State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Central Region
1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4005
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

June 3, 2022

Phil Janzen, President
Le Grand-Athlone Water District
216 Robertson Boulevard
Chowchilla, California 93610
phil@agrilandfarming.com

Subject: Le Grand-Athlone Water District Merced Irrigation District Canal Intertie Project (Project)
Mitigated Negative Declaration (MND)
State Clearinghouse No. 2022050049

Dear Mr. Janzen:

The California Department of Fish and Wildlife (CDFW) received a Notice of Intent to Adopt an MND from the Le Grand Athlone Water District (District) for the above-referenced 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, CDFW appreciates 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

[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.

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 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.), related authorization as provided by the Fish and Game Code will be required.

Bird Protection: CDFW has jurisdiction over actions that may result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs, and nests include section 3503 (regarding unlawful take, possession, or needless destruction of the nest or eggs of any bird), section 3503.5 (regarding the take, possession, or destruction of any birds-of-prey or their nests or eggs), and section 3513 (regarding unlawful take of any migratory nongame bird).

Water Rights: The capture of unallocated stream flows to artificially recharge groundwater aquifers is subject to appropriation and approval by the State Water Resources Control Board (SWRCB) pursuant to Water Code section 1200 et seq. CDFW, as Trustee Agency, is consulted by SWRCB during the water rights process to provide terms and conditions designed to protect fish and wildlife prior to appropriation of the State's water resources. Certain fish and wildlife are reliant upon aquatic and riparian ecosystems, which in turn are reliant upon adequate flows of water. CDFW therefore has a material interest in assuring that adequate water flows within streams for the protection, maintenance, and proper stewardship of those resources. CDFW provides, as available, biological expertise to review and comment on environmental documents and impacts arising from Project activities.

PROJECT DESCRIPTION SUMMARY

The Project includes improvements, rehabilitation, and expanding the existing Merced Irrigation District (MeID) canal capacity for approximately 9.8 miles and constructing approximately 4.9 miles of new canal and pipeline infrastructure from MeID Booster Lateral #3 to the District. The new canal would create a way for flood flows to be captured, recharged, or used for agricultural demands in the District. The total Project are of potential effect is approximately 320 acres. The Project would be completed in three phases. Phase 1 would result in the construction of a new intertie canal from Mariposa Creek to Dutchman Creek. Phase 2 would result in the expansion of existing canal facilities from a point of the MeID Le Grand Canal approximately 1.8 miles

northeast of Planada and run 9.8 miles south to the MeID Booster Lateral #3 at Mariposa Creek. Phase 3 would result in the construction of a new District pump station immediately south of Dutchman Creek and a new buried pipeline that would cross under the Sante Fe Railroad continuing on private property until it reaches Earl Road. At this point an open canal would connect to the pipeline and run to a point approximately one mile north of the Chowchilla River, completing the Project. Phases 1 and 3 would result in approximately 4.9 miles of new canal/pipeline facilities.

The Project would cross Owens, Mariposa, Little Deadman, Deadman, and Dutchman Creeks. To cross these creeks, the Project would result in the construction of multiple new canal siphon structures. In addition, the Project would construct numerous new culverts under existing roadways that the Project would cross, as well as jack and bore activities to install steel casing under the Santa Fe Railroad.

Proponent: Le Grand-Athlone Water District

Location: The Project is located in Merced County. The Project begins at the existing MeID canal facilities approximately 1.8 miles northeast of the Town of Planada and continues south approximately 14.5-miles through agricultural, grazing, and open lands, ending approximately one mile north of the Chowchilla River.

Timeframe: Construction of Project Phases 1 and 3 would take approximately 18 months. Construction of Project Phase 2 would last approximately 18 months.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist the District in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife, i.e., biological resources. Editorial comments or other suggestions may also be included to improve the document. Based on a review of the Project description, a review of California Natural Diversity Database (CNDDB) records, and a review of aerial imagery of the Project and surrounding habitat, several special-status species could potentially be impacted.

In particular, CDFW is concerned regarding potential impacts for the following special status wildlife species and habitats known to occupy the Project vicinity: the State threatened and federal endangered San Joaquin kit fox (*Vulpes macrotis mutica*); the State and federal threatened California tiger salamander (*Ambystoma californiense* pop 1); the State endangered and fully protected bald eagle (*Haliaeetus leucocephalus*); the State fully protected golden eagle (*Aquila chrysaetos*); the State threatened Swainson's hawk (*Buteo swainsoni*) and tricolored blackbird (*Agelaius tricolor*); the State rare and federal endangered Greene's tuctoria (*Tuctoria greenei*); the State endangered and federal threatened succulent owl's clover (*Castilleja campestris* var. *succulenta*) and San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*); the State species of special

concern burrowing owl (*Athene cunicularia*), American badger (*Taxidea taxus*), pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), western red bat (*Lasiurus blossevillii*), western pond turtle (*Emys marmorata*) western spadefoot (*Spea hammondii*); the California Rare Plant Rank 1B.2 shining navarretia (*Navarretia nigelliformis* ssp. *radians*); and the California Rare Plant Rank 3.2 Merced phacelia (*Phacelia ciliate* var. *opaca*). Other species of birds, amphibians, reptiles, mammals, fish, invertebrates, and plants also compose the local ecosystem.

Surface and groundwater dependent ecosystems, including riparian, wetland, and oak woodland habitats are present along streams and other areas within the Project boundary. Vernal pool and grassland habitat are also present within the Project area.

CDFW recommends that the following modifications and/or edits be incorporated into the MND, including proposed avoidance, minimization, and compensatory measures, prior to its adoption by the District.

Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or United States Fish and Wildlife Service (USFWS)?

