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December 30, 2020

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Subject: Rolling Meadows (SCH# 2020070339) Conditional Use Permits Initial Study and Draft Mitigated Negative Declaration

Dear Meghan Ryan:

The California Department of Fish and Wildlife (CDFW) received from the County of Humboldt (Lead Agency) a recirculated Initial Study and Draft Mitigated Negative Declaration (IS/MND), dated November 25, 2020, for the Rolling Meadows (Project), in McCann, Humboldt County, California. CDFW understands the Lead Agency will accept comments on the Project through December 30, 2020.

Previously, on July 16, 2020, the Lead Agency circulated an IS/MND. On Thursday, August 13, 2020, CDFW staff conducted a site visit of Facilities #1-16 of the Project area. On August 17, 2020, CDFW submitted written comments on the IS/MND. On October 8, 2020, CDFW issued a final Lake or Streambed Alteration (LSA) Agreement to rebuild an existing bridge on Larabee Creek that will serve as an alternate access to the Project from Alderpoint Road. Work at several additional stream crossing locations disclosed in the IS/MND are subject to LSA Notification and have not yet been evaluated or authorized by CDFW.

The Project is located on Humboldt County Assessor's Parcel Numbers (APNs) 217-181-028, 217-201-001, 217-022-004, 217-201-001, 211-281-006, and 217-181-017. The project proposes 306,648 square feet (7 acres) of new cannabis facility space, including 249,739 square feet (5.73 acres) of new mixed-light cannabis cultivation. The Project also proposes use of three wells for irrigation in addition to 320,000 gallons of proposed greenhouse roof rainwater catchment that will be stored in tanks. The mixed-light cultivation is proposed to be powered by Pacific Gas and Electric, however new connection lines and associated infrastructure will be needed.

As the Trustee for the State's fish and wildlife resources, CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants and the habitat necessary to sustain their populations. As a Responsible Agency, CDFW administers the California Endangered Species Act and other provisions of the Fish and Game Code (FGC) that conserve the State's fish and wildlife public trust resources. CDFW offers the following comments and recommendations in our role as Trustee and Responsible Agency pursuant to the California Environmental Quality Act (CEQA; California Public Resource Code §21000 *et seq*.). CDFW participates in the regulatory process in its roles as Trustee and Responsible Agency to minimize project impacts and

avoid potential significant environmental impacts by recommending avoidance and minimization measures. These comments are intended to reduce the Projects impacts on public trust resources.

Clarification of CEQA Document Type

The CEQA document currently in circulation is called an "Initial Study and Environmental Checklist", however the November 30, 2020 Notice of Intent calls the document an IS/MND. For this comment letter, CDFW assumes the document currently is circulation is an IS/MND. However, the Environmental Checklist on page 33 of the November 25, 2020 IS/MND was not completed or signed.

Please provide clarification if the document is 1) IS/MND or 2) an Initial Study and Environmental Checklist that will be used to determine the appropriate CEQA Environmental Document (i.e., Mitigated Negative Declaration or an Environmental Impact Report) (**Recommendation 1**).

Golden Eagle

The IS/MND discloses a previously documented golden eagle (*Aquila chrysaetos*) nest site within line-of-site from the Project (California Natural Diversity Database occurrence #80, Nelson 2000), however complete protocol level golden eagle surveys for the Project have not yet occurred. The IS/MND acknowledges golden eagles are designated as Fully Protected pursuant to FGC section 3511, and that take of Fully Protected Species is prohibited. Additionally, the low and declining population numbers of golden eagles within northwestern California (Harris 2005, Hunter et al. 2005) and the broader Bird Conservation Region (BCR) where the Project occurs (Millsap et al. 2016, USFWS 2016) suggest impacts to golden eagle may be potentially significant (CEQA Guidelines section 15125 (c)). However, the IS/MND does not contain complete or adequate survey results for this species (Pagel et al. 2010). Without sufficient and complete surveys for golden eagle, CDFW cannot adequately comment on the potential for take or significant impacts to this species nor the effectiveness and feasibility of mitigations.

