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Sent via email and FedEx

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Re: Comments of the Center for Biological Diversity on the Draft Environmental Impact Report for the Sargent Ranch Quarry Project (State Clearinghouse No. 2016072058)

Dear Mr. Salisbury:

These comments are submitted on behalf of the Center for Biological Diversity (the “Center”) regarding the Sargent Ranch Quarry Project (“Project”). The Center has reviewed the Draft Environmental Impact Report (“DEIR”) for the Project closely and is concerned that the DEIR fails to comply with the California Environmental Quality Act (“CEQA”), Public Resources Code section 21000 et seq., and the CEQA Guidelines, California Code of Regulations, title 14, section 15000 et seq. (“Guidelines”). In particular, the DEIR’s analysis of and mitigation for the Project’s impacts to biological resources, wildfire, air quality, greenhouse gas emissions, and water supply are inadequate and fall short of CEQA’s and the CEQA Guidelines’ requirements. The Center urges the County not to approve the Project or certify the Environmental Impact Report.

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 89,000 members throughout California and the United States. The Center has worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in Santa Clara County.

I. The DEIR’s Analysis of and Mitigation for the Project’s Impacts to Biological Resources Is Inadequate.

a. The DEIR Improperly Downplays the Importance and Function of the Project Area's Habitats In Supporting Special-status Species.

EIRs must provide an accurate and complete description of the baseline existing environmental conditions against which a project's impacts are evaluated. (*Neighbors for Smart Rail v. Exposition Metro Line Construction Authority* (2013) 57 Cal.4th 439, 447-48; Guidelines § 15125.) An accurate baseline is necessary to "give the public and decision makers the most accurate and understandable picture practically possible of the project's likely near-term and long-term impacts." (Guidelines § 15125(a).) An EIR must also disclose the full extent of a project's potentially significant impacts.

The DEIR fails to adequately describe the importance of the Project area's habitats in supporting vast biodiversity, including special-status animals and plants. For example, California annual grasslands support numerous native plants and animals, including San Joaquin kit fox, California tiger salamander ("CTS"), California red-legged frog ("CRLF"), western pond turtle ("WPT"), tri-colored blackbird, and Bay checkerspot butterfly (ICF International, 2012 [Santa Clara Valley Habitat Plan]), yet the DEIR fails to acknowledge this information in its cursory discussion on grasslands (DEIR at 3.4-12). Similarly, the DEIR fails to disclose that oak woodlands and riparian habitats support disproportionately high levels of biodiversity and are important for wildlife connectivity (see DEIR at 3.4-12-13). And the DEIR fails to mention the importance of coyote brush scrub serving as upland and movement habitat for special-status species, like CTS, CRLF, WPT, and Bay checkerspot butterfly (DEIR at 3.4-12). By eliding the importance of these habitats in and near the Project area to sensitive species and ecological function, the DEIR fails to adequately describe, assess, and mitigate the Project's impacts to biological resources.

Oak woodlands provide valuable habitat and connectivity for a wide variety of California's native species, including 2,000 plants, 5,000 insects and arachnids, 80 amphibians and reptiles, 160 birds, and 80 mammals (Bernhardt & Swiecki, 2001; Jedlicka et al., 2014; Lawrence et al., 2011; Meadows, 2007; Tietje et al., 2015). They are also important for many ecosystem services that communities rely on for safety and economic stability, including water quality protection, carbon sequestration, erosion control, and soil retention (Brown & Krygier, 1970; Elliot, 2010; Jedlicka et al., 2014; Lawrence et al., 2011; Moyle et al., 2011; Pan et al., 2011). Reduced woodland cover has been shown to result in increased runoff (*i.e.*, pollutants such as pesticides and fertilizers flowing into groundwater and surface waterways), erosion, sedimentation, and water temperatures; changes in channel morphology; decreased soil retention and fertility; and decreased terrestrial and aquatic biodiversity (Brown & Krygier, 1970; Dahlgren et al., 2003; Elliot, 2010; Houlahan & Findlay, 2004; Jedlicka et al., 2014; Lawrence et al., 2011; Lohse et al., 2008; Moyle et al., 2011; Opperman et al., 2005; Pess et al., 2002; Zhang & Hiscock, 2011). In addition, woodlands are an important carbon sink that can help moderate the impacts of climate change (Padilla et al., 2010; Pan et al., 2011), and some researchers argue that at a global scale, trees are linked to increased precipitation and water availability (Ellison et al., 2012).

Riparian ecosystems have long been recognized as biodiversity hotspots performing important ecological functions in a transition zone between freshwater systems and upland

habitats. Many species that rely on these aquatic habitats also rely on the adjacent upland habitats (e.g., riparian areas along streams, and grassland habitat adjacent to wetlands). In fact, 60% of amphibian species, 16% of reptiles, 34% of birds and 12% of mammals in the Pacific Coast ecoregion depend on riparian-stream systems for survival (Kelsey and West 1998).

Connectivity among and between natural waterways and upland riparian habitat is essential for native fish species like the federally threatened south-central California coast DPS of steelhead, the Monterey hitch, and Monterey roach, to survive. The shade and erosion control from riparian vegetation provide cool and clear streams that are ideal for spawning and rearing (Lohse et al., 2008; Moyle et al., 2011). Encroachment and over-aggressive removal and degradation of riparian areas have been identified as major drivers of declines in California's freshwater and anadromous fish (Grantham et al., 2012; Lohse et al., 2008; Moyle et al., 2011; Opperman et al., 2005; Pess et al., 2002). In addition, many other species known or likely to occur in the Project area, including mountain lions and bobcats, often use riparian areas as migration corridors or foraging habitat (Dickson et al., 2005; Hilty & Merenlender, 2004; Jennings & Lewison, 2013; Jennings & Zeller, 2017). And other sensitive species that are known or are likely to occur in the area, like the California red-legged frog (federally threatened), yellow warblers (species of special concern), CTS (federally threatened), and WPTs (species of special concern) inhabit and move through riparian areas.

The DEIR downplays the importance of intermittent and ephemeral rivers and streams as habitat, stating that “[e]phemeral drainages would not likely provide habitat values in excess of those provided by surrounding upland habitats due to their short hydroperiod” (DEIR at 3.4-15) without providing evidence to support such claims. In fact, the evidence shows otherwise. Recent scientific literature states that “[i]n many intermittent streams, remnant pools persist after flow ceases and provide refuge for aquatic organisms” (Bogan et al., 2019). Researchers found, for example, that remnant pools at nearby Coyote Creek “supported a full assemblage of native fishes and numerous imperiled taxa, including California red-legged frogs and California floater mussels,” almost all of which were absent from artificially perennial and urbanized reaches of Coyote Creek (Bogan et al., 2019). The researchers concluded:

Remnant pools in intermittent streams should be a focus of conservation efforts in regions with a Mediterranean climate, especially during extreme droughts. Native fauna adapted to harsh intermittent flow regimes can thrive in these habitats, whereas non-native taxa may fare poorly. Furthermore, remnant pools supported by deep groundwater sources, such as those along geological faults, may provide both ecological refuge and evolutionary refugia for freshwater biota. (Bogan et al., 2019)

Hydroperiod diversity is important for native amphibian population stability. Intermittent and ephemeral habitats are important refugia from invasive fish and American bullfrogs that outcompete and prey upon native amphibians in permanent waterbodies. They may also be important refuge and recovery sites for native amphibian species after extreme drought. Many native amphibian species, like CRLF, CTS, California newts, Pacific chorus frogs, and western toads are adapted to successfully reproduce in seasonally-drying wetlands, including intermittent

streams and vernal pools. But during dry years some species may go to permanent waterbodies to breed while species with long-lived adult forms may be able to recover quickly from a skipped breeding season. Although amphibian population declines due to drought have been observed, these adaptations make them more resilient than invasive species to rebound and recover (Moss et al., 2021). In fact, researchers have found that invasive fish and bullfrogs were extirpated from several permanent ponds that had completely dried out during extreme drought, which, once refilled with water, opened up new sites for native species to re-colonize (Moss et al., 2021). This indicates that conserving intermittent and ephemeral waterways is vital for native amphibians to persist, particularly in areas where invasive species may occur or have the potential to occur. As climate change intensifies, preservation of connected habitats with diverse hydroperiods is vital for the persistence and metapopulation dynamics of native amphibians. Yet the DEIR dismisses outright the importance of intermittent and ephemeral waters, contradicting the best available science.

The DEIR's inadequate description of the baseline environmental conditions on the Project site and vicinity undermine its effectiveness as an informational document. It is critical for the DEIR to clearly disclose and adequately assess the importance and function of the habitats that occur in the Project area and the special-status species that are known or have the potential to occur or historically occurred in these habitats so that the public can determine whether the EIR adequately assesses and mitigates the Project's impacts. The DEIR effectively dismisses and downplays the Project area's importance supporting high levels of biodiversity and wildlife connectivity and ultimately fails to adequately describe and assess existing conditions while contradicting the best available science. This shortcoming affects every aspect of the DEIR's analysis of impacts to biological resources.

b. The DEIR Fails to Adequately Disclose and Assess the Potential Occurrence of Special-status Species In and Near the Project Area.

The DEIR lacks adequate detail to allow the public to determine the likelihood of special-status species occurring in or near the Project area. For example, the categorizations in DEIR Table 3.4-3 for whether a species has the potential to occur are misleading. The DEIR provides four categories, "absent," "possible," "unlikely," and "present," but these categories provide virtually no real information about the species' presence and whether they may be adversely affected by the Project. For instance, even if a species presence is "possible," the likelihood of it occurring in or near the Project area could be unlikely, likely, or very likely. Most of the species listed in Table 3.4-3 are categorized as "possible," when in reality, those species are not just "possible," but in fact are "likely" or even "very likely" to occur in or near the Project area. For example, golden eagles, burrowing owls, mountain lions, and badgers have been observed and documented on the greater Sargent Ranch property and suitable habitat is present on the Project site (DEIR at Table 3.4-3); therefore, the DEIR should assume these species are present in the Project area or at least clearly categorize these and other species like these as having high potential to occur in the Project area. Stating that it is merely "possible" that they occur on the site is disingenuous and serves to understate the Project's potential impacts. At a bare minimum, the EIR should indicate whether there is low, moderate, or high potential for a species to occur in or near the Project area.

In addition, the DEIR provides inaccurate or incomplete assessments for several species' occurrence in or near the Project area. For example, the DEIR incorrectly concludes that the least Bell's vireo is unlikely to occur in the Project area due to lack of suitable habitat, *despite the fact that there is a California Natural Diversity Database recorded observation in the vicinity of the Project area* (DEIR at Figure 3.4-5) and eBird records indicate other observations in the vicinity.¹ Similarly, the DEIR states that California mastiff bats and Townsend's big-eared bats are unlikely to occur in the Project area, despite the presence of suitable foraging habitat, on the grounds that "roosting habitat is absent" (DEIR at Table 3.4-3). This is not a suitable basis for concluding that the site is not used for foraging and other non-roosting purposes.

Additionally, the DEIR fails to mention or assess the Project's impacts to the California condor (a federally endangered species) despite the species' historical presence in the Project area. The Museum of Vertebrate Zoology has a record of California condor bones collected "near Sargents" in 1900,² demonstrating that the Project area is located in the historical range of California condors. In addition, in 2021 researchers tracked a condor who flew from Pinnacles National Park to the city of Morgan Hill and into the southern parts of the Santa Cruz Mountains (Dolkas, 2021) and a condor was observed flying over Mt. Diablo (Li, 2021). And in June 2022, a condor was documented near Lexington Reservoir in Santa Clara County.³ Condors can travel hundreds of miles in one flight and forage in open grasslands like those found on the Project site. Given that this species historically occurred in the Project area the DEIR's failure to evaluate the Project's impacts to California condors is inexcusable.

Should the Applicant decide to implement Alternative 3 instead of the currently proposed Project, these issues would remain and need to be addressed.

c. The DEIR Fails to Adequately Describe, Evaluate, and Mitigate the Project's Impacts to Special-status Species.

The DEIR lacks adequate detail in the description and analysis of special-status species that occur, have the potential to occur, or historically occurred in and near the Project area. Below we provide just a few illustrative examples of the DEIR's shortcomings in this respect, though this is not a comprehensive list. Should the Applicant decide to implement Alternative 3 instead of the currently proposed Project, these issues would remain and still need to be addressed.

i. Mountain lions

The DEIR fails to adequately describe, assess, and mitigate impacts to the Central Coastal and Southern California Evolutionarily Significant Unit (ESU) of mountain lions (*Puma concolor*), a candidate species provisionally listed as threatened under the California Endangered

¹ eBird observations for Bell's Vireo (Least) available at <https://ebird.org/species/belvir3> (accessed September 19, 2022).

² MVZ:Bird:115622 *Gymnogyps californianus*. Available at: <http://arctos.database.museum/guid/MVZ:Bird:115622> (Accessed September 19, 2022).

³ eBird observations of California condor. Available at: <https://ebird.org/species/calcon/> (Accessed September 19, 2022).

Species Act (“CESA”). Despite being a special-status species known to occur in and near the area with additional evidence beyond LOA’s 2004 observation (e.g., Diamond et al., 2022; Wilmers, 2019), the DEIR understates the importance of the Project area to local mountain lions and their long-term survival, dedicating just one paragraph to describe them (DEIR at 3.4-33) and omitting any analysis in the Biotic Evaluation (DEIR Appendix E). In that single paragraph, the DEIR fails to mention that local mountain lions are suffering from poor genetic health due to habitat loss and fragmentation by roads and development, and they are on a path towards extinction if connectivity in the area is not improved (Gustafson et al., 2021).

The DEIR also downplays the Project area’s importance for mountain lions by stating that their home ranges could be up to 400 to 500 square miles for females and males, respectively, and therefore the Project area would “at most serve as a very small portion of an individual’s home range” (DEIR at 3.4-92). This is pure conjecture for which the DEIR supplies no evidence. Home range size can vary depending on geographic area, season, sex, reproductive status, and prey density (Yap et al., 2019). According to researchers that study the relevant local mountain lion populations in the Santa Cruz Mountains, female home ranges are on average about 100 km² (37 mi²) and male home ranges are about 230 km² (89 mi²) (Nickel et al., 2021; Santa Cruz Puma Project, 2015). In addition, Nickel et al., (2021) found that local pumas shrink their home ranges in response to perceived risk from human presence, which has implications for both the areas they currently inhabit and how the Project’s increased human presence that further destroys and fragments remaining habitat will affect them. Protecting and restoring connectivity between the Santa Cruz Mountains, Diablo Range, and Gabilan Range is crucial in order for local mountain lions to avoid extinction. The Project would remove mountain lion habitat and extend and fortify a movement barrier in an area where connectivity is already tenuous. The Project will push the local mountain lions further toward extinction.

Ample scientific evidence indicates mountain lion populations in and around the Project area are struggling to survive and human activity and land use that inhibits habitat connectivity has adverse impacts on mountain lions. Continued habitat loss and fragmentation has led to 10 genetically isolated populations within California. There are six identified mountain lion populations in the ESU, and several are facing an “extinction vortex” due to high levels of inbreeding, low genetic diversity, and high human-caused mortality rates from car strikes on roads, depredation kills, rodenticide poisoning, poaching, disease, and increased human-caused wildfires (Benson et al., 2016, 2019; Ernest et al., 2003, 2014; Gustafson et al., 2018, 2021; Riley et al., 2014; Vickers et al., 2015). The primary driver of this extinction vortex is lack of connectivity (Yap et al., 2019).

A recent study (Gustafson et al. 2021) indicates that local mountain lions in the Project vicinity are in a trajectory similar to that of mountain lions in Southern California, where scientists have documented physical and reproductive signs of inbreeding depression due to being boxed in by roads and development (Huffmeyer et al., 2021). Scientists predicted that if inbreeding depression occurs, pumas in the Santa Monica and Santa Ana mountains (CC-S and SA, respectively) have a 99% chance of becoming locally extinct within 50 years (Benson et al., 2019).

Gustafson et al. (2021) found that mountain lions in the CC-N population, which includes mountain lions in and around the Project area, have genetic diversity estimates as low as the CC-S and SA populations. The authors suggest that the CC-N population is experiencing genetic drift due to dispersal barriers to the north and limited gene flow to the south and east (Gustafson et al., 2021). The authors state, “if dispersal is limited by continued development southeast of the Central Coast North population, rapid genetic drift and inbreeding may ensue (Mills & Allendorf, 1996; Wang, 2004) and local extinctions may occur as predicted in the Central Coast South and Santa Ana populations (Benson et al., 2016; 2019)” (Gustafson et al., 2021). The proposed Project is located in the precise area where connectivity is critical to the long-term survival of the CC-N puma population.

The Project will also amplify the barrier effects of Hwy 101 and other nearby roads and development given the critical riparian corridors in and adjacent to the Project area (Tar Creek, Sargent Creek, and the Pajaro River) and critical undercrossings at Hwy 101 at Tar Creek (“high priority, critically urgent”), Pajaro River (“functional site to maintain and enhance”), and the San Benito River (“high priority, critically urgent”) just south of the Project area (Diamond et al., 2022). High numbers of native wildlife, including deer, mountain lions’ main prey, are known to use these undercrossings (Diamond et al., 2022). And scientists found evidence of mountain lions (i.e., mountain lion tracks) on the southwest side of the undercrossing at the San Benito River (Diamond et al., 2022). In order to be functional for wildlife, crossings require suitable habitats on both sides of a freeway or other obstacle. Any development near such vital undercrossings and some of the last-remaining high quality riparian corridors will have significant impacts to mountain lions (and other wildlife). The DEIR fails to adequately disclose, assess, and mitigate the Project’s impacts to mountain lions.