COMMENT 1: San Joaquin Kit Fox (SJKF)

Issues and Impacts: SJKF occurrences have been documented within the Project vicinity (CDFW 2022). The MND acknowledges the potential for the Project to temporarily disturb and permanently alter suitable habitat for SJKF, and to directly impact individuals if present during construction activities.

SJKF den in rights-of-way, agricultural and fallow/ruderal habitat, dry stream channels, and canal levees, etc., and populations can fluctuate over time. SJKF are also capable of occupying urban environments (Cypher and Frost 1999). SJKF may be attracted to Project areas due to the type and level of ground-disturbing activities and the loose, friable soils resulting from intensive ground disturbance. SJKF will forage in fallow and agricultural fields and utilize streams and canals as dispersal corridors. Absence in any one year is not necessarily a reliable predictor of future SJKF potential to occur on a site. Habitat loss resulting from land conversion to agricultural, urban, and industrial development is the primary threat to SJKF, and the Project area is in the vicinity of areas of medium suitability for SJKF habitat (Cypher et al. 2013). As a result, there is potential for SJKF to occupy all suitable habitat within the Project boundary and surrounding area. Without appropriate avoidance and minimization measures for SJKF, potential significant impacts associated with construction include habitat loss, den collapse, inadvertent entrapment, reduced reproductive success, reduction in health and vigor of young, and direct mortality.

Recommended Mitigation Measure 1: SJKF Surveys and Minimization
CDFW recommends assessing presence or absence of SJKF by having qualified biologists conduct surveys of Project areas and a 500-foot buffer of Project areas to detect SJKF and their sign. CDFW recommends that presence/absence of SJKF be assessed by conducting surveys. Specifically, CDFW advises conducting surveys in all areas of potentially suitable habitat no less than 14 days and no more than 30 days prior to beginning of ground-disturbing activities. If suitable dens are found, den avoidance buffers CDFW recommends that avoidance be implemented by following the USFWS (2011) *Standardized recommendations for protection of the San Joaquin kit fox prior to or during ground disturbance*.

Recommended Mitigation Measure 2: SJKF Take Authorization
SJKF activity or detection of individuals warrants consultation with CDFW to discuss how to avoid take or, if avoidance is not feasible, to acquire an Incidental Take Permit (ITP) prior to any ground-disturbing activities, pursuant to Fish and Game Code section 2081, subdivision (b).

COMMENT 2: Swainson's Hawk (SWHA)

Issues and Impacts: SWHA occurrences have been documented within the Project vicinity (CDFW 2022) and suitable nesting and foraging habitat occur within the Project site. SWHA exhibit high nest-site fidelity year after year and lack of suitable nesting habitat in the San Joaquin Valley limits their local distribution and abundance (CDFW 2016). Approval of the Project may lead to subsequent ground-disturbing activities that involve noise, groundwork, and movement of workers that could affect nests and has the potential to result in nest abandonment and loss of foraging habitat, significantly impacting local nesting SWHA. The MND acknowledges the potential for the Project to impact nesting SWHA, and Mitigation Measure BIO-1b states that a biologist would determine appropriate setback distances based on applicable CDFW guidelines. Without appropriate avoidance and minimization measures for SWHA, potential significant impacts that may result from Project activities include nest abandonment, loss of nest trees, loss of foraging habitat that would reduce nesting success (loss or reduced health or vigor of eggs or young), and direct mortality. Any take of SWHA without appropriate incidental take authorization would be a violation of Fish and Game Code.

Recommended Mitigation Measure 3: SWHA Surveys
CDFW recommends that a qualified biologist conduct surveys for nesting SWHA following the survey methods developed by the Swainson's Hawk Technical Advisory Committee (SWHA TAC 2000) prior to Project implementation. Mitigation Measure BIO-1b states that surveys will be conducted according to SWHA TAC (2000) guidelines within a ½-mile survey distance from the construction area for SWHA. The survey protocol includes early season surveys to assist the Project

proponent in implementing necessary avoidance and minimization measures, and in identifying active nest sites prior to initiating ground-disturbing activities.

Recommended Mitigation Measure 4: SWHA No-Disturbance Buffer
If ground-disturbing activities will take place during the nesting season of March 1 through August 31, CDFW recommends that additional pre-activity surveys for active nests be conducted by a qualified biologist no more than 10 days prior to the start of Project implementation. CDFW recommends that a minimum no-disturbance buffer of ½-mile be delineated around active nests until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.

Recommended Mitigation Measure 5: SWHA Take Authorization
CDFW recommends that in the event an active SWHA nest is detected during surveys, consultation with CDFW is warranted to discuss how to implement the Project and avoid take. If take cannot be avoided, take authorization through the acquisition of an ITP pursuant to Fish and Game Code section 2081, subdivision (b) is necessary to comply with CESA.

COMMENT 3: Nesting Bald Eagle (BAEA) and Golden Eagle (GOEA)

Issues and Impacts: Nesting BAEA and GOEA have the potential to occur in the Project area and its vicinity. Aerial imagery shows suitable nesting and foraging habitat for these species occurs within the Project area. The MND states that BAEA have been recently documented as occurring within the Project vicinity. Without appropriate survey methods, eagles nesting in the vicinity of a project can remain undetected resulting in avoidance and minimization measures not being effectively implemented (American Eagle Research Institute 2010). In addition, human activity near nest sites can cause reduced provisioning rates of GOEA chicks by adults (Steidl et al. 1993). Depending on the timing of construction, Project activities including noise, vibration, odors, and movement of workers or equipment could affect nests and also have the potential to result in nest abandonment, significantly impacting local nesting raptors. Mitigation Measure BIO-2b requires a 660-foot no-disturbance buffer from any BAEA nest, and may be an insufficient buffer distance. Without appropriate avoidance and minimization measures, potentially significant impacts associated with the Project's construction include loss of foraging and/or nesting habitat, nest abandonment, reduced reproductive success, and reduced health and vigor of eggs and/or young.

