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GAVIN NEWSOM, Governor
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February 20, 2024
Sent via e-mail

Bridgette Burton
Administrative Services Manager/Board Secretary
Big Bear Area Regional Wastewater Agency
P.O. Box 517
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REPLENISH BIG BEAR PROGRAM (PROJECT)
DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT (DPEIR)
SCH#: 2022110595

Dear Bridgette Burton:

The California Department of Fish and Wildlife (CDFW) received a Notice of Availability of a DPEIR from the Big Bear Area Regional Wastewater Agency (BBARWA) for the Project pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the extension to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife by February 20, 2024. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

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

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

PROJECT DESCRIPTION SUMMARY

Proponent: Big Bear Area Regional Wastewater Agency

[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.

Project Location: The Project area is situated east/southeast of Big Bear Lake in the Big Bear Valley area of the San Bernardino Mountains (34.269977, -116.817334). Much of the proposed Project would be implemented within and around Big Bear City, however, Sand Canyon Recharge Area would be within the unincorporated community of Moonridge, which is south of Big Bear City. The proposed Project footprint is within both urban and natural/semi-natural environments. The Project area is situated within the Bear Valley and Baldwin Hydrologic Sub-Areas (HSA 801.71 and 801.73). The Bear Valley HSA comprises a 34,333-acre drainage area within the larger Santa Ana Watershed (Hydrologic Unit Code 18070203). The Baldwin HSA comprises a 22,789-acre drainage, also within the Santa Ana Watershed.

Project Objectives: The goal of the Project is to partner with local agencies (Big Bear Area Regional Wastewater Agency, Big Bear City Community Services District, City of Big Bear Lake Department of Water and Power, and Big Bear Municipal Water District) to recover local water that is currently being disposed of outside the Big Bear Valley to Lucerne Valley, close the water loop cycle, and keep the water in Big Bear Valley for beneficial reuse.

The original Project was developed in 2018, titled *Bear Valley Water Sustainability Project Final Draft Lake Alternative Evaluation*. Since 2018, some aspects of the Project have been modified, however, the objectives of the Project remain the same. Below are the following modifications to the 2018 plan that are proposed:

- Sustain Stanfield marsh habitat and increase educational opportunities,
- Enhance Big Bear Lake benefits,
- Expand local water supplies, and
- Sustain unarmored threespine stickleback fish with Project water.

Currently, wastewater generated within the Big Bear Valley undergoes preliminary and secondary treatment and undisinfected secondary effluent is discharged to BBARWA's 480-acre site in Lucerne Valley (LV). To keep water in Big Bear Valley, the following projects are proposed: BBARWA Wastewater Treatment Plant (WWTP) Upgrades Project, Solar Evaporation Ponds Project, Stanfield Marsh/Big Bear Lake Discharge Project, Sand Canyon Recharge Project, Shay Pond Discharge Project, and LV Site Discharge Reduction. Major activities regarding these projects would include the installation of about 6.59 miles of various types of conveyance pipelines, installation of up to four monitoring wells at the Sand Canyon Recharge Project and the Solar Evaporation Ponds Project, installation of up to three pump stations at the BBARWA WWTP Project, construction of 23-57 acres of solar evaporation ponds at the BBARWA WWTP site, improvements to include 2.2 million gallons per day of full advancement treatment to produce up to 2,200 acre feet per year of Project water, and the installation of 2 megawatt solar panels.

Timeframe: The project is expected to be implemented from January 2025 through January 2027, with year-round work.

COMMENTS AND RECOMMENDATIONS

CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (i.e., biological resources). CDFW is concerned about the adequacy of the DPEIR in identifying potentially significant impacts and establishing adequate and enforceable mitigation measures. CDFW's comments and recommendations to assist the BBARWA in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct, indirect, and cumulative impacts on fish and wildlife (biological) resources on the DPEIR are explained in greater detail below.

Project-Related Environmental Impacts and Effective Mitigation Measures

A EIR must analyze and disclose all direct and reasonably foreseeable indirect impacts on the environment caused by the proposed Project. An EIR must also identify potentially feasible mitigation measures that avoid or reduce each significant impact to the extent feasible.

The DPEIR describes the intent of the document as follows: "*This document assesses the impacts, including unavoidable adverse impacts and cumulative impacts, related to the construction and operation of the Program. This DPEIR is also intended to support the permitting process of all agencies from which discretionary approvals must be obtained for particular elements of this Program*" (DPEIR, p. 1-19). Such analysis would allow CDFW to provide specific input on the adequacy of the analysis, and whether that analysis was sufficient for use in future discretionary actions, such as Fish and Game Code section 1602 Lake and Streambed Alteration Agreements or Fish and Game Code section 2081 Incidental Take Permits. However, the DPEIR does not identify or adequately assess impacts to biological resources, and in most cases defers this analysis to some future action. Many of the biological mitigation measures in the DPEIR (e.g., BIO-7, BIO-10, BIO-11, BIO-13, BIO-21, BIO-27) defer assessment of project-related environmental impacts and development of avoidance, minimization, and measures to the future. Furthermore, the minimum required compensatory mitigation for habitat loss indicated in measures such as BIO-7 and BIO-26, at a 1:1 mitigation ratio, is insufficient to reduce impacts to less than significant. At a minimum, a 2:1 mitigation ratio should be indicated to compensate for habitat loss due to Project-related impacts. Although the DPEIR includes Mitigation Measures BIO-1 to BIO-29, CDFW considers these measures insufficient in timing and scope to reduce impacts to less than significant.

