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David Hampton
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North Kern Water Storage District
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Subject: Landowner Groundwater Recharge and Banking Project (Project)
MITIGATED NEGATIVE DECLARATION (MND)
State Clearinghouse No. 2022070371

Dear Mr. Hampton:

The California Department of Fish and Wildlife (CDFW) received a Notice of Intent to Adopt an MND from North Kern Water Storage District (NKWSD) for the above-referenced Project pursuant 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 agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

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

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

Fully Protected Species: CDFW has jurisdiction over fully protected species of birds, mammals, amphibians and reptiles, and fish, pursuant to Fish and Game Code sections 3511, 4700, 5050, and 5515, respectively. Take of any fully protected species is prohibited and CDFW cannot authorize their incidental take for the Project.

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 § 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

NKWSD proposes to establish a joint landowner groundwater banking program to incentivize landowners to share their privately-owned recharge facilities to increase in-district recharge capacity. Potential sources of water available to recharge in shared facilities would be similar to surface water sources available to the NKWSD, including Kern River, Central Valley Project (CVP), and State Water Project (SWP). Groundwater

banking would generally occur in wetter years when there would be surplus surface water supplies available.

The Project proposes 200 cubic feet per second (cfs) recharge capacity, of which subsurface recharge facilities for 55 cfs (821 acres) have already been constructed by landowners interested in participating in the Project. If all of these existing landowner-constructed recharge facilities apply for and participate in the Project, then additional new construction of recharge facilities for 145 cfs recharge capacity will be the remaining goal of the Project. A maximum of 580 acres of surface facilities or 2,320 acres of subsurface facilities (or combination of both) will be needed to meet the desired additional recharge capacity of 145 cfs.

Proponent: NKWSD

Objectives: The purpose of the Project is to expand groundwater recharge capacity within the NKWSD's boundaries to enhance groundwater resources for the benefit of the NKWSD, its landowners and water users, as well as the greater Kern County region.

Location: The Project will be implemented within the NKWSD service area in unincorporated Kern County, east of the communities of Shafter and Wasco.

Timeframe: None given.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist NKWSD 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 and surrounding habitat, several special status species could potentially be impacted by Project activities.

In particular, CDFW is concerned regarding potential impacts for the following special status wildlife species and habitats known to occupy the Project area: the State threatened and federally endangered San Joaquin kit fox (*Vulpes macrotis mutica*); the State and federally endangered Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*); the State and federally endangered and State fully protected blunt-nosed leopard lizard (*Gambelia sila*); the State threatened Swainson's hawk (*Buteo swainsoni*), tricolored blackbird (*Agelaius tricolor*), and Nelson's (=San Joaquin) antelope squirrel (*Ammospermophilus nelsoni*); the State fully protected white-tailed kite (*Elanus leucurus*); the federally endangered and California Rare Plant Rank (CRPR) 1B.2 Kern

mallow (*Eremalche parryi* ssp. *kernensis*); the CRPR 1B.1 alkali-sink goldfields (*Lasthenia chrysantha*); thr CRPR 1B.2 Earlimart orache (*Atriplex cordulata* var. *erecticaulis*), recurved larkspur (*Delphinium recurvatum*); and the State species of special concern burrowing owl (*Athene cunicularia*), American badger (*Taxidea taxus*), western spadefoot (*Spea hammondii*), and California glossy snake (*Arizona elegans occidentalis*). Suitable habitat for the rare and endemic Crotch bumble bee (*Bombus crotchii*) occurs in the Project vicinity. Other species of birds, amphibians, reptiles, mammals, fish, and plants also compose the local ecosystem, and portions of Poso Creek, the Kern River, and associated riparian habitats are located in the NKWSD 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.

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 NKWSD boundary (CDFW 2022). Habitat loss resulting from land conversion to agricultural, urban, and industrial development is the primary threat to SJKF and Kern County supports relatively large areas of high and medium suitability SJKF habitat (Cypher et al. 2013). The Project area is bordered by highly suitable habitat in an area that is otherwise under intensive agriculture. 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. 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 of individuals.

