Gopherus agassizii*)

The IS/MND indicates that a combined focused survey for desert tortoise, Mohave ground squirrel, and burrowing owl was conducted for the IS/MND, presumably as part of the biological assessment conducted on August 17, 2020; however, the timing is not clear from the text of the IS/MND. CDFW is concerned that the focused survey for desert

tortoise was combined with other species and, if conducted on August 17, 2020, was not conducted at the appropriate time of year to accurately detect the presence of desert tortoise. Chapter 4 of the *Desert Tortoise (Mojave Population) Field Manual* indicates that "surveys should be conducted during the desert tortoise's most active periods (April through May or September through October)" (USFWS 2009, p. 4–8). In addition, no mitigation measure has been included for desert tortoise in the IS/MND.

Because of the potential for desert tortoise to occur in the Project area, and in the absence of complete and accurate information on the timing and scope of the biological assessment and focused survey, CDFW recommends that prior to commencing Project activities, focused surveys for desert tortoise following the *Desert Tortoise (Mojave Population) Field Manual* should be conducted by a qualified biologist at the appropriate time of year and day. CDFW recommends the following mitigation measure, which includes both focused and pre-construction surveys:

MM BIO-3: Prior to commencing Project activities, focused surveys for desert tortoise should be conducted by a qualified biologist, according to protocols in chapter 4 of the *Desert Tortoise (Mojave Population) Field Manual* (USFWS 2009 or most recent version), during the species' most active periods (April through May or September through October). CDFW recommends working with USFWS and CDFW concurrently to ensure a consistent and adequate approach to planning survey work and that biologists retained to complete desert tortoise protocol-level surveys submit their qualifications to CDFW and USFWS prior to initiation of surveys for review and approval.

No more than 48 hours prior to start of Project activities, a qualified biologist should conduct pre-construction surveys for desert tortoise as described in the USFWS *Desert Tortoise (Mojave Population) Field Manual* (USFWS 2009 or most recent version). Pre-construction surveys should be completed using perpendicular survey routes within the Project area and 50-foot buffer zone. Pre-construction surveys cannot be combined with other surveys conducted for other species while using the same personnel. Project activities cannot start until two negative results from consecutive surveys using perpendicular survey routes for desert tortoise are documented. Should desert tortoise presence be confirmed during the survey, Project activities should be halted, and the qualified biologist should immediately notify CDFW and USFWS to determine appropriate avoidance, minimization, and mitigation measures.

Mohave Ground Squirrel (*Xerospermophilus mohavensis*)

CDFW is concerned that the focused survey for Mohave ground squirrel was combined with other species and, if conducted on August 17, 2020, may have been conducted during the dormant season for Mohave ground squirrel. Mohave ground squirrel is only active for five or six months of the year before entering aestivation, in approximately July or August depending on "age, sex, reproductive status, and the availability of food resources" (CDFW 2019, p. 34). A non-protocol survey performed outside of their active season cannot confirm absence/presence of the species. In addition, no mitigation measure has been included for Mohave ground squirrel in the IS/MND.

Because of the potential for Mohave ground squirrel to occur in the Project area, and in the absence of complete and accurate information on the timing and scope of the biological assessment and focused survey, CDFW recommends that prior to commencing Project

activities, focused surveys for Mohave ground squirrel, conducted by a qualified biologist at the appropriate time of year and day, following the *Mohave Ground Squirrel Survey Guidelines* (CDFG, 2010), should be conducted. CDFW recommends the following mitigation measure:

MM BIO-4: Prior to commencement of Project activities, focused surveys for Mohave ground squirrel should be conducted by a qualified biologist authorized by a Memorandum of Understanding issued by CDFW, at the appropriate time of year and time of day when Mohave ground squirrel is active or otherwise identifiable, according to the protocols in the *Mohave Ground Squirrel Survey Guidelines* (CDFG 2010 or most recent version). Should Mohave ground squirrel presence be confirmed during the surveys, Project activities should be immediately halted, and the qualified biologist should notify CDFW.

Burrowing Owl (*Athene cunicularia*)

The IS/MND indicates that the combined focused survey for burrowing owl, desert tortoise, and Mojave ground squirrel found no "suitable burrows or other signs" to indicate that burrowing owl occur on the Project site. Due to the potential for burrowing owl to occur in the area, and in the absence of complete and accurate information on the timing and scope of the biological assessment and focused survey, CDFW recommends that prior to commencing Project activities, pre-construction surveys be conducted by a qualified biologist. CDFW recommends including the following mitigation measure in the IS/MND:

MM BIO-5: Pre-construction burrowing owl surveys should be conducted no less than 14 days prior to the start of Project-related activities and within 24 hours prior to ground disturbance, in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012 or most recent version). Pre-construction surveys should be performed by a qualified biologist following the recommendations and guidelines provided in the *Staff Report on Burrowing Owl Mitigation*. If the pre-construction surveys confirm occupied burrowing owl habitat, Project activities should be immediately halted. CDFW should be notified of burrowing owl survey results within 48 hours of detection. The qualified biologist should coordinate with CDFW and USFWS to conduct an impact assessment to develop avoidance and minimization measures to be approved by CDFW prior to commencing Project activities.

