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February 7, 2022

Michael Cooke
WTS GSA TAC Chair
West Turlock Subbasin Groundwater Sustainability Agency
c/o Turlock Irrigation District
PO Box 949
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Subject: Turlock Subbasin Groundwater Sustainability Plan
Notice of Preparation of a Draft Program Environmental Impact Report
State Clearinghouse No. 2022010100

Dear Mr. Cooke:

The California Department of Fish and Wildlife (CDFW) received the NOP of a Program Environmental Impact Report (EIR) regarding the Turlock Subbasin Groundwater Sustainability Plan (Project) from the West Turlock Groundwater Sustainability Agency (WTGSA) 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 the 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,

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

CDFW is 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 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

West Turlock Subbasin Groundwater Sustainability Agency (WTGSA)

Description: The Turlock Subbasin Groundwater Sustainability Plan (GSP) was developed to achieve the sustainability goals of the Turlock Subbasin by 2042 and to avoid undesirable results over the remainder of the 50-year planning horizon. The GSP presents a variety of projects that utilize water from various sources, including but not limited to surface water, stormwater, and reclaimed water, for direct and in-lieu groundwater recharge. Projects can be generally categorized as either urban and municipal or agricultural projects, and incorporate the use of new (e.g., treatment

facilities, pipelines) or existing (e.g., canals, pipelines, reservoirs) infrastructure to enhance water supply. The GSP also identifies management actions to be implemented in conjunction with projects, including demand reduction strategies such as voluntary conservation and/or farmland fallowing; pumping management such as a groundwater extraction reporting program and a groundwater allocation and pumping management program; and a domestic well mitigation program. The EIR would analyze resources that may be affected by implementation of the projects and management actions in the GSP.

Location: The Turlock Subbasin boundary covers 348,160 acres (about 544 square miles), in Stanislaus and Merced Counties. The Turlock Subbasin is bounded on the north by the Tuolumne River, on the south by the Merced River, and on the west by the San Joaquin River.

COMMENTS AND RECOMMENDATIONS

Biological Resources

CDFW offers the comments and recommendations below to assist the WTGSA 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, a review of aerial photographs of the Project boundary and surrounding habitat, several special-status species could potentially be impacted by Project activities. Project-related construction activities within the Project boundary, including but not limited to construction and operation of water banking facilities and introduction of surface water flows for storage, could impact the special-status plant and wildlife species and habitats known to occur in the area.

In particular, CDFW is concerned regarding potential impacts for special status species and habitats known to occupy the Project area, including the State and federal endangered least Bell's vireo (*Vireo bellii pusillus*); the State threatened Swainson's hawk (*Buteo swainsoni*) and tricolored blackbird (*Agelaius tricolor*); the State and federal threatened California tiger salamander – central California Distinct Population Segment (DPS)(*Ambystoma californiense* pop. 1); the federal endangered vernal pool tadpole shrimp (*Lepidurus packardi*); the federal threatened vernal pool fairy shrimp (*Branchinecta lynchi*); the State and federal endangered, and Californian Rare Plant Rank (CRPR) 1B.1 hairy Orcutt grass (*Orcuttia pilosa*) and Hartweg's golden sunburst (*Pseudobahia bahifolia*); the State endangered, federal threatened, and CRPR 1B.1 Colusa grass (*Neostapfia colusana*); the federal endangered and CRPR 1B.1 Delta button-celery (*Eryngium racemosum*); the State endangered, federal threatened, and CRPR 1B.2 succulent owl's-clover (*Castilleja campestris* var. *succulenta*); the federal threatened and CRPR 1B.2 Hoover's spurge (*Euphorbia hooveri*); the CRPR 1A Hoover's cryptantha (*Cryptantha hooveri*); the CRPR 1B.2 spiny-sepaled button-celery