Mitigation Measure BIO-6 (MM BIO-6) on page 3-23 of the MND states that a pre-construction clearance survey for SJKF will be conducted not more than 30 days prior to the initiation of ground-disturbing activities. If potential dens for SJKF are found, exclusion zones will be established and maintained, in accordance with the *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011). If wildlife is observed inside a pipe, the pipe will not be moved, and the animal will be allowed to leave on its own. If trapped or injured animals are observed in a trench, Project activities will stop, and escape ramps or structures will be installed to allow the animal to escape. Such activity may warrant obtaining an Incidental Take Permit (ITP) pursuant to Fish and Game Code section 2081, subdivision (b); the MND does not specify consultation with CDFW regarding activities that could result in trapping or capture or the attempt to do so which constitutes take pursuant to Fish and Game Code section 86.

Recommended Mitigation Measure 1: SJKF Habitat Assessment
For all Project-specific components including construction, staging, and land conversion in areas where SJKF are not already known to occur, CDFW recommends that a qualified biologist conduct a habitat assessment in advance of project implementation, to determine if the Project area or its immediate vicinity contains suitable habitat for SJKF.

Recommended Mitigation Measure 2: SJKF Surveys and Minimization
CDFW recommends assessing presence/absence of SJKF in areas where SJKF are not already known to occur by having qualified biologists conducting surveys of Project areas and a 500-foot buffer of Project areas to detect SJKF and their sign. CDFW also recommends following the USFWS (2011) *Standardized Recommendations for Protection of the San Joaquin kit fox Prior to or During Ground Disturbance* during Project implementation.

Recommended Mitigation Measure 3: SJKF Take Authorization
SJKF known presence or detection of individuals or activity warrants consultation with CDFW to discuss how to avoid take or, if avoidance is not feasible, to acquire an ITP prior to ground-disturbing activities, pursuant to Fish and Game Code section 2081, subdivision (b).

COMMENT 2: Tipton Kangaroo Rat (TKR)

Issues and Impacts: TKR have been documented in areas of suitable habitat within and adjacent to NKWSD (CDFW 2022). Suitable TKR habitat includes areas

of grassland, upland scrub, and alkali sink habitats that contain requisite habitat elements, such as small mammal burrows. Habitat loss resulting from agricultural, urban, and industrial development is the primary threat to TKR. Very little suitable habitat for this species remains along the edges of the southern San Joaquin Valley floor (ESRP 2019a). Areas of suitable habitat within NKWSD 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 TKR, potential significant impacts include loss of habitat, burrow collapse, inadvertent entrapment of individuals, reduced reproductive success such as reduced health or vigor of young, and direct mortality of individuals.

MM BIO-8 states that for proposed recharge areas supporting suitable habitat for occupation by TKR, temporary fencing will be installed to prevent TKR from entering the construction area and to maintain a minimum 50-foot no disturbance buffer between the construction area and habitat that supports burrows suitable for TKR. A qualified biologist will determine where appropriate exclusion fencing will be installed to prevent disturbance of the burrows and occupants. The MND does not specify a biological basis for determining potential occupation by TKR or how an adequate no-disturbance buffer will be determined to avoid significant impacts, including but not limited to take.

Recommended Mitigation Measure 4: TKR Habitat Assessment
CDFW recommends that a qualified biologist conduct a habitat assessment of areas where TKR have not already been documented in advance of Project implementation, to determine if the Project area or its immediate vicinity contains suitable habitat for TKR.

Recommended Mitigation Measure 5: TKR Avoidance
If suitable habitat is detected in a habitat assessment, CDFW advises maintenance of a 50-foot minimum no-disturbance buffer around all small mammal burrow entrances of suitable size for TKR use.

Recommended Mitigation Measure 6: TKR Surveys
If burrow avoidance is not feasible in areas where TKR have not already been documented, CDFW recommends that focused protocol-level trapping surveys be conducted by a qualified wildlife biologist holding permits to do so by both CDFW and USFWS, to determine if TKR occurs in the Project area. CDFW advises that these surveys be conducted in accordance with the USFWS (2013) *Survey Protocol for Determining Presence of San Joaquin Kangaroo Rats,* well in advance of ground-disturbing activities in order to determine whether impacts to TKR could occur.

Recommended Mitigation Measure 7: TKR Take Authorization
TKR known presence or detection of individuals or activity warrants consultation with CDFW to discuss how to avoid take or, if avoidance is not feasible, to acquire an ITP prior to ground-disturbing activities, pursuant to Fish and Game Code section 2081, subdivision (b).