Desert Kit Fox (*Vulpes macrotis arsipus*)

Desert kit fox is protected as a fur-bearing mammal under Title 14 of the California Code of Regulations (Chap. 5, § 460) and may not be taken at any time. Because desert kit fox has high fidelity to natal dens, it is crucial to adequately assess whether desert kit fox is present on the Project site well in advance of commencing Project activities. If desert kit fox is found onsite during breeding season, it could delay Project activities until appropriate vegetation and construction buffers can be established on the Project site. Therefore, CDFW recommends pre-construction surveys for desert kit fox as follows:

MM BIO-6: No more than 14 days prior to the beginning of ground disturbance and/or Project activities, a qualified biologist should conduct pre-construction surveys to determine if potential desert kit fox burrows/dens are present in the Project area. Pre-

construction surveys should include 100-percent visual coverage of the Project area and cannot be combined with other surveys conducted for other species while using the same personnel. If the pre-construction surveys confirm occupied desert kit fox habitat, Project activities should be immediately halted, and the qualified biologist should notify CDFW and USFWS to develop avoidance, minimization, and mitigation measures. No disturbance of active dens should take place when juvenile desert kit fox may be present and dependent on parental care.

Nesting Birds

It is the Project proponent's responsibility to comply with all applicable laws related to nesting birds and birds of prey. Fish and Game Code sections 3503, 3503.5, and 3513 afford protective measures as follows: section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by Fish and Game Code or any regulation made pursuant thereto. Fish and Game Code section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by Fish and Game Code or any regulation adopted pursuant thereto. Fish and Game Code section 3513 makes it unlawful to take or possess any migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. § 703 et seq.).

The IS/MND (p. 21) acknowledges that the Project has the potential to affect migratory birds. CDFW is concerned about impacts to nesting birds from Project activities (e.g., vegetation removal and construction noise/disturbance). Although the IS/MND includes a mitigation measure (BIO-1) for nesting birds, the timing and scope are insufficient. CDFW recommends that the IS/MND include specific avoidance and minimization measures to ensure that impacts to nesting birds do not occur. Project-specific avoidance and minimization measures may include, but are not limited to, Project phasing and timing (avoiding peak breeding season), monitoring of Project-related noise (where applicable), sound walls, and buffers, where appropriate. In addition, species that nest outside the peak breeding season should also be considered (e.g., hummingbirds may nest year-round, and raptors may nest outside the peak breeding season). CDFW recommends that to avoid impacts to nesting birds, pre-construction surveys be conducted by a qualified biologist **no more than three (3) days prior to the initiation of project activities,** at the appropriate time of day/night, during appropriate weather conditions. CDFW recommends that MM BIO-1 in the IS/MND be revised as follows:

MM BIO-7: If construction occurs during the non-nesting season (typically September 16 through December 31), a pre-construction sweep should be performed to verify absence of nesting birds. If construction activities are scheduled to occur during the nesting season (typically January 1 through September 15), mitigation as described below should be implemented to avoid potential impacts to birds and their nests.

If construction (including site preparation, staging, or other ground-disturbing activities) or vegetation removal is proposed during the breeding/nesting season for birds (generally, raptor nesting season is January 1 through September 15; and passerine bird nesting season is February 1 through September 1), a qualified biologist

should conduct pre-construction surveys for birds on the Project site, including a 300-foot survey buffer, no more than 3 days prior to the start of ground-disturbing activities in all suitable areas including trees, shrubs, bare ground, burrows, cavities, and structures, at the appropriate time of day/night, during appropriate weather conditions. Pre-construction surveys should focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior (e.g., copulation, carrying of food or nest materials, nest building, removal of fecal sacks, flushing suddenly from atypically close range, agitation, aggressive interactions, feigning injury or distraction displays, or other behaviors). If construction is delayed or suspended for more than 3 days after the survey, the area should be resurveyed to re-confirm the presence/absence of any active nests.

If an active nest is located during pre-construction surveys, USFWS and/or CDFW (as appropriate per agency regulations) should be notified regarding the status of the nest. Furthermore, construction activities should be restricted as necessary to avoid disturbance of the nest until nesting activities have concluded, or the qualified biologist deems disturbance potential to be minimal. Restrictions may include, but are not limited to, establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 300 feet around an active raptor nest and 100-foot radius around an active non-raptor passerine bird nest) or alteration of the construction schedule.

A qualified biologist should delineate the buffer using nest buffer signs, environmentally sensitive area fencing, pin flags, and or flagging tape. The buffer zone should be maintained around the active nest site(s) until the young have fledged and are foraging independently. To avoid impacts to nesting birds, any grubbing or vegetation removal should occur outside peak breeding season (typically February 1 through September 1).