If the DPEIR will defer biological analyses to future, second tier environmental analysis, the DPEIR should specify the threshold that will be relied on for requiring additional environmental review, and which of the projects contemplated will be required to complete additional environmental review. If the threshold for triggering additional environmental review is low, or if additional environmental reviewed is not anticipated, CDFW requests that the lead agency recirculate this DPEIR and include the results of an appropriate level of analysis for which CDFW may rely on for future discretionary actions. Regardless of the Lead Agency's approach for analyzing specific biological impacts, the DPEIR must address the 'whole of the action', **as it is inappropriate under CEQA review to divide a project into smaller, separate projects**. The DPEIR must address the cumulative effects of the Project as a whole.

<u>Bird-foot Checkerbloom</u>

In the case of direct impacts that are anticipated to bird-foot checkerbloom (*Sidalcea pedata*), the DPEIR acknowledges (p. 4-216), "*Approximately 100+ individual bird-foot checkerbloom were observed within and adjacent the Baldwin Lake Pipeline Alignment Option and the proposed Solar Evaporation Ponds footprint at the BBARWA WWTP*." Further stating, "*There is also suitable montane meadow habitat for this species within the possible Shay Pond Replacement Pipeline, as well as immediately adjacent the Shay Pond Conveyance Pipeline alignment and Stanfield Marsh Conveyance Pipeline Discharge Outlet components of the proposed Program. Given that bird-foot checkerbloom is present within the proposed Program Area footprint, the Program may affect this species and construction of the proposed Solar Evaporation Ponds, as currently described, is likely to adversely affect this species. Thus, in order to avoid an adverse effect on this species, mitigation is necessary that would fully reduce impacts to a level of less than significant*." However, the DPEIR states the full extent of bird-foot checkerbloom and other special-status plant species, and subsequent mitigation, cannot be determined for a given Project component and instead defers these assessments to pre-construction surveys which would occur 20 days prior to construction. CDFW reiterates that bird-foot checkerbloom is listed as an endangered species under both the California Endangered Species Act (CESA) and the federal

Endangered Species Act (ESA). Consequently, impacts to the species must be fully analyzed during preparation of environmental documents relating to CEQA under CEQA Guidelines §15125 (c) and/or §15380.

In addition, losses of bird-foot checkerbloom plants and habitat would constitute a significant impact under CEQA that must be mitigated. Although the DPEIR includes mitigation measures BIO-1, 3, 4, and 5, CDFW is concerned that these measures are insufficient in scope and timing to reduce impacts to less than significant. CDFW recommends the following mitigation measure be added to a revised DPEIR:

> **MM BIO-[A]: Compensatory Mitigation for Impacts to Bird-foot Checkerbloom**
>
> **Prior to construction activities within areas containing bird-foot checkerbloom, Big Bear Area Regional Wastewater Agency shall either fully avoid the plant(s), with an appropriate buffer established by a qualified botanist and marked in the field (i.e., fencing or flagging), or mitigate the loss of the plant(s) through the purchase of mitigation credits from a CDFW-approved bank, or the acquisition and conservation of land approved by CDFW at a minimum 3:1 (replacement-to-impact) ratio.**

Pursuant to the CEQA Guidelines, section 15097(f), CDFW has prepared a draft mitigation monitoring and reporting program (MMRP) for CDFW-recommended MM-BIO [A] through [F] (see Attachment 1).

<u>Unarmored Threespine Stickleback</u>

In the case of direct impacts that are anticipated to unarmored threespine stickleback, the DPEIR defers an impact analysis due to the uncertainty of executing the pipeline to Shay Pond, stating (p. 4-231), "*The utilization of the Program Water in support of Shay Pond resulting from implementation of the proposed Program is currently being considered at a conceptual level by the Program Team due to the regulatory costs and hurdles that would be necessary to modify the water source supporting the Stickleback. The purified water generated by the AWPF at BBARWA, proposed under this Program, could potentially significantly impact the species, if the water source lacks the nutrients necessary to support the species, or contains any constituents that, when introduced into the Stickleback habitat, would adversely impact the species. The impacts to this species were analyzed on a more programmatic level, so that, should the individual project go forward in the future, mitigation would stipulate the steps necessary to minimize impacts from changing the water source at Shay Pond*." However, the DPEIR determined that (p. 4-250), "*should the impacts to the Stickleback fall outside the scope of that which has been analyzed in this DPEIR, preparation of a project-specific subsequent CEQA documentation would be required.*" Although the DPEIR includes BIO-6, this measure defers assessment of impacts to unarmored threespine stickleback and development of an adaptive management and mitigation plan to the future. CDFW reiterates that unarmored threespine stickleback is listed as an endangered species under both CESA and ESA and is a CDFW Fully Protected species. Consequently, impacts to the species must be fully analyzed during preparation of environmental documents relating to CEQA under CEQA Guidelines §15125 (c) and/or §15380.