COMMENT 3: San Joaquin Antelope Squirrel (SJAS)

Issue and Impacts: The MND acknowledges that SJAS have been documented within areas of suitable habitat in the Project vicinity (CDFW 2022). Suitable SJAS habitat includes areas of grassland, upland scrub, and alkali sink habitats that contain requisite habitat elements, such as small mammal burrows. Habitat loss resulting from agricultural, urban, and industrial development is the primary threat to SJAS. Very little suitable habitat for this species remains along the western floor of the San Joaquin Valley (ESRP 2022b). Areas of suitable habitat within the Project Area vicinity represent some of the only remaining undeveloped land in the vicinity, which is otherwise intensively managed for agriculture, and ground-disturbing activities are anticipated during Project implementation. Without appropriate avoidance and minimization measures for SJAS, potential significant impacts include loss of habitat, burrow collapse, inadvertent entrapment of individuals, reduced reproductive success such as reduced health or vigor of young, and direct mortality of individuals.

MM BIO-7 states that for proposed recharge areas supporting suitable habitat for occupation by SJAS, temporary fencing will be installed to prevent SJAS from entering the construction area and to maintain a minimum 50-foot no disturbance buffer between the construction area and habitat that supports burrows suitable for SJAS. A qualified biologist will determine where appropriate exclusion fencing will be installed to prevent disturbance of the burrows and occupants. The MND does not specify a biological basis for determining potential occupation by SJAS or how an adequate no-disturbance buffer will be determined to avoid significant impacts.

Recommended Mitigation Measure 8: SJAS Habitat Assessment
CDFW recommends that a qualified biologist conduct a habitat assessment in advance of project implementation, to determine if the Project area or its immediate vicinity contains suitable habitat for SJAS.

Recommended Mitigation Measure 9: SJAS Surveys
In areas of suitable habitat, CDFW recommends that a qualified biologist conduct focused daytime visual surveys for SJAS using line transects with 10- to 30-meter spacing within Project areas plus a 50-foot buffer around those areas. CDFW further advises that these surveys be conducted between April 1 and September 20,

during daytime temperatures between 68° and 86° F (CDFG 1990), to maximize detectability.

Recommended Mitigation Measure 10: SJAS Avoidance
If suitable habitat is present and surveys are not feasible, CDFW advises maintenance of a 50-foot minimum no-disturbance buffer around all small mammal burrow entrances of suitable size for SJAS use until the completion of Project activities.

Recommended Mitigation Measure 11: SJAS Take Authorization
SJAS detection warrants consultation with CDFW to discuss how to avoid take, or if avoidance is not feasible, to acquire an ITP prior to ground-disturbing activities, pursuant to Fish and Game Code section 2081, subdivision (b).

COMMENT 4: Swainson's Hawk (SWHA) and White-Tailed Kite (WTKI)

Issues and Impacts: The MND acknowledges that SWHA and WTKI are known to the Project area and have the potential to nest in riparian habitat and other mature trees located within the Project site and within ½ mile of the Project. Suitable foraging habitat for these species exists within the vicinity of the Project site, including annual grassland, alfalfa or grain fields, and livestock pasture. 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 and WTKI, potential significant impacts include nest abandonment and reduced reproductive success that includes mortality of young, and reduced health and vigor of eggs and/or young.

The trees and riparian habitat within the Project area represent some of the only remaining suitable nesting habitat in the local vicinity. Depending on the timing of construction, activities including noise, vibration, and movement of workers or equipment could affect nests and have the potential to result in nest abandonment, significantly impacting local nesting SWHA and WTKI. In addition, agricultural cropping patterns can directly influence distribution and abundance of SWHA. For example, SWHA can forage in grasslands, pasture, hay crops, and low growing irrigated crops; however, other agricultural crops such as orchards and vineyards are incompatible with SWHA foraging (Estep 2009, Swolgaard et al. 2008). In the San Joaquin Valley, suitable nest trees may be a limiting factor for SWHA productivity. The loss of suitable nest trees, particularly in proximity to foraging habitat, has the potential to significantly impact local SWHA (CDFW 2016). CDFW considers removal of known bird-of-prey nest trees, even outside of the nesting season, a potentially significant impact under CEQA, and, in the case of SWHA, it

could also result in take under CESA. Project activities near the nest that differ from baseline disturbance regimes in type, timing, and/or magnitude can affect adults caring for eggs and young in the nest, and can affect nestling behavior. Project activities including noise, vibration, odors, visual disturbance, and movement of workers or equipment could affect nesting individuals and have the potential to result in nest abandonment or reduced nesting success, significantly impacting local nesting SWHA and WTKI.