(*Eryngium spinosepalum*); the CRPR 1B.3 Hoover's calycadenia (*Hoover's calycadenia*); the CRPR 2B.2 dwarf downingia (*Downingia pusilla*) and eel-grass pondweed (*Potamogeton zosteriformis*); and the State species of special concern burrowing owl (*Athene cunicularia*), American badger (*Taxidea taxus*), Merced kangaroo rat (*Dipodomys heermanni dixoni*), Townsend's big-eared bat (*Corynorhinus townsendii*), pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), western red bat (*Lasiurus blossevillii*), mountain plover (*Charadrius montanus*), western pond turtle (*Emys marmorata*), and western spadefoot (*Spea hammondii*). Suitable habitat for the rare and endemic crotch bumble bee (*Bombus crotchii*), obscure bumble bee (*Bombus caliginosus*), and Morrison bumble bee (*Bombus morrisoni*) also occurs in the Project vicinity. Other species of birds, amphibians, reptiles, mammals, fish, and plants also compose the local ecosystem within the Project boundary.

The Tuolumne, Merced, and San Joaquin Rivers support the federal threatened Central Valley steelhead DPS (*Oncorhynchus mykiss irideus* pop.11) and the State species of special concern fall-run Central Valley Chinook salmon (*Oncorhynchus tshawyscha*). The San Joaquin River supports the nonessential experimental population of spring run Central Valley Chinook salmon, for which the San Joaquin River Restoration Program goal is to restore a self-sustaining fishery. CDFW documented the presence of the experimental spring-run Chinook salmon in the Tuolumne and Merced Rivers during the 2021 escapement surveys, establishing the San Joaquin River as a migratory corridor for spring/fall Chinook and steelhead and likely providing rearing habitat. Other special status fish species known to occur within one or more of the three river systems include the State species of special concern hardhead (*Mylopharodon conocephalus*), Kern brook lamprey (*Lampetra hubbsi*), white sturgeon (*Acipenser transmontanus*), and Pacific lamprey (*Entosphenus tridentatus*). Surface and ground water dependent ecosystems, including northern hardpan vernal pool, swale, riparian, wetland, and oak woodland habitats, are present within the three watersheds and other areas within the Project boundary.

Please note that the CNDDB is populated by and records voluntary submissions of species detections. As a result, species may be present in locations not depicted in the CNDDB but where there is suitable habitat and features capable of supporting species. A lack of an occurrence record in the CNDDB does not mean a species is not present. In order to adequately assess any potential Project-related impacts to biological resources, surveys conducted by a qualified wildlife biologist/botanist during the appropriate survey period(s) and using the appropriate protocol survey methodology are warranted in order to determine whether or not any special status species are present at or near the Project area.

I. Mitigation Measure or Alternative and Related Impact Shortcoming

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: Least Bell's Vireo (LBV)

Issues and Impacts: LBV occurrences have been documented within the Project area, including the vicinity of the San Joaquin, Merced, and Tuolumne Rivers, and suitable riparian habitat for nesting occurs in the Project vicinity (CDFW 2022). Suitable LBV habitat includes rivers and streams with dense riparian vegetation. Review of aerial imagery indicates that suitable habitat for LBV occurs within the Project area.

LBV were abundant and widespread in the United States until the 1950s (Grinnell and Miller 1944). By the 1960s, they were considered scarce (Monson 1960), and by 1980, there were fewer than 50 pairs remaining (Edwards 1980), although this number had increased to 2,500 by 2004 (Kus and Whitfield 2005). Breeding habitat loss resulting from urban development, water diversion, and spread of agricultural is the primary threat to LBV. The primary cause of decline for this species has been the loss and alteration of riparian woodland habitats (USFWS 2006). Fragmentation of their preferred habitat has also increased their exposure to brown-headed cowbird (*Molothrus ater*) parasitism (Kus and Whitefield 2005). Current threats to their preferred habitat include colonization by non-native plants and altered hydrology (diversion, channelization, etc.) (USFWS 2006). Suitable nesting habitat is present within or adjacent to the Project site. Without appropriate avoidance and minimization measures, potential significant impacts associated with subsequent activities may include nest abandonment, reduced reproductive success, and reduced health and vigor of eggs and/or young.