The Project’s impacts to mountain lions (and other special-status species and sensitive habitats) extend beyond its physical footprint. There is plenty of evidence documenting the effects of human activity specifically on mountain lions. One study found that mountain lions are so fearful of humans and noise generated by humans that they will abandon the carcass of a deer and forgo the feeding opportunity just to avoid humans (Smith et al., 2017). The study concluded that even “non-consumptive forms of human disturbance may alter the ecological role of large carnivores by affecting the link between these top predators and their prey” (Smith et al., 2017). In addition, mountain lions have been found to respond fearfully upon hearing human vocalizations, avoiding the area and moving more cautiously when hearing humans (Smith et al., 2017; Suraci et al., 2019). Other studies have demonstrated that mountain lion behavior is negatively affected when exposed to other evidence of human presence, such as lighting or vehicles/traffic (Smith et al., 2015; Y. Wang et al., 2017; Wilmers et al., 2013). Therefore, both physical and behavioral barriers drive genetic isolation, and continued land use that further fragments mountain lion habitat in the CC-N region without adequately minimizing impacts to functional connectivity will drive pumas in the area to extinction. The Project will result in increased traffic, light, noise, etc. in the last-remaining connectivity area between the region’s three prominent mountain ranges where mountain lions are known to occur. The DEIR failed to consider how the Project will significantly impact how mountain lions navigate the landscape by fortifying existing human-made barriers and decreasing opportunities for them to move freely between mountain ranges.

Yovovich et al. (2020) further documented the impacts of human activities on local mountain lions, specifically on communication and reproductive behaviors important for their survival. Males use scrapes to delineate territories as well as attract potential mates (Allen et al., 2015, 2016), and the males in the study preferred to use relatively flat areas away from human influence as scrape habitat (Yovovich et al., 2020). Similarly, when nursing females (with kittens less than 8 weeks old) shrank their home ranges to an average of 9 km² while their young were most vulnerable, they also selected undeveloped lands away from human disturbance, opting for habitat with protective cover and sufficient water and prey availability (Yovovich et al., 2020). The loss of adequate undisturbed communication and nursery habitat could disrupt important communication and reproductive behaviors that facilitate social structure and overall survival. Thus, continued habitat loss and fragmentation due to roads and development like the proposed Project that extend into mountain lion habitat with little regard for their movement and behavioral needs threaten the long-term survival of local mountain lions.

The DEIR argues that “The riparian habitat along Tar Creek near the proposed bridge crossing is very close to an occupied residence with dogs, which would be avoided by mountain lions, and even the oak woodland is open enough that mountain lions are not expected to establish dens there” (DEIR at 3.4-92), but such statements are misleading and do not comprehensively address what mountain lions need to survive (i.e., they need more than just denning habitat) and how they navigate the landscape.

In a study that investigated the drivers of fine-scale movement decisions by pumas in fragmented landscapes in the Santa Cruz Mountains, Suraci et al. (2020) identified that mountain lions prefer larger habitat patches that are closer together and further away from buildings, and they preferred shrub over tree patches. However, mountain lions were willing to accept higher densities of anthropogenic features if target habitat patch areas were larger or the distance between patches was shorter (Suraci et al., 2020). In addition, pumas were found to travel longer distances through open habitats to access larger habitat patches, perhaps for more protective cover and/or for better hunting opportunities within the larger habitat patch areas (Suraci et al., 2020). These findings corroborate those of Smith et al. (2019), which found that pumas are able to move through partially developed habitat, though they are less likely to move through parcels with higher densities compared to parcels with less dense housing in and around the parcels. In fact, puma avoidance increased sharply as housing density increased up to 41 houses/km², after which avoidance remained high. Although these studies demonstrate that mountain lions have some tolerance of human presence, they more importantly highlight the negative impacts of increased human use/density on the movement and survival of mountain lions and the importance of habitat connectivity among large, intact, heterogeneous habitat patches. The proposed Project would substantially increase human activity in the area while destroying, degrading, and further fragmenting suitable mountain lion habitat.

In addition, Riley et al. (2021) found that, although pumas had some flexibility to navigate urbanized landscapes, they spent more than 95% of their time away from developed areas and actively avoided open areas like golf courses, cemeteries, and other altered landscaped spaces. Mountain lions consistently selected native vegetation types with dense cover, like chaparral, riparian woodland, and coastal sage scrub, with shrublands being their preferred habitat. This highlights the importance of intact and connected natural heterogeneous landscapes

to the long-term health and persistence of constrained mountain lion populations. The authors state, “An important requirement for the effective conservation of at-risk mountain lion populations in southern California is preserving and enhancing connectivity between larger natural areas.” (Riley et al., 2021). This applies to other genetically isolated puma populations like the CC-N population.

Mountain lions are a key indicator species of wildlife connectivity and healthy ecosystems. As the last remaining wide-ranging top predator in the region, the ability to move through large swaths of interconnected habitat is vital for genetic connectivity and their long-term survival. In addition, impacts to mountain lions in the region could have severe ecological consequences; loss of the ecosystem engineer could have ripple effects on other plant and animal species, potentially leading to a decrease in biodiversity and diminished overall ecosystem function. Many scavengers, including California condors, kit foxes, raptors, and numerous insects, would lose a reliable food source (Barry et al., 2019; Ruth & Elbroch, 2014). Fish, birds, amphibians, reptiles, rare native plants, and butterflies would potentially diminish if this apex predator were lost (Ripple et al., 2014; Ripple & Beschta, 2006, 2008). In fact, a recent literature review found that mountain lions are important ecosystem engineers and have been documented to have ecological interactions with at least 485 plant and animal species (Labarge et al., 2022). The DEIR must adequately disclose and mitigate the Project’s significant impacts to mountain lions in and near the Project area in order to ensure their long-term survival as well as the long-term health of the area’s biodiversity and ecosystems. Should the Applicant decide to implement Alternative 3 instead of the currently proposed Project, these issues would remain.

Wildlife connectivity in this region is paramount for the survival of the CC-N mountain lions. The proposed Project could lead to the extirpation of local mountain lions and severe loss of biodiversity and ecosystem function in the region. Similarly, the DEIR’s reliance on inadequate mitigation measures for CRLF, CTS, and wildlife connectivity (see below) is grossly insufficient and would not reduce impacts to mountain lions to less than significant. Further destruction of the connectivity area will push local mountain lions closer towards extinction; the Project’s impacts to mountain lions are significant and unavoidable even after mitigation. See further discussion below regarding the DEIR’s failure to adequately describe, assess, and mitigate impacts to CRLF, CTS, and wildlife movement and connectivity.

ii. California red-legged frogs

Amphibians are the most threatened vertebrate group with more than 40% of species threatened (IUCN 2016) and approximately 200 species collapsing to or near extinction since the 1970s (Alroy, 2015; Stuart et al., 2004). According to researchers at the U.S. Geological Survey (USGS), amphibian populations in the U.S. are declining at an alarming rate of almost 4% per year (Grant et al., 2016). Amphibians are important in many terrestrial and aquatic ecosystems because they play key roles in the food chain and carbon cycle (Arribas et al., 2015; Best & Welsh, 2014; Rowland et al., 2016; Semlitsch et al., 2014). They face numerous threats, including habitat loss and degradation, invasive species, chemical contaminants, disease, roads, and climate change (*e.g.*, Riley et al. 2005; Hayes et al. 2006; Yap et al. 2015; Brehme et al. 2018; Bucciarelli et al. 2020). We must do more to protect these populations before it is too late.

The DEIR fails to adequately assess and mitigate impacts to CRLF. The species has been detected throughout the Project area and adjacent lands, and every aspect of the Project will have either direct or indirect impacts to CRLF and CRLF habitat. Breeding and upland habitat will be degraded and/or destroyed, particularly by the conveyor belt and access road between Phases 1/2 and Phases 3/4. Local and regional connectivity important for the species' metapopulation dynamics and climate resilience will be significantly impacted, as the mining pits and roads will create barriers within Sargent Ranch while construction and human activity at the Tar Creek Underpass will likely fortify the Hwy 101 barrier and potentially deter CRLF from using that crossing. Yet the DEIR fails to adequately assess and mitigate the Project's impacts to CRLF.

While the DEIR states that "the proposed quarry areas do not provide suitable breeding habitat for the CRLF" and only mentions breeding in the geotechnical setback area for Phase 2 (DEIR at 3.4-58), H.T. Harvey & Associates noted that, "Although no occupied California red-legged frog breeding habitat is known to occur within the project boundaries, conclusive evidence that red-legged frogs do not breed on the project site is not provided" (DEIR Appendix E H.T. Havey & Associates Memorandum, Dec 8, 2017 at 12) and "Given the presence of ostensibly suitable aquatic habitat on the project site and the known presence of California red-legged frogs, it is our conclusion that suitable California red-legged frog breeding habitat could be lost as a result of project implementation, as well as upland habitat, and additional mitigation for impacts on breeding habitat is warranted" (DEIR Appendix E H.T. Havey & Associates Memorandum, Dec 8, 2017 at 13). Therefore, the DEIR misrepresents the known information regarding CRLF breeding and upland habitat in and around the Project area.

The DEIR also fails to adequately mitigate the Project's impacts to CRLF. The 2:1 mitigation ratio provided in MM 3.4-4c for non-breeding "high quality habitat that is already occupied by CRLF" (DEIR at 3.4-66) is too low to be effective. The DEIR states that this low ratio "is not higher because Project areas will be restored to conditions suitable for CRLF following completion of mining" (DEIR at 3.4-66) without providing substantial evidence to support such claims. Speculating that "restoration" of the area 30+ years later for a sensitive species that is spiraling towards extinction is not sufficient mitigation. The mitigation is inadequate several additional reasons. First, it is unclear how the County will define occupied non-breeding habitat and who will be determining whether or not the habitat is occupied. Second, even where the County deems non-breeding habitat unoccupied, that does not indicate the absence of the species. It is possible that some non-breeding upland habitat may be used during some years or seasons and not others; therefore, non-breeding habitat may be impacted but unaccounted for with mitigation. Third, requiring occupancy ignores metapopulation dynamics and the importance of habitat connectivity between aquatic breeding habitat and non-aquatic upland habitat. This mitigation measure should be changed so that mitigation is required for impacts to non-breeding habitat that is occupied, potentially occupied, or was historically occupied by CRLF.

The DEIR's proposed mitigation for impacts to breeding habitat is also insufficient. It is unclear if this includes known and potential breeding habitat. It also states that the Applicant shall mitigate impacts to the pond in the Phase 2 geotechnical setback area "if it will be lost or permanently drained" (DEIR at 3.4-66), which suggests that the pond could be severely degraded and no longer suitable for CRLF or completely drained for many years, but if it is degraded but

not drained or it is drained with the intent to refill it later, then no mitigation would apparently be required. Mitigation should be required for any impact to these breeding pools, regardless of whether or not they are “permanently drained.” In addition, proposed mitigation includes enhancing degraded aquatic habitat by removing bullfrogs and other aquatic predators (DEIR at 3.4-67), but the DEIR does not provide information on how the Applicant would successfully remove aquatic predators and prevent them from returning or evidence that this would actually mitigate impacts to CRLF. Also, although the DEIR differentiates between breeding habitat enhancement (3:1) and creation (2:1), the proposed mitigation ratios do not align with the best available science, and both mitigation ratios should be higher.

The Project should be redesigned to *avoid* intrusion and impacts to sensitive habitats that support special-status species. Preservation and enhancement/creation are not as successful as avoidance because it is much more challenging to repair functionality to degraded ecosystems. In-kind mitigation should be a minimum of 3:1 given that CRLF is a federally threatened species and the area could be important for CRLF connectivity and metapopulation dynamics, and 5:1 for habitat restoration or creation with continued monitoring, adaptive management strategies, and well-defined and measurable success criteria, to be funded in perpetuity.

Multiple scientific studies specifically address the need for higher mitigation ratios (along with long-term monitoring, identified and measurable success criteria, and adaptive management strategies) to improve chances of adequately mitigating impacts to habitats and species (Matthews & Endress, 2008; Mitsch & Wilson, 1996; Moilanen et al., 2009; Stein et al., 2018; Sudol & Ambrose, 2002; Windmiller & Calhoun, 2007; Zedler & Callaway, 1999). Moilanen et al. (2009) found that “very high offset ratios may be needed to guarantee a robustly fair exchange” and that “considerations of uncertainty, correlated success/failure, and time discounting should be included in the determination of the offset ratio to avoid a significant risk that the exchange is unfavorable for conservation in the long run.” The preservation of high-quality CRLF breeding and non-breeding habitat in and near the Project area should be prioritized, the minimum acreage of CRLF habitat mitigation should be greater if habitat is being restored or created, and mitigation should be planned in a way that is protective from edge effects and fragmentation to improve the probability of ecologically functional mitigation. Created and restored habitat mitigation ratios should be much higher than preservation mitigation ratios, and they should be coupled with extended years of effective monitoring and adaptive management strategies (Ambrose et al., 2006; Moilanen et al., 2009; Sudol & Ambrose, 2002). Scientists recommend 15-20 years or more of monitoring and adaptive management to determine the success, or lack thereof, of enhanced, restored, or created habitat (Mitsch & Wilson, 1996; Zedler & Callaway, 1999). The DEIR has provided no evidence that higher mitigation ratios are not feasible for this Project.

The DEIR improperly defers mitigation for impacts to CRLF. The DEIR fails to disclose the amount of affected CRLF habitat. The DEIR does not adequately describe where potential compensatory habitat will be located. Although the DEIR states that onsite compensatory mitigation is prioritized, off-site mitigation may be used if “on-site mitigation cannot fully compensate for habitat losses” (DEIR at 3.4-66). This makes it impossible to determine if the amount of impacted CRLF habitat is accurate and if the compensatory lands would be appropriate for mitigation. And no mitigation is provided for the impacts to hydroperiod of

potential breeding pools due to groundwater pumping. There is no clear, realistic, and guaranteed plan for accurately documenting the impacts and mitigating damages. The DEIR's vague, inadequate mitigation is deferred and unsupported by evidence that it will reduce the relevant impacts to less than significant, and therefore violates CEQA.

The proposed Habitat Mitigation and Monitoring Plan ("HMMP") is insufficient and improperly deferred mitigation. MM 3.4-5b mentions an HMMP that would be prepared by a qualified biologist to be submitted to the County Department of Planning and Development for review and approval prior to the start of ground-disturbing activities (DEIR at 3.4-72). Such plans should be reviewed and approved by the California Department of Fish and Wildlife ("CDFW") or the U.S. Fish and Wildlife Service ("USFWS"), not the County Planning Department. And they should be developed and completed for the EIR so that the public and decision makers can judge whether such measures would adequately mitigate the Project's impacts to CRLF and CRLF habitat. In addition, the DEIR provides insufficient detail about the contents of the future HMMP. Although the mitigation measure requires "a description" of various components of the plan, like the location and boundaries of mitigation sites, measures to be undertaken to enhance mitigation sites, species monitoring measures, an adaptive management component, and a funding mechanism for the long-term maintenance and monitoring of the mitigation lands, no actual descriptions for such things are provided.

The DEIR provides insufficient detail for the public and decision makers to ascertain whether such measures would adequately mitigate the Project's impacts to CRLF and CRLF habitat *before* the Project is approved. (See *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 670 [EIR inadequate where the success or failure of mitigation efforts "may largely depend upon management plans that have not yet been formulated, and have not been subject to analysis and review within the EIR"]). In the limited circumstances in which deferred mitigation is appropriate, the agency must meet all of the following elements: (1) practical considerations prevented the formulation of mitigation measures during the planning process; (2) the agency committed itself to developing mitigation measures in the future; (3) the agency adopted specific performance criteria prior to project approval; and (4) the EIR lists the mitigation measures to be considered, analyzed, and possibly incorporated into the mitigation plan. (See *POET, LLC v. State Air Resources Bd.* (2013) 218 Cal.App.4th 681, 736-37 [review denied].) The DEIR's proposed mitigation fails to meet these criteria. Should the Applicant decide to implement Alternative 3 instead of the currently proposed Project, these issues would remain.

iii. California tiger salamanders

The DEIR fails to adequately assess and mitigate impacts to CTS. The DEIR repeatedly downplays the presence of CTS despite the species' known, documented presence in and around the Project area. For example, the DEIR reports that CTS larvae were detected in a seasonal wetland in Phase 1, but argues that "the pool did not hold water long enough for breeding to be successful" (DEIR at 3.4-68) without providing any evidence to demonstrate this was the case. The DEIR references CTS larval studies conducted in 2000-2001, 2004, 2005, and 2017, but none of the data are provided in the DEIR. The DEIR simply states the Project area "does not support ponds or other hydrologic features that have an ideal hydrologic regime (i.e., ponding at

least through May in an average rainfall year, but then drying out until the following wet season) to support successful CTS breeding” (DEIR at 3.4-27). Again, the DEIR does not provide surveys, studies, or any evidence is provided to support this claim. Amphibians that breed in temporal pools are often triggered by decreasing water volumes, and CTS metamorphs have been observed emerging from pools in April and May (unpublished data). The assertion that pools need to have ponding “at least through May” (DEIR at 3.4-27) neglects the portion of the population that is potentially able to metamorphose earlier. Therefore, the DEIR’s unsupported assumption that the temporal pools have zero successful reproduction discounts suitable breeding habitat (especially during exceptionally rainy years) and therefore understates the Project’s impacts.