Recommended Mitigation Measure 6: Focused Surveys for Nesting Eagles
CDFW recommends that a qualified wildlife biologist conduct surveys for nesting raptors following the *Protocol for Golden Eagle Occupancy, Reproduction, and Prey Population Assessment* (Driscoll 2010), and the *Protocol for Evaluating Bald*

Eagle Habitat and Populations in California (Jackman and Jenkins 2004). If ground-disturbing activities take place during the typical bird breeding season of February 1 through September 15, CDFW recommends that additional pre-construction surveys for active nests be conducted by a qualified biologist no more than 10 days prior to the start of construction.

Recommended Mitigation Measure 7: Eagle Nest Avoidance
If an active eagle nest is found, CDFW recommends implementation of a minimum ½-mile no-disturbance buffer until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. If nesting eagles are detected and the ½-mile no-disturbance nest buffer is not feasible, consultation with CDFW is warranted to determine if the Project can avoid take. Please note that BAEA and GOEA are State fully protected species and pursuant to Fish and Game Code section 3511, CDFW cannot authorize their incidental take.

COMMENT 4: Tricolored Blackbird (TRBL)

Issues and Impacts: TRBL have been documented within and adjacent to the Project area, and in the vicinity (CDFW 2022). The MND acknowledges this species was observed within a mile of the Project in 2015, and that areas of suitable habitat occurs within and adjacent to the Project. Review of aerial imagery indicates that the Project area includes suitable habitat types including wetlands, ponds, and flood-irrigated agricultural land, which is an increasingly important nesting habitat type for TRBL (Meese et al. 2017). TRBL aggregate and nest colonially, forming colonies of up to 100,000 nests (Meese et al. 2014), and approximately 86% of the global population is found in the San Joaquin Valley (Kelsey 2008, Weintraub et al. 2016). In addition, TRBL have been forming larger colonies that contain progressively larger proportions of the species' total population (Kelsey 2008). In 2008, 55% of the species' global population nested in only two colonies in silage fields (Kelsey 2008). Nesting can occur synchronously, with all eggs laid within one week (Orians 1961). For these reasons, disturbance to nesting colonies can cause entire nest colony site abandonment and loss of all unfledged nests, significantly impacting TRBL populations (Meese et al. 2014). Without appropriate avoidance and minimization measures for TRBL, potential significant impacts associated with the Project include nesting habitat loss, nest and/or colony abandonment, reduced reproductive success, and reduced health and vigor of eggs and/or young.

Recommended Mitigation Measure 8: TRBL Surveys
CDFW recommends that the Project activities be timed to avoid the typical avian nesting season of February 1 through September 15. If Project activity that could disrupt nesting must take place during that time, CDFW recommends that a qualified biologist conduct surveys for nesting TRBL no more than 10 days prior to the start of

implementation to evaluate presence or absence of TRBL nesting colonies in proximity to Project activities and to evaluate potential Project-related impacts.

Recommended Mitigation Measure 9: TRBL Colony Avoidance
If an active TRBL nesting colony is found during surveys, CDFW recommends implementation of a minimum 300-foot no-disturbance buffer, in accordance with CDFW's (2015a) *Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields in 2015*, until the breeding season has ended or until a qualified biologist has determined that nesting has ceased and the young have fledged and are no longer reliant upon the colony site for survival.

Recommended Mitigation Measure 10: TRBL Take Authorization
In the event that a TRBL nesting colony is detected during surveys, consultation with CDFW is warranted to discuss whether the Project can avoid take and, if take avoidance is not feasible, to acquire an ITP for TRBL pursuant to Fish and Game Code section 2081, subdivision (b), prior to any Project activities.

COMMENT 5: California Tiger Salamander (CTS)

Issues and Impacts: The MND states that CTS occurrence is possible, and critical habitat for this species has been mapped in the Phase 2 alignment (Table 3-7, page 3-17). CTS are known to occur in vernal pool habitat in the Project vicinity (CDFW 2022). Review of aerial imagery indicates the presence of several wetland features in the Project's vicinity that have the potential to support breeding CTS. In addition, the Project area or its immediate surroundings may support small mammal burrows, a requisite upland habitat feature for CTS.

Up to 75% of historic CTS habitat has been lost to development (Shaffer et al. 2013). Loss, degradation, and fragmentation of habitat are among the primary threats to CTS (CDFW 2015b, USFWS 2017). The Project area is within the range of CTS and is both composed of and bordered by suitable upland habitat that could be occupied or colonized by CTS. Without appropriate avoidance and minimization measures for CTS, potential significant impacts associated with any construction or ground disturbing activity include burrow collapse; inadvertent entrapment; reduced reproductive success; reduction in health and vigor of eggs, larvae and/or young; and direct mortality of individuals. In addition, depending on the design of any activity, the Project has the potential to result in creation of barriers to dispersal.

Recommended Mitigation Measure 11: Focused CTS Surveys
CDFW recommends that a qualified biologist evaluate potential Project-related impacts to CTS prior to ground-disturbing activities using the USFWS (2003) *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander*, in areas providing suitable

upland or breeding habitat for CTS. CDFW advises that the survey include a 100-foot buffer around the Project area in all areas of wetland and upland habitat that could support CTS.

Recommended Mitigation Measure 12: CTS Avoidance
CDFW advises that avoidance for CTS include a minimum 50-foot no disturbance buffer delineated around all small mammal burrows and a minimum 250-foot no disturbance buffer around potential breeding pools within and adjacent to the Project area. CDFW also recommends avoiding any impacts that could alter the hydrology or result in sedimentation of breeding pools. If avoidance is not feasible, consultation with CDFW is warranted to determine if the Project can avoid take.