Minimizing Impacts to Other Species

CDFW is concerned about the potential for special status and other wildlife species to occur on the Project site. CDFW recommends inclusion of the following mitigation measure:

MM BIO-8: A qualified biologist should be onsite prior to and during all ground- and habitat-disturbing activities to move out of harm's way wildlife that would otherwise be injured or killed from Project-related activities. Movement of wildlife out of harm's way should be limited to only those individuals that would otherwise by injured or killed, and individuals should be moved only as far a necessary to ensure their safety. Measures should be taken to prevent wildlife from re-entering the Project site. If listed species are identified within or adjacent to the work areas, handling to move out of harm's way may only be completed under appropriate authorizations (i.e., ITP). Permittee should contact CDFW within 24 hours if a listed species is identified within or adjacent to the work area.

Employee Awareness of Wildlife Resources

CDFW is concerned that because the Project site and surrounding area to the north, south, and east includes high desert open space, development will bring biological hazards common to urban-wildland interface areas. Waste management must be a priority as accessible waste can encourage opportunistic species such as rats, ravens, and coyotes to become more prevalent, posing a substantial predation hazard to wildlife. Predators like ravens and coyotes are both known to prey on desert tortoise and other sensitive species.

Waste management plans should include waste receptacles with closing, lockable lids and a waste removal schedule that does not allow for excess waste to accrue. Increased traffic may also pose a hazard to species in the form of vehicle-animal collisions, which often lead to the death of the animal. For slow-moving species like desert tortoise, busy roads or driveways in their territory can have a significant impact on populations. Project activities, including construction and routine work for the life of the Project, will affect local wildlife. Part of the Project Proponent's responsibility is to educate individuals that will be onsite, whether they are employees or contractors, on the wildlife species that may be present and how to limit impacts to wildlife species in the area. CDFW recommends that the following Employee Education Program be added to the IS/MND as a mitigation measure:

MM BIO-9: A qualified biologist should conduct an education program for all persons employed or otherwise working on the Project site prior to performing any work onsite. The program should consist of a presentation that includes a discussion of the biology of the habitats and species that may be present at the site. The qualified biologist should also include as part of the education program information about the distribution and habitat needs of any special status species that may be present, legal protections for those species, penalties for violations, and mitigation measures. The Employee Education Program should include, but not be limited to: (1) best practices for managing waste and reducing activities that can lead to increased occurrences of opportunistic species and the impacts these species can have on wildlife in the area; (2) protected species that have the potential to occur on the Project site including, but not limited to, desert tortoise, Mohave ground squirrel, western Joshua tree, burrowing owl, desert kit fox, Le Conte's thrasher, loggerhead shrike, and nesting birds. Interpretation should be provided for any non-English-speaking workers, and the same instruction should be provided for any new workers prior to their performing any work onsite.

Cannabis-Specific Impacts on Biological Resources

CDFW recommends that the City consider cannabis-specific impacts to biological resources that may result from the Project activities.

Pesticides, Including Fungicides, Herbicides, Insecticides, and Rodenticides

Cannabis cultivation sites (whether indoor or outdoor) often use substantial quantities of pesticides, including fungicides, herbicides, insecticides, and rodenticides. Wildlife, including beneficial arthropods, birds, mammals, amphibians, reptiles, and fish, can be poisoned by pesticides after exposure to a toxic dose through ingestion, inhalation, or dermal contact (Fleischli et al. 2004, Pimentel 2005, Berny 2007). They can also experience secondary poisoning through feeding on animals that have been directly exposed to the pesticides. (Even if used indoors, rodenticides may result in secondary poisoning through ingestion of sickened animals that leave the premises or ingestion of lethally poisoned animals disposed of outside.) Nonlethal doses of pesticides can negatively affect wildlife; pesticides can compromise immune systems, cause hormone imbalances, affect reproduction, and alter growth rates of many wildlife species (Pimentel 2005, Li and Kawada 2006, Relyea and Diecks 2008, Baldwin et al. 2009).

CDFW recommends minimizing use of synthetic pesticides, and, if they are used, to always use them as directed by the manufacturer, including proper storage and disposal. Toxic pesticides should not be used where they may pass into waters of the state, including ephemeral streams, in violation of Fish and Game Code section 5650(6). Anticoagulant rodenticides and rodenticides that incorporate "flavorizers" that make the pesticides appetizing to a variety of species should not be used at cultivation sites. (Note that with the passage of AB 1788, signed by the governor on September 29, 2020, the general use of second-generation anticoagulants is now banned in California.) Alternatives to toxic rodenticides may be used to control pest populations at and around cultivation sites, including sanitation (removing food sources like pet food, cleaning up refuse, and securing garbage in sealed containers) and physical barriers (e.g., sealing holes in roofs/walls). Snap traps should not be used outdoors as they pose a hazard to nontarget wildlife. Sticky or glue traps should be avoided altogether; these pose a hazard to nontarget wildlife and result in prolonged/inhumane death. California Department of Pesticide Regulation stipulates that pesticides must meet certain criteria to be legal for use on cannabis. For details, visit: https://www.cdpr.ca.gov/docs/cannabis/questions.htm; https://www.cdpr.ca.gov/docs/county/cacltrs/penfltrs/penf2015/2015atch/attach1502.pdf.