The DEIR acknowledges that the Project area could be upland habitat for CTS using breeding ponds approximately 0.85 mile north of the Phase 1 while there is a potential breeding pond in the Phase 2 geotechnical setback area (DEIR at 3.4-68) and adjacent to Phase 4 (DEIR at 3.4-72). However, the DEIR fails to mention other potential breeding pools within 1.3 miles from the Project area that were not included in survey efforts because they are outside of the Sargent Ranch property; H.T. Harvey & Associates bring attention to this in a memorandum and highlight those breeding pools as other sources of CTS in the Project area (DEIR Appendix E H.T. Havey & Associates Memorandum, Dec 8, 2017 at 11). The DEIR again downplays the importance of the Project area for CTS by stating that CTS are “apparently scarce in the Project area, based on the presence of only one detection despite intensive survey effort” (DEIR at 3.4-68). This dismisses the importance of the Project area as live-in and/or move-through habitat for a federally threatened species that is known to occur in the Project area. Regardless of whether the species is “scarce” or not readily observed during non-protocol surveys, the DEIR fails to consider metapopulation dynamics of species like CTS and CRLF. Available habitat and connectivity is important for the furthest dispersers of sensitive species (CTS are estimated to be capable of traveling up to 1.5 miles, (USFWS, 2017)) so that individuals are able to move between habitat patches and provide adequate gene flow as well as recolonize areas where local extinctions have occurred, as often happens in metapopulation dynamics, or to increase resilience to climate change (Cushman, 2006; Semlitsch et al., 2014). There is ample available science that demonstrates that removal and fragmentation of habitat that is occupied or potentially occupied by sensitive species can result in significant harm to the species and even the potential extirpation of a population, particularly if metapopulation dynamics are at play (Brehme et al., 2013, 2018; Ceia-Hasse et al., 2018; Cooke et al., 2020; Dornas et al., 2019; Gray, 2017; Haddad et al., 2015; Marsh & Jaeger, 2015; Mitsch & Wilson, 1996; Shilling, 2020; Soule et al., 1992; Suraci et al., 2019; Trombulak & Frissell, 2000; van der Ree et al., 2011).

In addition to failing to disclose the existing conditions and full extent of the Project’s impacts to CTS, the DEIR fails to adequately mitigate the Project’s impacts to the species. The 1:1 mitigation ratio provided in MM 3.4-5b is too low to be effective. This low ratio is based on the DEIR’s assertion that the “species is scarce in the Project area” (DEIR at 3.4-72, which, as discussed above, fails to account for the importance of connectivity and hydroperiod diversity for metapopulation dynamics for species like CTS. The DEIR goes on to state that the “Project areas would be restored to conditions suitable for CTS following completion of mining” (DEIR at 3.4-72) without providing substantial evidence to support such claims. Relying on potential future “restoration” of the area 30+ years later is not adequate to ensure that impacts are less than

significant for a sensitive species that is currently spiraling towards extinction. Furthermore, even if “successful” CTS breeding is documented in the pond in the Phase 2 geotechnical setback area and it gets impacted, the DEIR still only requires a 1:1 mitigation ratio. This contradicts the DEIR’s reasoning for a low mitigation ratio where CTS are considered “scarce” and demonstrates that the proposed mitigation would be insufficient regardless of whether or not CTS were scarce or abundant and successfully breeding in the Project area. In addition, the DEIR does not differentiate between preservation and enhancement/creation of habitat, despite the fact that these two approaches have different levels of success.

The DEIR’s proposed mitigation ratios are too low to be effective and are not based on substantial evidence. For significant impacts, CEQA requires that all feasible mitigation measures be adopted (CEQA Guidelines § 15126.4(a)), and that the effectiveness of those measures is supported by substantial evidence. (*See Gray v. County of Madera* (2008) 167 Cal.App.4th 1099, 1116-17 [An agency’s finding that a mitigation measure will be effective will not be granted deference if the finding is not supported by substantial evidence].)

If impacts are unavoidable, then preservation and enhancement/creation should be treated differently because it is much more challenging to repair functionality to degraded ecosystems. In-kind mitigation should be a minimum of 3:1 given that CTS is a federally threatened species and the area could be important for CTS connectivity and metapopulation dynamics, and 5:1 for habitat restoration or creation with continued monitoring, adaptive management strategies, and well-defined and measurable success criteria, to be funded in perpetuity.

Multiple scientific studies specifically address the need for higher mitigation ratios (along with long-term monitoring, identified and measurable success criteria, and adaptive management strategies) to improve chances of adequately mitigating impacts to habitats and species (Matthews & Endress, 2008; Mitsch & Wilson, 1996; Moilanen et al., 2009; Stein et al., 2018; Sudol & Ambrose, 2002; Windmiller & Calhoun, 2007; Zedler & Callaway, 1999). Moilanen et al. (2009) found that “very high offset ratios may be needed to guarantee a robustly fair exchange” and that “considerations of uncertainty, correlated success/failure, and time discounting should be included in the determination of the offset ratio to avoid a significant risk that the exchange is unfavorable for conservation in the long run.” The preservation of high-quality riparian habitat in and near the Project area should be prioritized, the minimum acreage of riparian habitat mitigation should be greater if habitat is being restored or created, and mitigation should be planned in a way that is protective from edge effects and fragmentation to improve the probability of ecologically functional mitigation. Created and restored habitat mitigation ratios should be much higher than preservation mitigation ratios, and they should be coupled with extended years of effective monitoring and adaptive management strategies (Ambrose et al., 2006; Moilanen et al., 2009; Sudol & Ambrose, 2002). Scientists recommend 15-20 years or more of monitoring and adaptive management to determine the success, or lack thereof, of enhanced, restored, or created habitat (Mitsch & Wilson, 1996; Zedler & Callaway, 1999). If higher mitigation ratios are not feasible, the DEIR must provide evidence and analysis supporting that conclusion.

The DEIR’s analysis of and mitigation for impacts to CTS is improperly deferred. The DEIR fails to disclose the amount of CTS habitat that will be impacted and therefore mitigated.

The DEIR lacks clarity regarding where potential compensatory lands are located. Although the DEIR states that onsite compensatory mitigation is prioritized, off-site mitigation may be used if “on-site mitigation cannot fully compensate for habitat losses” (DEIR at 3.4-72). This makes it impossible for the public or decision-makers to determine if the amount of impacted CTS habitat is accurate and if the compensatory lands would be appropriate for mitigation. And the DEIR provides no mitigation for the impacts to hydroperiod of potential breeding pools due to groundwater pumping.

As with impacts to CRLF, the HMMP is insufficient and improperly deferred mitigation. MM 3.4-5b mentions an HMMP that would be prepared by a qualified biologist to be submitted to the County Department of Planning and Development for review and approval prior to the start of ground-disturbing activities (DEIR at 3.4-72). Such plans should be reviewed and approved by CDFW or USFWS, not the County Planning Department. And they should be developed and completed for the EIR so that the public and decision makers can judge whether such measures would adequately mitigate the Project’s impacts to CTS and CTS habitat. In addition, insufficient detail is provided for the HMMP. Although the mitigation measure requires “a description” of various components of the plan, like the location and boundaries of mitigation sites, measures to be undertaken to enhance mitigation sites, species monitoring measures, an adaptive management component, and a funding mechanism for the long-term maintenance and monitoring of the mitigation lands, no actual descriptions for such things are provided. The DEIR provides insufficient detail for the public and decision-makers to ascertain whether such measures would adequately mitigate the Project’s impacts to CTS habitat. Should the Applicant decide to implement Alternative 3 instead of the currently proposed Project, these issues would remain.

iv. Special-status birds

The DEIR fails to adequately disclose, assess, and mitigate impacts to resident and migratory birds. In fact, the DEIR fails to mention that the Project area is immediately adjacent to a California Audubon-designated Important Bird Area (“IBA”) for resident and migratory birds within the Pacific Flyway, a north-south migratory corridor that extends from Alaska to Patagonia.⁴ The IBA includes the Pajaro River southeast of the Project area and a large area immediately east of Hwy 101. IBAs are critical for regional, state, and global connectivity particularly for migratory birds that require habitat along their migratory path to find food, shelter, and nesting habitat. Of particular importance are the riparian areas in and immediately adjacent to the Project area that likely provide critical nesting and resting habitat for both resident and migratory birds.

As discussed in more detail below, edge effects like noise and light from Project construction and operation will have impacts on wildlife and wildlife movement. Negative edge effects from human activity, traffic, lighting, noise, domestic pets, pollutants, and invasive weeds have been found to be biologically significant up to 300 meters (~1000 feet) away from anthropogenic features in terrestrial systems (Environmental Law Institute, 2003). This is

⁴ Audubon Important Bird Areas of California, available at https://www.audubon.org/important-bird-areas/state/california?field_iba_status=1&priority=2 (Accessed August 31, 2022).

important to consider when open space is immediately adjacent to the Project area, as birds and other wildlife have been found to be sensitive to edge effects. For example, field observations and controlled laboratory experiments have shown that traffic noise can significantly degrade habitat value for migrating songbirds (Ware et al., 2015). Subjects exposed to 55 and 61 dBA (simulated traffic noise) exhibited decreased feeding behavior and duration, as well as increased vigilance behavior (Ware et al. 2015). Such behavioral shifts increase the risk of starvation, thus decreasing survival rates. Another study found a 28% decrease in bird abundance in areas when traffic noise was present compared to when there was no traffic noise (McClure et al., 2013). The DEIR failed to analyze these impacts and should be revised to determine the Project's impacts to the IBA, with appropriate mitigation. Should the Applicant decide to implement Alternative 3 instead of the currently proposed Project, these issues would remain.

v. Special-status fish species and habitat

The DEIR fails to adequately disclose, assess, and mitigate the Project's hydrological impacts to special-status fish, including the federally threatened south-central California coast DPS of steelhead, the Monterey hitch, and Monterey roach. The DEIR lacks sufficient analyses to determine and disclose the Project area's groundwater and hydrology baseline conditions; therefore, an adequate assessment of the Project's impacts to special-status fish and their habitat is not possible. Despite all four mining pits intercepting groundwater and surface runoff in the area and pumping more than 80,000 gallons of groundwater a day, the DEIR dismisses potential impacts to groundwater, stream flow, and special-status fish as less than significant (DEIR at 3.4-56). The DEIR states that in-water mining and pumped groundwater from the mines that is essentially rerouted from the mine would "be allowed to percolate into the ground from the [stormwater retention] basin" (DEIR at 3.4-56) without providing substantial evidence to support such claims. The DEIR also states that the pumped water from the groundwater well near the Pajaro River would "come from a deep well that would have little effect on groundwater that supports flow in the Pajaro River" (DEIR at 3.4-55) without providing substantial evidence to support such claims. In fact, according to the DEIR, it is speculated that the Project area has a shallow groundwater table and perched water tables, though the DEIR states "No groundwater wells have been constructed in the mining areas or elsewhere on the site and thus, the presence and depth of a continuous groundwater table cannot be confirmed" (DEIR 3.10-17). The Project's mining pits' potential to disrupt water tables—which could affect associated wetland and riparian habitat in the region—must be thoroughly evaluated. In addition, stream flow was measured too far downstream to determine the Project's impacts to flow rates and water levels closest to the site, where impacts could be most significant. Disrupting the hydrology and changing the flow of the Pajaro River, Tar Creek, and Sargent Creek could have significant impacts to the fish (and other animal and plant) species that rely on these waterways for part or all of their life cycle; the DEIR should adequately assess and mitigate the Project's hydrological impacts to special-status fish species and habitat.

d. The DEIR Fails to Adequately Describe and Analyze the Project's Impacts to Wildlife Connectivity.

As detailed in a 2021 Center Report (Yap, Rose, Anderson, et al., 2021), roads and development create barriers that lead to habitat loss and fragmentation, which harms native

wildlife, plants, and people. As barriers to wildlife movement, poorly-planned development and roads can affect an animal's behavior, movement patterns, reproductive success, and physiological state, which can lead to significant impacts on individual wildlife, populations, communities, landscapes, and ecosystem function (Brehme et al., 2013; Ceia-Hasse et al., 2018; Haddad et al., 2015; Marsh & Jaeger, 2015; Mitsch & Wilson, 1996; Trombulak & Frissell, 2000; van der Ree et al., 2011). For example, habitat fragmentation from roads and development has been shown to cause mortalities and harmful genetic isolation in mountain lions in Southern California and along the Central Coast (Ernest et al., 2014; Gustafson et al., 2018, 2021; Riley et al., 2014; Saremi et al., 2019; Vickers et al., 2015). Habitat fragmentation has also been found to increase local extinction risk in amphibians and reptiles (Brehme et al., 2018; Cushman, 2006; Delaney et al., 2021), cause high levels of avoidance behavior and mortality in birds and insects (Benítez-López et al., 2010; Kantola et al., 2019; Loss et al., 2014), and alter pollinator behavior and degrade habitats (Aguilar et al., 2008; Goverde et al., 2002; Trombulak & Frissell, 2000).

Habitat fragmentation also severely impacts plant communities. An 18-year study found that reconnected landscapes had nearly 14% more plant species compared to fragmented habitats, and that number is likely to continue to rise as time passes (Damschen et al., 2019). The authors conclude that efforts to preserve and enhance connectivity will pay off over the long-term (Damschen et al., 2019). In addition, connectivity between high quality habitat areas in heterogeneous landscapes is important to allow for range shifts and species migrations as climate changes (Cushman et al., 2013; Heller & Zavaleta, 2009; Krosby et al., 2018). Loss of wildlife connectivity decreases biodiversity and degrades ecosystems while reducing climate change resilience.

Edge effects of development in and adjacent to critical linkage areas, like the proposed Project, will likely impact key, wide-ranging predators, such as mountain lions and bobcats (Crooks, 2002; Delaney et al., 2010; Lee et al., 2012; Riley et al., 2006; Smith et al., 2015, 2017; Vickers et al., 2015; Y. Wang et al., 2017), as well as smaller species with smaller home ranges, such as song birds, bats and other small mammals, and herpetofauna (Benítez-López et al., 2010; Bunkley & Barber, 2015; Cushman, 2006; Delaney et al., 2010; Gray, 2017; Kociolek et al., 2011; McClure et al., 2013; Slabbekoorn & Ripmeester, 2008; Ware et al., 2015). Limiting movement and dispersal can affect species' ability to find food, shelter, mates, and refugia after disturbances like fires or floods. Individuals can die off, populations can become isolated, sensitive species can become locally extinct, and important ecological processes like plant pollination and nutrient cycling can be lost. Negative edge effects from human activity, such as traffic, lighting, noise, domestic pets, pollutants, invasive weeds, and increased fire frequency, have been found to be biologically significant up to 300 meters (~1000 feet) away from anthropogenic features in terrestrial systems (Environmental Law Institute, 2003).

The proposed Project will result in habitat loss and edge effects due to increased human presence and activities (e.g., new and improved roads, traffic, rail use, noise, light, vibration), that will further degrade a critical connectivity area between the Santa Cruz Mountains, Diablo Range, and Gabilan Range. The DEIR fails to adequately disclose, assess, and mitigate the Project's impacts to wildlife connectivity and therefore fails to comply with CEQA. Should the Applicant decide to implement Alternative 3 instead of the currently proposed Project, these issues would remain.

i. The DEIR Fails to Adequately Disclose Existing Conditions and the Project's Impacts to Wildlife Connectivity, Generally.

Although the DEIR acknowledges generically that “a number of linkages come together on and near Sargent Ranch” (DEIR at 3.4-35), it fails to mention that multiple experts, including CDFW, and local researchers have identified the Project area as a critical connectivity area (CDFW 2018) (Diamond et al., 2022; Penrod et al., 2013; Wilmers, 2019). CDFW has also identified the Project area as containing significant riparian and freshwater wetlands habitats while being important for climate resilience (CDFW 2018). The DEIR downplays the area's importance to connectivity by emphasizing the Project area's proximity to Hwy 101, a single residence with dogs north of Tar Creek, and cattle fencing and pens, stating that “the site does not provide easy, impediment-free movement in its current condition” (DEIR at 3.4-40). The DEIR states this without providing substantial evidence for such claims while stating that “no detailed study of animal movements has been conducted for the quarry study area” (DEIR Biotic Evaluation at 36).

1. The DEIR Fails to Adequately Assess the Project's Impacts to Wide-ranging Species That Require Regional Connectivity to Persist.

In a memorandum to the Applicant dated August 19, 2019, H.T. Harvey & Associates wrote that despite some degradation due to existing roads and development, the Project site and surrounding area are critically important for wildlife connectivity:

“Exchange of individuals and/or genes between populations in the Santa Cruz Mountains, the Gabilan Range, and the Diablo Range is important to prevent isolation of populations in any one area, yet alteration of the valleys between ranges by urban development and agricultural land conversion has reduced connectivity, emphasizing the importance of areas that still provide some connectivity.”
(DEIR Appendix E H.T. Harvey & Associates August 19, 2019 Memorandum at 8).

In addition, CDFW has identified the adjacent stretch of Hwy 101 as a priority wildlife movement barrier where resources should be dedicated to improve connectivity (CDFW, 2020). Adding an acceleration lane on the 101, making improvements to Old Monterey Road, adding a rail spur, and increasing both road traffic and rail activity will fortify an existing barrier. Destroying and degrading habitat near current or potential future wildlife crossings in a critical wildlife connectivity area will diminish the functionality of current and future crossings.