Recommended Mitigation Measure 1: LBV Habitat Assessment
CDFW recommends that a qualified biologist conduct a habitat assessment in advance of Project implementation, to determine if the Project site or its immediate vicinity contains suitable habitat for LBV. Although LBV inhabit riparian woodlands, the species has also been found to benefit from non-riparian systems including brushy fields, second-growth forest or woodland, scrub oak, coastal chaparral, and mesquite brushlands (Kus and Miner 1989, Poulin et al. 2011).

Recommended Mitigation Measure 2: Focused LBV Surveys
To reduce potential Project-related impacts to LBV, CDFW recommends that a qualified wildlife biologist conduct surveys following the survey methodology developed by USFWS (2001) prior to Project initiation, within the Project area and a 500-foot buffer around the Project area. In addition, if Project activities will take place during the typical breeding season (February 1 through September 15), CDFW recommends that additional preconstruction surveys for active nests be conducted by a qualified biologist no more than 10 days prior to the start of Project activities such as construction or habitat removal.

Recommended Mitigation Measure 3: LBV Buffers
If an LBV nest is found during protocol or preconstruction surveys, CDFW recommends implementing a maintaining a minimum 500-foot 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 site or parental care.

Recommended Mitigation Measure 4: LBV Nest Avoidance and Habitat Mitigation
In addition to avoiding nests, CDFW recommends that impacts to known nest trees be avoided at all times of year. Regardless of nesting status, if potential or known LBV nesting habitat is removed, CDFW recommends that it be replaced with appropriate native tree species, planted at a ratio of 3:1 (replaced to removed), in an area that will be protected in perpetuity, to offset impacts of the loss of potential nesting habitat.

Recommended Mitigation Measure 5: LBV Take Authorization
If a 500-foot no-disturbance nest buffer is not feasible, consultation with CDFW is warranted and acquisition of an Incidental Take Permit (ITP) for LBV may be necessary prior to project implementation, to avoid unauthorized take, pursuant to Fish and Game Code section 2081, subdivision (b).

COMMENT 2: Swainson's Hawk (SWHA)

Issues and Impacts: The Project area is within the historic range of SWHA, and SWHA have been documented in areas of suitable habitat within the Project vicinity (CDFW 2022). Undeveloped and agricultural land in the surrounding area provide suitable foraging habitat for SWHA. Any trees in or near the Project area may also provide suitable nesting habitat.

SWHA exhibit high nest-site fidelity year after year and lack of suitable nesting habitat limits their local distribution and abundance (CDFW 2016). Approval of the Project may lead to subsequent ground-disturbing activities that involve noise, groundwork, construction of structures, 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. In addition, conversion of undeveloped and agricultural land can directly influence distribution and abundance of SWHA, due to the reduction in foraging habitat. Groundwater pumping, surface water diversion, and habitat conversion may result in loss of riparian habitat and subsequent loss of nesting habitat. 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. All trees, including non-native or ornamental varieties, near the Project site may provide nesting sites.

Recommended Mitigation Measure 6: Focused SWHA Surveys
CDFW recommends that a qualified wildlife biologist conduct surveys for nesting SWHA following the entire survey methodology developed by the SWHA Technical Advisory Committee (SWHA TAC 2000) prior to Project implementation.

Recommended Mitigation Measure 7: SWHA Avoidance
CDFW recommends that if Project-specific activities will take place during the SWHA nesting season (i.e., March 1 through September 15), and active SWHA nests are present, a minimum ½-mile no-disturbance buffer be delineated and maintained around each nest, regardless of when or how it was detected, 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 8: SWHA Take Authorization
CDFW recommends that in the event an active SWHA nest is detected, and a ½-mile no-disturbance buffer is not feasible, 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.