<u>Other Special-Status Species</u>

Additionally, according to the DPEIR (p. 4-205), "*Construction of any Program facility should only result in mostly minimal impacts on special-status wildlife species, because only a limited amount of marginal habitat for special-status wildlife species could be impacted by construction activities. The location where most of the proposed Program facilities will be installed or constructed occurs within built-up land, or otherwise disturbed locations (such as BBARWA's WWTP, etc.), and thus construction would potentially impact special-status wildlife species that use mostly urban/developed*

areas." Adjacency to urban areas does not necessarily determine habitat value or the use of these areas by special-status species. CDFW is concerned that the DPEIR has trivialized the significance of the Project's potential impacts on special-status species that could use such areas. Many special-status species, including San Bernardino flying squirrel (*Glaucomys sabrinus californicus*) and bald eagle (*Haliaeetus leucocephalus*), often utilize disturbed areas such as residential neighborhoods and isolated habitats (Mazzella 2019, Brylski 1998, Jackman et al. 2004), that could be directly and/or indirectly impacted by the Project. Impacts to special-status species, regardless of habitat quality or location, must be identified, evaluated, and mitigated to a level below significance.

Analysis of Cumulative Effects to Biological Resources

Groundwater

The DPEIR bases its analysis of cumulative impacts to groundwater and groundwater dependent ecosystems on the Groundwater Sustainability Plan (GSP, Appendix 8) prepared pursuant to the Sustainable Groundwater Management Act for the Bear Valley Basin (prepared January 2022). The GSP indicates that under the Project, the groundwater currently used for discharge to Shay Pond will instead be stored in the Basin and that recycled water from an existing wastewater treatment plant will be used for discharge to the pond. Shay Pond provides important habitat for unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*). The GSP does not consider impacts to the unarmored threespine stickleback resulting from the change in water source used for discharge to Shay Pond. Many studies have linked effluent from wastewater plants to physiological and reproductive abnormalities in fish species (Jenkins et al. 2009, Fuzzen et al. 2015, McCallum et al. 2019, Hamdhani et al. 2020). Wastewater effluent often contains high levels of nutrients and reduced dissolved oxygen levels. Contaminants such as pharmaceuticals, personal care products, plastic by-products, and pesticides may not be adequately removed by wastewater treatment processes (McCallum et al. 2019). Estrogenic and other contaminants that occur in wastewater are known to disrupt the hormone systems of fish (Johnson and Sumpter 2001, Jenkins et al. 2009, Fuzzen et al. 2015, Hicks et al. 2017, Marjan et al. 2018, McCallum et al. 2019, Hamdhani et al. 2020). One of the most widely reported consequences is "intersex," a condition in which both male and female characteristics exist in the same fish. This condition can result in lower reproductive success (Jenkins et al. 2009, Fuzzen et al. 2015, Hicks et al. 2017). The GSP indicates that the recycled water will be "high quality" (GSP, p. 62); however, no data on the chemical and physical characteristics of the recycled water have been provided to substantiate the quality of the recycled water. Additionally, the DPEIR nor the GSP provide provisions for monitoring unarmored threespine stickleback to assess whether there are effects from exposure to the recycled water that could be discharged to Shay Pond.

Thus, CDFW recommends the Lead Agency consider impacts to the unarmored threespine stickleback resulting from the change in water source used for discharge to Shay Pond. CDFW recommends that the DPEIR include the following: (1) Data on the chemical characteristics of the recycled water to be used for the Project, including contaminants likely to result in hormone disruption of fish species, as well as other contaminants such as those provided in the analysis of groundwater quality given in Table 4-1 of the GSP; (2) Data on the physical characteristics of the recycled water that are likely to impact fish species, such as water temperature, dissolved oxygen, and pH; (3) A comparison of water quality for the recycled water versus the groundwater currently being used to discharge to Shay Pond to ascertain if the change in water source would introduce contaminants that may impact the reproduction and survival of unarmored threespine stickleback; and (4) A provision for ongoing monitoring of water quality of the recycled water before it is discharged to Shay Pond. **If the quality of the recycled water may pose a threat to the reproduction and survival of unarmored threespine stickleback, CDFW recommends that the Lead Agency reconsider whether it is appropriate to use recycled water to sustain endangered species**

habitat at Shay Pond. If, after analyzing the quality of the recycled water, the Lead Agency concludes it is appropriate to use for discharge to Shay Pond, the Lead Agency should be prepared to monitor unarmored threespine stickleback for effects from the change in water source. A monitoring plan should be developed, in conjunction with CDFW and the U.S. Fish and Wildlife Service, prior to commencing discharge of recycled water to Shay Pond. The plan should incorporate adaptive management and a provision for reverting to groundwater for discharge to Shay Pond should unarmored threespine stickleback be negatively impacted by exposure to the recycled water from the wastewater treatment plant.