Recommended Mitigation Measure 13: CTS Take Authorization
If through surveys it is determined that CTS occupy the Project area and if take cannot be avoided, take authorization would be warranted prior to initiating Project activities by acquiring an ITP for CTS pursuant to Fish and Game Code section 2081, subdivision (b) before Project activities occur. Alternatively, in the absence of protocol surveys, the applicant can assume presence of CTS within the Project area and obtain an ITP.

COMMENT 6: Burrowing Owl (BUOW)

Issues and Impacts: BUOW inhabit open grassland containing small mammal burrows, a requisite habitat feature used by BUOW year-round for nesting and cover. BUOW may also occur in some agricultural areas, ruderal grassy fields, vacant lots, and pastures if the vegetation structure is suitable and there are useable burrows and foraging habitat in the area (Gervais et al. 2008). Habitat both in the Project site and the Project vicinity supports suitable habitat for BUOW (CDFW 2022). Potentially significant impacts to nesting and non-nesting BUOW can occur as a result of ground-impacting activity, such as grading and flooding within active and fallow agricultural areas, and as a result of noise, vibration, and other disturbance caused by equipment and crews. Potential impacts associated with Project activities and land conversion include habitat loss, burrow collapse, inadvertent entrapment, nest abandonment, reduced reproductive success, reduction in health and vigor of eggs and/or young, and direct mortality of individuals. In addition, and as described in the “Staff Report on Burrowing Owl Mitigation” (CDFG 2012), excluding and/or evicting BUOW from their burrows is considered a potentially significant impact under CEQA.

Recommended Mitigation Measure 14: BUOW Surveys
CDFW recommends assessing presence or absence of BUOW by having a qualified biologist conduct surveys following the California Burrowing Owl Consortium (1993) *Burrowing Owl Survey Protocol and Mitigation Guidelines* and the CDFG (2012) *Staff Report on Burrowing Owl Mitigation*. Specifically, these documents suggest

three or more surveillance surveys conducted during daylight, with each visit occurring at least three weeks apart during the peak breeding season of April 15 to July 15, when BUOW are most detectable. In addition, CDFW advises that surveys include a minimum 500-foot survey radius around the Project area.

Recommended Mitigation Measure 15: BUOW Avoidance
CDFW recommends that no-disturbance buffers, as outlined by CDFG (2012), be implemented prior to and during any ground-disturbing activities, and specifically that impacts to occupied burrows be avoided in accordance with the following table unless a qualified biologist approved by CDFW verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting sites	April 1-Aug 15	200 m*	500 m	500 m
Nesting sites	Aug 16-Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16-Mar 31	50 m	100 m	500 m

* meters (m)

Recommended Mitigation Measure 16: BUOW Eviction and Mitigation
If BUOW are found within these recommended buffers and avoidance by a reduced buffer using biological monitors or other minimization is not possible, CDFW recommends that any burrow exclusion be conducted by qualified biologists and only during the non-breeding season, before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance. CDFW then recommends mitigation in the form of replacement of occupied burrows with artificial burrows at a minimum ratio of one burrow collapsed to one artificial burrow constructed (1:1) to mitigate for evicting BUOW and the loss of burrows. BUOW may attempt to colonize or re-colonize an area that will be impacted; thus, CDFW recommends ongoing surveillance at a rate that is sufficient to detect BUOW if they return.

COMMENT 7: Special-Status Bat Species

Issues and Impacts: Habitat features are present that have the potential to support pallid bat, western mastiff bat, and western red bat. Western mastiff bat and pallid bat are known to roost in buildings, caves, tunnels, cliffs, crevices, and trees. (Lewis 1994). Western red bat is highly associated with riparian habitat (Peirson et al. 2006). Project activities have the potential to affect habitat used by special-status bat species for successful breeding and have the potential to impact individuals and local populations. Without appropriate avoidance and minimization measures for

special-status bat species, potential significant impacts resulting from ground- and vegetation-disturbing activities associated with Project activities include habitat loss, inadvertent entrapment, roost abandonment, reduced reproductive success, reduction in health and vigor of young, and direct mortality of individuals.

Recommended Mitigation Measure 17: Bat Surveys
CDFW recommends assessing presence/absence of special-status bat roosts by conducting surveys of suitable roosting habitat during the appropriate seasonal period of bat activity. CDFW recommends methods such as through evening emergence surveys or bat detectors to determine whether bats are present.

Recommended Mitigation Measure 18: Bat Roost Disturbance Minimization and Avoidance
If bats are present, CDFW recommends that a 100-foot no-disturbance buffer be placed around the roost and that a qualified biologist who is experienced with bats monitor the roost for signs of disturbance to bats from Project activity. If a bat roost is identified and work is planned to occur during the breeding season, CDFW recommends that no disturbance to maternity roosts occurs and that CDFW be consulted to determine measures to prevent breeding disruption or failure.

COMMENT 8: Western Pond Turtle (WPT)

Issues and Impacts: A review of aerial imagery shows requisite habitat features that WPT utilize for nesting, overwintering, dispersal, and basking occur in the Project area. These features include aquatic and terrestrial habitats such as streams, ponded areas, irrigation canals, riparian, and upland habitat. WPT are known to nest in the spring or early summer within 100 meters of a water body, although nest sites as far away as 500 meters have also been reported (Thomson et al. 2016). Noise, vegetation removal, movement of workers, construction and ground disturbance as a result of Project activities have the potential to significantly impact WPT populations. Without appropriate avoidance and minimization measures for WPT, potentially significant impacts associated with Project activities could include nest reduction, inadvertent entrapment, reduced reproductive success, reduction in health or vigor of eggs and/or young, and direct mortality.

Recommended Mitigation Measure 19: WPT Surveys
CDFW recommends that a qualified biologist conduct focused surveys for WPT within 10 days prior to Project implementation. In addition, CDFW recommends focused surveys for nests if Project activity will occur during the egg-laying season of March through August.