Recommended Mitigation Measure 9: Loss of SWHA Foraging Habitat
CDFW recommends compensation for the loss of SWHA foraging habitat as described in CDFW's "Staff Report Regarding Mitigation for Impacts to Swainson's Hawks" (CDFG 1994) to reduce impacts to foraging habitat to less than significant. The Staff Report recommends that mitigation for habitat loss occur within a minimum distance of 10 miles from known nest sites. CDFW has the following recommendations based on the Staff Report: for projects within one mile of an active nest tree, a minimum of one acre of habitat management (HM) land for each acre of development is advised; for projects within five miles of an active nest but greater than one mile, a minimum of ¾ acre of HM land for each acre of development is advised; and for projects within 10 miles of an active nest tree but greater than five miles form an active nest tree, a minimum of ½ acre of HM land for each acre of development is advised.

Recommended Mitigation Measure 10: SWHA Tree Removal
CDFW recommends that the removal of known SWHA nest trees, even outside of the nesting season, be replaced with an appropriate native tree species planting at a ratio of 3:1 at or near the Project area or in another area that will be protected in perpetuity, to offset the local and temporal impacts of nesting habitat loss.

COMMENT 3: Tricolored Blackbird (TRBL)

Issues and Impacts: TRBL are known to occur in the Project area (CDFW 2022, UC Davis 2021). 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).

Potential nesting habitat for TRBL is present within the Project vicinity. 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 subsequent development 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 11: TRBL Surveys
CDFW recommends that the Project activities be timed to avoid the typical bird-breeding 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 12: 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 or parental care for survival. TRBL colonies can expand over time and for this reason, CDFW recommends that an active colony be reassessed to determine its extent within 10 days prior to Project initiation.

Recommended Mitigation Measure 13: 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 pursuant to Fish and Game Code section 2081, subdivision (b), prior to any Project activities.

COMMENT 4: California Tiger Salamander (CTS)

Issues and Impacts: CTS are known to occur in the Project area and its 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 14: CTS Habitat Assessment
CDFW recommends that a qualified biologist conduct a habitat assessment well in advance of Project implementation, to determine if the Project area or its vicinity contains suitable habitat (upland or breeding) for CTS.

Recommended Mitigation Measure 15: Focused CTS Surveys
If the Project area does contain suitable habitat for CTS, 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". 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 16: 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/or 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 17: CTS Take Authorization
If through surveys it is determined that CTS occupy the Project area and if take cannot be avoided, take authorization may be warranted prior to initiating Project activities by acquiring an ITP pursuant to Fish and Game Code section 2081,

subdivision (b), before Project ground or vegetation disturbing 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 5: Special-Status Plants

Issues and Impacts: State- and federal listed, and other special-status plant species meeting the definition of rare or endangered under CEQA section 15380, are known to occur throughout the Project boundary and surrounding area, including the species listed above, and potentially other special-status plant species.

Many of the special-status plant species listed above are threatened by grazing and agricultural, urban, and energy development. Many historical occurrences of these species are presumed extirpated (CNPS 2021). 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 Project-specific activities include loss of habitat, loss or reduction of productivity, and direct mortality.

Recommended Mitigation Measure 18: Special-Status Plant Surveys
CDFW recommends that individual 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 19: 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 20: 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).

COMMENT 6: Burrowing Owl (BUOW)

Issues and Impacts: BUOW inhabit open grassland containing small mammal burrows, a requisite habitat feature used 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). BUOW occurrences have been documented in the Project vicinity, and habitat both within and bordering the Project site supports suitable habitat for BUOW (CDFW 2022).

BUOW rely on burrow habitat year-round for their survival and reproduction. The Project and surrounding area contain remnant undeveloped land but is otherwise intensively managed for agriculture; therefore, subsequent ground-disturbing activities associated with subsequent constructions have the potential to significantly impact local BUOW populations. In addition, and as described in CDFW's "Staff Report on Burrowing Owl Mitigation" (CDFG 2012), excluding and/or evicting BUOW from their burrows is considered a potentially significant impact under CEQA. Potentially significant impacts to nesting and non-nesting BUOW can also 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.

Recommended Mitigation Measure 21: BUOW Habitat Assessment
CDFW recommends that a qualified biologist conduct a habitat assessment in advance of implementation of Project activities, to determine if the Project area or its vicinity contains suitable habitat for BUOW.