CDFW recommends that the City of Adelanto include a mitigation measure conditioning the Project to develop a plan to avoid, minimize, and mitigate the impacts of pesticides used in cannabis cultivation. CDFW recommends inclusion of the following mitigation measure focused on avoiding impacts to biological resources:

MM BIO-10: Prior to construction and issuance of any grading permit, the City of Adelanto should develop a plan with measures to avoid, minimize, or mitigate the impacts of pesticides used in cannabis cultivation, including fungicides, herbicides, insecticides, and rodenticides. The plan should include, but is not limited to, the following elements: (1) Proper use, storage, and disposal of pesticides, in accordance with manufacturers' directions and warnings. (2) Avoidance of pesticide use where toxic runoff may pass into waters of the State, including ephemeral streams. (3) Avoidance of pesticides that cannot legally be used on cannabis in the state of California, as set forth by the Department of Pesticide Regulation. (4) Avoidance of anticoagulant rodenticides and rodenticides with "flavorizers." (5) Avoidance of sticky/glue traps. (6) Inclusion of alternatives to toxic rodenticides, such as sanitation (removing food sources like pet food, cleaning up refuse, and securing garbage in sealed containers) and physical barriers.

Artificial Light

Cannabis cultivation operations often use artificial lighting or "mixed-light" techniques in greenhouse structures and indoor operations to increase yields. If not disposed of properly, these lighting materials pose significant environmental risks because they contain mercury and other toxins (O'Hare et al. 2013). In addition to containing toxic substances, artificial lighting often results in light pollution, which has the potential to significantly and adversely affect fish and wildlife. Night lighting can disrupt the circadian rhythms of many wildlife species. Many species use photoperiod cues for communication (e.g., birdsong; Miller 2006), determining when to begin foraging (Stone et al. 2009), behavioral thermoregulation (Beiswenger 1977), and migration (Longcore and Rich 2004). Phototaxis,

a phenomenon that results in attraction and movement toward light, can disorient, entrap, and temporarily blind wildlife species that experience it (Longcore and Rich 2004).

The IS/MND indicates that Project activities will involve new sources of artificial light for buildings and security. Page 3 of the IS/MND indicates that the greenhouses will have "translucent roof panels" that will "transmit approximately 90 percent of natural sunlight." Because of the potential for artificial light to impact nocturnal wildlife species and migratory birds that fly at night, CDFW recommends the following mitigation measure:

MM BIO-11: Light should not be visible outside of any structure used for cannabis cultivation. Employ blackout curtains where artificial light is used to prevent light escapement. Eliminate all nonessential lighting from cannabis sites and avoid or limit the use of artificial light during the hours of dawn and dusk when many wildlife species are most active. Ensure that lighting for cultivation activities and security purposes is shielded, cast downward, and does not spill over onto other properties or upward into the night sky (see the International Dark-Sky Association standards at http://darksky.org/). Use LED lighting with a correlated color temperature of 3,000 Kelvins or less, properly dispose of hazardous waste, and recycle lighting that contains toxic compounds with a qualified recycler.

Noise

Construction and operation of cannabis facilities may result in a substantial amount of noise through road use, equipment, and other project-related activities. This may adversely affect wildlife species in several ways as wildlife responses to noise can occur at exposure levels of only 55 to 60 decibels (Barber et al. 2009). (For reference, normal conversation is approximately 60 decibels, and natural ambient noise levels [e.g., forest habitat] are generally measured at less than 50 decibels.) Anthropogenic noise can disrupt the communication of many wildlife species including frogs, birds, and bats (Sun and Narins 2005, Patricelli and Blickley 2006, Gillam and McCracken 2007, Slabbekoorn and Ripmeester 2008). Noise can also affect predator-prey relationships as many nocturnal animals such as bats and owls primarily use auditory cues (i.e., hearing) to hunt. Additionally, many prey species increase their vigilance behavior when exposed to noise because they need to rely more on visual detection of predators when auditory cues may be masked by noise (Rabin et al. 2006, Quinn et al. 2017). Noise has also been shown to reduce the density of nesting birds (Francis et al. 2009) and cause increased stress that results in decreased immune responses (Kight and Swaddle 2011).

CDFW recommends restricting the use of equipment to hours least likely to disrupt wildlife (e.g., not at night or in the early morning). Also consider use of noise suppression devices such as mufflers or enclosures for generators. CDFW appreciates inclusion of Mitigation Measure NS-1 in the IS/MND to address noise generated by Project activities.