A recently published study in which researchers analyzed wildlife camera data and roadkill data to help understand wildlife movement in the area emphasizes the importance of the area to connectivity for existing culverts and undercrossings along Hwy 101 (Diamond et al., 2022). The Tar Creek underpass located immediately north of the proposed processing plant has been identified as a “high priority, critically urgent” wildlife crossing for American badger, long-

tailed weasel, gray fox, coyote, bobcat, and deer (Diamond et al., 2022). The undercrossing connects high quality habitat of the Sargent Hills (including the Project area) with the Carnadero Preserve, a 480-acre area of agricultural land and riparian habitat that is protected by a conservation easement. Placing the processing plant and mine immediately adjacent to this crossing will significantly degrade its functional connectivity. In addition, the Pajaro River Bridge undercrossing, which is east of Phases 3 and 4, has been identified as a “functional site to maintain and enhance” multiple species (Diamond et al., 2022). Researchers also found evidence of mountain lion presence at the San Benito River Bridge, an undercrossing just south of the Project area. Although mountain lions were not observed at the Tar Creek underpass or Pajaro River Bridge during the two-year study, the fact that medium- and large-sized native mammals (including deer, the mountain lion’s preferred prey) use these crossings suggests mountain lions use them as well. The DEIR should assume that mountain lions use the Tar Creek and Pajaro River undercrossings. The placement of the proposed Project will deteriorate the functional connectivity of these undercrossings.

In addition, the DEIR fails to acknowledge that Project implementation will likely prohibit historically occurring species, like tule elk, wolves, and California condors, from returning to the site. For example, tule elk have been documented in areas around the Project area,⁵ and the Project area is located within their estimated historical range (CDFW 2022a) and at the edge of their estimated distribution in 2017 (CDFW 2022b).⁶ According to CDFW, as elk herds outgrow the limited space they occupy, they will suffer from overpopulation, habitat destruction, stress, starvation, and disease (*Id.*). The proposed Project would actively inhibit repopulation efforts for this this protected and managed species. Similarly, protecting and improving existing connectivity in this critical hub between the Santa Cruz Mountains, Gabilan Range, and Diablo Range would allow wolves to reestablish in the area. This is exemplified by the grey wolf OR93, who traveled from Oregon through neighboring San Benito and Monterey counties as far south as Ventura County before he was struck on the I-5 in Kern County. The DEIR fails to adequately assess the Project’s impacts to wide-ranging special-status species that are known to occur, have the potential to occur, or historically occurred in the Project area.

2. The DEIR Fails to Adequately Assess the Project’s Impacts to Smaller, Less Mobile Species That Require Local Connectivity to Persist.

Habitat destruction, degradation, and fragmentation in this critical wildlife connectivity area will negatively affect local connectivity for less mobile species, like CRLF, CTS, and WPT, in and adjacent to the Project area regardless of Hwy 101. There is ample evidence that removal and fragmentation of habitat that is occupied or potentially occupied by sensitive species can result in significant harm to the species and even the potential extirpation of a population,

⁵ Documented observations can be viewed on the iNaturalist website https://www.inaturalist.org/observations?place_id=any&subview=map&taxon_id=566549 (Accessed Oct. 18, 2022) and the Global Biodiversity Information Facility (GBIF) website <https://www.gbif.org/species/8600904> (Accessed Oct. 18, 2022).

⁶ CDFW. (2022). Tule Elk. Available at: <https://wildlife.ca.gov/Conservation/Mammals/Elk/Tule-Elk> (Accessed Oct. 18, 2022).

particularly if metapopulation dynamics are at play, which is likely the case for CRLF and CTS (Brehme et al., 2013, 2018; Ceia-Hasse et al., 2018; Cooke et al., 2020; Dornas et al., 2019; Gray, 2017; Haddad et al., 2015; Marsh & Jaeger, 2015; Mitsch & Wilson, 1996; Shilling, 2020; Soule et al., 1992; Suraci et al., 2019; Trombulak & Frissell, 2000; van der Ree et al., 2011). The DEIR completely neglects an analysis of impacts to connectivity not associated with Hwy 101.

3. The DEIR Fails to Adequately Mitigate Impacts to Wildlife Connectivity.

The DEIR's proposed mitigation to reduce the Project's "significant and unavoidable" impacts to wildlife connectivity is inadequate. MM 3.4-15 provides requirements for a Wildlife-Compatible Fencing Plan to implement fencing to exclude animals from the processing plant areas and wildlife-friendly fencing elsewhere, signage and reduced speed limits on Old Monterey Road, and an 8-foot clearance about every 1,000 feet on the conveyor belt (DEIR at 3.4-112). Given the importance of the area as live-in and move-through habitat for less-mobile special-status species, like CTS, CRLF, and WPT, as well as wide-ranging special-status species, like mountain lions and American badgers, more substantive mitigation is required to comply with CEQA.

Where impacts will be significant, CEQA requires that all feasible mitigation measures be adopted (CEQA Guidelines § 15126.4(a)). Given the area's importance to local and regional wildlife connectivity, the DEIR should adopt additional, feasible measures to reduce these impacts. These measures include, but are not limited to, avoiding impacts to the Tar Creek undercrossing, protecting and maintaining lands on both sides of the crossing, and adding/improving directional fencing on the east side of the crossings to guide animals to the crossing, which are recommended measures for this "high priority, critically urgent" wildlife crossing (Diamond et al., 2022). The DEIR should also include enhancing other existing crossings at Hwy 101 and other nearby roads and rail, like the Pajaro River Bridge, a "functional site to maintain and enhance" that researchers documented high native species richness using (Diamond et al., 2022). The mitigation should include protecting habitat on both sides of the crossing and adding undercrossings or overcrossings. Such measures are feasible, and have been implemented for other projects. For example, the high speed rail San Jose to Merced section EIR provides such mitigation, stating that the High Speed Rail Authority "will design, permit, and construct a wildlife overcrossing, or will contribute funds to the SCVHA for the design, permitting, and construction of a wildlife overcrossing under an agreement with SCVHA."⁷ The Applicant should work with Caltrans, wildlife agencies, and local wildlife movement stakeholders to identify an appropriate location for a wildlife overcrossing along Hwy 101 and design, permit, and construct the wildlife crossing.

Mitigation should also ensure that connectivity between Sargent Creek and upland habitat for semi-aquatic species including CRLF, CTS, and WPT is not compromised by the conveyor belt and access road traversing along and crossing Sargent Creek. Although MM 3.4-15 would

⁷ California High Speed Rail Authority (2022). San Jose to Merced Project Section Final Environmental Impact Report. Available at: <https://hsr.ca.gov/high-speed-rail-in-california/project-sections/san-jose-to-merced/> (Accessed September 21, 2022).

require an 8-foot clearance about every 1,000 feet on the conveyor belt, smaller, less-mobile species would require additional connectivity. This is especially important for CRLF, which have been documented along Sargent Creek, where the conveyor belt and access road will encroach (DEIR at Figure 3.4-4).

The DEIR should also mitigate for the Project's impacts to corridor redundancy (*i.e.* the availability of alternative pathways for movement) because such redundancy allows for improved functional connectivity and climate change resilience. Compared to a single pathway, multiple connections between habitat patches increase the probability of movement across landscapes by a wider variety of species, and they provide more habitat for low-mobility species while still allowing for their dispersal (Mcrae et al., 2012; Olson & Burnett, 2013; Pinto & Keitt, 2008). Corridor redundancy also provides resilience to uncertainty, impacts of climate change, and extreme events, like flooding or wildfires, by providing alternate escape routes or refugia for animals seeking safety (Cushman et al., 2013; Mcrae et al., 2008, 2012; Olson & Burnett, 2013; Pinto & Keitt, 2008). Therefore, the Project should avoid any further constriction of constrained connectivity along Hwy 101 and mitigation should include enhancing connectivity.

Should the Applicant decide to implement Alternative 3 instead of the currently proposed Project, impacts to wildlife connectivity would remain.

ii. The DEIR Fails to Adequately Describe, Assess, and Mitigate Impacts to Sensitive Riparian Habitats and Associated Aquatic and Semi-aquatic Species.

The DEIR fails to adequately assess and mitigate the Project's impacts to riparian ecosystems. The Project area is located immediately adjacent to the Tar Creek and Pajaro River, and Sargent Creek is within the Project area. Natural riparian systems (perennial and ephemeral) are critically important because they provide live-in habitat as well as local, regional, and global connectivity for the area's rich biodiversity. Constructing a processing plant, roads, a conveyor belt, livestock corrals, and a groundwater well that uses ~80,000 gallons of water a day with associated pipelines will significantly alter the form and function of these sensitive habitats. The DEIR argues that "the groundwater that would be used by the Project would come from a deep well that would have little effect on groundwater that supports flow in the Pajaro River" and either groundwater infiltration from mining pits, stormwater retention basins, or swales will redirect exposed groundwater from the mining pits to the appropriate waterways (DEIR at 3.4-55). But it provides no actual evidence for this assertion. The DEIR goes on to downplay the reduction of inflow to Sargent Creek due to the Project, stating that "the 20- to 30-year reduction in Sargent Creek flows would not result in a substantial loss of habitat for Monterey roach and Monterey hitch" (DEIR at 3.4-56), but again does not provide evidence to support such claims. Given that climate change is intensifying, with increasing and extended drought and heatwaves, any groundwater or surface water onsite is of great value, especially in an area that CDFW has identified as containing significant riparian and freshwater wetland habitats while being important for climate resilience (CDFW 2018).

Connectivity among and between natural waterways and upland riparian habitat is essential for native fish species like the federally threatened south-central California coast DPS

of steelhead, the Monterey hitch, and the Monterey roach, to survive. The shade and erosion control from riparian vegetation provide cool and clear streams that are ideal for spawning and rearing (Lohse et al., 2008; Moyle et al., 2011). Encroachment and over-aggressive removal and degradation of riparian areas have been identified as major drivers of declines in California's freshwater and anadromous fish (Grantham et al., 2012; Lohse et al., 2008; Moyle et al., 2011; Opperman et al., 2005; Pess et al., 2002). In addition, many other species known or likely to occur in the Project area, including mountain lions and bobcats, often use riparian areas as migration corridors or foraging habitat (Dickson et al., 2005; Hilty & Merenlender, 2004; Jennings & Lewison, 2013; Jennings & Zeller, 2017). And other sensitive species that are known or are likely to occur in the area, like the and CRLF (federally threatened), CTS (federally threatened), and WPT (species of special concern) inhabit and move through riparian areas.

An estimated 90-95% of historic riparian habitat in the state has been lost (Bowler, 1989; Riparian Habitat Joint Venture, 2009). Using 2002 land cover data from CalFire, the Riparian Habitat Joint Venture estimated that riparian vegetation makes up less than 0.5% of California's total land area at about 360,000 acres (Riparian Habitat Joint Venture, 2004). This is alarming because riparian habitats perform a number of biological and physical functions that benefit wildlife, plants, and humans, and loss of what little is left will have severe, harmful impacts on special-status species, overall biodiversity, wildlife connectivity, and ecosystem function. California cannot afford to lose more riparian corridors.

Riparian ecosystems have long been recognized as biodiversity hotspots performing important ecological functions in a transition zone between freshwater systems and upland habitats. Many species that rely on these aquatic habitats also rely on the adjacent upland habitats (e.g., riparian areas along streams, and grassland habitat adjacent to wetlands). In fact, 60% of amphibian species, 16% of reptiles, 34% of birds and 12% of mammals in the Pacific Coast ecoregion depend on riparian-stream systems for survival (Kelsey and West 1998).

1. The DEIR Fails to Account for Climate Change When Assessing the Project's Impacts to Riparian Habitats.

The DEIR fails to adequately assess the Project's impacts to riparian corridors and the cascading effects of removed habitat and connectivity, reduced groundwater, and ongoing climate change on the special-status species and other animals and plants that rely on these habitats. Riparian habitats can provide some resilience to climate change. The canopy cover of riparian trees and the availability of groundwater have a cooling effect for both air and water temperatures, which creates a cooler microclimate for species to find refuge from a warming climate (Gray et al., 2020; A. T. H. Keeley et al., 2018; Knouft et al., 2021). Such connectivity also helps animals and plants adjust to shifts in resource availability and maintain a suitable climate space as climate change alters habitats and ecological processes and causes shifts in species' ranges (Cushman et al., 2013; Heller & Zavaleta, 2009; Román-Palacios & Wiens, 2020; Scheffers et al., 2016; Warren et al., 2011; Wiens, 2016). Removing already limited water due to drought and nearby agricultural wells could compromise the integrity and functionality of the riparian ecosystems in and near the Project area.

With the driest 22-year period in 1,200 years in the western US and drought conditions that will likely continue (Williams et al., 2022) climate change refugia and resilience provided by ecosystems like riparian areas will be ever more critical for species survival and ecosystem health. As discussed in a 2021 Center report (Yap, Rose, Anderson, et al., 2021):

Climate change is worsening ecosystem stress and species extinction risk (Trisos et al., 2020). Increasing variability and extremes in temperature, wind, and precipitation are all products of a warming climate, leaving species struggling to adapt. As a result, species' genes are changing, physiological and physical features such as body size are changing, ranges are shifting as species try to maintain a suitable climate space, and numerous species are expressing new breeding and migration behaviors (Scheffers et al., 2016).

For example, some plants are budding and flowering earlier, some marine and freshwater fishes are spawning either earlier or later, and some species with temperature-dependent sex determination are experiencing shifts in sex ratios. ***Climate-related local extinctions have already occurred in hundreds of plant and animal species*** (Wiens, 2016). And one study found that terrestrial bird and mammal populations that are experiencing greater climate warming are more likely to be experiencing greater population declines (Spooner et al., 2018). Reportedly, climate change is already impacting 82% of key ecological processes that form the foundation of healthy ecosystems (Scheffers et al., 2016). If climate change goes unabated, more than one-third of all plant and animal species could become extinct in the next 50 years (Román-Palacios & Wiens, 2020).

Wildlife connectivity is critical for biodiversity resilience and climate change adaptability. A permeable landscape that has multiple pathways or linkages between habitat patches allows a wide variety of species to adjust to shifts in resource availability (Mcrae et al., 2012; Olson & Burnett, 2013; Pinto & Keitt, 2008). For smaller species with poor dispersal abilities, like San Francisco garter snakes, CRLF and San Bernardino kangaroo rats, multiple linkages can provide habitat while still allowing for their dispersal.

Multiple connections also help populations persist after extreme events worsened by climate change. During floods, landslides or wildfires, these pathways provide escape routes or refugia for animals seeking safety (Cushman et al., 2013; Mcrae et al., 2008; Olson & Burnett, 2013). Such events can cause local extinctions in small, isolated populations.

Prior to roads and development severely fragmenting and degrading habitats, a species could persist because individuals from neighboring populations would be able to recolonize an area that experiences a local extinction. But without adequate connectivity, recolonization and species persistence are improbable.

The DEIR fails to adequately assess and mitigation the Project's impacts to riparian habitats in the context of a changing climate and increasing drought conditions.

2. The DEIR's Proposed Mitigation for Impacts to Riparian Habitat Is Insufficient and Improperly Deferred.

The DEIR fails to provide any setbacks or buffers from riparian and wetland habitats. Connectivity between riparian and other wetland habitats and upland terrestrial habitat is important for wildlife that rely on these habitats. A literature review found that recommended buffers around aquatic resources for wildlife often far exceeded 100 meters (~325 feet) (Robins, 2002). For example, Kilgo et al. (1998) recommend more than 1,600 feet of riparian buffer to sustain bird diversity. In addition, amphibians, which are considered environmental health indicators, have been found to migrate over 1,000 feet between aquatic and terrestrial habitats through multiple life stages (Cushman, 2006; Fellers & Kleeman, 2007; Semlitsch & Bodie, 2003; Trenham & Shaffer, 2005). For example, CRLF have been found to migrate about 600 feet between breeding ponds and non-breeding upland habitat and streams, with some individuals roaming over 4,500 feet from the water (Fellers & Kleeman, 2007). Newts have been documented traveling up to a mile from breeding ponds (Trenham, 1998). WPT nests have been found up to 1,919 feet from aquatic habitats and individuals have been documented to move regularly between aquatic habitats with long-distance movements of up to 2,018 feet (Sloan, 2012). Accommodating the more long-range dispersers is vital for continued survival of species populations and/or recolonization following a local extinction (Cushman, 2006; Semlitsch & Bodie, 2003). Yet the DEIR does not provide any setbacks for riparian or other wetland habitats to mitigate impacts to riparian habitats.

The DEIR's proposed mitigation ratios are inadequate and unsupported by evidence of their effectiveness. MM 3.4-14a requires a minimum mitigation ratio of 1:1 (preservation or enhancement) or purchasing of mitigation credits for an unspecified amount of habitat impacted by the Project footprint to be determined at another time. The DEIR states, "A qualified biologist shall determine the extent of impacts based on the acreage of overlap of Project construction and operations/mining areas on wetlands, ponds, and riparian habitat, and the linear footage of creek channel within those Project impact areas" (DEIR at 3.4-103). Meanwhile MM 3.4-14b requires a minimum 1.5:1 mitigation ratio (preservation or enhancement) or purchasing of mitigation credits for "any loss of riparian habitat that occurs along Sargent Creek adjacent to or downstream from Phases 3 and 4 as a result of a reduction in streamflow as a result of mining" (DEIR at 3.4-105).

First, these proposed mitigation ratios are too low to be effective and are not based on substantial evidence. For significant impacts, CEQA requires that all feasible mitigation measures be adopted (CEQA Guidelines § 15126.4(a)), and that the effectiveness of those measures is supported by substantial evidence. (*See Gray v. County of Madera* (2008) 167 Cal.App.4th 1099, 1116-17 [An agency's finding that a mitigation measure will be effective will not be granted deference if the finding is not supported by substantial evidence].)

Mitigation should prioritize *avoiding* impacts to sensitive habitats like riparian areas and other sensitive natural communities. If impacts are unavoidable, *then* preservation and enhancement/creation should be considered. It is much more challenging to repair functionality to degraded ecosystems. In-kind mitigation should be undertaken at a minimum of 3:1 given that

these habitats support numerous special-status species and high levels of biodiversity, can be important for wildlife connectivity and climate change resilience, and so much of these habitats have already been lost, and 5:1 for habitat restoration or creation with continued monitoring, adaptive management strategies, and well-defined success criteria, to be funded in perpetuity.