Mitigation Measure BIO-4 on page 3-22 of the MND states that a qualified biologist will conduct surveys of potential SWHA trees within ½ mile using the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (SWHA TAC 2000). At a minimum, a survey will be conducted within 10 days before Project activities begin near suitable nest trees, from April through August. A qualified biologist will conduct surveys of potential WTKI nesting trees within ¼ mile of a recharge site. BIO-4 states that if an active SWHA or WTKI nest is observed, a protective buffer will be established and implemented until the nest is no longer active. If active SWHA or WTKI nests are observed, a qualified biologist will prepare site specific take avoidance plan to comply with CESA and the California Fish and Game Code. The MND analysis does not provide a biological basis of a ¼-mile survey radius for WTKI nests or how a no-disturbance buffer will be determined as adequate to avoid significant impacts, including but not limited to take of individuals through nest failure or other means, as a result of Project implementation.

Recommended Mitigation Measure 12: SWHA and WTKI Nest Tree Avoidance and Mitigation

In addition to avoiding occupied nest trees, CDFW recommends that impacts to known nest trees be avoided at all times of year, or that mitigation occurs for these impacts. Regardless of nesting status, if potential or known SWHA and WTKI nesting trees are removed, CDFW recommends they be replaced with an appropriate native tree species, planted at a ratio of 3:1 (replaced to removed), in an area that will be protected in perpetuity. This mitigation will offset potential impacts of the loss of nesting habitat.

Recommended Mitigation Measure 13: Focused SWHA and WTKI Surveys

To reduce potential Project-related impacts to SWHA and WTKI, CDFW recommends that a qualified wildlife biologist conduct surveys for nesting birds of prey, including SWHA and WTKI, following the survey methodology developed by the SWHA Technical Advisory Committee (SWHA TAC 2000) during the nesting season of or prior to Project initiation, within the Project area and a ½-mile 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 construction.

Recommended Mitigation Measure 14: SWHA and WTKI Buffers
If an active SWHA or WTKI nest is found during preconstruction surveys, CDFW recommends implementing 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 site or parental care for survival.

Recommended Mitigation Measure 15: SWHA Take Authorization
If a ½-mile no-disturbance nest buffer is not feasible, consultation with CDFW is warranted, and an ITP for SWHA may be necessary prior to project implementation to avoid unauthorized take, pursuant to Fish and Game Code section 2081, subdivision (b).

Pursuant to Fish and Game Code section 3511, CDFW cannot authorize incidental take of WTKI. Therefore, CDFW recommends implementation of a minimum ½-mile no-disturbance buffer around identified WTKI nest(s) 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.

COMMENT 5: Tricolored Blackbird (TRBL)

Issues and Impacts: TRBL are known to occur in the Project area (CDFW 2022). 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 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 16: TRBL Surveys
CDFW recommends that 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 17: 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 (2015) *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.

Recommended Mitigation Measure 18: 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 6: Blunt-Nosed Leopard Lizard (BNLL)

Issues and Impacts: The MND acknowledges the potential for BNLL to occur within and adjacent to the NKWSD (CDFW 2022). Suitable BNLL habitat includes areas of grassland and upland scrub that contain requisite habitat elements, such as small mammal burrows. BNLL also use open space patches between suitable habitats, including disturbed sites and unpaved access roadways. Habitat loss resulting from agricultural, urban, and industrial development is the primary threat to BNLL (ESRP 2019c). The range for BNLL now consists of scattered parcels of undeveloped land within the valley floor and the foothills of the Coast Range (USFWS 1998).