Role of Lake and Streambed Alteration (LSA) Program in Cannabis Licensing

Fish and Game Code section 1602 requires an entity to notify CDFW prior to commencing any activity that may adversely impact any river, stream, or lake. Department of Cannabis

Control (DCC) requires cannabis cultivators to demonstrate compliance with Fish and Game Code section 1602 prior to issuing a cultivation license (Business and Professions Code, § 26060.1). To qualify for an Annual License from DCC, cultivators must have an LSA Agreement or written verification from CDFW that one is not needed. Cannabis cultivators may apply online for an LSA Agreement through EPIMS (Environmental Permit Information Management System; https://epims.wildlife.ca.gov) and learn more about permitting at https://wildlife.ca.gov/Conservation/Cannabis/Permitting. CDFW recommends the following mitigation measure:

MM BIO-12: Prior to construction and issuance of any grading permit, the Project Sponsor should obtain written correspondence from the California Department of Fish and Wildlife (CDFW) stating that notification under section 1602 of the Fish and Game Code is not required for the Project, *or* the Project Sponsor should obtain a CDFW-executed Lake and Streambed Alteration Agreement, authorizing impacts to Fish and Game Code section 1602 resources associated with the Project.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database that 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 CNDDB. The CNNDB field survey form can be filled out and submitted online at: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data. The types of information reported to CNDDB can be found at the following link: https://wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of 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 fee is required for the underlying project approval to be operative, vested, and final (Cal. Code Regs., title 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089).

CONCLUSION

CDFW appreciates the opportunity to comment on the IS/MND to assist the City of Adelanto in identifying and mitigating Project impacts on biological resources. CDFW concludes that the IS/MND does not adequately identify or mitigate for the Project's significant, or potentially significant, impacts on biological resources. CDFW recommends that the IS/MND include a more complete assessment of the Project's potential impacts on biological resources, as well as appropriate avoidance, minimization, and mitigation measures.

CDFW has Cannabis Unit staff who are available to provide guidance on impacts to biological resources and CDFW permitting. If you have any questions or would like to set up a meeting with CDFW staff to discuss this letter, please contact Heather Brashear, Environmental Scientist, at Heather.Brashear@Wildlife.ca.gov,

Sincerely,

DocuSigned by:
Alisa Ellsworth
84FBB8273E4C480...

Alisa Ellsworth,
Environmental Program Manager

Attachment 1: MMRP for CDFW-Proposed Mitigation Measures

ec: Heather Brashear, Environmental Scientist, CDFW
heather.brashear@wildlife.ca.gov

Jeff Brandt, Senior Environmental Scientist Supervisory, CDFW
jeff.brandt@wildlife.ca.gov

Office of Planning and Research, State Clearinghouse, Sacramento
state.clearinghouse@opr.ca.gov

REFERENCES

Baldwin, D. H., J. A. Spromberg, T. K. Collier, and N. L. Scholz. 2009. A fish of many scales: Extrapolating sublethal pesticide exposures to the productivity of wild salmon populations. Ecological Applications 19:2004–2015.

Barber, J. R., K. R. Crooks, and K. M. Fristrup. 2009. The costs of chronic noise exposure for terrestrial organisms. Trends in Ecology and Evolution 25:180–189.

Beiswenger, R. E. 1977. Diet patterns of aggregative behavior in tadpoles of *Bufo americanus*, in relation to light and temperature. Ecology 58:98–108.Berny, P. 2007. Pesticides and the intoxication of wild animals. Journal of Veterinary Pharmacology and Therapeutics 30:93–100.

Brittingham, S. and L. R. Walker. 2000. Facilitation of *Yucca brevifolia* recruitment by Mojave Desert shrubs. Western North American Naturalist 60(4):374–383.

California Department of Fish and Game (CDFG). 2010. Mohave Ground Squirrel Survey Guidelines. Available for download at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83975&inline

California Department of Fish and Game (CDFG). 2012. Staff report on burrowing owl mitigation. State of California, Natural Resources Agency. Available for download at: https://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html

California Department of Fish and Wildlife (CDFW). 2018. Protocols for surveying and evaluating impacts to special status native plant populations and sensitive natural communities. Available for download at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline

California Department of Fish and Wildlife (CDFW). 2019. A conservation strategy for the Mohave ground squirrel *Xerospermophilus mohavensis.* Available for download at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=171301&inline