No Sustainable Take Rates. The importance of conserving golden eagle populations and their habitats is highlighted by their low and declining population numbers within BCR, where the Project occurs. BCR 5 spans from Alaska to Sonoma County, California and is estimated to contain only 189 golden eagle breeding pairs with no sustainable take rates (Millsap et al. 2016, USFWS 2016). While avoiding disturbance to nest locations is important during courtship, breeding, and rearing of young, it is also important to ensure that adequate grassland foraging habitat remains within a golden eagle territory. Prior studies in the western US suggest a radius of two miles encompasses 50 to 80 percent of golden eagle use and represents densely used core area (Watson et al. 2014, Hansen et al. 2017).

Project Juxtaposition to Golden Eagle Breeding Habitat. Grasslands within one mile of nest sites may be particularly vulnerable to disturbance effects on golden eagle while

they are feeding nestlings (USFWS 2020). From the location of the documented 2003 nest site, the Project's two eastern most clusters of greenhouse facilities lie within one-mile and are within in line-of-site of the nest location (Figure 1- 2). The juxtaposition of the Project area to the 2003 nest site would maximize visual and other disturbances perceived at the nest site and potentially eliminate the majority of the foraging habitat within the core area (Figure 1 – 2).

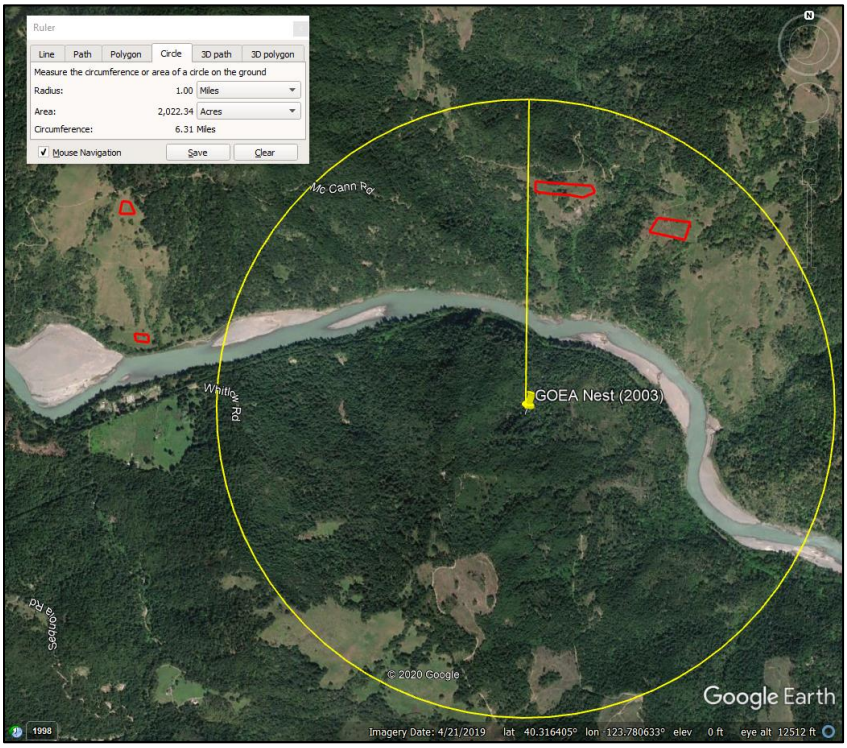

Figure 1. A one-mile radius around the 2003 nest site. Project areas are shown in red and two locations are within the one-mile no disturbance buffer. Note: alternative nest sites may be closer to the Project.