Monitoring Wells

The DPEIR states (p. 4-960), "*The location of future specific projects proposed under the Program are well-defined, with the exception of the Sand Canyon Monitoring Wells, which do not have a defined location, beyond being located downstream of the Sand Canyon Recharge Area.*" CDFW is concerned that the lack of information regarding the location of the Sand Canyon monitoring wells could pose a threat to biological resources, including groundwater. Monitoring wells can provide a pathway for the movement of poor-quality water, pollutants, contaminants, and especially significant threat to groundwater quality if they are not properly placed, constructed, altered, and maintained[2]. **CEQA is predicated on a complete and accurate description of the proposed Project. Without a complete and accurate project description, the DPEIR likely provides an incomplete assessment of Project-related impacts to biological resources.** CDFW recommends a recirculated DPEIR include the proposed locations for the Sand Canyon monitoring wells and an analysis of any cumulative impacts that could result from the placement of the wells. These impacts should include any adverse effects to adjacent riparian habitat and perennial and intermittent water sources in the vicinity.

California Endangered Species Act

CESA prohibits the take (under Fish & G. Code, § 86, "take" means to hunt, pursue, catch, capture, or kill, or to attempt to hunt, pursue, catch, capture, or kill) of any endangered, threatened, or candidate species that results from a proposed project, except as authorized by state law (Fish & G. Code, §§ 2080, 2085). Consequently, if Project construction or any Project-related activity during the life of the proposed Project would result in take of a CESA-listed species, CDFW recommends that the Project applicant seek appropriate take authorization under CESA prior to implementing the proposed Project. Appropriate authorization from CDFW may include an Incidental Take Permit (ITP), a consistency determination, or other permitting options (Fish and G. Code, §§ 2080.1, 2081, subds. (b), (c)). CESA ITPs are issued to conserve protect, enhance, and restore state-listed CESA species and their habitats. More information on ITPs can be found at: https://wildlife.ca.gov/Conservation/CESA/Permitting/Incidental-Take-Permits.

The DPEIR acknowledges that several species listed under CESA have the potential to occur in or near the Project area (Appendix 12, p. 71-91); however, the DPEIR defers ITP consideration to the time of pre-construction surveys. **CDFW recommends early consultation because significant modification to the proposed Project and avoidance, minimization, and mitigation measures may be necessary to obtain a CESA ITP**. Proposed avoidance, minimization, and mitigation measures must be sufficient for CDFW to conclude that the Project's impacts are fully mitigated.

Nesting Birds

[2] California Department of Water Resources. Monitoring Well Standards, Introduction. https://water.ca.gov/Programs/Groundwater-Management/Wells/Well-Standards/Combined-Well-Standards/Monitoring-Introduction#:~:text=Groundwater%20monitoring%20wells%20are%20principally,to%20as%20%22observation%20wells.%22

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

The DPEIR (p. 4-289) indicates that "construction may cause adverse impacts on migratory species through disturbing or harming nesting birds." CDFW is concerned about the impacts to nesting birds including loss of nesting/foraging habitat and potential take from ground-disturbing activities and construction. Conducting work outside the peak breeding season is an important avoidance and minimization measure. CDFW also recommends the completion of nesting bird surveys *regardless* of the time of year to ensure that impacts to nesting birds are avoided. The timing of the nesting season varies greatly depending on several factors, such as bird species, weather conditions in any given year, and long-term climate changes (e.g., drought, warming, etc.). In response to warming, birds have been reported to breed earlier, thereby reducing temperatures that nests are exposed to during breeding and tracking shifts in availability of resources (Socolar et al., 2017). CDFW staff have observed that climate change conditions may result in nesting bird season occurring earlier and later in the year than historical nesting season dates. CDFW recommends that disturbance of occupied nests of migratory birds and raptors within the Project site and surrounding area be avoided any time birds are nesting on-site. CDFW therefore recommends the completion of nesting bird surveys *regardless of the time of year* to ensure compliance with all applicable laws pertaining to nesting and migratory birds.