Multiple scientific studies specifically address the need for higher mitigation ratios (along with long-term monitoring, identified and measurable success criteria, and adaptive management strategies) to improve chances of adequately mitigating impacts to habitats and species (Matthews & Endress, 2008; Mitsch & Wilson, 1996; Moilanen et al., 2009; Stein et al., 2018; Sudol & Ambrose, 2002; Windmiller & Calhoun, 2007; Zedler & Callaway, 1999). Moilanen et al. (2009) found that “very high offset ratios may be needed to guarantee a robustly fair exchange” and that “considerations of uncertainty, correlated success/failure, and time discounting should be included in the determination of the offset ratio to avoid a significant risk that the exchange is unfavorable for conservation in the long run.” The preservation of high-quality riparian habitat in and near the Project area should be prioritized, the minimum acreage of riparian habitat mitigation should be greater if habitat is being restored or created, and mitigation should be planned in a way that is protective from edge effects and fragmentation to improve the probability of ecologically functional mitigation. Created and restored habitat mitigation ratios should be much higher than preservation mitigation ratios, and they should be coupled with extended years of effective monitoring and adaptive management strategies (Ambrose et al., 2006; Moilanen et al., 2009; Sudol & Ambrose, 2002). Scientists recommend 15-20 years or more of monitoring and adaptive management to determine the success, or lack thereof, of enhanced, restored, or created habitat (Mitsch & Wilson, 1996; Zedler & Callaway, 1999). If higher mitigation ratios are not feasible, the DEIR must provide evidence and analysis supporting that conclusion.

Second, the DEIR improperly defers mitigation. Both mitigation measures fail to disclose the amount of habitat that will be impacted and therefore mitigated. The DEIR does not specify whether mitigation lands will be on- or off-site, and potential available compensatory lands and mitigation banks are not identified. This makes it impossible to determine if the amount of impacted riparian habitat is accurate and if the compensatory lands would be appropriate for mitigation. It is unclear how impacts to riparian habitat will be determined. No details are provided regarding how the “qualified biologist” will calculate the impacts for MM 3.4-14a. If it is solely based on the Project footprint, that is insufficient because edge effects of the Project will negatively affect adjacent riparian and wetland habitats. Similarly, no details are provided for how “any decline in the overall extent of woody riparian canopy or native understory” of Sargent Creek “caused by the Project” will be determined or calculated for MM 3.4-14b. And no mitigation is provided for the impacts stream flow in the Pajaro River or Tar Creek. There is no clear, realistic, and guaranteed plan for accurately documenting the impacts and mitigating damages. The vague and deferred nature of these proposed measures renders them wholly inadequate.

Third, the proposed HMMPs are insufficient and are also improperly deferred mitigation. MM 3.4-14a mentions an HMMP would be prepared “by a qualified biologist retained by the Applicant and submitted to the County Department of Planning and Development for review and approval prior to the start of ground-disturbing activities” (DEIR at 3.4-104). Even worse, MM

3.4-14b mentions an HMMP to be developed after completion of Phases 3 and 4 mining, presumably also to be reviewed and approved by the County Department of Planning and Development. Such plans should be reviewed and approved by CDFW or USFWS, not the Planning Department. And they should be developed and completed for the EIR so that the public and decision makers can judge whether such measures would adequately mitigate the Project's impacts to riparian habitat. In addition, insufficient detail is provided for the HMMP. For example, "success criteria" and "adaptive management" of restored or enhanced habitat are not adequately defined, which makes it impossible to determine if such measures are adequate to mitigate the Project's impacts. In addition, the HMMP would include "A description of the financial mechanisms for funding of all monitoring activities and ensuring that the created aquatic and riparian habitats shall be preserved and managed in perpetuity" (DEIR at 3.4-104) but it does not provide what those financial mechanisms would be. It would also require only a 5-year monitoring period, which, as mentioned above, is far less than what is needed to ensure successful mitigation. Scientists recommend 15-20 years or more of monitoring and adaptive management to determine the success, or lack thereof, of enhanced, restored, or created habitat (Mitsch & Wilson, 1996; Zedler & Callaway, 1999). The DEIR provides insufficient detail for the public and decision makers to ascertain whether such measures would adequately mitigate the Project's impacts to riparian habitat.

This improperly deferred mitigation violates CEQA. (see *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 670 [EIR inadequate where the success or failure of mitigation efforts "may largely depend upon management plans that have not yet been formulated, and have not been subject to analysis and review within the EIR"]). In the limited circumstances in which deferred mitigation is appropriate, the agency must meet all of the following elements: (1) practical considerations prevented the formulation of mitigation measures during the planning process; (2) the agency committed itself to developing mitigation measures in the future; (3) the agency adopted specific performance criteria prior to project approval; and (4) the EIR lists the mitigation measures to be considered, analyzed, and possibly incorporated into the mitigation plan. (See *POET, LLC v. State Air Resources Bd.* (2013) 218 Cal.App.4th 681, 736-37 [review denied].) Here, the DEIR fails to meet these criteria. The lack of adequate details regarding mitigation measures being readily provided for riparian habitat and wildlife connectivity does not allow the public and decisionmakers to evaluate the mitigation measures being taken; the DEIR violates CEQA. The Applicant should assume all riparian habitats in the vicinity of the Project area will be significantly impacted and mitigate accordingly prior to Project implementation, not in this piecemeal, unplanned fashion that is unenforceable, not guaranteed, and 30 years from now.

e. The DEIR Fails to Adequately Assess and Mitigate the Project's Cumulative Impacts to Wildlife Connectivity and Special-status Species.

The DEIR fails to adequately assess and mitigate significant cumulative impacts wildlife connectivity associated with the Project. The DEIR briefly discusses "the cumulative impairment to wildlife crossings" (DEIR at 3.4-125), focusing on the Tar Creek undercrossing, and provides inconsistent information regarding cumulative impacts. The DEIR points to the Final EIR of the U.S. 101 Widening Project to argue that the proposed Project's cumulative impacts to wildlife crossings "is not significant." It subsequently states, however, that the location of the processing

plant 330 feet away from the Tar Creek undercrossing and within an important connectivity area between the Santa Cruz Mountains, Diablo Range, and Gabilan Range, means that the Project's cumulative impact "would be significant" (DEIR at 3.4-127). In addition, the DEIR fails to consider impacts to general wildlife connectivity throughout the Project area and adjacent lands, and it fails to include other projects in the region that would contribute to the cumulative impacts to wildlife connectivity.

With a 403-acre mining operation that includes mining pits, a processing plant, increased rail presence, a conveyor belt, multiple creek crossings, and multiple roads/road improvements, the Project directly facilitates more people and human activities in a sensitive and important wildlife connectivity area. In addition, nearby road-widening projects (e.g., SR 156) will induce more traffic (Milam et al., 2017) and other projects, including the Travelers Station, the Strada Verde Innovation Park Project, the Betabel Commercial Development Project, and the San Benito Ag Center, will also increase human presence and activity through induced traffic and growth, all of which will further encroach on this last-remaining critical linkage between the Santa Cruz Mountains, Diablo Range, and Gabilan Range. These projects will cause significant cumulative impacts to wildlife connectivity.

Although the DEIR ultimately arrives at the correct finding of significant and unavoidable impacts to wildlife crossings, this finding should be expanded to include general wildlife connectivity throughout the region. In addition, that same finding should apply to special-status species, particularly wide-ranging species, like mountain lions and badgers, as well as small, less mobile species, like CRLF, CTS, and western pond turtle. Instead, the DEIR concludes that cumulative impacts to biological resources would be less than significant with mitigation (DEIR Section 3.4.4.4) without providing a comprehensive analysis or substantive evidence to support such claims. Already tenuous, the remaining connectivity in this area is vital to the long-term survival of local mountain lions, American badgers, and other wildlife. The cumulative impacts of this and other Projects being planned and proposed in the area will drive local mountain lions towards extinction. Connectivity is also critical for the health and function of the existing ecosystems in and around the Project area. Given the region's importance as a connectivity hub between those three mountain ranges, the DEIR must analyze cumulative impacts to connectivity. The DEIR's failure to adequately disclose the Project's cumulative impacts misleads the public and decisionmakers about the full extent of the Project's impacts.

II. The DEIR Fails to Adequately Disclose the Site's Fire History and Analyze the Project's Impacts to Wildfire Risk.

The Project is located in and immediately adjacent to state-designated moderate and high fire hazard severity zones. Wildfires due to lightning strikes and Indigenous cultural burning have occurred on California's landscapes for millennia. They're a natural and necessary process for many of California's ecosystems. But some of the recent fires have been exceptionally harmful to communities. In the past 200 years since European colonization, forced relocation and cultural genocide of Native Tribes, fire suppression and poor land management combined with poor land-use planning that places more people in fire-prone landscapes have shifted historical fire regimes throughout the heterogeneous ecosystems of the state. In addition, hotter, drier and more extreme weather conditions due to climate change make the landscape more conducive to

wildfire ignitions and spread. Yet the DEIR fails to adequately consider how disrupted fire regimes and climate change worsening wildfire conditions will affect the Project's impacts to wildfire risk.

Almost all (95-97%) contemporary wildfires in California have been unintentionally caused by people, including powerlines, car sparks, arson, etc. (Balch et al., 2017; J. E. Keeley & Syphard, 2018). The proposed Project will bring more people and increased human activity into fire-prone landscapes and increase ignition risk. Such a Project requires careful and comprehensive analyses of the area's fire history, the various ecosystems' fire ecology, and potential mitigation measures to reduce risk of ignition and fire within and adjacent to the Project area and spreading to nearby communities.

a. The DEIR Needs to Incorporate Traditional Ecological Knowledge and Indigenous Science Into Its Wildfire Analysis.

The DEIR fails to mention or discuss the area's historical fire regimes and the role Indigenous communities likely played in shaping the fire ecology of habitats in and adjacent to the Project area. Indigenous communities should be included in discourse over climate change and wildfire. They are disproportionately impacted by wildfire. Native Americans were found to be six times more likely than other groups to live in high fire-prone areas, and high vulnerability due to socioeconomic barriers makes it more difficult for these communities to recover after a large wildfire (Davies et al., 2018). In addition, farmworkers, who are majority people of color and often include migrant workers that come from Indigenous communities, often have less access to healthcare due to immigration or economic status. They are more vulnerable to the health impacts of poor air quality due to increased exposure to air pollution as they work. Yet farmworkers often have to continue working while fires burn, and smoke fills the air, or risk not getting paid (Herrera, 2018; Kardas-Nelson et al., 2020; Parshley, 2018).

Ramos (2022) states, "Indigenous communities have often been marginalized in the sciences through research approaches that are not inclusive of their cultures and histories." Traditional ecological knowledge ("TEK") is often excluded from analyses or distilled to conform to Western science (Ramos, 2022). EIRs, like this one, often fail to acknowledge that Indigenous communities and cultural burning played a role in California's historical fire activity and often only mention previous wildfires in the area in CalFire records. This perpetuates the exclusion and marginalization of Indigenous communities and TEK. Consultation with local Native Tribes and incorporation of Indigenous science, including but not limited to oral histories, ethnographies (that may include burn scars and charcoal records), and archeological data should be incorporated in fire history analysis. As a society, we need to work towards integrative research that "transcends disciplinary boundaries" and employs a range of methodological options to get a deeper understanding of the relationship between people and ecosystems (Ramos, 2022). Doing so will help inform fire management strategies and mitigation measures that work towards reducing harms of wildfire to people while facilitating beneficial fire for the appropriate ecosystems.

b. The DEIR Fails to Adequately Assess and Mitigate the Project's Wildfire Impacts.

The DEIR fails to provide evidence that the Project would have less than significant wildfire related impacts. As detailed in a 2021 Center Report (Yap, Rose, Broderick, et al., 2021), development in highly fire-prone areas increases unintentional ignitions, places more people at risk (within and downwind of the Plan area), and destroys native shrubland habitats that support high levels of biodiversity. Almost all contemporary wildfires in California (95-97%) are caused by humans in the wildland urban interface (Balch et al., 2017; Radeloff et al., 2018; Syphard et al., 2007; Syphard & Keeley, 2020). For example, the 2019 Kincade Fire, 2018 Camp and Woolsey fires, and 2017 Tubbs and Thomas fires were sparked by powerlines or electrical equipment. And although many of the 2020 fires were sparked by a lightning storm, the Apple Fire was caused by sparks from a vehicle, the El Dorado Fire was caused by pyrotechnics at a gender-reveal celebration, the Blue Ridge Fire was likely caused by a house fire, and electrical equipment is suspected to have ignited the Silverado and Zogg fires.

The Project would increase the potential for wildfire ignitions to occur by placing more people in a fire-prone landscape and introducing ignition sources, particularly vehicles, electrical equipment, and a conveyor belt. The DEIR points to the use of a conveyor belt as reducing ignition risk from vehicle-related ignitions (DEIR at 3.15-9) without providing evidence to support the claim. Conveyor belts can also be an ignition source; placing them in high fire-prone areas and having them run six days a week significantly increases ignition risk. Yet the Fire Protection Plan does not even mention the conveyor belt as a potential ignition source. The DEIR also states that spark arrestor requirements and risk reduction measures for vehicles and earth-moving equipment would apply from April 1st to December 1st, despite the fact that fire season has become year-round in California. For example, in January of 2022, the Colorado Fire burned almost 700 acres near Big Sur in Monterey County. The DEIR fails to adequately assess and mitigate the Project's impacts to wildfire risk.

Recent wildfires have been exceptionally harmful to people. Between 2015 and 2020 almost 200 people in the state were killed in wildfires, more than 50,000 structures burned, hundreds of thousands of people had to evacuate their homes and endure power outages, and millions were exposed to unhealthy levels of smoke and air pollution. Human-caused wildfires at the urban wildland interface that burn through developments are becoming more common with housing and human infrastructure extending into fire-prone habitats, and homes and structures can add fuel to fires and increase spread (Knapp et al., 2021). This is increasing the frequency and toxicity of emissions near communities in and downwind of the fires. Buildings and structures often contain plastic materials, metals, and various stored chemicals that release toxic chemicals when burned, such as pesticides, solvents, paints, and cleaning solutions (Weinhold, 2011). This has been shown with the 2018 Camp Fire that burned 19,000 structures; the smoke caused dangerously high levels of air pollution in the Sacramento Valley and Bay Area and CARB found that high levels of heavy metals like lead and zinc traveled more than 150 miles (CARB, 2021).

Wildfire impacts disproportionately affect low-income and minority communities. As discussed in the Center's 2021 Built to Burn report (Yap, Rose, Broderick, et al., 2021):

Past environmental hazards have shown that those in at-risk populations (*e.g.*, low-income, elderly, disabled, non-English-speaking, homeless) often have limited resources for disaster planning and preparedness (Richards, 2019). Vulnerable groups also have fewer resources to have cars to evacuate, buy fire insurance, implement defensible space around their homes, or rebuild, and they have less access to disaster relief during recovery (Davis, 2018; Fothergill & Peak, 2004; Harnett, 2018; Morris, 2019; Richards, 2019).

In addition, emergency services often miss at-risk individuals when disasters happen because of limited capacity or language constraints (Richards, 2019). For example, evacuation warnings are often not conveyed to disadvantaged communities (Davies et al., 2018). In the aftermath of wildfires and other environmental disasters, news stories have repeatedly documented the lack of multilingual evacuation warnings leaving non-English speakers in danger. (Axelrod, 2017; Banse, 2018; Gerety, 2015; Richards, 2019). Survivors are left without resources to cope with the death of loved ones, physical injuries and emotional trauma from the chaos that wildfires have inflicted on their communities.

Health impacts from wildfires, particularly increased air pollution from fine particulates (PM_{2.5}) in smoke, also disproportionately affect vulnerable populations, including low-income communities, people of color, children, the elderly and people with pre-existing medical conditions (Delfino et al., 2009; Hutchinson et al., 2018; Jones et al., 2020; Künzli et al., 2006; Reid et al., 2016).

Increased PM_{2.5} levels during wildfire events have been associated with increased respiratory and cardiovascular emergency room visits and hospitalizations, which were disproportionately higher for low socioeconomic status communities and people of color (Hutchinson et al., 2018; Jones et al., 2020; Liu et al., 2017; Reid et al., 2016). Similarly, asthma admissions were found to have increased by 34% due to smoke exposure from the 2003 wildfires in Southern California, with elderly and child age groups being the most affected (Künzli et al., 2006).

Farmworkers, who are majority people of color, often have less access to healthcare due to immigration or economic status. They are more vulnerable to the health impacts of poor air quality due to increased exposure to air pollution as they work. Yet farmworkers often have to continue working while fires burn, and smoke fills the air, or risk not getting paid (Herrera, 2018; Kardas-Nelson et al., 2020; Parshley, 2018).

In addition, there are significant economic impacts of wildfires on residents throughout the state. One study estimated that wildfire damages from California wildfires in 2018 cost \$148.5 billion in capital losses, health costs related to air pollution exposure, and indirect losses due to broader economic disruption cascading along with regional and national supply chains (D. Wang et al., 2021). Meanwhile the cost of fire suppression and damages in areas managed by the

California Department of Forestry and Fire (Cal Fire) has skyrocketed to more than \$23 billion during the 2015-2018 fire seasons.