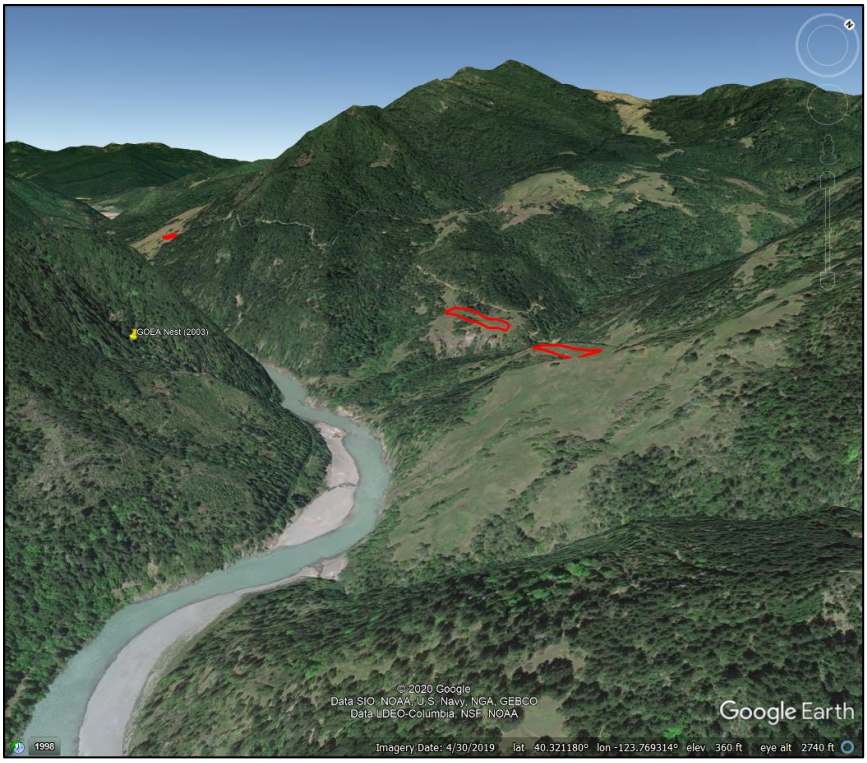

Figure 2. A documented golden eagle nest site (yellow pin) is within line-of-site of Project cultivations areas (shown in red). Note: alternative nest sites may be closer to the Project.

Golden Eagle Sensitivity to Disturbance. Although not well described in the Environmental Setting section of the IS/MND, the pre-Project baseline level of anthropogenic disturbance (e.g., visual, noise, and light) is very low or non-existent within the Project area. Any golden eagles in this vicinity are likely to be especially sensitive to human disturbance. Based on the range of disturbance distance thresholds for golden eagles (Hansen et al. 2017), they may flush from their nests or reduce feeding young with even low to moderate disturbance (including pedestrian activity) occurs within 1,000 meters (3,281 feet or 0.62 miles). Furthermore, nest-site protection is only beneficial if there is adequate access to prey. While male golden eagle's presence at nests is generally limited to prey delivery or brief assistance with young, they frequently rest on perches in view of nests (Watson et al. 2014). In southwestern Idaho, golden eagles perched away from nests were 12 times more likely to flush in response to recreationists than eagles at nests (Hansen et al. 2017). This suggests frequent human activity away from nests could result in chronic disturbance of foraging golden eagles and reduced provisioning rates at the nest. For example, if the 1,000-meter disturbance metric is applied to Project cultivation areas that may affect grassland foraging areas within a one-mile no disturbance buffer of the 2003 nest site, approximately 125 acres of 219 acres (57 percent) of foraging area may be avoided by foraging golden eagles attempting to feed their young (Figure 3).