Recommended Mitigation Measure 22: BUOW Surveys
Where suitable habitat is present on or in the vicinity of the Project area, 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 Guideline*s"* 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 23: 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 24: BUOW Eviction and Mitigation
If BUOW are found within these recommended buffers and avoidance is not possible, it is important to note that according to CDFG (2012), evicting birds from burrows is not a take avoidance, minimization, or mitigation method and is instead considered a potentially significant impact under CEQA. If it is necessary for Project implementation, CDFW recommends that 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: Townsend's big-eared bat have been documented to occur in the vicinity of the Project area (CDFW 2022). In addition, habitat features are present that have the potential to support pallid bat, western mastiff bat, and western red bat.

Western mastiff bat, pallid bat, and Townsend's big-eared bat are known to roost in buildings, caves, tunnels, cliffs, crevices, and trees. (Lewis 1994 and Gruver 2006). Western red bat is highly associated with riparian habitat (Peirson et al. 2006). Project activities have the potential to affect habitat upon which special-status bat species depend 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 25: Bat Roost Habitat Assessment
CDFW recommends that a qualified biologist conduct a habitat assessment well in advance of Project implementation to determine if the Project area or its immediate vicinity contains suitable roosting habitat for special-status bat species.

Recommended Mitigation Measure 26: Bat Surveys
If suitable habitat is present, CDFW recommends assessing presence/absence of special-status bat roosts by conducting surveys 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 27: 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: WPT are documented in the Project area (CDFW 2022), and 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 rivers, lakes, reservoirs, 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 28: WPT Surveys
CDFW recommends that a qualified biologist conduct focused surveys for WPT within 10 days prior to Project implementation. In addition, CDFW recommends that focused surveys for nests occur during the egg-laying season of March through August.

Recommended Mitigation Measure 29: 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: Crotch Bumble Bee (CBB), Morrison Bumble Bee (MBB), and Obscure Bumble Bee (OBB)

Issues and Impacts: CBB, MBB, and OBB, rare and endemic bumble bee species, have been documented within the Project area (CDFW 2022). Suitable habitat includes areas of grasslands and upland scrub that contain requisite habitat elements, such as small mammal burrows. These species of bumble bee primarily nest in late February through late October underground in abandoned small mammal burrows but may also nest under perennial bunch grasses or thatched annual grasses, underneath brush piles, in old bird nests, and in dead trees or hollow logs, and in structures (Williams et al. 2014, Hatfield et al. 2015). Overwintering sites utilized by mated queens include soft, disturbed soil (Goulson 2010), or under leaf litter or other debris (Williams et al. 2014).

CBB was once common throughout most of the central and southern California; however, it now appears to be absent from most of it, especially in the central portion of its historic range within California's Central Valley (Hatfield et al. 2014). OBB historically occurs along the Pacific Coast with scattered records from the east side of the Central Valley. MBB historic range includes the California Central Valley (Hatfield et al. 2014). Analyses by the Xerces Society et al. (2018) suggest that there have been sharp declines in relative abundance of CBB by 98% and persistence by 80% over the last ten years. Analysis suggests a high population decline range-wide for OBB, including declines in range size by 40%, persistence by 67%, and relative abundance declines by 85%, but the level of population decline is difficult to ascertain, and more surveys are needed within the species' historic range (Hatfield et al. 2014). Analysis of MBB yielded an average decline in species abundance of 58% (Hatfield et al. 2014). Without appropriate avoidance and minimization measures, potentially significant impacts associated with ground- and vegetation-disturbing activities associated with construction of the Project include loss of foraging plants, changes in foraging behavior, burrow collapse, nest abandonment, reduced nest success, reduced health and vigor of eggs, young and/or queens, in addition to direct mortality.

Recommended Mitigation Measure 30: CBB, MBB, and OBB Surveys and Avoidance

CDFW recommends that all small mammal burrows and thatched/bunch grasses be surveyed for the species during the optimal flight period of April 1through July 31 during the peak blooming period of preferred plant species prior to Project implementation. Avoidance of detected queens or workers is encouraged to allow CBB, MBB, and OBB to leave the Project site of their own volition. Avoidance and

protection of detected nests prior to or during Project implementation is encouraged with delineation and observance of a 50-foot no-disturbance buffer.