Fleischli, M. A., J. C. Franson, N. J. Thomas, D. L. Finley, and W. Riley, Jr. 2004. Avian mortality events in the United States caused by anticholinesterase pesticides: A retrospective summary of national

wildlife health center records from 1980 to 2000. Archives of Environmental Contamination and Toxicology 46:542–550.
Francis, C. D., C. P. Ortega, and A. Cruz. 2009. Noise pollution changes avian communities and species interactions. Current Biology 19:1415–1419.
Gillam, E. H., and G. F. McCracken. 2007. Variability in the echolocation of *Tadarida brasiliensis*: effects of geography and local acoustic environment. Animal Behaviour 74:277–286.
Kight, C. R., and J. P. Swaddle. 2011. How and why environmental noise impacts animals: An integrative, mechanistic review. Ecology Letters 14:1052–1061.
Li, Q., and T. Kawada. 2006. The mechanism of organophosphorus pesticide-induced inhibition of cytolytic activity of killer cells. Cellular & Molecular Immunology 3:171–178.
Longcore, T., and C. Rich. 2004. Ecological light pollution. Frontiers in Ecology and the Environment 2:191–198.
Miller, M. W. 2006. Apparent effects of light pollution on singing behavior of American robins. Condor 108:130–139.
O'Hare, M., D. L. Sanchez, and P. Alstone. 2013. Environmental risks and opportunities in cannabis cultivation. BOETC Analysis Corp. Univeristy of California, Berkeley, CA, USA.
Patricelli, G., and J. J. L. Blickley. 2006. Avian communication in urban noise: causes and consequences of vocal adjustment. Auk 123:639–649.
Pimentel, D. 2005. Environmental and economic costs of the application of pesticides primarily in the United States. Environment, Development and Sustainability 7:229–252.
Quinn, J. L., M. J. Whittingham, S. J. Butler, W. Cresswell, J. L. Quinn, M. J. Whittingham, S. J. Butler, W. Cresswell, and W. Noise. 2017. Noise, predation risk compensation and vigilance in the chaffinch *Fringilla coelebs*. Journal of Avian Biology 37:601–608.
Rabin, L. A., R. G. Coss, and D. H. Owings. 2006. The effects of wind turbines on antipredator behavior in California ground squirrels (*Spermophilus beecheyi*). Biological Conservation 131:410–420.
Relyea, R. A., and N. Diecks. 2008. An unforeseen chain of events: Lethal effects of pesticides on frogs at sublethal concentrations. Ecological Applications 18:1728–1742.
Slabbekoorn, H., and E. A. P. Ripmeester. 2008. Birdsong and anthropogenic noise: Implications and applications for conservation. Molecular Ecology 17:72–83.
Stone, E. L., G. Jones, and S. Harris. 2009. Street lighting disturbs commuting bats. Current Biology 19:1123–1127.
Sun, J. W. C., and P. M. Narins. 2005. Anthropogenic sounds differentially affect amphibian call rate. Biological Conservation 121:419–427.
Sweet, L. C., T. Green, J. G. C. Heintz, N. Frakes, N. Graver, J. S. Rangitsch, J. E. Rodgers, S. Heacox, and C. W. Barrows. 2019. Congruence between future distribution models and empirical data for an iconic species at Joshua Tree National Park. Ecosphere 10(6):e02763.
U.S. Fish and Wildlife Service [USFWS]. 2009. Desert tortoise (Mojave population) field manual (Gopherus agassizii). Region 8, Sacramento, CA, USA. Available for download at: https://www.fws.gov/nevada/desert_tortoise/documents/field_manual/Desert-Tortoise-Field-Manual.pdf
Waitman, B. A., S. B. Vander Wall, and T. C. Esque. 2012. Seed dispersal and seed fate in Joshua tree (*Yucca brevifolia*). Journal of Arid Environments 81:1–8.

ATTACHMENT 1: MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation Measures	Schedule	Responsible Party
MM BIO-1: Western Joshua tree. All western Joshua trees and parts thereof should be buffered for avoidance. A qualified biologist should establish a 290-foot buffer around each western Joshua tree parent, seedling, and sprout. No project activities may occur within the buffer. Should avoidance be infeasible, CDFW recommends the Project Proponent should apply for an Incidental Take Permit from CDFW prior to initiating Project activities.	Prior to construction and issuance of any grading permit.	City of Adelanto.
MM BIO-2: Special status plant surveys. A thorough floristic-based assessment of special status plants and natural communities, following	Prior to construction	City of Adelanto.

CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018 or most recent version) should be performed by a qualified biologist prior to commencing Project activities. Should any state-listed plant species be present in the Project area, the Project proponent should obtain an Incidental Take Permit for those species prior to the start of Project activities. Should other special status plants or natural communities be present in the Project area, a qualified restoration specialist should assess whether perennial species may be successfully transplanted to an appropriate natural site or whether on-site or off-site conservation is warranted to mitigate Project impacts. If successful transplantation of perennial species is determined by a qualified restoration specialist, the receiver site should be identified, and transplantation should occur at the appropriate time of year. Additionally, the qualified restoration specialist should perform seed collection and dispersal from special status annual plant species to a natural site as a conservation strategy to minimize and mitigate Project impacts. If these measures are implemented, monitoring of plant populations shall be conducted annually for 5 years to assess the mitigation's effectiveness. The performance standard for mitigation shall be no net reduction in the size or viability of the local population.	and issuance of any grading permit.	
MM BIO-3: Desert tortoise surveys. Prior to commencing Project activities, focused surveys for desert tortoise should be conducted by a qualified biologist, according to protocols in chapter 4 of the *Desert Tortoise (Mojave Population) Field Manual* (USFWS 2009 or most recent version), during the species' most active periods (April through May or September through October). CDFW recommends working with USFWS and CDFW concurrently to ensure a consistent and adequate approach to planning survey work and that biologists retained to complete desert tortoise protocol-level surveys submit their qualifications to CDFW and USFWS prior to initiation of surveys for review and approval. No more than 48 hours prior to start of Project activities, a qualified biologist should conduct pre-construction surveys for desert tortoise as described in the USFWS *Desert Tortoise (Mojave Population) Field Manual* (USFWS 2009 or most recent version). Pre-construction surveys should be completed using perpendicular survey routes within the Project area and 50-foot buffer zone. Pre-construction surveys cannot be combined with other surveys conducted for other species while using the same personnel. Project activities cannot start until two negative results from consecutive surveys using perpendicular survey routes for desert tortoise are documented. Should desert tortoise presence be confirmed during the survey, Project activities should be halted, and the qualified biologist should immediately notify CDFW and USFWS to determine appropriate avoidance, minimization, and mitigation measures.	**Focused surveys:** Prior to construction and issuance of any grading permit; during the species' most active periods. **Pre-construction surveys:** No more than 48 hours prior to start of Project-related activities.	City of Adelanto.
MM BIO-4: Mohave ground squirrel surveys. Prior to commencement of Project activities, focused surveys for Mohave ground squirrel should be conducted by a qualified biologist authorized by a Memorandum of Understanding issued by CDFW, at the appropriate time of year and time of day when Mohave ground squirrel is active or otherwise identifiable, according to the protocols in the *Mohave Ground Squirrel Survey Guidelines* (CDFG, 2010 or most recent version). Should Mohave ground squirrel presence be confirmed during the surveys, Project activities should be immediately halted, and the qualified biologist should notify CDFW.	Prior to construction and issuance of any grading permit; at the appropriate time of year for species detection.	City of Adelanto.
MM BIO-5: Burrowing owl surveys. Pre-construction burrowing owl surveys should be conducted no less than 14 days prior to the start of Project-related activities and within 24 hours prior to ground disturbance, in accordance with	No less than 14 days prior to start of	City of Adelanto.

the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012 or most recent version). Pre-construction surveys should be performed by a qualified biologist following the recommendations and guidelines provided in the *Staff Report on Burrowing Owl Mitigation*. If the pre-construction surveys confirm occupied burrowing owl habitat, Project activities should be immediately halted. CDFW should be notified of burrowing owl survey results within 48 hours of detection. The qualified biologist should coordinate with CDFW and USFWS to conduct an impact assessment to develop avoidance and minimization measures to be approved by CDFW prior to commencing Project activities.	Project-related activities and within 24 hours prior to ground disturbance.	
MM BIO-6: Desert kit fox surveys. No more than 14 days prior to the beginning of ground disturbance and/or Project activities, a qualified biologist should conduct pre-construction surveys to determine if potential desert kit fox burrows/dens are present in the Project area. Pre-construction surveys should include 100-percent visual coverage of the Project area and cannot be combined with other surveys conducted for other species while using the same personnel. If the pre-construction surveys confirm occupied desert kit fox habitat, Project activities should be immediately halted, and the qualified biologist should notify CDFW and USFWS to develop avoidance, minimization, and mitigation measures. No disturbance of active dens should take place when juvenile desert kit fox may be present and dependent on parental care.	No more than 14 days prior to start of Project-related activities.	City of Adelanto.
MM BIO-7: Nesting bird surveys (and sweeps). If construction occurs during the non-nesting season (typically September 16 through December 31), a pre-construction sweep should be performed to verify absence of nesting birds. If construction activities are scheduled to occur during the nesting season (typically January 1 through September 15), mitigation as described below should be implemented to avoid potential impacts to birds and their nests. If construction (including site preparation, staging, or other ground-disturbing activities) or vegetation removal is proposed during the breeding/nesting season for birds (generally, raptor nesting season is January 1 through September 15; and passerine bird nesting season is February 1 through September 1), a qualified biologist should conduct pre-construction surveys for birds on the Project site, including a 300-foot survey buffer, no more than 3 days prior to the start of ground-disturbing activities in all suitable areas including trees, shrubs, bare ground, burrows, cavities, and structures, at the appropriate time of day/night, during appropriate weather conditions. Pre-construction surveys should focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior (e.g., copulation, carrying of food or nest materials, nest building, removal of fecal sacks, flushing suddenly from atypically close range, agitation, aggressive interactions, feigning injury or distraction displays, or other behaviors). If construction is delayed or suspended for more than 3 days after the survey, the area should be resurveyed to re-confirm the presence/absence of any active nests. If an active nest is located during pre-construction surveys, USFWS and/or CDFW (as appropriate per agency regulations) should be notified regarding the status of the nest. Furthermore, construction activities should be restricted as necessary to avoid disturbance of the nest until nesting activities have concluded, or the qualified biologist deems disturbance potential to be minimal. Restrictions may include, but are not limited to, establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 300 feet around an active raptor nest and 100-foot radius around an active non-raptor passerine bird nest) or alteration of the construction schedule.	No more than three (3) days prior to vegetation clearing or ground disturbance activities.	City of Adelanto.