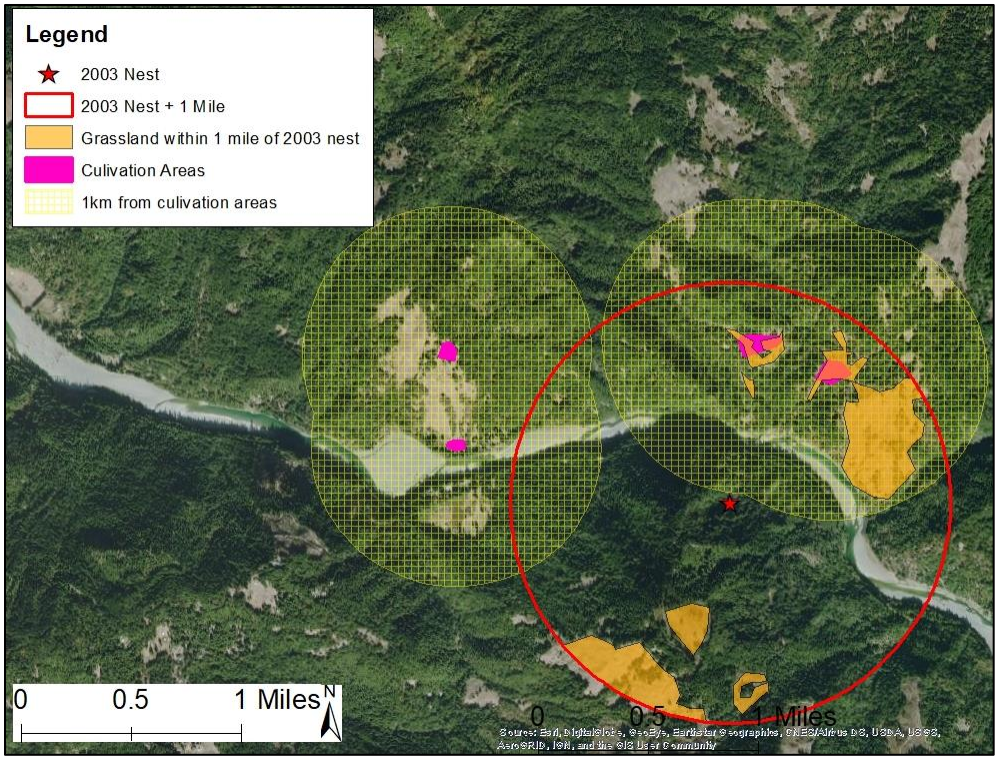

Figure 3. Assuming no golden eagles forage within 1,000 meters of cultivation sites, the Project would result in a 57 percent reduction of foraging habitat within a one-mile no disturbance buffer.

Unlike short term disturbance impacts (e.g., timber harvest), ongoing chronic disturbance may warrant buffers in excess of 1,000 meters, further supporting the USFWS' one-mile no disturbance buffer for golden eagle nest sites. Importantly, the IS/MND Mitigation Measure Bio-16 calling for a 660-foot buffer from nest sites was intended by the USFWS for bald eagles (*Haliaeetus leucocephalus*) (USFWS 2017), who are much less sensitive to disturbance than golden eagles (USFWS 2016).

Golden Eagle Surveys. Deficiencies in Project golden eagle surveys include: 1) none of the golden eagle surveys conducted for the Project occurred during the courtship season when golden eagles are most likely to be detected. Once golden eagles have paired and laid eggs after courtship, they become secretive and difficult to detect. The protocol specifically states the first inventory and monitoring surveys should be conducted during courtship when adults are mobile and conspicuous. Other deficiencies of the Project's golden eagle surveys include: 2) survey duration less than four hours (as recommended in the protocol), 3) surveyor location movement during surveys (survey should occur in blinds or other cryptic locations because golden eagles will avoid human presence and activities, potentially resulting in false negative survey results), 4) insufficient Project area coverage from survey locations (cultivation locations are nearly two miles apart and likely require multiple four-hour protocol observation points), 5) anecdotal conclusions based on out-of-season observations that the documented 2003 nest site is unoccupied, and 6) no evaluation of potential alternative nest sites within the Project vicinity (golden eagles often rotate annual occupancy of several alternative nest sites within a core area (Watson et al., 2014)).

Regarding anecdotal conclusions based on out-of-season observations, the IS/MND provides insufficient evidence to support current unoccupancy at the 2003 golden eagle nest that occurs about 1,000 meters south of the Project. The nest was last reported occupied in 2003 (Nelson 2020), but there are no records of attempts to verify continued nesting until one month ago, outside the breeding season. Project biologists visited the 2003 nest vicinity in November 2020 and concluded the nest is no longer present due to a lack of visible white-wash (fecal matter) or prey remains on the ground. If that nest location was occupied in 2020, young may have fledged from the nest several months prior and evidence of white-wash and prey remains may no longer have been present in November. The lack of a physical nest observation in 2020 does not support the conclusion a nesting site is no longer there because, 1) nests can occur in any portion of trees that could support a large stick platform and can be obscured from ground view when located at the top of a tree or in complex side-branch structures, 2) nest structures can be 10-feet in diameter and retain white-wash and discarded prey remnants where they cannot be observed from the ground, and 3) nests platforms occasionally fall out of trees and are rebuilt by golden eagles when they choose to nest in that tree again as part of their semi-annual rotation of alternative nest sites within a territory, of which they exhibit nest site fidelity over years and decades (Hansen et al., 2017).

Regarding no evaluation of potential alternative nest sites within the Project vicinity, the IS/MND states that no golden eagle nesting habitat exists in the immediate vicinity of the Project based on the assumption that potential nesting habitat is synonymous with northern spotted owl (NSO) high quality nesting/roosting habitat, but this statement is not supported. While NSO may be more likely to utilize forested areas with many larger trees, golden eagles can nest in locations with just one tree large enough to support a nest platform anywhere within the tree (Menkens et al. 1987, Baglien 1975). Given that many large diameter trees (e.g., Douglas fir [*Pseudotsuga menziesii*] crown diameter 40+ft visible on Google Earth) occur within one mile of Project locations, suitable nesting trees with complex branch structures may occur closer to the Project than the 2003 nest location.