MM BIO-2 (page 3-20) states that if a proposed recharge site supports suitable habitat for BNLL, temporary fencing will be installed to prevent BNLL from entering the construction area and to create and maintain a 50-foot no disturbance buffer between construction zone and habitat supporting BNLL. The MND does not specify a biological basis for determining potential occupation of habitat or for how a no-disturbance buffer will be determined as adequate to avoid significant impacts, including but not limited to take of individuals through nest failure or other means, as a result of Project implementation. Without appropriate avoidance and minimization

measures for BNLL, potentially significant impacts associated with ground-disturbing activities include habitat loss, burrow collapse, reduced reproductive success, reduced health and vigor of eggs and/or young, and direct mortality.

Recommended Mitigation Measure 19: BNLL Habitat Assessment
CDFW recommends that a qualified biologist conduct a habitat assessment in advance of Project implementation, to determine if the Project area or its immediate vicinity contains suitable habitat for BNLL.

Recommended Mitigation Measure 20: BNLL Surveys
If suitable habitat is present, prior to initiating any vegetation- or ground-disturbance activities, CDFW recommends conducting surveys in accordance with the *Approved Survey Methodology for the Blunt-nosed Leopard Lizard* (CDFW 2019). This recommended survey protocol, designed to optimize BNLL detectability, reasonably assures CDFW that ground disturbance will not result in take of this fully protected species. CDFW advises completion of BNLL surveys no more than one year prior to initiation of ground disturbance. Please note that protocol-level surveys must be conducted on multiple dates during late spring, summer, and fall of the same calendar year, and that within these time periods, there are specific protocol-level date, temperature, and time parameters, which must be adhered to. As a result, protocol-level surveys for BNLL are not synonymous with 30-day "preconstruction surveys" often recommended for other wildlife species. In addition, the BNLL protocol specifies different survey effort requirements based on whether the disturbance results from maintenance activities or if the disturbance results in habitat removal (CDFW 2019).

Recommended Mitigation Measure 21: BNLL Take Avoidance
CDFW cannot authorize the Project-related incidental take of BNLL. BNLL detection during protocol level surveys warrants consultation with CDFW to discuss whether take of BNLL can be avoided during Project activities.

COMMENT 7: Crotch Bumble Bee (CBB)

Issues and Impacts: CBB have been documented to occur within the vicinity of the Project area (CDFW 2022). Suitable CBB habitat includes areas of grasslands and upland scrub that contain requisite habitat elements, such as small mammal burrows. CBB 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 (Williams et al. 2014; Hatfield et al. 2015). Overwintering sites utilized by CBB mated queens include soft, disturbed soil (Goulson 2010), or under leaf litter or other debris (Williams et al. 2014). Therefore, ground disturbance

and vegetation removal associated with Project implementation has the potential to significantly impact local CBB populations.

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). 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 10 years. Without appropriate avoidance and minimization measures for CBB, 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 22: CBB 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 1 through 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 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 8: Burrowing Owl (BUOW)

Issues and Impacts: BUOW inhabit open grassland containing small mammal burrows, a requisite habitat feature used by BUOW for nesting and cover year-round for their survival and reproduction. Habitat loss and degradation are considered the greatest threats to BUOW in California's Central Valley (Gervais et al. 2008). The NKWSD boundary contains remnant undeveloped land but is otherwise intensively managed for agriculture. Habitat both within and bordering the NKWSD supports grassland habitat. Potentially significant direct impacts associated with subsequent 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 23: BUOW Habitat Assessment
CDFW recommends that a qualified biologist conduct a habitat assessment in advance of implementation of Project-specific activities, to determine if the Project area or its vicinity contains suitable habitat for BUOW.

Recommended Mitigation Measure 24: BUOW Surveys
If suitable habitat is present on or in the vicinity of the Project area, CDFW recommends assessing presence/absence of BUOW by having a qualified biologist conduct surveys following the California Burrowing Owl Consortium's *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1993) and CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Specifically, these reports suggest three or more surveillance surveys conducted during daylight with each visit occurring at least three weeks apart during the peak breeding season (i.e., April 15 to July 15), when BUOW are most detectable. In addition, CDFW advises that surveys include a minimum 500-foot buffer around the Project area.