A qualified biologist should delineate the buffer using nest buffer signs, environmentally sensitive area fencing, pin flags, and or flagging tape. The buffer zone should be maintained around the active nest site(s) until the young have fledged and are foraging independently. To avoid impacts to nesting birds, any grubbing or vegetation removal should occur outside peak breeding season (typically February 1 through September 1).		
MM BIO-8: Minimizing impacts to other species. A qualified biologist should be onsite prior to and during all ground- and habitat-disturbing activities to move out of harm's way wildlife that would otherwise be injured or killed from Project-related activities. Movement of wildlife out of harm's way should be limited to only those individuals that would otherwise by injured or killed, and individuals should be moved only as far a necessary to ensure their safety. Measures should be taken to prevent wildlife from re-entering the Project site. If listed species are identified within or adjacent to the work areas, handling to move out of harm's way may only be completed under appropriate authorizations (i.e., ITP). Permittee should contact CDFW within 24 hours if a listed species is identified within or adjacent to the work area..	During Project activities.	City of Adelanto.
MM BIO-9: Employee education program. A qualified biologist should conduct an education program for all persons employed or otherwise working on the Project site prior to performing any work onsite. The program should consist of a presentation that includes a discussion of the biology of the habitats and species that may be present at the site. The qualified biologist should also include as part of the education program information about the distribution and habitat needs of any special status species that may be present, legal protections for those species, penalties for violations, and mitigation measures. The Employee Education Program should include, but not be limited to: (1) best practices for managing waste and reducing activities that can lead to increased occurrences of opportunistic species and the impacts these species can have on wildlife in the area; (2) protected species that have the potential to occur on the Project site including, but not limited to, desert tortoise, Mohave ground squirrel, western Joshua tree, burrowing owl, desert kit fox, Le Conte's thrasher, loggerhead shrike, and nesting birds. Interpretation should be provided for any non-English-speaking workers, and the same instruction should be provided for any new workers prior to their performing any work onsite.	Prior to employees performing any work onsite.	City of Adelanto.
MM BIO-10: Pesticide plan. Prior to construction and issuance of any grading permit, the City of Adelanto should develop a plan with measures to avoid, minimize, or mitigate the impacts of pesticides used in cannabis cultivation, including fungicides, herbicides, insecticides, and rodenticides. The plan should include, but is not limited to, the following elements: (1) Proper use, storage, and disposal of pesticides, in accordance with manufacturers' directions and warnings. (2) Avoidance of pesticide use where toxic runoff may pass into waters of the State, including ephemeral streams. (3) Avoidance of pesticides that cannot legally be used on cannabis in the state of California, as set forth by the Department of Pesticide Regulation. (4) Avoidance of anticoagulant rodenticides and rodenticides with "flavorizers." (5) Avoidance of sticky/glue traps. (6) Inclusion of alternatives to toxic rodenticides, such as sanitation (removing food sources like pet food, cleaning up refuse, and securing garbage in sealed containers) and physical barriers.	Prior to construction and issuance of any grading permit.	City of Adelanto.
MM BIO-11: Artificial light. Light should not be visible outside of any structure. Employ blackout curtains where artificial light is used to prevent light escapement. Eliminate all nonessential lighting from cannabis sites and avoid or limit the use of artificial light during the hours of dawn and dusk when many wildlife species are most active. Ensure that lighting for Project activities and security purposes is shielded, cast downward, and does not	During Project activities.	City of Adelanto.

spill over onto other properties or upward into the night sky (see the International Dark-Sky Association standards at http://darksky.org/). Use LED lighting with a correlated color temperature of 3,000 Kelvins or less, properly dispose of hazardous waste, and recycle lighting that contains toxic compounds with a qualified recycler.		
MM BIO-12: Compliance with CDFW Lake and Streambed Alteration (LSA) Program. Prior to construction and issuance of any grading permit, the Project Sponsor should obtain written correspondence from the California Department of Fish and Wildlife (CDFW) stating that notification under section 1602 of the Fish and Game Code is not required for the Project, or the Project Sponsor should obtain a CDFW-executed Lake and Streambed Alteration Agreement, authorizing impacts to Fish and Game Code section 1602 resources associated with the Project.	Prior to construction and issuance of any grading permit.	City of Adelanto.