Development in and near high fire-prone areas should be avoided. If unavoidable, mitigation measures should require structures to have ember-resistant vents, fire-resistant roofs, and irrigated defensible space immediately adjacent to structures. External sprinklers with an independent water source could reduce structures' flammability. Rooftop solar and clean energy microgrids could reduce fire risk from utilities' infrastructure during extreme weather. In addition mitigation measures should include equitably retrofitting existing communities near the Project area with similar fire-resilient measures and providing wildfire personal protective equipment (e.g., N95 masks, air purifiers) to nearby communities. Education and awareness for employees, customers, and nearby communities should be provided and include how to reduce ignition risk. The DEIR's analysis and lack of mitigation measures are insufficient.

The DEIR fails to adequately assess and mitigate the Project's impacts to wildfire risk. Should the Applicant decide to implement Alternative 3 instead of the currently proposed Project, impacts to wildfire risk would remain.

III. The EIR Fails to Adequately Analyze, Disclose, and Mitigate the Project's Significant Adverse Air Quality Impacts.

The DEIR's evaluation of the Project's air quality impacts is flawed. It fails to disclose and study the Project's full suite of air quality impacts and fails to adopt all feasible mitigation measures to mitigate those impacts. (*See* DEIR Sec. 3.3.) The DEIR should be revised to adequately analyze the Project's air quality impacts, acknowledge their significance, and consider and adopt feasible mitigation to reduce those impacts.

a. This Project Would Add Extractive Development to a Region Already Suffering From Poor Air Quality.

Air quality is a significant environmental and public health concern in California. Unhealthy, polluted air contributes to and exacerbates many diseases and increases mortality rates. The U.S. government estimates that between 10-12 percent of total health costs can be attributed to air pollution. (VCAPCD 2003.) Many plants and trees, including agricultural crops, are also injured by air pollutants. This damage ranges from decreases in productivity, a weakened ability to survive drought and pests, to direct mortality. (*Id.*) Terrestrial wildlife is also affected by air pollution as the plants and trees that constitute their habitats are weakened or killed. Aquatic species and habitats are also affected by air pollution through the formation of acid rain that raises the pH level in oceans, rivers and lakes. (EPA 2016b.) Greenhouse gases, such as the air pollutant carbon dioxide that is released by fossil fuel combustion, contribute directly to human-induced climate change (EPA 2016a), and in a positive feedback loop, poor air quality that contributes to climate change will in turn worsen the impacts of climate change and attendant air pollution. (BAAQMD 2016.)

Air pollution and its impacts are felt most heavily by young children, the elderly, pregnant women and people with existing heart and lung disease. People living in poverty are

also more susceptible to air pollution as they are less able to relocate to less polluted areas, and their homes and places of work are more likely to be located near sources of pollution, such as freeways or ports, as these areas are more affordable. (BAAQMD 2016; ALA 2022.)

According to the American Lung Association’s 2022 “State of the Air” report, Santa Clara County has a “Fail” grade for both year-round ozone and particulate matter (PM_{2.5}) pollution. (*Id.*) Ozone (commonly referred to as smog) is created by the atmospheric mixing of gases from fossil fuel combustion and other volatile organic compounds and sunlight. Although it is invisible, ozone poses one of the greatest health risks, prompting the EPA to strengthen its National Ambient Air Quality Standard for Ozone in 2015. (ALA 2022.) PM_{2.5} is a common component of vehicle exhaust emissions and contributes to visible air pollution. These tiny particulates are dangerous because they are small enough to escape our body’s natural defenses and enter the blood stream.

Fugitive dust is the term used to describe the fine particulate matter – PM_{2.5} and PM₁₀ – that results from ground disturbance, such as construction, road-building operations, or mining. Fugitive dust can impede breathing and cause respiratory irritation, cough, airway obstruction and poor lung function. (Blodgett 2004.) Chronic or long-term exposure can lead to lung inflammation, bronchitis and emphysema and produce a severe lung disease known as silicosis, a form of pulmonary fibrosis. (Hnizdo 2003.) Silicosis can be disabling or even fatal; as respirable crystalline silica dust enters the lungs, it can cause the formation of scar tissues, which permanently reduces the lungs’ ability to take in oxygen and increases the susceptibility to infections. (DEIR at 3.3-4.)

The EPA has identified fugitive dust emissions as the primary health hazard from sand and gravel operations, such as the Project. (EPA 2022.) Sand mining activities – grading, construction, mining, processing, and transportation – all generate fugitive dust. (Petavratzi et al., 2005.) To mine sand, vegetation and topsoil are removed and the underlying sand is extracted. (WDNR 2016.) The sand is then processed, where it is screened, washed, and dried to prepare it for transportation. (Peters 2018.) The active movement and processing of such a fine, granular material generates airborne fugitive dust, either directly from human activity or indirectly from wind blowing over storage piles. (Peters 2018, Watson et al., 2000, Blodgett 2004.)

b. The DEIR Impermissibly Segments its Calculation of Project Emissions.

The DEIR improperly downplays and fails to analyze the Project’s total emissions. Although the DEIR purports to evaluate whether the Project would emit criteria pollutants for which the region is in nonattainment status, it fails to disclose or analyze the Project’s *total* emissions. (DEIR at 3.3-19.) The air quality analysis divides the Project’s emissions into two categories: construction, and operation/reclamation. (DEIR at 3.3-17, 3.3-20.) Although the quantitative thresholds of significance for construction and operation emissions are identical, the DEIR makes a separate significance determination for each. (DEIR at 3.3-17.) Nowhere does the DEIR make a significance finding for all Project operations. This impermissibly segments the project, in violation of CEQA.

c. The DEIR Omits a Key Threshold of Significance, Obscuring the Project's Carbon Monoxide Impacts.

Carbon monoxide (CO) is a colorless, odorless gas that is emitted by a wide variety of combustion sources. (CARB 2022.) The majority of outdoor CO emissions come from mobile sources, specifically fossil fuel combustion. CO is a precursor for ozone. (*Ibid.*)

The Bay Area Air Quality Management District (BAAQMD) has set a numerical threshold of significance for evaluating project-level CO emissions, based on local concentrations of parts per million. (BAAQMD 2017 at 2-5.) The DEIR models CO emissions and finds that the Project will emit 39.9 pounds of CO each day. (DEIR, Appendix D, Attachment 2.) But nowhere does the DEIR analyze CO emissions in relation to the significance threshold. Instead, it forgoes any analysis of CO, deciding in a footnote that, because the County is in attainment for CO, it need not discuss the criteria pollutant further. (DEIR at 3.3-1.)

The DEIR's failure to analyze the Project's carbon monoxide impacts may be explained by its decision to omit a key threshold of significance from the EIR, which would have compelled consideration of carbon monoxide impacts. A threshold of significance "is an identifiable quantitative, qualitative or performance level of a particular environmental effect, noncompliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant." (CEQA Guidelines, § 15064.7(a).) Although lead agencies have discretion in their choice of significance thresholds, they may not choose or apply them in a manner that downplays or overlooks potentially significant impacts. (*Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099.)

The DEIR draws its thresholds of significance from "Appendix G"—the checklist of potentially significant environmental impacts included as an appendix to the CEQA Guidelines. (DEIR at 3.3-18.) Appendix G contains five separate checklist questions regarding a proposed project's air quality impacts. The DEIR purports to apply four air quality-related questions from Appendix G as its thresholds of significance. (*Ibid.*) But inexplicably, the DEIR entirely omits checklist question 2 (whether the Project would "[v]iolate any air quality standard or contribute substantially to an existing or projected air quality violation") and a relevant part of checklist question 3, whether the Project would "release[e] emissions which exceed quantitative thresholds for ozone precursors." (Guidelines, App. G., subd. III(b), (c).)

Regarding Appendix G checklist question 2, the DEIR's choice to omit any study of this impact is inexcusable. The DEIR recognizes that, without mitigation, the Project will have a significant air quality impact for NO_x, PM_{2.5}, PM₁₀ and fugitive dust. (DEIR at 3.3-24, 3.3-26.) With these exceedances, substantial evidence exists to support an argument that the Project may violate local, regional, or statewide air quality standards. The DEIR must disclose and analyze those impacts.

The complete Appendix G checklist question 3 for air quality asks whether a project will "[r]esult in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard

(including releasing emissions which exceed quantitative thresholds for ozone precursors).” (*Ibid.* at III(c), emphasis added.) In applying this threshold, the DEIR limits its analysis to criteria pollutants for which the area is in non-attainment (NO_x, ROG, PM₁₀, PM_{2.5}.) While Santa Clara County is in attainment for CO, CO is a precursor to ozone, for which the County is in non-attainment. Had the DEIR applied Appendix G’s complete checklist question 3, it would have evaluated the Project’s CO impacts. Instead, the DEIR improperly omits part of the question and thus improperly avoids consideration of this potentially significant impact. (See *King & Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal.App.5th 814, 892-894 [EIR defective where agency’s “self-serving” selection and application of significance thresholds for noise improperly avoided consideration of potentially significant impacts].)

The DEIR’s omission of both thresholds of significance forecloses consideration of the Project’s carbon monoxide impacts. Because the DEIR does not directly analyze whether the Project will “[v]iolate any air quality standard or contribute substantially to an existing or projected air quality violation” or “release[e] emissions which exceed quantitative thresholds for ozone precursors,” the EIR does not consider mitigation for the CO impact or make an ultimate determination as to its significance, in violation of CEQA.

d. The DEIR Fails to Disclose Impacts Associated with Fugitive Dust.

An agency preparing an EIR must make a good faith effort to find out and disclose all that it reasonably can. (CEQA Guidelines §§ 15144, 15151.) A general description of a significant environmental impact is not sufficient; an EIR must make a reasonable effort to explain the nature and magnitude of the impact. (*Sierra Club v. County of Fresno* (2018) 6 Cal. 5th 502, 519; *Cleveland Nat’l Forest Found. v. San Diego Ass’n of Gov’ts* (2017) 3 Cal. 5th 497, 514.) This includes providing detail sufficient to enable those who did not participate in the EIR’s preparation to understand and to consider meaningfully the issues raised by the proposed project. (*Sierra Club, supra*, 6 Cal. 5th at pp. 510, 516.)

The DEIR paints a misleading picture of the Project’s fugitive dust impacts by failing to adequately disclose fugitive dust impacts resulting from ground disturbance. The DEIR acknowledges that PM_{2.5} and PM₁₀ “would be generated in the form of fugitive dust from ground disturbance” and that this would have “the potential to cause both nuisance conditions and air quality impacts.” (DEIR at 3.3-19.) But it excludes fugitive dust from its quantitative study and instead compares only mobile source emissions of PM_{2.5} and PM₁₀ to the numerical threshold of significance. (See DEIR at 3.3-20, Table 3.3-5.)

Quantifying fugitive dust emissions is possible, as demonstrated by BAAQMD’s recommended assessment tools, the California Emissions Estimator Model’s (CalEEMod) ability to model fugitive dust associated with site preparation and grading, and the Project’s quantification of fugitive dust resulting from vehicle travel over unpaved roads. (BAAQMD 2017, CalEEMod 2021, DEIR Appendix A; 3.3-22.) The DEIR’s inexplicable decision to omit such a major source of fugitive dust from the Project’s total estimate renders its estimate underinclusive. Accordingly, the DEIR offers an incomplete and misleading picture of the Project’s impacts.

The DEIR claims to study ground disturbance fugitive dust impacts under BAAQMD's qualitative threshold, which recommends the use of best management practices (BMPs) to render the impact less-than-significant. (DEIR at 3.3-19, 3.3-20.) But the DEIR does not explain what that threshold entails, such as which BMPs it recommends. (*Ibid.*) The DEIR also does not explain why the Project could not meet the threshold. The document simply acknowledges that the failure to adopt these measures renders the Project's impact significant. (DEIR at 3.3-26.)

Given that fugitive dust is the primary health hazard of sand and gravel mining, one would expect the EIR to explain the nature or magnitude of the fugitive dust impact. The DEIR makes no such effort. After reading the EIR's, the public would have no idea of the health consequences that will result from this Project when ground disturbance results in fugitive dust. The EIR's meager discussion of the impacts associated with fugitive dust renders the EIR inadequate as an informational document. (*Sierra Club, supra*, 6 Cal.5th at pp. 510, 516.)

e. The DEIR's Few Air Quality Mitigation Measures Are Unenforceable and Deferred.

The DEIR recognizes that, without mitigation, the Project will have a significant air quality impact for NO_x, PM_{2.5}, PM₁₀ and fugitive dust. (DEIR at 3.3-24, 3.3-26.) Yet the Project proposes only two paltry mitigation measures: one aimed at fugitive dust, and one aimed at reducing NO_x. Both are unenforceable and impermissibly deferred.

Generally, mitigation measures should not be deferred, and feasibility findings should not be delegated to staff. (CEQA Guidelines, §§ 15126.4(a)(1)(B), 15025(b)(2).) Specific details of a mitigation measure “may be developed after project approval when it is impractical or infeasible to include those details during the project's environmental review provided that the agency (1) commits itself to the mitigation, (2) adopts specific performance standards the mitigation will achieve, and (3) identifies the type(s) of potential action(s) that can feasibly achieve that performance standard and that will [be] considered, analyzed, and potentially incorporated in the mitigation measure.” (*Golden Door Properties, LLC. v. Cty. of San Diego* (2020) 50 Cal.App.5th at 518.) The DEIR fails to meet these requirements.

To address NO_x, the DEIR in Mitigation Measure (MM) 3.3-2a mandates that all off-road mobile equipment and trucks meet USEPA Tier 4 engine standards for NO_x, but with the significant caveat that the Project Applicant may – if it later determines that implementation of this measure is not feasible – apply to the County to use less restrictive equipment. (DEIR at 3.3-26.) The DEIR offers no definition for feasibility to guide the Project Applicant's request or County staff's ultimate determination. As written, the measure creates an enormous loophole and allows the Project applicant and the County to determine—at a later date, without oversight or objective standards, and without supporting its decision with substantial evidence—whether mitigation will be implemented.

The DEIR's proposed measure for fugitive dust fares no better. MM 3.3-2b requires the Project Applicant to develop and implement—at a later date and outside of the public process – a dust control plan to address fugitive dust. (DEIR at 3.3-26.) The lead agency is expected to develop mitigation in an open public process. (*Communities for a Better Environment v. City of*

Richmond (2010) 184 Cal.App.4th 70, 93.) The DEIR offers no reason why a dust control plan cannot be developed as part of the Project’s environmental review, nor does it include objective standards to guide the County’s approval of the plan. It is entirely inappropriate to defer analysis of fugitive dust mitigation until after Project approval, especially since formulating a plan appears to be entirely feasible, as demonstrated by BAAQMD’s best practice recommendation that projects develop a fugitive dust mitigation plan as part of environmental review.

f. The DEIR Fails to Adopt All Feasible Mitigation.

Even with the DEIR’s unrealistic assumptions regarding the Project’s emissions, the DEIR correctly concedes the Project would have a profound negative impact on air quality in the region and for adjacent residential communities. Unsurprisingly, with only two measures to address the Project’s air quality impacts, the DEIR concludes air quality impacts will be significant and unavoidable. The DEIR ignores the breadth of proven, feasible mitigation designed to address air quality emissions.

The EIR’s failure to consider and adopt all feasible mitigation to reduce or avoid the Project’s significant impacts violates CEQA. (See Pub. Res. Code § 21002 [It is the “policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures which will avoid or substantially lessen the significant environmental effects of such projects.”], CEQA Guidelines §§ 15092(b), 15043, 15126.4(a)(1).) “Even when a project’s benefits outweigh its unmitigated effects, agencies are still required to implement all mitigation measures unless those measures are truly infeasible.” (*Sierra Club, supra*, 6 Cal.5th at pp. 524–525.)

BAAQMD recommends construction mitigation measures to control dust, which the DEIR identifies as potential mitigation to be considered in its future development of a fugitive dust mitigation plan. The DEIR should consider those measures now. (DEIR 3.3-26–3.3-27.)

The California Office of the Attorney General also has published a document entitled “Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act” to help lead agencies comply with CEQA’s requirements. (AGO 2021.) Nearly all of the example mitigation measures in this document have been adopted by an industrial project in California, demonstrating their feasibility. (*Ibid.*) Unfortunately, the DEIR has incorporated none of them, which explains in part the severe and unmitigated air quality and greenhouse gas impacts. At minimum, the County should consider and adopt the following best practices and mitigation measures:

- Requiring that a certain percentage of trucks in the operators’ fleet(s) be zero emissions or near zero emissions.
- Installing solar photovoltaic systems on the project site of a specified electrical generation capacity, such as equal to the building’s projected energy needs.
- Requiring the installation of zero emissions charging or fueling infrastructure.
- Installing high-efficiency air filters or filtering systems in indoor facilities.

- Requiring off-road construction equipment to be zero-emission, where available, and all diesel-fueled off-road construction equipment, to be equipped with CARB Tier IV-compliant engines or better.
- Prohibiting off-road diesel-powered equipment from being in the “on” position for more than 10 hours per day.
- Requiring on-road heavy-duty haul trucks to be model year 2010 or newer if diesel-fueled.
- Providing electrical hook ups to the power grid, rather than use of diesel-fueled generators, for electric construction tools, such as saws, drills, and compressors, and using electric tools whenever feasible.
- Limiting the amount of daily grading disturbance area.
- Prohibiting grading on days with an Air Quality Index forecast of greater than one hundred for particulates or ozone for the project area and where wind speeds exceed 35 mph.
- Keeping onsite and furnishing to the lead agency or other regulators upon request, all equipment maintenance records and data sheets, including design specifications and emission control tier classifications.
- Conducting an on-site inspection to verify compliance with construction mitigation and to identify other opportunities to further reduce construction impacts.
- Using paints, architectural coatings, and industrial maintenance coatings that have volatile organic compound levels of less than 10 g/L.
- Requiring that all facility-owned and operated fleet equipment with a gross vehicle weight rating greater than 14,000 pounds accessing the site meet or exceed 2010 model-year emissions equivalent engine standards as currently defined in California Code of Regulations Title 13, Division 3, Chapter 1, Article 4.5, Section 2025.
- Forbidding trucks from idling for more than two minutes and requiring operators to turn off engines when not in use.
- Constructing electric truck charging stations.
- Requiring all stand-by emergency generators to be powered by a non-diesel fuel.
- Requiring facility operators to train managers and employees on efficient scheduling and load management to eliminate unnecessary queuing and idling of trucks.
- Requiring operators to establish and promote a rideshare program that discourages single-occupancy vehicle trips and provides financial incentives for alternate modes of transportation, including carpooling, public transit, and biking.
- Retrofit municipal water and wastewater systems with energy efficient motors, pumps, and other equipment, and recover wastewater treatment methane for energy production.