Recommended Mitigation Measure 20: WPT Avoidance and Minimization
CDFW recommends that any WPT nests that are discovered remain undisturbed with a no-disturbance buffer maintained around the nest until the eggs have hatched and neonates are no longer in the nest or Project areas. If WPT individuals are discovered at the site during surveys or Project activities, CDFW recommends that they be allowed to move out of the area of their own volition without disturbance.

COMMENT 9: Other State Species of Special Concern

Issues and Impacts: American badger and western spadefoot are known to inhabit grassland and upland shrub areas with friable soils (Williams 1986, Thomson et al. 2016). These species have been documented to occur in the vicinity of the Project, which supports requisite habitat elements for these species (CDFW 2022), and habitat loss threatens these species (Williams 1986, Thomson et al. 2016). Habitat within and adjacent to the Project represents some of the only remaining undeveloped land in the vicinity, which is otherwise intensively managed for agriculture. Without appropriate avoidance and minimization measures for these species, potentially significant impacts associated with ground disturbance include habitat loss, nest/den/burrow abandonment, which may result in reduced health or vigor of eggs and/or young, and direct mortality.

Recommended Mitigation Measure 21: Surveys
CDFW recommends that a qualified biologist conduct focused surveys for the species and their requisite habitat features to evaluate potential impacts resulting from ground and vegetation disturbance.

Recommended Mitigation Measure 22: Avoidance
Avoidance whenever possible is encouraged via delineation and observance of a 50-foot no-disturbance buffer around dens of mammals like the American badger as well as the entrances of burrows that can provide refuge for small mammals, reptiles, and amphibians.

COMMENT 10: Special-Status Plants

Issues and Impacts: Listed and other special-status plant species meeting the definition of rare or endangered under CEQA section 15380 are known to occur in the vicinity the Project. Greene's tuctoria, succulent owl's clover, San Joaquin Valley Orcutt grass, shining navarretia, and Merced phacelia have been documented within the Project vicinity (CDFW 2022). These and many other special-status plant species are threatened by grazing and agricultural, urban, and energy development. Many historical occurrences of these species are presumed extirpated (CNPS 2019). Though new populations have recently been discovered, impacts to existing populations have the potential to significantly impact populations of plant species.

Without appropriate avoidance and minimization measures for special-status plants, potential significant impacts associated with subsequent construction include loss of habitat, loss or reduction of productivity, and direct mortality.

Recommended Mitigation Measure 23: Special-Status Plant Surveys
CDFW recommends that Project sites be surveyed for special-status plants by a qualified botanist following the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFG 2018). This protocol, which is intended to maximize detectability, includes the identification of reference populations to facilitate the likelihood of field investigations occurring during the appropriate floristic period.

Recommended Mitigation Measure 24: Special-Status Plant Avoidance
CDFW recommends that special-status plant species be avoided whenever possible by delineating and observing a no-disturbance buffer of at least 50 feet from the outer edge of the plant population(s) or specific habitat type(s) required by special-status plant species. If buffers cannot be maintained, then consultation with CDFW may be warranted to determine appropriate minimization and mitigation measures for impacts to special-status plant species.

Recommended Mitigation Measure 25: Listed Plant Species Take Authorization
If a State-listed plant species is identified during botanical surveys, consultation with CDFW is warranted to determine if the Project can avoid take. If take cannot be avoided, take authorization is warranted. Take authorization would occur through issuance of an ITP, pursuant to Fish and Game Code section 2081, subdivision (b).

Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS?

COMMENT 11: Wetland and Riparian Habitats

Issues and Impacts: The Project area includes Owens, Mariposa, Little Deadman, Deadman, and Dutchman Creeks and associated riparian and wetland habitat features. The surrounding area is an agricultural landscape mosaic that also maintains undeveloped habitats and vernal pool habitat. Project activities such as water diversion and any associated ground disturbances have the potential to involve temporary and permanent impacts to these habitat features. Project activities have the potential to result in temporary and permanent impacts to these features through surface water diversion, habitat conversion, grading, fill, and related development. Riparian and associated floodplain and wetland areas are valuable for their ecosystem processes such as protecting water quality by filtering pollutants and

transforming nutrients, stabilizing stream banks to prevent erosion and sedimentation/siltation, and dissipating flow energy during flood conditions, thereby spreading the volume of surface water, reducing peak flows downstream, and increasing the duration of low flows by slowly releasing stored water into the channel through subsurface flow. The Fish and Game Commission policy regarding wetland resources discourages development or conversion of wetlands that results in any net loss of wetland acreage or habitat value. Habitat conversion, construction, grading, and fill activities within these features also has the potential to impact downstream waters as a result of Project site impacts leading to erosion, scour, and changes in stream morphology.

Recommended Mitigation Measure 26: Stream and Wetland Mapping
CDFW recommends that formal stream mapping and wetland delineation be conducted by a qualified biologist or hydrologist, as warranted, to determine the baseline location, extent, and condition of streams (including any floodplain) and wetlands within and adjacent to the Project area. Please note that while there is overlap, State and Federal definitions of wetlands differ, and complete stream mapping commonly differs from delineations used by the U.S. Army Corps of Engineers specifically to identify the extent of Waters of the U.S. Therefore, it is advised that the wetland delineation identify both State and Federal wetlands in the Project area, and that the full extent of all streams including floodplains, if present, be mapped within the Project area. CDFW advises that site map(s) depicting the extent of any activities that may affect wetlands, lakes, or streams be included with any Project site evaluations, to clearly identify areas where stream/riparian and wetland habitats could be impacted from Project activities.