CDFW appreciates the inclusion of MM BIO-28; however, the measure is insufficient in timing and scope to reduce impacts to nesting birds to a level less than significant. CDFW recommends a revised DPEIR include specific avoidance and minimization measures to ensure that impacts to nesting birds do not occur. Project-specific avoidance and minimization measures may include, but are not limited to, Project phasing and timing, monitoring of Project-related noise (where applicable), sound walls, and buffers, where appropriate. CDFW recommends that disturbance of occupied nests of migratory birds and raptors within the Project site be avoided **any time birds are nesting on-site.** Preconstruction nesting bird surveys shall be performed within 3 days prior to Project activities to determine the presence and location of nesting birds. CDFW recommends BBARWA include the following mitigation measure in a revised DPEIR:

MM BIO-[B]: Pre-Construction Nesting Bird Surveys

> **Regardless of the time of year, nesting bird surveys shall be performed by a qualified avian biologist no more than 3 days prior to vegetation removal or ground-disturbing activities. Pre-construction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the pre-construction nesting bird surveys, a qualified biologist shall establish an appropriate nest buffer to be marked on the ground. Nest buffers are species specific and shall be at least 300**

feet for passerines and 500 feet for raptors. A smaller or larger buffer may be determined by the qualified biologist familiar with the nesting phenology of the nesting species and based on nest and buffer monitoring results. Construction activities may not occur inside the established buffers, which shall remain on site until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests and adequacy of the established buffer distance shall be monitored daily by the qualified biologist until the qualified biologist has determined the young have fledged or the Project has been completed. The qualified biologist has the authority to stop work if nesting pairs exhibit signs of disturbance.

Bald Eagle

Consistent with CEQA Guidelines, Section 15380, the status of the bald eagle as an endangered species under the California Endangered Species Act (Fish & G. Code, § 2050 *et seq.*) and as a Fully Protected species (Fish & G. Code, § 3511) qualify these species as endangered, rare, or threatened species under CEQA.

Vegetation removal may impact eagles that use large trees for nesting and cover (Zeiner et al. 1990). Additionally, vegetation clearing can cause habitat loss, fragmentation, and create edge effects that permeate far beyond the Project site (Harris 1988, Murcia 1995). Roads can be a source of mortality for raptors, and they have also been shown to decrease reproductive success of eagles (Anthony and Isaacs 1989, Varland et al. 1993, Trombulak and Frissell 2000). Noise from road use, generators, and other equipment may be disruptive to nesting and hunting eagles, and exposure to vehicle noise has been shown to increase stress hormone levels in some raptor species. The level of impact depends on how close the road is to nest site, how much use it gets, and how accustomed any particular breeding pair is to road noise. Artificial light may attract or disorient nesting eagles (Longcore and Rich 2004). It can also suppress the immune system of birds. Therefore, Project impacts on bald eagle and golden eagle would be potentially significant.

The DPEIR acknowledges that bald eagle nesting habitat has been identified in the Project area. CDFW is concerned that the timing and scope of the mitigation measures are insufficient to reduce impacts to a level less than significant. To ensure avoidance of impacts to this Fully Protected species, CDFW recommends that focused breeding surveys be conducted for nesting bald eagles in the Project area using appropriate protocols. CDFW recommends inclusion of the following mitigation measure:

MM-BIO-[C]: Bald Eagle Breeding Surveys

Prior to adoption of the CEQA document and prior to Project activities, a qualified biologist shall conduct focused breeding surveys for bald eagle, following appropriate protocols: CDFW's Bald Eagle Nesting Territory Survey Form and Instructions (2010) and USFWS Protocol for Evaluating Bald Eagle Habitat and Populations in California (2004) or more current guidance from USFWS. If helicopters are used, only one helicopter survey will occur, and additional surveys will be conducted via ground observations. The helicopter must stay 200 meters away from any potential nest sites (i.e., cliffs, treetops, platforms, etc.). If an active nest is discovered, do not stop for more than 5-10 seconds to determine status. If follow-up helicopter surveys are required to get closer to any potential or confirmed nests, Big Bear Area Regional Wastewater Agency should contact CDFW about potentially issuing a Memorandum of Understanding (MOU). Data collected during the nesting season surveys shall include the following: territory status (unknown, vacant, occupied, breeding successful, breeding unsuccessful); nest location, nest elevation; age class of eagles observed; nesting chronology; number of young at each

visit; photographs; and substrate upon which nest is placed. If nesting eagles are detected during the focused surveys, the qualified biologist and Big Bear Area Regional Wastewater Agency shall coordinate with CDFW to develop avoidance and minimization measures to be approved by CDFW. If an occupied nest is detected within 2 miles of the Project, Big Bear Area Regional Wastewater Agency shall implement a one mile line-of-sight and one-half mile no line-of-sight buffer to ensure that Project construction activities do not result in injury or disturbance to eagles. Triggers for adaptive management shall include any evidence of Project-related disturbance to nesting eagles, including but not limited to: agitation behavior (displacement, avoidance, and defense); increased vigilance behavior at nest sites; changes in foraging and feeding behavior, or nest site abandonment. Adaptive management actions include, but are not limited to, cessation of construction activities that are deemed by a qualified biologist to be the source of eagle disturbance. Buffers will be maintained throughout the breeding season or until the young have fledged and are no longer dependent on the nest or parental care for survival.