COMMENT 10: Other State Species of Special Concern

Issues and Impacts: American badger, Merced kangaroo rat, 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).

Habitat loss threatens all of the species mentioned above (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 31: Habitat Assessment
CDFW recommends that a qualified biologist conduct a habitat assessment in advance of project implementation, to determine if Project areas or their immediate vicinity contain suitable habitat for the species mentioned above.

Recommended Mitigation Measure 32: Surveys
If suitable habitat is present, CDFW recommends that a qualified biologist conduct focused surveys for applicable species and their requisite habitat features to evaluate potential impacts resulting from ground and vegetation disturbance.

Recommended Mitigation Measure 33: 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.

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 contains numerous waterways and wetland features including vernal pools and swales within an agricultural landscape mosaic that also maintains undeveloped habitats. Project activities such as water recharge 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 groundwater pumping, 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. Vernal pools provide unique wetland habitat for many special status and endemic plant and aquatic wildlife species. 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 34: 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 United States (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 as well as the extent of all streams including floodplains, if present, 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 35: Stream and Wetland Habitat Mitigation
CDFW recommends that the potential direct and indirect impacts to stream/riparian and wetland/vernal pool habitat be analyzed according to each Project activity. Based on those potential impacts, CDFW recommends that the EIR include measures to avoid, minimize, and/or mitigate those impacts. CDFW recommends that impacts to riparian habitat, including biotic and abiotic feature, 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 vernal pools, swales, and other 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. 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 the long-term management and protection of the mitigation area, to ensure its persistence.

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

Issues and Impacts: 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 boundary overlaps the boundary for the Turlock Subbasin located in the northern San Joaquin Valley Groundwater Basin (Groundwater Basin Number 5-22.03). A draft Groundwater Sustainability Plan was prepared for the Turlock Subbasin jointly by the West Turlock Subbasin GSA and the East Turlock Subbasin GSA and was adopted in January 2022. The Turlock Subbasin is listed as a high priority Subbasin by the 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 EIR include an analysis of Project-related activities in relation to the Turlock Subbasin Groundwater Sustainability Plan, including analysis of potential undesirable results and adverse impacts to groundwater dependent ecosystems including the biological resources listed above.

- CDFW recommends that the EIR 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 fisheries of the Merced, Tuolumne, and San Joaquin Rivers that may result from Project implementation.

- CDFW recommends that the EIR 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 36: Groundwater Dependent Ecosystem Monitoring and Mitigation:
CDFW recommends that the EIR 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. The plan should address mitigation for impacted habitat value and function, to achieve a minimum no net loss of these habitats, consistent with California Fish and Game Commission policy on Wetlands Resources.

COMMENT 13: Water Rights and Impacts from Surface Water Diversion

Issues and Impacts: As stated previously, the capture of unallocated stream flows to artificially recharge groundwater aquifers is subject to appropriation and approval by the SWRCB pursuant to Water Code section 1200 et seq. CDFW recommends that the EIR 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, 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 EIR analyze how the Project may affect surface and subsurface water levels.

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

- CDFW recommends that the EIR 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 37: Aquatic Ecosystem Monitoring and Mitigation:
CDFW recommends that the EIR 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. The

plan should address mitigation for impacted habitat value and function, to achieve a minimum no net loss of these habitats, consistent with California Fish and Game Commission policy on Wetlands Resources.

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 wetlands may be subject to CDFW's regulatory authority pursuant to 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 biologist conduct preconstruction 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 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 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. Similarly, for potential effects to steelhead and its critical habitat, CDFW recommends consultation with the National Marine Fisheries Service (NMFS). Consultation with the USFWS and NMFS in order to comply with ESA is advised well in advance of Project implementation.