Recommended Mitigation Measure 27: Stream and Wetland Habitat Mitigation
CDFW recommends that the potential direct and indirect impacts to stream/riparian and wetland habitat be analyzed according to each Project activity. Based on those potential impacts, CDFW recommends that the MND include measures to avoid, minimize, and/or mitigate those impacts. CDFW recommends that impacts to riparian habitat (i.e., biotic and abiotic features) take into account the effects to stream function and hydrology from riparian habitat loss or damage, as well as potential effects from the loss of riparian habitat to special-status species already identified herein. CDFW recommends that losses to wetland or riparian habitats be offset with corresponding habitat restoration incorporating native vegetation to replace the value to fish and wildlife provided by the habitats lost from Project implementation, to achieve a minimum no net loss of these habitats. If on-site restoration to replace habitats is not feasible, CDFW recommends offsite mitigation by restoring or enhancing in-kind riparian or wetland habitat and providing for its long-term management and protection, to ensure its persistence.

COMMENT 12: Sustainable Groundwater Management Act (SGMA) and Groundwater Dependent Ecosystems

Issues and Impacts: The MND is not clear in describing whether or how the Project will result in reduced surface flow in streams for the purpose of groundwater recharge and storage. CDFW is concerned that the proposed Project may result in direct and cumulative adverse impacts to the fish and wildlife and other public trust resources supported by streams and associated riparian habitats, and that any proposed reduction in surface flow may affect the sustainability of the riparian woodland and aquatic habitats within these streams.

Many sensitive ecosystems and public trust resources such as streams, springs, riparian areas, and wetlands are dependent on groundwater and interconnected surface waters. The Project is in the boundary for the San Joaquin Valley-Merced Subbasin located in the San Joaquin Valley Groundwater Basin (Groundwater Basin Number 5-022.04) and is within the Merced Subbasin Groundwater Sustainability Plan. The San Joaquin Valley-Merced Subbasin is listed as a high priority Subbasin by the California Department of Water Resources. SGMA defines sustainable groundwater management as "management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results (Water Code, § 10721 (v))." Significant and undesirable results that may result from Project related activities and have adverse impacts to groundwater dependent ecosystems include chronic lowering of groundwater levels, reduction of groundwater storage, degraded water quality, land subsidence, and depletions of interconnected surface water that have an adverse impact on beneficial uses of surface water. Project-related activities may result in significant and adverse impacts to groundwater dependent ecosystems including wetland and riparian habitats and the species dependent upon these habitats.

Analysis Recommendations:

- CDFW recommends that the MND include an analysis of Project-related activities in relation to the Merced Subbasin Groundwater Sustainability Plan, including analysis of potential undesirable results and adverse impacts to groundwater dependent ecosystems and the biological resources listed above.

- CDFW recommends that the MND analyze how the Project may affect surface and subsurface water levels, including drawdown from confined aquifers.

- CDFW recommends a hydrologic study or other information that identifies and analyzes the impacts to the aquatic ecosystems and any fisheries that may result from Project implementation, including on-site a well as potential offsite, downstream impacts.

- CDFW recommends that the MND include specific triggers for evaluating changes to surface and ground water levels and monitoring wetland and riparian habitats that would be affected by these changes.

Recommended Mitigation Measure 28: Groundwater Dependent Ecosystem Monitoring and Mitigation
CDFW recommends that the MND include requirements to identify, evaluate, and monitor all groundwater dependent ecosystems that would be affected by Project activities, and develop a plan to offset losses of groundwater dependent ecosystems caused by changes in hydrology associated with the Project, with mitigation for impacted habitat value and function.

COMMENT 13: Water Rights and Impacts from Surface Water Diversion:

Issues and Impacts: Section 2.1.7 of the MND states that the Project would create a way for the capture and recharge of flood flows, introducing a new surface water supply source; however, the Project description in the MND is not clear in describing whether the Project will result in the diversion of unallocated surface flow for the purpose of groundwater storage. As stated previously, the capture of unallocated surface flows to artificially recharge groundwater aquifers is subject to appropriation and approval by the SWRCB pursuant to Water Code section 1200 et seq. CDFW, as Trustee Agency, is consulted by the SWRCB during the water rights process to provide terms and conditions designed to protect fish and wildlife prior to appropriation of the State's water resources. Given the potential for impacts to sensitive species and their habitats, it is advised that required consultation with CDFW occur well in advance of the SWRCB water right application process.

Analysis Recommendations:

- CDFW recommends that the MND include a detailed description of the water rights and water entitlements that would pertain to the Project and address any applications or change petitions that may be filed.

- CDFW recommends that the MND analyze how the Project may affect surface and subsurface water levels.

- CDFW recommends a hydrologic study, water availability analysis, and/or other information that identifies and analyzes the impacts to aquatic ecosystems and fish and wildlife resources that may result from Project-related surface water diversion, including diversion for groundwater storage.

- CDFW recommends that the MND include specific triggers for evaluating changes to surface flow and subsurface water levels, and monitoring wetland and riparian habitats that would be affected by these changes.

Recommended Mitigation Measure 29: Aquatic Ecosystem Monitoring and Mitigation
CDFW recommends that the MND include requirements to identify, evaluate, and monitor all aquatic ecosystems and fish and wildlife resources therein that would be affected by Project activities related to surface water diversion, and develop a plan to offset losses caused by changes in hydrology associated with the Project, including mitigation for impacted habitat value and function.

Editorial Comments and/or Suggestions

Lake and Streambed Alteration: Project activities that have the potential to substantially change the bed, bank, and channel of streams and associated riparian and wetland habitat that are subject to CDFW's regulatory authority pursuant Fish and Game Code section 1600 et seq. Fish and Game Code section 1602 requires an entity to notify CDFW prior to commencing any activity that may (a) substantially divert or obstruct the natural flow of any river, stream, or lake; (b) substantially change or use any material from the bed, bank, or channel of any river, stream, or lake (including the removal of riparian vegetation): (c) deposit debris, waste or other materials that could pass into any river, stream, or lake. "Any river, stream, or lake" includes those that are ephemeral or intermittent as well as those that are perennial. CDFW is required to comply with CEQA in the issuance of a Lake or Streambed Alteration (LSA) Agreement; therefore, if the CEQA document approved for the Project does not adequately describe the Project and its impacts, a subsequent CEQA analysis may be necessary for LSA Agreement issuance. Additional information on notification requirements is available through the Central Region LSA Program at (559) 243-4593 or R4LSA@wildlife.ca.gov and the CDFW website: https://wildlife.ca.gov/Conservation/LSA.