Recommended Mitigation Measure 25: BUOW Avoidance
CDFW recommends that no-disturbance buffers, as outlined in the *Staff Report on Burrowing Owl Mitigation* (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 26: BUOW Passive Relocation and Mitigation
If BUOW are found within these recommended buffers and avoidance is not possible, it is important to note that excluding birds from burrows is not a take avoidance, minimization, or mitigation method and is instead considered a potentially significant impact under CEQA (CDFG 2012). 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 ratio of 1 burrow collapsed to 1 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 9: Other State Species of Special Concern

Issues and Impacts: American badger, California glossy snake, and western spadefoot may 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 27: 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 28: Surveys
If suitable habitat is present, 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 29: 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: The MND states that special-status plant species have potential to occur within the Project area. Special-status plant species meeting the definition of rare or endangered under CEQA section 15380 are known to occur within the Project and surrounding area. Kern mallow, recurved larkspur, alkali-sink goldfields, and Earlimart orache have been documented within the Project vicinity. These species 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 30: 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* (CDFW 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 31: 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 32: 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).

Editorial Comments and/or Suggestions

Program IS/MND (Section 1.1, pages 1-1 and 1-2): The document type as circulated by the State Clearinghouse under SCH No. 2022070871 is an MND. The MND states that NKWSD determined that the Project fits within the description of a Program Environmental Impact Report (PEIR) under CEQA Guidelines Section 15168 in that it is a series of actions that can be characterized as one large project and are related geographically as individual activities with similar environmental impacts. If NKWSD determines specific future landowner banking projects are within the scope of the Project and Programmatic IS/MND, then the Program IS/MND can be used for the CEQA determination of these projects. If not, additional CEQA review may be required. It is not clear if the preparation of an IS/MND for a project with multiple and phased individual projects and meeting the description of a PEIR under CEQA Guidelines Section 15168 avoids the requisite environmental evaluations of an Environmental Impact Report, including alternative and cumulative impact analysis. Given the size and scope of the Project, including unknown future individual projects occurring anywhere within the NKWSD boundary, CDFW cannot determine whether the proposed mitigation

measures will result in less than significant impacts to biological resources or be sufficiently protective to avoid take of State-listed and fully-protected species.

Riparian and Aquatic Impacts: The MND states that sources of surface flows and other water supplies to NKWSD include Kern River, Poso Creek, Central Valley Project, and Stare Water Project. The MND did not include an impact analysis of Project-related surface flow diversions for the purpose of underground storage and banking but concluded (Table 4-b) the Project would have no impact on the riparian habitat or other sensitive natural communities. Watershed and habitat protection are vital to the management of California's diverse fish, wildlife, and plant resources. The Project may affect the aquatic and riparian habitat and associated species by reducing the amount of surface flow in the active stream channel and downstream, as well as reducing the amount of subsurface flow from percolation. The remaining riparian vegetation in the lower Kern River and Poso Creek provides crucial habitat for many species, including those with special status such as Swainson's hawk. Swainson's hawk was listed as threatened in 1983 based on loss of habitat and decreased numbers, and it often nests in riparian vegetation located near high quality foraging habitat such as grasslands, pasture, and suitable agriculture crops such as alfalfa.

CDFW is concerned that Project-related surface flow diversion may result in direct and cumulative adverse impacts to the fish and wildlife and other public trust resources supported by the Kern River, Poso Creek, and associated riparian habitats, and that any proposed reduction in surface flow will affect the sustainability of the riparian woodland and aquatic habitats within these streams. CDFW recommends that the CEQA document (currently an MND) be amended and recirculated with a hydrologic study or other information that identifies and analyzes the impacts of surface and subsurface water reduction on the riparian woodland and aquatic habitats associated with the Kern River and Poso Creek and the species supported by these habitats, and includes appropriate measures to avoid, minimize, and mitigate potential impacts to riparian or associated habitat impacts due to surface flow reduction.

Water Rights

The MND lists the Project goal of developing 200 cfs of additional groundwater recharge capacity but is vague about the quantity and sources of water supplies for the Project. The MND assumes (Section 3.11.2a, page 3-57) that water supply for recharge will be surplus flows during wet years from the available surface water supplies into the NKWSD's service area, which may include the Kern River, Poso Creek, CVP, and SWP. CDFW recommends amending and recirculating the CEQA document to include a detailed description and analysis of the water rights and water entitlements that pertain to the Project, including whether any applications or change petitions will be filed. As stated previously, 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.

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 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 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 Codes as referenced above.

To evaluate Project-related impacts on 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 federally listed species. Take under the Federal Endangered Species Act (FESA) is more stringently defined than under CESA; take under FESA 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. Consultation with the USFWS in order to comply with FESA 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 MND to assist NKWSD 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:
Julie Vance
FA83F09FE08945A...