Artificial Nighttime Lighting

CDFW is concerned that the DPEIR does not adequately analyze impacts to biological resources from artificial nighttime lighting and the mitigation measure proposed is insufficient to avoid or reduce impacts to a level less than significant. The DPEIR (p. 4-253) states “there is a minor potential for the Program to impact SPOW or flying squirrel as a result of light pollution.” However, no further details are provided, impacts to biological resources resulting from the use of artificial nighttime lighting during construction and operation of the Project are not analyzed, and the mitigation measure proposed is insufficient in timing and scope to reduce impacts. Designs for lighting to be used during operation of the Project should be included in a revised DPEIR, along with details of artificial nighttime lighting to be used during construction. The direct and indirect impacts of artificial nighttime lighting on biological resources including migratory birds that fly at night, bats, and other nocturnal and crepuscular wildlife should be analyzed, and appropriate avoidance and minimization measures to reduce impacts to less than significant should be included in a revised DPEIR.

Artificial nighttime lighting often results in light pollution, which has the potential to significantly and adversely affect fish and wildlife. Artificial lighting alters ecological processes including, but not limited to, the temporal niches of species; the repair and recovery of physiological function; the measurement of time through interference with the detection of circadian and lunar and seasonal cycles; the detection of resources and natural enemies; and navigation (Gatson et al. 2013). Many species use photoperiod cues for communication (e.g., bird song; Miller 2006), determining when to begin foraging (Stone et al. 2009), behavior thermoregulation (Beiswenger 1977), and migration (Longcore and Rich 2004). Phototaxis, a phenomenon which results in attraction and movement towards light, can disorient, entrap, and temporarily blind wildlife species that experience it (Longcore and Rich 2004).

CDFW appreciates the inclusion of MM BIO-12; however, the measure is insufficient in scope and timing to reduce impacts to a level less than significant. Because of the potential for artificial nighttime light to negatively impact wildlife, CDFW recommends a revised DPEIR include details of the use of artificial nighttime lighting proposed for construction and operation of the Project and an analysis of impacts to biological resources, as well as specific avoidance and minimization measures to ensure that impacts to wildlife are reduced to less than significant. CDFW recommends BBARWA include the following mitigation measure in a revised DPEIR:

MM BIO-[D]: Artificial Nighttime Light

During Project construction and operation, BBARWA shall eliminate all nonessential lighting throughout the Project area and avoid or limit the use of artificial light during the hours of dawn and dusk when many wildlife species are most active. BBARWA shall ensure that lighting for Project activities is shielded, cast downward, and does not spill over onto other properties or upward into the night sky (see the International Dark-Sky Association standards at http://darksky.org/). BBARWA shall ensure use of LED lighting with a correlated color temperature of 3,000 Kelvins or less, proper disposal of hazardous waste, and recycling of lighting that contains toxic compounds with a qualified recycler.

Revegetation Plan

The DPEIR states (p. 4-281) that "the disturbed areas shall be revegetated using a plant mix of native species that are suitable for long term vegetation management at the specific site," but no further details are provided. Results from revegetation activities could consequently lead to negative impacts if the Proponent disregards the plant community alliances by species and relative cover that are proposed to be restored, and if the seed mixes are sourced from non-local seeds with incorrect variety and subspecies or include invasives. Prior to revegetation efforts, CDFW encourages BBARWA to identify the alliances in the proposed revegetation areas and list the species with corresponding relative cover that are found in each alliance in the surrounding area. In this way, BBARWA can use the species cover information as a success criterion to identify in detail which components of the communities they are trying to restore. CDFW strongly encourages the seeds that are used are from local populations free of invasive species because using non-local seeds introduces plants that are not locally adapted to the area.

Restoration projects that use species that are non-local often do not restore natural communities as intended but bring in non-local materials (i.e., genes, pathogens, outbreeding depression, etc.) (Mijnsbrugge et al. 2010) and distribute plants in unnatural groupings. Additionally, the revegetation seed mixes that do not identify the variety or subspecies that will to be used could be detrimental to revegetation efforts. For example, California buckwheat (*Eriogonum fasciculatum*) has four recognized varieties (var. *foliolosum*, var. *polifolium*, var. *fasciculatum*, and var. *flavoviride*) that commonly grow in California in opposing regions. It is important to use the correct variety or subspecies for the location because they are most likely to establish, persist, and reproduce on the sites (Stevens 2004).