(AGO 2021.) Given the significant impact this Project will have on air quality, the DEIR must consider and adopt all feasible mitigation measures as part of the EIR, or explain why those measures are infeasible.

IV. The EIR Fails to Adequately Analyze, Disclose, and Mitigate the Project's Significant Adverse Climate Impacts.

a. Climate Change is a Catastrophic and Pressing Threat to California.

A strong, international scientific consensus has established that human-caused climate change is causing widespread harms to human society and natural systems, and that climate change threats are becoming increasingly dangerous. The Intergovernmental Panel on Climate Change (IPCC), the leading international scientific body for the assessment of climate change, concluded in its 2014 Fifth Assessment Report that: “[w]arming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen,” and further that “[r]ecent climate changes have had widespread impacts on human and natural systems.” (IPCC 2014.) These findings were echoed in the United States’ own 2014 Third National Climate Assessment and 2017 Climate Science Special Report, prepared by scientific experts and reviewed by the National Academy of Sciences and multiple federal agencies. The Third National Climate Assessment concluded that “[m]ultiple lines of independent evidence confirm that human activities are the primary cause of the global warming of the past 50 years” and “[i]mpacts related to climate change are already evident in many regions and are expected to become increasingly disruptive across the nation throughout this century and beyond.” (Melillo 2014.) The 2017 Climate Science Special Report similarly concluded:

[B]ased on extensive evidence, ... it is extremely likely that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century. For the warming over the last century, there is no convincing alternative explanation supported by the extent of the observational evidence.

In addition to warming, many other aspects of global climate are changing, primarily in response to human activities. Thousands of studies conducted by researchers around the world have documented changes in surface, atmospheric, and oceanic temperatures; melting glaciers; diminishing snow cover; shrinking sea ice; rising sea levels; ocean acidification; and increasing atmospheric water vapor. (USGCRP 2014.)

The U.S. National Research Council concluded that “[c]limate change is occurring, is caused largely by human activities, and poses significant risks for—and in many cases is already affecting—a broad range of human and natural systems.” (NRC 2010.) Based on observed and expected harms from climate change, in 2009 the U.S. Environmental Protection Agency found that greenhouse gas pollution endangers the health and welfare of current and future generations. (74 Fed. Reg. 66496 (Dec. 15, 2009) [U.S. EPA, Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Final Rule].)

These authoritative climate assessments decisively recognize the dominant role of

greenhouse gases in driving climate change. As stated by the Third National Climate Assessment: “observations unequivocally show that climate is changing and that the warming of the past 50 years is primarily due to human-induced emissions of heat-trapping gases.” (Mellilo 2014.)⁸ The Assessment makes clear that “reduc[ing] the risks of some of the worst impacts of climate change” will require “aggressive and sustained greenhouse gas emission reductions” over the course of this century. (Melillo 2014 at 13, 14, and 649.)⁹

The impacts of climate change will be felt by humans and wildlife. Climate change is increasing stress on species and ecosystems—causing changes in distribution, phenology, physiology, vital rates, genetics, ecosystem structure and processes—in addition to increasing species extinction risk. (Warren 2008.) Climate-change-related local extinctions are already widespread and have occurred in hundreds of species. (Wiens 2016.) Catastrophic levels of species extinctions are projected during this century if climate change continues unabated. (Thomas 2004; Maclean 2011; Urban 2015.) In California, climate change will transform our climate, resulting in such impacts as increased temperatures and wildfires, and a reduction in snowpack and precipitation levels and water availability.

Therefore, immediate and aggressive greenhouse gas emissions reductions are necessary to keep warming well below 2°C above pre-industrial levels. The IPCC Fifth Assessment Report and other expert assessments have established global carbon budgets, or the total amount of carbon that can be burned while maintaining some probability of staying below a given temperature target. According to the IPCC, total cumulative anthropogenic emissions of CO₂ must remain below about 1,000 GtCO₂ from 2011 onward for a 66 percent probability of limiting warming to 2°C above pre-industrial levels, and to 400 GtCO₂ from 2011 onward for a 66 percent probability of limiting warming to 1.5°C. (IPCC 2013 at 25; IPCC 2014 at 63-64 & Table 2.) These carbon budgets have been reduced to 850 GtCO₂ and 240 GtCO₂, respectively, from 2015 onward. (Rogelj 2016 at Table 2.) As of 2022, climate policies by the world’s countries would lead to an estimated 2.7°C of warming, and possibly up to 3.6°C of warming, well above the level needed to avoid the worst dangers of climate change. (Climate Action Tracker 2021.)

The United States has contributed more to climate change than any other country. The U.S. is the world’s biggest cumulative emitter of greenhouse gas pollution, responsible for 27 percent of cumulative global CO₂ emissions since 1850, and the U.S. is currently the world’s second highest emitter on an annual and per capita basis. (World Resources Institute 2020.) Nonetheless, U.S. climate policy is wholly inadequate to meet the international climate target to hold global average temperature rise to well below 2°C above pre-industrial levels to avoid the worst dangers of climate change. Current U.S. climate policy has been ranked as “critically insufficient” by an international team of climate policy experts and climate scientists which concluded: “These steps represent a severe backwards move and an abrogation of the United States’ responsibility as the world’s second largest emitter at a time when more, not less,

⁸ See also Report Finding 1 at 15: “The global warming of the past 50 years is primarily due to human activities, predominantly the burning of fossil fuels.”

⁹ See also Report Finding 3 at 15: “Human-induced climate change is projected to continue, and it will accelerate significantly if global emissions of heat-trapping gases continue to increase.”

commitment is needed from all governments to avert the worst impacts of climate change.” (Climate Action Tracker 2022.)

In its 2018 *Special Report on Global Warming of 1.5°C*, the IPCC—the leading international scientific body for the assessment of climate change—described the devastating harms that would occur at 2°C warming. The report highlights the necessity of limiting warming to 1.5°C to avoid catastrophic impacts to people and life on Earth. (IPCC 2018.) The report also provides overwhelming evidence that climate hazards are more urgent and more severe than previously thought, and that aggressive reductions in emissions within the next decade are essential to avoid the most devastating climate change harms.

In response to inadequate action on the national level, California has taken steps through legislation and regulation to fight climate change and reduce statewide GHG emissions. Enforcement and compliance with these steps are essential to help stabilize the climate and avoid catastrophic impacts to our environment. California has a mandate under AB 32 to reach 1990 levels of GHG emissions by the year 2020, equivalent to approximately a 15 percent reduction from a business-as-usual projection. (Health & Saf. Code, § 38550.) Based on the warning of the Intergovernmental panel on Climate Change and leading climate scientists, Governor Brown issued an executive order in April 2015 requiring GHG emission reduction 40 percent below 1990 levels by 2030. (Executive Order B-30-15 (2015).) The Executive Order is in line with a previous Executive Order mandating the state reduce emission levels to 80 percent below 1990 levels by 2050 in order to minimize significant climate change impacts. (Executive Order S-3-05 (2005).) In enacting SB 375, the state has also recognized the critical role that land use planning plays in achieving greenhouse gas emission reductions in California.

The state Legislature has found that failure to achieve greenhouse gas reduction would be “detrimental” to the state’s economy. (Health & Saf. Code § 38501(b).) In his 2015 Inaugural Address, Governor Brown reiterated his commitment to reduce greenhouse gas emissions with three new goals for the next fifteen years:

- Increase electricity derived from renewable sources to 50 percent;
- Reduce today’s petroleum use in cars and trucks by 50 percent;
- Double the efficiency of existing buildings and make heating fuels cleaner.

(Brown 2015 Address.)

Although some sources of GHG emissions may seem insignificant, climate change is a problem with cumulative impacts and effects. (*Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, (9th Cir. 2008) 538 F.3d 1172, 1217 (“the impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis” that agencies must conduct).) One source or one small project may not appear to have a significant effect on climate change, but the combined impacts of many sources can drastically damage California’s climate as a whole. Therefore, project-specific GHG emission disclosure, analysis and mitigation is vital to California meeting its climate goals and maintaining our climate.

The impacts of climate change are already being felt by humans and wildlife. Human-induced climate change, including more frequent and intense extreme events, has caused widespread adverse impacts and related losses and damages to nature and people. (IPCC 2022.)

This rise in weather and climate extremes has led to some irreversible impacts, as natural and human systems are pushed beyond their ability to adapt. (IPCC 2022.)

Thousands of studies conducted by researchers around the world have documented changes in surface, atmospheric, and oceanic temperatures; melting glaciers; diminishing snow cover; shrinking sea ice; rising sea levels; ocean acidification; and increasing atmospheric water vapor. (USGCRP 2017.) In California, climate change will result in impacts including, but not limited to, increased temperatures and wildfires and a reduction in snowpack and precipitation levels and water availability.

In the IPCC's most recent report, entitled *Climate Change 2022: Impacts, Adaptation and Vulnerability*, it found that warming is proceeding even faster than anticipated, and the best-case scenario for climate change is slipping out of reach. (IPCC 2022.) The report now estimates that, over the next 20 years, the world will cross the global warming threshold of 1.5°C. And unless there are immediate, rapid and large-scale reductions in greenhouse gas emissions, limiting warming to close to 1.5°C—or even 2°C—will be beyond reach. The United Nations Secretary General described the forecasts in this report as an “atlas of human suffering.” (Borenstein 2022.)

Given the increasingly urgent need for drastic action to reduce GHG emissions, the DEIR's failure to fully disclose, analyze, mitigate, or consider alternatives to reduce the Project's significant climate change effects is all the more alarming.

b. The DEIR Underestimates the Project's GHG Emissions.

The DEIR estimates that the Project will emit at least 7,408 metric tons of CO₂ pollution each year over 30 years, an impact it admits will be significant. (DEIR at 3.8-10.) Because the DEIR has failed to adequately capture and analyze the many associated climate impacts of sand and gravel mining, the true impact is likely much higher.

According to the DEIR, the Project would be implemented in three phases: (1) initial site construction; (2) quarry operation and maintenance; and (3) reclamation. (DEIR at 2-7.) The DEIR inexplicably omits the emissions from reclamation.

The DEIR spends approximately 13 pages detailing the activities involved in the reclamation process. (See DEIR at sec 2.6, 2-43 to 2-56.) These activities include equipment and building removal, contour grading, re-soiling, drainage and erosion control, and revegetation. Among other actions, the Project applicant will need to fill, compact, and re-soil the mining pits and process water basins; contour and grade unnecessary internal roads; rip, disk, and re-soil the quarry floor; and re-soil the reclamation slopes and benches. (DEIR at 2-42-24.) These actions together will presumably result in carbon emissions, yet reclamation and its associated activities are not mentioned once in the DEIR's analysis of greenhouse gas impacts (see sec 3.8), nor are they mentioned in the Project's GHG modelling. (See DEIR at 3.8-8; Appendix D.) The DEIR must disclose and account for the full scope of the Project's GHG emissions.

Furthermore, the DEIR underestimates the very emission sources it purports to evaluate. First, the GHG quantitative analysis noticeably excludes processing equipment from its accounting estimates, even though the DEIR claims its total estimate includes these emissions. (Appendix D, Attachment 2 [compare “Criteria Pollutant Emissions” to “GHG Pollutant Emissions”].) Second, the GHG analysis appears to exclude all construction activities taking place after 2022, which would include the construction for Phases 3 and 4 of the Project. (Appendix D, Attachment 1 [“Summary of Construction Emissions” only estimates construction activities slated for 2022]; see also 3.3-19 [“all construction would occur within one year”].) Third, the DEIR assumes, absent evidence, that all sand and gravel associated with the Project would be consumed in local markets, and accordingly assumes no truck will travel more than 40 miles to deliver product. (DEIR at 3.3-23.) Fourth, the DEIR assumes the electricity use over the life of the Project would result in “negligible” emissions because Silicon Valley Clean Energy (SVCE), the electricity provider for Santa Clara County, allegedly purchases carbon-free electricity. (DEIR 3.8-9.) According to SVCE’s website, only 50% of its base energy supply comes from renewable source (SVCE 2022), which means that the DEIR lacks a basis to assume that the Project’s electricity use will have no carbon impact. Fifth, sand and gravel are primary aggregates in cement and concrete manufacture, yet the DEIR does not study the lifecycle of these products in its emission calculation. Cement and concrete manufacture are extremely energy intensive and produces a large amount of greenhouse gas emissions. (Masanet et al. at 89.) Concrete manufacturing accounts for roughly 3 percent of California’s greenhouse gas emissions. (*Id.*) This and other sources of greenhouse gas and particulate emissions must be thoroughly examined and mitigated.

Finally, the DEIR omits one of the key sources of GHG emissions that will result from the Project: vegetation removal. (DEIR at 2-12.) The Project anticipates grading at least 403 acres of land currently covered in a variety of different vegetation, including forest and grassland, along with mowing additional vegetation along roads. (DEIR at 2-12.) The DEIR nowhere estimates the anticipated loss of sequestered carbon. (*Id.*)

The removal and degradation of shrubland ecosystems have been found to result in the loss of both above- and below-ground carbon storage (*e.g.*, Austreng 2012.) California’s shrubland and grassland ecosystems are significant carbon sinks. (Bohlman et al., 2018; Dass et al., 2018; Janzen, 2004; Luo et al., 2007; Wohlfahrt et al., 2008.) With much of the stored carbon located in their roots and soils, there is potential for long-term storage that is more resilient to changing environmental conditions (Aranjuelo et al., 2011; Booker et al., 2013; Evans et al., 2014; Vicente-Serrano et al., 2013.)

Eighty-four percent of the Project site is comprised of California annual grassland habitat. (DEIR at 3.4-8.) Grasslands, although they are mostly dominated by non-native plant species, carry significant potential for carbon storage in their roots and soils (Germino et al., 2019; Kravchenko et al., 2019; Silver et al., 2010; Soudzilovskaia et al., 2019; Yang et al., 2019.) Although it depends on the species and ecological region, native grasslands have been found to have 75-93% of their biomass below-ground (Paruelo et al., 2010; Yang et al., 2019.) Studies have found that native grasses store more carbon than non-native grasses (Koteen et al., 2011; Yang et al., 2019), and grasslands with higher plant diversity facilitate greater soil carbon storage (Chen et al., 2018; Fornara & Tilman, 2008; Isbell et al., 2011; Kravchenko et al., 2019;

Lange et al., 2015; Yang et al., 2019; Zavaleta et al., 2010) and are likely more resilient to climate change (Craine et al., 2013; Dass et al., 2018; Vicente-Serrano et al., 2013.)

Grasslands in semi-arid regions have an adaptive capacity to drought and wildfire. Multiple studies suggest that diverse grasslands can adjust to increased drought (Craine et al., 2013; Dass et al., 2018; Vicente-Serrano et al., 2013), perhaps through the local expansion of drought-tolerant species (Craine et al., 2013.) And although the historic fire regimes of California grasslands are not well-understood, when fires burn through them they release less carbon than woody habitats because most of the carbon they store is underground, and they recover relatively quickly (Dass et al., 2018; Donovan et al., 2020.) In fact, one study found that California grasslands may be a more reliable carbon sink than trees and forests in the face of climate change, particularly if global warming exceeds 1.7°C above pre-industrial levels (Dass et al., 2018.)

The remainder of the Project site is composed of Coast live oak forest and shrublands. (DEIR sec. 3.4.3.2.) Shrublands in Mediterranean climates, such as vegetation communities dominated by chaparral and coastal sage scrub, have been found to store a significant amount of carbon in their aboveground biomass under normal weather conditions (Bohlman et al., 2018; Fusco et al., 2019; Gratani et al., 2013; Luo et al., 2007.) In a review conducted by Bohlman et al. (2018), above-ground biomass of shrub communities were found to be as high as 3461 g/m², with the amount of carbon stored increasing with the age of the stand. Although below-ground biomass is rarely measured or calculated, some shrubland species have been found to have 41 to 47% of their biomass below the surface (Bohlman et al., 2018), and chaparral roots have been found four meters (>13 feet) deep in weathered bedrock (Sternberg et al., 1996.)

This suggests that a substantial amount of carbon may be stored belowground in these habitats, not just in their roots, but also in the microbial communities and mycorrhizal fungi that work in concert with root systems to trap carbon in biomass and soil pores and suppress decomposition of humic substances (Kravchenko et al., 2019; Soudzilovskaia et al., 2019.) Intact shrublands with more diverse plant communities have been found to stimulate the formation of soil pores that support optimal microbial functioning and carbon accrual (Kravchenko et al., 2019.) And increased root surface area supports more mycorrhizae that aid in nutrient uptake and facilitate carbon flow and soil carbon accumulation (Finlay, 2008; Orwin et al., 2011; Soudzilovskaia et al., 2019.) In addition, semi-arid shrublands have been found to drive the trend and interannual variation of the global carbon cycle (Ahlström et al., 2015; Poulter et al., 2014.) Thus, shrublands should be recognized for their carbon storage potential and included in carbon calculations.