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 NOP to assist WTGSA 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,

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Attachment 1

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

PROJECT: Turlock Subbasin Groundwater Sustainability Plan

STATE CLEARINGHOUSE No.: 2022010100

RECOMMENDED MITIGATION MEASURES	STATUS/DATE/INITIALS
Before Project Activity	
Recommended Mitigation Measure 1: LBV Habitat Assessment	
Recommended Mitigation Measure 2: Focused LBV Surveys	
Recommended Mitigation Measure 3: LVB Buffers	
Recommended Mitigation Measure 4: LBV Nest Avoidance and Habitat Mitigation	
Recommended Mitigation Measure 5: LVB Take Authorization	
Recommended Mitigation Measure 6: Focused SWHA Surveys	
Recommended Mitigation Measure 7: SWHA Avoidance	
Recommended Mitigation Measure 8: SWHA Take Authorization	
Recommended Mitigation Measure 9: Loss of SWHA Foraging Habitat	
Recommended Mitigation Measure 10: SWHA Tree Removal	
Recommended Mitigation Measure 11: TRBL Surveys	
Recommended Mitigation Measure 12: TRBL Colony Avoidance	
Recommended Mitigation Measure 13: TRBL Take Authorization	
Recommended Mitigation Measure 14: CTS Habitat Assessment	
Recommended Mitigation Measure 15: Focused CTS Surveys	
Recommended Mitigation Measure16: CTS Avoidance	

RECOMMENDED MITIGATION MEASURES	STATUS/DATE/INITIALS
Recommended Mitigation Measure 17: CTS Take Authorization	
Recommended Mitigation Measure 18: Special-Status Plant Surveys	
Recommended Mitigation Measure 19: Special-Status Plant Avoidance	
Recommended Mitigation Measure 20: Listed Plant Species Take Authorization	
Recommended Mitigation Measure 21: BUOW Habitat Assessment	
Recommended Mitigation Measure 22: BUOW Surveys	
Recommended Mitigation Measure 23: BUOW Avoidance	
Recommended Mitigation Measure 24: BUOW Eviction and Mitigation	
Recommended Mitigation Measure 25: Bat Roost Habitat Assessment	
Recommended Mitigation Measure 26: Bat Surveys	
Recommended Mitigation Measure 27: Bat Roost disturbance Minimization and Avoidance	
Recommended Mitigation Measure 28: WPT Surveys	
Recommended Mitigation Measure 29: WPT Avoidance and Minimization	
Recommended Mitigation Measure 30: CBB, MBB, and OBB Surveys and Avoidance	
Recommended Mitigation Measure 31: Habitat Assessment – – American badger, Merced kangaroo rat, and western spadefoot.	
Recommended Mitigation Measure 32: Surveys – American badger, Merced kangaroo rat, and western spadefoot.	
Recommended Mitigation Measure 33: Avoidance – American badger, Merced kangaroo rat, and western spadefoot.	
Recommended Mitigation Measure 34: Stream and Wetland Mapping	
Recommended Mitigation Measure 35: Stream and Wetland Habitat Mitigation	

RECOMMENDED MITIGATION MEASURES	STATUS/DATE/INITIALS
Recommended Mitigation Measure 36: Groundwater Dependent Ecosystem Monitoring and Mitigation	
Recommended Mitigation Measure 37: Aquatic Ecosystem Monitoring and Mitigation	
During Project Activity	
Recommended Mitigation Measure 3: LVB Buffers	
Recommended Mitigation Measure 4: LBV Nest Avoidance and Habitat Mitigation	
Recommended Mitigation Measure 7: SWHA Avoidance	
Recommended Mitigation Measure 12: TRBL Colony Avoidance	
Recommended Mitigation Measure 16: CTS Avoidance	
Recommended Mitigation Measure 19: Special-Status Plant Avoidance	
Recommended Mitigation Measure 23: BUOW Avoidance	
Recommended Mitigation Measure 27: Bat Roost disturbance Minimization and Avoidance	
Recommended Mitigation Measure 29: WPT Avoidance and Minimization	
Recommended Mitigation Measure 30: CBB, MBB, and OBB Surveys and Avoidance	
Recommended Mitigation Measure 33: Avoidance – American badger, Merced kangaroo rat, and western spadefoot.	