Although the DPEIR includes MM BIO-14, the measure is insufficient to reduce impacts that could result from revegetation activities. CDFW recommends BBARWA include the following additional mitigation measure in a revised DPEIR:

MM BIO-[E]: Revegetation Plan

Within 12 months prior to the initiation of Project activities, and during the appropriate periods (e.g., seasons, weather conditions, times of day) to identify species potentially occurring onsite, the Project Proponent shall conduct general and, if necessary, focused biological surveys to identify alliances that occur on the Project site. The Project proponent shall list the species with corresponding relative cover that are found in each alliance in the surrounding area to provide a baseline for vegetation selection. Once the appropriate species are identified that are deemed appropriate to use in the vegetation restoration, the project proponent shall also identify the correct variety or subspecies appropriate for the borrow site locations. If the Project proponent intends to use a commercial vendor to obtain seed mixes, they should ensure that the vendor is using local seeds in their mix

with the appropriate variety and subspecies. The seed mixes shall not include invasive species.

CDFW Lake and Streambed Alteration Program

The Biological Resources & Jurisdictional Waters Assessment for the DPEIR indicates that the Project is likely to result in temporary and/or permanent impacts to resources subject to Fish and Game Code section 1602, including but not limited to Stanfield Marsh, Baldwin Lake, Caribou Creek, Shay Pond/Shay Creek, and the Sand Canyon Channel.

Fish and Game Code section 1602 requires an entity to notify CDFW prior to commencing any activity that may do one or more of the following: substantially divert or obstruct the natural flow of any river, stream, or lake; substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or deposit debris, waste or other materials that could pass into any river, stream or lake. Note that "any river, stream or lake" includes those that are episodic (i.e., those that are dry for periods of time) as well as those that are perennial (i.e., those that flow year-round). This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water. Upon receipt of a complete notification, CDFW determines if the proposed Project activities may substantially adversely affect existing fish and wildlife resources and whether a Lake and Streambed Alteration (LSA) Agreement is required. An LSA Agreement includes measures necessary to protect existing fish and wildlife resources. CDFW may suggest ways to modify the Project that would eliminate or reduce harmful impacts to fish and wildlife resources. CDFW's issuance of an LSA Agreement is a "project" subject to CEQA (see Pub. Resources Code § 21065). Early consultation with CDFW is recommended since modification of the proposed Project may be required to avoid or reduce impacts to fish and wildlife resources. To submit a Lake or Streambed Alteration notification, visit: https://wildlife.ca.gov/Conservation/Environmental-Review/LSA.

Although the DPEIR includes MM BIO-26, CDFW finds that the measure is insufficient to reduce impacts to resources subject to Fish and Game Code section 1602. Because of the potential for impacts to resources subject to Fish and Game Code section 1602, CDFW recommends BBARWA include the following additional mitigation measure in a revised DPEIR:

MM BIO-[F]: CDFW's Lake and Stream Alteration (LSA) Program

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

ENVIRONMENTAL DATA

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

ENVIRONMENTAL DOCUMENT FILING FEES

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

CONCLUSION

CDFW appreciates the opportunity to comment on the recirculated DPEIR to assist the BBARWA in identifying and mitigating Project impacts on biological resources. CDFW concludes that the DPEIR does not adequately identify or mitigate the Project's significant, or potentially significant impacts on biological resources. CDFW also concludes that the DPEIR lacks sufficient information for a meaningful review of impacts to biological resources, including a complete and accurate assessment of biological resources in the Project area and subsequent impact analyses. The CEQA Guidelines indicate that recirculation is required when insufficient information in the DPEIR precludes a meaningful review (§ 15088.5) or when a new significant effect is identified (§ 15088.5). CDFW recommends that a revised DPEIR, including a complete assessment of impacts to biological resources and a complete project description, as well as mitigation to avoid and reduce those impacts to less than significant, be recirculated for public comment.

CDFW personnel are available for consultation regarding biological resources and strategies to minimize impacts. Questions regarding this letter or further coordination should be directed to Alyssa Hockaday, Senior Environmental Scientist (Specialist) at (760) 920-8252 or Alyssa.Hockaday@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Kim Freeburn
84F92FFEEFD24C8...