Given the high-quality nesting and foraging habitat in the Project vicinity (large trees and grasslands), the previously documented nest site, 2018 golden eagle flyover observation during Project surveys, multiple other recent reports of juvenile golden eagles in the vicinity (Gaffin 2014 and 2015), and fidelity to nesting sites over years or decades (Hansen et al. 2017), the potential for an active breeding territory within the Project vicinity is high. Without adequate surveys for this species and, if present, a detailed effects analysis of potential Project impacts, CDFW is concerned that the Project could interfere with breeding, nesting success, feeding, sheltering behavior, and result in a loss of productivity, nest failure (e.g., disturbance-induced reduced provisioning of young), or complete abandonment of a golden eagle breeding territory (due to long term chronic disturbance).

Based on the golden eagle information discussed above, CDFW recommends the Project complete protocol golden eagles surveys and consult with CDFW prior to completion of CEQA (**Recommendation 2**). There is a reasonable likelihood an active

golden eagle breeding territory occurs within the Project vicinity and that several alternative nest sites may exist within relatively close proximity to the Project. Without sufficient protocol surveys for this species, we cannot adequately comment on the potential for significant impacts nor the effectiveness and feasibility of take avoidance or mitigations. Additionally, as proposed in the IS/MND, mitigation measure Bio-16's 660-foot nest buffer may be inadequate for this species and could potentially result in take of a Fully Protected species.

Cumulative Impacts to Grassland Prairies

The Lead Agency's Commercial Medical Marijuana Land Use Ordinance states no more than 20 percent of the area of prime agricultural soils on a parcel may be permitted for commercial cannabis cultivation. It is unclear if the ordinance and its supporting CEQA analysis intended new cultivation sites to be located within remote (i.e., exurban), hillside grassland prairies (where sensitive species may occur) as opposed to traditional agricultural lands already associated with crop production. An unintended consequence of requiring new cultivation on prime agricultural soils (and allowing new areas to be classified as such with no minimum size) is the targeting of small, isolated, flat grasslands within larger prairie complexes on steeper slopes. These habitats are vital elements of biodiversity and provide important habitat for wildlife (Stromberg et al. 2007, CNPS 2011, CDFW 2014a). For example, grasslands in less developed portions of the County correspond with golden eagle foraging habitat and may be occupied by sensitive breeding territories, as described previously in this letter.

The Humboldt County Planning and Building Department has received at least 45 commercial cannabis applications occurring within 1 mile (recommended no disturbance buffer) of documented golden eagle nest sites (Table 1, Battistone, 2020). Furthermore, over 150 commercial cannabis cultivation applications occur within two miles of documented golden eagle nest sites. Given the number of proposed projects within one mile of documented nest sites and that 50 to 80 percent of eagle habitat use is reported to occur within 2 miles of nest sites, CDFW is concerned cumulative project impacts could eliminate golden eagle territories within Humboldt County.

Additional cumulative impacts could occur to other grassland-dependent special status species such as northern red-legged frog (*Rana aurora*), grasshopper sparrow (*Ammodramus savannarum*), mountain plover (*Charadrius montanus*), northern harrier (*Circus hudsonius*), white-tailed kite (*Elanus leucurus*), Pacific gilia (*Gilia capitata* ssp. *pacifica*), short-leaved evax (*Hesperevax sparsiflora* var. *brevifolia*), Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*), Kneeland prairie pennycress (*Noccaea fendleri* ssp. *californica*), maple-leaved checkerbloom (*Sidalcea malachroides*), Siskiyou checkerbloom (*Sidalcea malviflora* ssp. *patula*), beaked tracyina (*Tracyina rostrata*), leafy reed grass (*Calamagrostis foliosa*), Hitchcock's blue-eyed grass (*Sisyrinchium hitchcockii*), and other special status species (CDFW 2020a).

Table 1. Humboldt County commercial cannabis applications within two miles of documented golden eagle nest sites.