Nesting birds: CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs and nests include sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

CDFW encourages that Project implementation occur during the bird non-nesting season; however, if Project activities must occur during the breeding season (i.e., February through mid-September), the Project applicant is responsible for ensuring that implementation of the Project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Code sections as referenced above.

To evaluate Project-related impacts to nesting birds, CDFW recommends that a qualified wildlife biologist conduct pre-activity surveys for active nests no more than 10 days prior to the start of ground disturbance to maximize the probability that nests that could potentially be impacted by the Project are detected. CDFW also recommends that surveys cover a sufficient area around the work site to identify nests and determine their status. A sufficient area means any area potentially affected by the Project. In addition to direct impacts (i.e., nest destruction), noise, vibration, and movement of workers or equipment could also affect nests. Prior to initiation of construction activities, CDFW recommends that a qualified biologist conduct a survey to establish a behavioral baseline of all identified nests. Once construction begins, CDFW recommends that a qualified biologist continuously monitor nests to detect behavioral changes resulting from the Project. If behavioral changes occur, CDFW recommends that the work causing that change cease and that CDFW be consulted for additional avoidance and minimization measures.

If continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. These buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. Variance from these no-disturbance buffers is possible when there is compelling biological or ecological reason to do so, such as when the construction area would be concealed from a nest site by topography. CDFW recommends that a qualified wildlife biologist advise and support any variance from these buffers.

Endangered Species Act Consultation: CDFW recommends consultation with the USFWS prior to Project ground disturbance, due to potential impacts to Federal listed species. Take under the ESA is more stringently defined than under CESA; take under ESA may also include significant habitat modification or degradation that could result in death or injury to a listed species, by interfering with essential behavioral patterns such as breeding, foraging, or nesting.

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 the California Natural Diversity Database (CNDDB). The CNDDB field survey form can be obtained at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data . The completed form can be mailed electronically to CNDDB at the following email address:

CNDDB@wildlife.ca.gov. The types of information reported to CNDDB can be found at the following link: https://www.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 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 MND to assist the District in identifying and mitigating Project impacts on biological resources. If you have questions regarding this letter, please contact Annette Tenneboe, Senior Environmental Scientist (Specialist), at (559) 580-3202 or by email at Annette.Tenneboe@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Valerie Cook
96D42C58E092466...

Valerie Cook
Acting Regional Manager

Attachment

ec: Office of Planning and Research
State Clearinghouse

Brad Samuelson
District Representative, Water and Land Solutions, LLC
bsamuelson@waterandlandsolutions.com

Annette Tenneboe
Gretchen Murphey
California Department of Fish and Wildlife

REFERENCES

California Burrowing Owl Consortium (CBOC). 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83842&inline

California Department of Fish and Wildlife (CDFW). 2012. Staff Report on Burrowing Owl Mitigation. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843&inline

CDFW. 2015a. Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields in 2015. March 19, 2015.

CDFW. 2015b. California Tiger Salamander Technical Review – Habitat, Impacts and Conservation. California Department of Fish and Wildlife, October 2015.

CDFW. 2016. Five Year Status Review for Swainson's Hawk (*Buteo swainsoni*). California Department of Fish and Wildlife. April 11, 2016.

CDFW. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. California Department of Fish and Wildlife. March 20, 2018.

CDFW. 2022. Biogeographic Information and Observation System (BIOS). https://www.wildlife.ca.gov/Data/BIOS. Accessed 23 May 2022

California Native Plant Society (CNPS). 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org.

Cypher, B. and N. Frost. 1999. Condition of San Joaquin kit foxes in urban and exurban habitats. Journal of Wildlife Management 63: 930–938.

Cypher, B.L., S.E. Phillips, and P.A. Kelly. 2013. Quantity and distribution of suitable habitat for endangered San Joaquin kit foxes: conservation implications. Canid Biology & Conservation 16(7): 25-31. http://www.canids.org/CBC/16/San_Joaquin_kit_fox_habitat_suitability.pdf

Driscoll, D.E. 2010. Protocol for Golden Eagle Occupancy, Reproduction, and Prey Population Assessment. American Eagle Research Institute, Apache Jct., AZ. 55pp.

Gervais, J.A., D.K. Rosenberg, and L.A. Comrack. 2008. Burrowing Owl (*Athene cunicularia*) *In* California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California (W. D. Shuford and T. Gardali, editors). Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

Jackman, R.E. and J.M. Jenkins. 2004. Protocol for Evaluating Bald Eagle Habitat and Populations in California. Prepared for U.S. Fish and Wildlife Service Endangered Species Division, Sacramento, CA, USA.

Kelsey, R. 2008. Results of the tricolored blackbird 2008 census. Report submitted to U.S. Fish and Wildlife Service, Portland, OR, USA.

Lewis, S.E. 1994. Night roosting ecology of pallid bats (*Antrozous pallidus*) in Oregon. The American Midland Naturalist, Vol. 132, pp. 219-226.

Meese, R.J., E.C. Beedy, and W.J. Hamilton, III. 2014. Tricolored blackbird (*Agelaius tricolor*), The Birds of North America (P. G. Rodewald, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America: https://birdsna-org.bnaproxy.birds.cornell.edu/Species-Account/bna/species/tribla. Accessed December 15, 2017.