Julie A. Vance
Regional Manager

cc: Office of Planning and Research, State Clearinghouse, Sacramento

Patricia Cole
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to list the Crotch bumble bee (*Bombus crotchii*), Franklin's bumble bee (*Bombus franklini*), Suckley cuckoo bumble bee (*Bombus suckleyi*), and western bumble bee (*Bombus occidentalis occidentalis*) as Endangered under the California Endangered Species Act. October 2018.

Attachment 1

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

PROJECT: North Kern Water Storage District
Landowner Groundwater Recharge and Banking Project

STATE CLEARINGHOUSE No.: 2022070371

RECOMMENDED MITIGATION MEASURES	STATUS/DATE/INITIALS
Before Project Activity	
Recommended Mitigation Measure 1: SJKF Habitat Assessment	
Recommended Mitigation Measure 2: SJKF Surveys and Minimization	
Recommended Mitigation Measure 3: SJKF Take Authorization	
Recommended Mitigation Measure 4: TKR Habitat Assessment	
Recommended Mitigation Measure 5: TKR Avoidance	
Recommended Mitigation Measure 6: TKR Surveys	
Recommended Mitigation Measure 7: TKR Take Authorization	
Recommended Mitigation Measure 8: SJAS Habitat Assessment	
Recommended Mitigation Measure 9: SJAS Surveys	
Recommended Mitigation Measure 10: SJAS Avoidance	
Recommended Mitigation Measure 11: SJAS Take Authorization	
Recommended Mitigation Measure 12: SWHA and WTKI Nest Tree Avoidance and Mitigation	
Recommended Mitigation Measure13: Focused SWHA and WTKI Surveys	
Recommended Mitigation Measure 14: SWHA and WTKI Buffers	
Recommended Mitigation Measure 15: SWHA Take Authorization	
Recommended Mitigation Measure 16: TRBL Surveys	

RECOMMENDED MITIGATION MEASURES	STATUS/DATE/INITIALS
Recommended Mitigation Measure 17: TRBL Colony Avoidance	
Recommended Mitigation Measure 18: TRBL Take Authorization	
Recommended Mitigation Measure19: BNLL Habitat Assessment	
Recommended Mitigation Measure 20: BNLL Surveys	
Recommended Mitigation Measure 21: BNLL Take Avoidance	
Recommended Mitigation Measure 22: CBB Surveys and Avoidance	
Recommended Mitigation Measure 23: BUOW Habitat Assessment	
Recommended Mitigation Measure 24: BUOW Surveys	
Recommended Mitigation Measure 25: BUOW Avoidance	
Recommended Mitigation Measure 26: BUOW Eviction and Mitigation	
Recommended Mitigation Measure 27: Habitat Assessment – – American badger, California glossy snake, western spadefoot.	
Recommended Mitigation Measure 28: Surveys – American badger, California glossy snake, western spadefoot.	
Recommended Mitigation Measure 29: Avoidance – American badger, California glossy snake, western spadefoot.	
Recommended Mitigation Measure 30: Special-Status Plant Surveys	
Recommended Mitigation Measure 31: Special-Status Plant Avoidance	
Recommended Mitigation Measure 32: Listed Plant Species Take Authorization	
During Project Activity	
Recommended Mitigation Measure 2: SJKF Surveys and Minimization	
Recommended Mitigation Measure 5: TKR Avoidance	
Recommended Mitigation Measure 10: SJAS Avoidance	

RECOMMENDED MITIGATION MEASURES	STATUS/DATE/INITIALS
Recommended Mitigation Measure12: SWHA and WTKI Nest Tree Avoidance and Mitigation	
Recommended Mitigation Measure 14: SWHA and WTKI Buffers	
Recommended Mitigation Measure 17: TRBL Colony Avoidance	
Recommended Mitigation Measure 21: BNLL Take Avoidance	
Recommended Mitigation Measure 22: CBB Surveys and Avoidance	
Recommended Mitigation Measure 25: BUOW Avoidance	
Recommended Mitigation Measure 29: Avoidance – American badger, California glossy snake, western spadefoot.	
Recommended Mitigation Measure 31: Special-Status Plant Avoidance	