Key Parcel Distance to Mapped Golden Eagle Nest (Miles)	Number of County Cannabis Cultivation Applications
0 - 0.25	9
0.26 - 0.5	9
0.51 - 1	27
1.1 - 2	112
Total	157

Cumulative impacts could also occur to rare vegetation types known as Sensitive Natural Communities. Using the best available data on the abundance, distribution, and threat, CDFW assigns natural communities rarity ranks and/or a designation as "Sensitive" (*). Rarity ranks range from 1 (very rare and threatened) to 5 (demonstrably secure). Sensitive Natural Communities (S1 – S3 or otherwise designated as sensitive) should be addressed in the environmental review processes of CEQA and its equivalents (CDFW 2020b). Cumulative impacts could occur to grassland-associated Sensitive Natural Communities in Humboldt County including California brome – blue wildrye prairie (*Bromus carinatus – Elymus glaucus*; S3), Oatgrass - Tufted Hairgrass - Camas wet meadow (*Danthonia californica – Deschampsia cespitosa – Camassia quamash*; S4*), Idaho fescue - California oatgrass grassland (*Festuca idahoensis – Danthonia californica*; S3), California goldfields – dwarf plantain – small fescue flower fields (*Lasthenia californica – Plantago erecta – Vulpia microstachys*; S4*), and other sensitive natural communities.

The IS/MND should evaluate cumulative impacts to grassland prairies, particularly special status species and sensitive natural communities (**Recommendation 3**).

Use of Water Wells

The IS/MND relies on written statements from David Fisch of Fisch Drilling to assess well use impacts to groundwater. Although Mr. Fisch is a Licensed Water Well Contractor, it is not apparent that he is licensed to provide geologic interpretations and/or related evaluations of groundwater/surface water connectivity. The scientific and engineering community universally accepts the connectivity of surface water and groundwater systems and that groundwater discharge to streams constitutes a sizeable and important fraction of streamflow (Fetter 1988, Winter et al. 1998, Department of Water Resources 2003, Barlow and Leake 2012, Province of British Columbia 2016).

In light of the Project's geologic setting, mapped springs, wetlands, and other surface water features (IS/MND Figure 61 on page 197), and based on the potential total volume of groundwater extraction from the three new wells, CDFW recommends the applicant retain a qualified professional (e.g. geologist or engineer with hydrogeology background) licensed to practice in California to conduct a preliminary evaluation of the Project's potential impacts to local surface water flows, and to provide

recommendations that ensure Project activities will not substantially affect aquatic resources (**Recommendation 4**).

Post-project Reclamation and Restoration

As described in the IS/MND, the Project will occur in a remote area of the County that supports numerous special status species and habitats. The Project's seven acres of new cannabis facility development and infrastructure will have lasting effects on the landscape if the Project permanently ceases operations at some point in the future. Similar to other industries with this spatial magnitude of ground disturbance (e.g., mining) it is appropriate to decommission facilities and restore the area at the end of a project's life.

CDFW recommends a mitigation measure or condition of approval to require a Post-project Reclamation and Restoration Plan. That plan should be implemented if project activities cease for five years (**Recommendation 5**).

The following resource topics were brought up in our August 17, 2020 letter for this Project, and are reiterated with additional information here as the revised IS/MND did not appear to fully address these:

Botanical Surveys and Impact Analysis

The IS/MND states botanical surveys for rare plants did not encompass the entire Project area, specifically Facilities #6 through #9. The entire Project area should include the "whole of the action" (CEQA Guidelines section 15003 (h)), including all proposed buildings, new powerlines, borrow pits, access roads, and other areas of new ground disturbance. The IS/MND proposes completing botanical surveys as a mitigation measure. Based on the IS/MND, it appears floristic botanical surveys have not yet covered the entire Project area, including proposed work on the access road to Alderpoint, which contains suitable habitat for a Humboldt County milk-vetch (*Astragalus agnicidus)*, a State Endangered Species.

To avoid deferred analysis, and potential deferred mitigation, the IS/MND should include the results of floristically appropriate botanical surveys for the entire Project area. Surveys and reporting should be in accordance with CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* and propose avoidance/mitigation where appropriate (**Recommendation 6**).