Meese, R.J. 2017. Results of the 2017 Tricolored Blackbird Statewide Survey. California Department of Fish and Wildlife, Wildlife Branch, Nongame Wildlife Program Report 2017-04, Sacramento, CA. 27 pp. + appendices.

Orians, G.H. 1961. The ecology of blackbird (*Agelaius*) social systems. Ecological Monographs 31(3): 285–312.

Pierson, E.D., W.E. Rainey, and C. Corben. 2006. Distribution and status of Western red bats (*Lasiurus blossevillii*) in California. Calif. Dept. Fish and Game, Habitat Conservation Planning Branch, Species Conservation and Recovery Program Report 2006-04, Sacramento, CA. 45 pp.

Shaffer, H.B., J.R. Johnson, and I.J. Wang. 2013. Conservation Genetics of California tiger salamanders. Final Report prepared for Central Valley Project Conservation Program, Bureau of Reclamation, Sacramento, California.

Steidl, R.J., K.D. Kozie, G.J. Dodge, T. Pehovski, and E.R. Hogan. 1993. Effects of human activity on breeding behavior of golden eagles in Wrangell-St. Elias National Park and Preserve; a preliminary assessment. Copper Center, AK: National Park Service, Wrangell-St. Elias National Park Preserve.

Swainson's Hawk Technical Advisory Committee (SWHA TAC). 2000. Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83990&inline

Thomson, R.C., A.N. Wright, and H.B. Shaffer. 2016. California Amphibian and Reptile Species of Special Concern. California Department of Fish and Wildlife and University of California Press: 84-92.

United States Fish and Wildlife Service (USFWS). 2003. Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander, October 2003.

USFWS. 2011. Standard Recommendations for the Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance. United States Fish and Wildlife Service. January 2011. https://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/kitfox_standard_rec_2011.pdf

USFWS. 2017. Recovery Plan for the Central California Distinct Population Segment of the California Tiger Salamander (*Ambystoma californiense*). U. S. Fish and Wildlife Service, Region 8, Sacramento, California. June 2017.

Weintraub, K., T.L. George, and S.J. Dinsmore. 2016. Nest survival of tricolored blackbirds in California's Central Valley. Condor 118(4): 850–861.

Williams, D.F. 1986. Mammalian species of special concern in California. Calif. Dept. Fish and Game, Sacramento. Admin. Rep. 86-1. 112pp.

Attachment 1

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
RECOMMENDED MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

PROJECT: Le Grand-Athlone Water District Merced Irrigation District Canal Intertie Project

STATE CLEARINGHOUSE No. 2022050049

RECOMMENDED MITIGATION MEASURES	STATUS/DATE/INITIALS
Before Project Activity	
Recommended Mitigation Measure 1: SJKF Surveys and Minimization	
Recommended Mitigation Measure 2: SJKF Take Authorization	
Recommended Mitigation Measure 3: Focused SWHA Surveys	
Recommended Mitigation Measure 4: SWHA No-Disturbance Buffer	
Recommended Mitigation Measure 5: SWHA Take Authorization	
Recommended Mitigation Measure 6: Focused Surveys for Nesting Eagles	
Recommended Mitigation Measure 7: Eagle Nest Avoidance	
Recommended Mitigation Measure 8: TRBL Surveys	
Recommended Mitigation Measure 9: TRBL Colony Avoidance	
Recommended Mitigation Measure 10: TRBL Take Authorization	
Recommended Mitigation Measure 11: Focused CTS Surveys	
Recommended Mitigation Measure 12: CTS Avoidance	
Recommended Mitigation Measure 13: CTS Take Authorization	
Recommended Mitigation Measure 14: BUOW Surveys	
Recommended Mitigation Measure 15: BUOW Avoidance	
Recommended Mitigation Measure 16: BUOW Eviction and Mitigation	

RECOMMENDED MITIGATION MEASURES	STATUS/DATE/INITIALS
Recommended Mitigation Measure 17: Bat Surveys	
Recommended Mitigation Measure 18: Bat Roost Disturbance Minimization and Avoidance	
Recommended Mitigation Measure 19: WPT Surveys	
Recommended Mitigation Measure 20: WPT Avoidance and Minimization	
Recommended Mitigation Measure 21: Surveys – American badger and western spadefoot.	
Recommended Mitigation Measure 22: Avoidance – American badger and western spadefoot.	
Recommended Mitigation Measure 23: Special-Status Plant Surveys	
Recommended Mitigation Measure 24: Special-Status Plant Avoidance	
Recommended Mitigation Measure 25: Listed Plant Species Take Authorization	
Recommended Mitigation Measure 26: Stream and Wetland Mapping	
Recommended Mitigation Measure 27: Stream and Wetland Habitat Mitigation	
Recommended Mitigation Measure 28: Groundwater Dependent Ecosystem Monitoring and Mitigation	
Recommended Mitigation Measure 29: Aquatic Ecosystem Monitoring and Mitigation	
During Project Activity	
Recommended Mitigation Measure 1: SJKF Surveys and Minimization	
Recommended Mitigation Measure 4: SWHA Buffers	
Recommended Mitigation Measure 7: Eagle Avoidance	
Recommended Mitigation Measure 9: TRBL Colony Avoidance	
Recommended Mitigation Measure 12: CTS Avoidance	
Recommended Mitigation Measure 15: BUOW Avoidance	

RECOMMENDED MITIGATION MEASURES	STATUS/DATE/INITIALS
Recommended Mitigation Measure 18: Bat Roost disturbance Minimization and Avoidance	
Recommended Mitigation Measure 20: WPT Avoidance and Minimization	
Recommended Mitigation Measure 22: Avoidance – American badger and western spadefoot.	
Recommended Mitigation Measure 24: Special-Status Plant Avoidance	