Kim Freeburn
Environmental Program Manager

Attachment 1: CDFW Mitigation Monitoring and Reporting Program

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ATTACHMENT 1: MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Biological Resources (BIO)		
Mitigation Measure (MM) Description	**Implementation Schedule**	**Responsible Parties**
MM BIO-[A]: Compensatory Mitigation for Impacts to Bird-foot Checkerbloom Prior to construction within areas containing bird-foot checkerbloom, Big Bear Area Regional Wastewater Agency shall either fully avoid the plant(s), with an appropriate buffer established by a qualified botanist and marked in the field (i.e., fencing or flagging), or mitigate the loss of the plant(s) through the purchase of mitigation credits from a CDFW-approved bank, or the acquisition and conservation of land approved by CDFW at a minimum 3:1 (replacement-to-impact) ratio.	Prior to commencement of Project activities.	BBARWA
MM BIO-[B]: Pre-Construction Nesting Bird Survey Regardless of the time of year, nesting bird surveys shall be performed by a qualified avian biologist no more than 3 days prior to vegetation removal or ground-disturbing activities. Pre-construction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the pre-construction nesting bird surveys, a qualified biologist shall establish an appropriate nest buffer to be marked on the ground. Nest buffers are species specific and shall be at least 300 feet for passerines and 500 feet for raptors. A smaller or larger buffer may be determined by the qualified biologist familiar with the nesting phenology of the nesting species and based on nest and buffer monitoring results. Construction activities may not occur inside the established buffers, which shall remain on site until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests and adequacy of the established buffer distance shall be monitored daily by the qualified biologist until the qualified biologist has determined the young have fledged or the Project has been completed. The qualified biologist has the authority to stop work if nesting pairs exhibit signs of disturbance.	No more than three (3) days prior to vegetation clearing or ground-disturbing activities.	BBARWA
MM BIO-[C]: Bald Eagle Pre-Construction Surveys Prior to adoption of the CEQA document and prior to Project activities, a qualified biologist shall conduct focused breeding surveys for bald eagle, following appropriate protocols: CDFW's Bald Eagle Nesting Territory Survey Form and Instructions (2010) and USFWS Protocol for Evaluating Bald Eagle Habitat and Populations in California (2004) or more current guidance from USFWS. If helicopters are used, only one helicopter survey will occur, and additional surveys will be conducted via ground observations. The helicopter must stay 200 meters away from any potential nest sites (i.e., cliffs, treetops, platforms, etc.). If an active nest is discovered,	Prior to adoption of the CEQA document and prior to Project activities.	BBARWA

do not stop for more than 5-10 seconds to determine status. If follow-up helicopter surveys are required to get closer to any potential or confirmed nests, Big Bear Area Regional Wastewater Agency should contact CDFW about potentially issuing a Memorandum of Understanding (MOU). Data collected during the nesting season surveys shall include the following: territory status (unknown, vacant, occupied, breeding successful, breeding unsuccessful); nest location, nest elevation; age class of eagles observed; nesting chronology; number of young at each visit; photographs; and substrate upon which nest is placed. If nesting eagles are detected during the focused surveys, the qualified biologist and Big Bear Area Regional Wastewater Agency shall coordinate with CDFW to develop avoidance and minimization measures to be approved by CDFW. If an occupied nest is detected within 2 miles of the Project, Big Bear Area Regional Wastewater Agency shall implement a one mile line-of-sight and one-half mile no line-of-sight buffer to ensure that Project construction activities do not result in injury or disturbance to eagles. Triggers for adaptive management shall include any evidence of Project-related disturbance to nesting eagles, including but not limited to: agitation behavior (displacement, avoidance, and defense); increased vigilance behavior at nest sites; changes in foraging and feeding behavior, or nest site abandonment. Adaptive management actions include, but are not limited to, cessation of construction activities that are deemed by a qualified biologist to be the source of eagle disturbance. Buffers will be maintained throughout the breeding season or until the young have fledged and are no longer dependent on the nest or parental care for survival.		
MM BIO-[D]: Artificial Nighttime Light During Project construction and operation, BBARWA shall eliminate all nonessential lighting throughout the Project area and avoid or limit the use of artificial light during the hours of dawn and dusk when many wildlife species are most active. BBARWA shall ensure that lighting for Project activities is shielded, cast downward, and does not spill over onto other properties or upward into the night sky (see the International Dark-Sky Association standards at http://darksky.org/). BBARWA shall ensure use of LED lighting with a correlated color temperature of 3,000 Kelvins or less, proper disposal of hazardous waste, and recycling of lighting that contains toxic compounds with a qualified recycler.	During Project construction activities and operation.	BBARWA
MM BIO-[E]: Revegetation Plan Within 12 months prior to the initiation of Project activities, and during the appropriate periods (e.g., seasons, weather conditions, times of day) to identify species potentially occurring onsite, the Project Proponent shall conduct general and, if necessary, focused biological surveys to identify alliances that occur on the Project site. The Project proponent shall list the species with corresponding relative cover that are found in each alliance in the surrounding area to provide a baseline for vegetation selection. Once the appropriate species are identified that are deemed appropriate to use in the vegetation restoration, the project proponent shall also identify the correct variety or subspecies appropriate for the borrow site locations. If the Project proponent intends to use a commercial vendor to obtain seed mixes, they should ensure that the vendor is	Within 12 months prior to the initiation of Project activities.	BBARWA

using local seeds in their mix with the appropriate variety and subspecies. The seed mixes shall not include invasive species.		
MM BIO-[F]: CDFW's Lake and Streambed Alteration (LSA) Program Prior to Project-activities and issuance of any grading permit, the Project Sponsor shall obtain written correspondence from the California Department of Fish and Wildlife (CDFW) stating that notification under section 1602 of the Fish and Game Code is not required for the Project, or the Project Sponsor shall obtain a CDFW-executed Lake and Streambed Alteration Agreement, authorizing impacts to Fish and Game Code section 1602 resources associated with the Project.	Prior to Project-activities and issuance of any grading permit.	BBARWA