Wetland Fill and Development Setbacks

The IS/MND indicates development of Facility #9 will require wetland fill and encroachments on wetland setbacks at Facilities #1 and #2. Approximately 90 percent of California's historical wetlands have been filled or converted to other uses, with a consequent reduction in the functions and values wetlands provide (CDFW 2014b). Additionally, there may not be a viable path for wetland fill to create cultivation sites

pursuant to the SWRCB's Cannabis Cultivation General Order (SWRCB 2019a).

CDFW recommends the Project adhere to Humboldt County General Plan wetland setbacks through Project layout changes to avoid wetland fill and associated development setbacks (**Recommendation 7**). CDFW also recommends the Project consult with the North Coast Regional Water Quality Control Board regarding the State Water Resources Control Board's (SWRCB) Cannabis Cultivation Policy and its mandate to protect springs, wetlands, and aquatic habitats from negative impacts of cannabis cultivation (SWRCB 2019b).

Development within the 100-year Flood Zone

The Project proposes locating two greenhouses (Facilities #1 and #2) within the 100-year flood zone of the Eel River (IS/MND Figure 63 on page 200). Floodplains, by their nature, are likely to be inundated by high flow events. They also connect streams and rivers to upland habitat and provide an important ecological transition zone (CDFW 2014b). Grading within the floodplain and placement of complex, automated mixed-light greenhouses, and ancillary facilities, would likely result in pollution and debris during a 100-year flood event.

CDFW recommends Project layout changes to avoid non-essential development in Eel River 100-year floodplain. (**Recommendation 8**).

Electric Infrastructure Expansion

The IS/MND indicates approximately four miles of new electrical lines will be installed to connect existing powerlines to proposed cannabis cultivation sites. Based on the IS/MND, it appears the new electrical lines will be installed, primarily buried within the road prism.

Although CDFW appreciates the Project using existing disturbed areas for the utility alignment, the IS/MND should include further analysis on potential additional development or growth inducing impacts within the local region that may be facilitated by the creation of four miles of new electrical utilities (**Recommendation 9**). If the Project will not be growth inducing, as stated in the IS/MND, it may be appropriate to include development limitations on these parcels in the form of a Development Plan recorded with the County.

Mixed-light Cultivation

Light pollution effects on wildlife include disruption of circadian rhythms and suppressed immune response, changes in foraging behavior, altered navigation and migration patterns, altered predator-prey relationships, impacts on reproduction, and phototaxis (CDFW 2018, CDFW 2020c). CDFW and others have observed light pollution originating from greenhouses throughout the County. This is inconstant with the County General Plan and International Dark Sky Standards. The IS/MND suggests International Dark Sky Standards will be upheld by the Project.

Based on experience with other similar cultivation projects, it is difficult to monitor and regulate potential light pollution impacts from non-compliance with permit conditions. The County should ensure the measures to comply with International Dark Sky Standards are implementable and easy to confirm or monitor (**Recommendation 10**).

Invasive Species

The IS/MND does not address potential significant effects from introduction or spread of invasive plant and animal species. Invasive species are known to result in habitat loss and other impacts to native species and may result in an overall loss of biodiversity, particularly special status species (Duenas et al. 2018). Invasive plant species may enter or spread through the Project area from imported soil, attachment to vehicles, and other means of accidental introduction.

CDFW recommends a mitigation measure or condition of approval to require an invasive species management plan that would manage any existing invasive species and prohibit planting, seeding or otherwise introducing terrestrial or aquatic invasive species on Project parcels, including all access roads (**Recommendation 11**).

Rodenticides and Similar Harmful Substances

This Project has potential high use areas for birds of prey including, white-tailed kite (*Elanus leucurus*), red-tailed hawk (*Buteo jamaicensis*), ferruginous hawk (*Buteo regalis*), golden eagle, and other species. New agricultural development has the potential to increase rodent populations, which are sometimes treated with rodenticides. Rodents killed by rodenticide have the potential to be consumed by raptors, other birds of prey, and wildlife species, resulting in harm or mortality (CDFW 2018, CDFW 2020c).

CDFW recommends a condition of approval that will prohibit the use of rodenticides and similar harmful substances on Project parcels (**Recommendation 12**).

We appreciate the opportunity to comment on this IS/MND. If you have any questions please contact Environmental Scientist Greg O'Connell by email at Gregory.OConnell@Wildlife.ca.gov.

Sincerely,

DocuSigned by:
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