CalEEMod, the land use emissions model used in the DEIR, has a module to estimate the changes in carbon sequestration capacity resulting from changes in vegetation on-site. (CalEEMod 2021.) The DEIR thus has no excuse for its failure to estimate the emissions associated with the loss of at least 400 acres of vegetation, topsoil, and overburden, all of which sequester carbon. (DEIR at 2-9.) The DEIR must make a good faith effort to estimate these emissions and include them in the Project's overall estimated GHG footprint.

c. The DEIR Lacks Evidence Supporting its Conclusion that the Project’s GHG Emissions Would Be Mitigated to Less-Than-Significant Levels.

Even under the DEIR’s lowball estimate of 7,408 metric tons of CO₂ pollution per year over 30 years, the EIR acknowledges that this is a significant climate change impact that must be mitigated. (DEIR at 3.8-10.) However, the DEIR erroneously contends that these impacts would be mitigated to a less-than-significant level almost exclusively through the use of carbon “offsets”—i.e., emission reduction projects undertaken by others but funded by the project applicant through the purchase of “credits” from a private carbon registry. (DEIR at 3.8-11.)

An EIR must provide substantial evidence demonstrating that proposed mitigation is feasible and effective. (*Sacramento Old City Assn. v. City Council* (1991) 229 Cal.App.3d 1011, 1027; *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 726-29.) This is even more critical where, as here, the DEIR relies principally on *only one* mitigation measure. The DEIR lacks evidentiary support that its offset program will achieve the promised emission reductions, sufficient to reduce impacts to less-than-significant levels.

i. We Cannot Purchase Our Way Out of Climate Change.

A carbon offset is a reduction in emissions of carbon dioxide or other greenhouse gases made in order to compensate for (“offset”) an emission made elsewhere. The premise is that for every metric ton of carbon a polluting entity releases into the atmosphere, a project elsewhere can be funded that will cut or remove a ton of carbon in the atmosphere. (MIT 2020.) In theory, the polluter – by purchasing carbon offsets – can balance its emissions equation to zero to appear carbon neutral.

Polluters are increasingly relying on offsets, in lieu of direct emissions reductions (i.e., changes to the way they operate), to tout so-called “net-zero” operations. According to a recent analysis by the Columbia Center on Sustainable Investment, of the top 35 companies that jointly represent 64% of global GHG emissions, two-thirds rely on carbon offsets, rather than direct emissions reductions, to achieve GHG emission reductions. (Arnold 2021.) In another study evaluating the “net-zero” promises of thousands of companies, the Net Zero Tracker found that 40% of the Forbes 2000 companies with a net-zero target plan rely on offsets to reduce emissions. (Dickie 2022.) Indeed, many of the largest oil and gas companies in the world – Chevron, Shell, ExxonMobil, Sinopec, and BP, among others – have advertised that they will reach net zero by 2050, even as they will continue to profit off the combustion of fossil fuels. (Chevron 2021; Shell 2022; BP 2020; ExxonMobil 2022; Geck 2021.)

These programs, while promising in theory, have “a long history of overpromising and underdelivering, threatening fragile progress on climate change.” (Irfan 2020.) As detailed below, recent studies have confirmed that offsets repeatedly fail to reduce emissions, while lulling the purchaser into a false sense of security that it may continue to operate business-as-usual, without regard for the climate impacts. (See e.g., Badgley 2022.) At best, the benefits of carbon offsets are wildly understated while the harm they do is real and permanent.

The efficacy of carbon offsets relies on the core hypothesis that the climate benefits that are equivalent to the emissions they justify. (Gifford, 2020; Carton et al., 2021.) This equivalency claim has been invalidated on several levels, including: “whether the baseline scenarios against which credits are issued represent realistic and credible counterfactuals (Schneider, 2011; Schneider and Kollmuss, 2015; West et al., 2020; Badgley et al., 2022); whether or not the offset projects credit non-additional, business-as-usual activities (Schneider, 2009; Cames et al., 2016; Haya et al., 2020; Calel et al., 2021); and whether they cause emissions to shift or “leak” to other jurisdictions, rather than decrease net emissions on a global basis.” (Aukland et al., 2003; Schwartzman et al., 2021; Badgley 2022.)

For one, although fossil CO₂ emissions have effectively permanent atmospheric consequences, carbon stored in forests or via other offset programs (like wind farms) is inherently less durable because these projects are subject to significant socioeconomic and physical risks, which can cause temporarily stored carbon to be re-released into the atmosphere. (Badgley 2022.) In contrast, fossil carbon emissions are effectively permanent, coming from reservoirs deep in the earth where they have been stored for millions of years. Once burned, that carbon pollution remains in the atmosphere for hundreds to thousands of years. In contrast, crops, soils, oceans, and forests used for nature-based offsets are “fast-exchange” carbon reservoirs that have limited carbon storage capacity and can release carbon back into the atmosphere. For example, one study found that the California wildfires of the past decade already burned through 1/5 of California’s total forest carbon credit reserves planned for the next 100 years. (Badgley 2022.) For these reasons, carbon offsets cannot “offset” fossil fuel combustion.

Furthermore, many offset dollars go toward projects already in effect, offering no additional benefit to what would have happened absent the investment. To qualify as a genuine carbon reduction, any reductions achieved by the project need to be “additional” to what would have happened had the project not been carried out. JP Morgan, for example, purchased 96,000 of credits to prevent the logging of a forest; a subsequent investigation revealed that the forest had already been set aside for preservation almost one hundred years prior. (Bloomberg 2020.) The Grantham Research Institute on Climate Change and the Environment at the London School of Economics conducted a survey of 1,350 offset projects, and found that “at least 52% of approved carbon offsets were allocated to projects that would likely have been built anyway.” (Calel 2021.) Projects such as these “undermine progress on climate change” because “they can siphon money from projects that actually reduce emissions.” (Bloomberg 2020.)

Another key problem is that offset programs are difficult to regulate and enforce, so many projects do not actually sequester carbon to the extent the sellers claim. For the credits to be effective, the payment must induce the promised environmental benefit. But there are few checks and balances in place to ensure those reductions are actually happening. One high profile example is Shell’s “drive CO₂ neutral” campaign, which offered customers the option to pay extra when filling their tanks, with the promise that that extra money would offset their fuel emissions. Last year, the Netherlands’ advertising watchdog ruled that Shell’s advertising campaign was misleading because Shell, when pressed, could not demonstrate the campaign offset the emissions it claimed to. (Hurst 2021.) An independent investigation by Greenpeace and Source Material confirmed the Dutch ruling: two of Shell’s most prominent offsetting

projects did not demonstrate the promised benefit to the climate. (Clarke 2021.) California offsets too suffer from these challenges. According to a recent analysis by the nonprofit CarbonPlan, nearly 30 percent of offsets sold through California’s forest carbon offset program did not result in real climate benefits. (Badgley *et al.* 2021.) Study after study has indicated that most offsets available on the market don’t reliably reduce emissions. (White 2022.)

The standards used to track the carbon output are not reliable, and they are difficult to enforce. Accordingly, absent clear standards, accounting, and mechanisms for enforcement and accountability, offsets undermine any real change at achieving zero-carbon operations. As a result of these shortcomings, offset projects have often enabled polluters to continue business as usual without delivering the results they promise. Leaders worldwide have recognized offsets’ flimsy environmental benefit. The European Union is in the midst of drafting net-zero reporting standards, to be adopted this November. The current draft text bars companies from counting carbon offsets toward net-zero. (Jones 2022.)

The urgency of the planet’s climate crisis demands that global emissions be cut in half by the next decade. Without immediate and drastic reductions in global GHG emissions, we cannot avert the most dangerous consequences of a rapidly warming planet. Accordingly, any systemic change for carbon emissions will require that companies commit to direct emissions reductions. (Riley 2017.) When offsets do not represent an actual, additional, and permanent carbon reduction, the world misses out on an opportunity to reduce carbon that it cannot afford. Offsets are no “get out of jail free” card and should not be treated that way.

ii. The DEIR Lacks Evidence that Its Reliance on Offsets Will Reduce GHG Emissions to Less-than-Significant.

“Mitigating conditions are not mere expressions of hope.” (*Sierra Club v. County of San Diego* (2014) 231 Cal.App.4th 1152, 1167 [quoting *Lincoln Place Tenants Assn. v. City of Los Angeles* (2005) 130 Cal.App.4th 1491, 1508].) They must actually avoid, lessen, reduce, or eliminate the impacts they are intended to mitigate. (Guidelines, § 15370.) This is why CEQA requires that mitigation be “fully enforceable through permit conditions, agreements, or other legally-binding instruments.” (Guidelines, § 15126.4, subd. (a)(2).) “The purpose of these requirements is to ensure that feasible mitigation measures will actually be implemented as a condition of development, and not merely adopted and then neglected or disregarded.” (*Lincoln Place Tenants Assn., supra*, 130 Cal.App.4th at p. 1508 [citing Pub. Resources Code, § 21002.1].)

MM 3.8-1a purports to commit the Project Applicant, prior to construction, to purchasing offset credits in the amount of 7,408 metric tons CO₂e, with subsequent purchases each year for the life of the project. (DEIR at 3.8-11.) The DEIR fails to offer evidence that the design of MM 3.8-1a will result in actual GHG emission reductions. First, the DEIR supplies no evidence that such offsets actually exist and will be available for purchase by the Project Applicant; the DEIR lacks an alternative path for compliance in the event that such offsets are, in fact, unavailable. Second, nothing prevents the Project Applicant from offsetting its emissions in far flung regions, outside of the County’s enforcement authority.

Under MM 3.8-1a, the Project Applicant is required to purchase offset for 7,408 metric tons CO₂e, equivalent to the Project's projected annual emissions. (DEIR at 3.8-11.) The DEIR requires the Applicant to "prioritize" offsets within the County, then BAAQMD boundaries, then statewide, then from other states "with offset laws at least as strict as California's. (*Ibid.*) MM 3.8-1a requires that offset credits be real, permanent, quantifiable, verifiable, additional, and enforceable, as defined by 17 CCR 95802, and that protocols be consistent with CARB requirements under 17 CCR 95972. (*Ibid.*)

Merely reciting the requirements of 17 CCR 95802 does not constitute evidence that sufficient offsets are available to mitigate those requirements and offset the Project's entire GHG emission budget. A substantial number of offset credits, available over the next three decades, will be required to mitigate the Project's GHG emissions to "net zero." Yet the DEIR provides no information on available sources of offsets credits within the County, BAAQMD boundaries, or statewide, or confirm that such sources exist. The DEIR does not specify any states with offset laws as strict as California's, let alone guideposts for how to determine whether requirements are just as strict, or available offsets in those places. The DEIR includes no examples of offset credit registries from which credits might be purchased, nor does it provide evidence that available registries are functioning and will continue to function in a manner that will result in actual, effective mitigation for the 30-year life of the project. (DEIR at 3.8-11.) The also DEIR fails to provide evidence that a sufficient quantity of GHG offset credits is available from existing, functioning programs to mitigate the Project's emissions. While the DEIR makes the toothless pronouncement that offsets must satisfy the legal criteria, it makes no effort to verify that offsets meeting these stringent requirements are available.

And while the DEIR lays out the geographic order by which the project applicant must "prioritize" offsets, the measure gives the Project applicant broad latitude to rely on offsets from anywhere. (DEIR at 3.8-12.) While the County claims that local projects will have priority, the DEIR provides no information as to whether the County has any local offset program in place, which renders the geographic priority for in-County offsets meaningless. All of the Project's carbon credits—intended to mitigate around 100 percent of the Project's emissions (DEIR at 3.8-12)—could be purchased from projects outside of the County, and even outside of the United States. Any offsets originating outside of the County, or in another state, much less internationally, raise additional concerns about verification, monitoring, additionality, and enforceability. (See *Golden Door*, *supra*, 50 Cal.App.5th at 510, 513.)

The measures themselves provide *zero* enforcement mechanisms to address this concern. While the DEIR claims any offsets purchased must be "enforceable," the County's only opportunity for oversight is the requirement that the project applicant provide "verification" to the County *after* carbon offsets have already been purchased, with no guideposts, standards, or timelines on what that verification should entail. (DEIR at 3.8-11.) Unlike CARB, which can invalidate cap-and-trade offsets that violate regulatory standards, the DEIR provides no system or remedy should the County discover that previously purchased offsets prove inadequate. (See *Golden Door*, 50 Cal.App.5th at 517 [noting CARB's ability to reverse cap-and-trade offsets].) In *Golden Door*, the Court of Appeal found it would be impossible for the County to make such determinations because the offset mitigation program contained no "objective criteria" for the County to use. (*Id.* at 522.) MM 3.8-1a suffers from the same flaw.

Finally, the DEIR’s approach sets a troubling precedent for the County. The DEIR’s near exclusive reliance on offsets to reduce the Project’s GHG emissions sets the stage for more projects to shift their GHG emission reduction requirements elsewhere. This undermines the County’s and California’s goals of reducing GHG emissions and combating climate change. Agencies typically allow offsets to make up only a very small part of the overall emission reduction goal, due to these known problems with enforcement and efficacy. (*See* Health & Safety Code § 38562(c)(2)(E) [California’s cap and trade program allows no more than four percent of GHG reductions to come from offsets, and at least half of the offsets must be used “provide direct environmental benefits in state”]; Draft 2022 Scoping Plan, Appendix D at 15 [CARB recommends that lead agencies first “should prioritize on-site design features that minimize GHG emissions” and then “[a]fter exhausting all on-site GHG mitigation measures, the State recommends prioritizing investment in local, off-site GHG mitigation measures, including both direct investment and voluntary offsets, in the communities or neighborhoods in the vicinity of the project.]) The DEIR’s approach to addressing its significant GHG emissions not only violates CEQA, but it is an irresponsible step in the wrong direction.

d. The DEIR Fails to Adequately Analyze the Project’s Consistency with Plans, Policies, and Regulations Adopted for the Purpose of Reducing the Emissions of GHG.

The DEIR provides a barebones and inadequate analysis of the Project’s consistency with plans and policies adopted for the purpose of reducing GHG emissions. In one sentence, the document concludes that, because the Project would result in increased GHG emissions, that it would impede the state’s efforts to comply with SB 32, CARB’s 2017 Scoping Plan, and EO B-55-18, and therefore be inconsistent. (DEIR at 3.8-12.) However, the document assumes any impacts will be less-than-significant after mitigation, based on the flawed and unsupported assumption that offsets will mitigate the Project’s impacts to zero. (*Ibid.*)

This analysis fails for three reasons. First, as discussed above, the DEIR’s conclusion is based on the same flawed and unsupported assumption that offsets will reduce the greenhouse gas emissions to net zero, and so the Project lacks evidence that this impact too is less-than-significant. Second, the DEIR fails to disclose consistency with regional plans that the DEIR identified as applicable to the Project, including BAAQMD’s 2017 Clean Air Plan and the County of Santa Clara General Plan. (DEIR at 3.8-4, 3.8-5.) Third, the document fails to disclose the severity and extent of this impact in the first instance because it never explains how far the Project would set the area back from achieving statewide reduction goals. The document thus fails to fully analyze consistency with plans and policies, and its conclusion is not supported by evidence.

e. The DEIR Improperly Delegates and Defers GHG Mitigation.

i. MM 3.8-1

MM 3.8-1 also violates CEQA by delegating and deferring the most important aspect of GHG mitigation. Specifically, MM 3.8-1 allows the Project Applicant, with no oversight by the County, to determine whether offsets for GHG emissions are available and/or feasible within the County, BAAQMD boundaries or the state, as well as to determine – with unlimited discretion – whether other states offer offset laws “at least as strict as California’s.”

The DEIR improperly delegates and defers a key aspect of the MM 3.8-1: the geographic location of the offset credits’ origination. This lack of oversight results in the Project Applicant having virtually unlimited discretion to make these key decisions, all outside of public review. Under MM 3.8-1, the Project Applicant, not the County, would determine whether in-County offsets are available, feasible, or meet the legal requirements of 17 CCR 95802 and 17 CCR 95972. (DEIR at 3.8-12.) The Project Applicant might decide local offsets are unavailable or too costly, then make the same decision for offsets anywhere in the air district or California; then may decide which states offer an offset program as strict as California’s; then possibly default to any offset programs in the world that it decides meet California’s legal requirements.

What’s worse, the Project Applicant is afforded this discretion with virtually no oversight from the County. The DEIR could require that offset credits be substantiated, contractually enforceable, publicly transparent, or subject to any of the features in the State cap-and-trade program. Yet here, it is not even clear whether the County has the authority to decide whether the offsets the Project Applicant ultimately decides to purchase are enforceable or sufficient. Indeed, the County’s only opportunity to review the Project Applicant’s decision-making is after the applicant has already decided upon and purchased project offsets, via a “verification.” But the DEIR is vague about what this “verification” process may entail; it contains no requirements on the information the Project Applicant must provide. It is silent on how the County should proceed if it determines that the Project’s offsets do not mitigate the Project’s impacts, let alone the standards the County should apply in determining whether the Project’s offsets have satisfactorily mitigated the Project’s impacts. Any County determinations take place out of public view, and without a hearing. This “standard-free granting of unfettered discretion to an unelected official is antithetical to the public participation foundation of CEQA[.]” (*Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 467 “[P]ublic participation is an ‘essential part of the CEQA process.’”) The Court of Appeal in *Golden Door* found that a similar lack of standards amounted to improper delegation and deferral. (*Golden Door, supra*, 50 Cal.App.5th at 520-25.)

ii. MM 3.8-1b and MM 3.8-1c

The EIR’s other proposed mitigation measures for greenhouse gas emissions suffer from similar flaws. Under the DEIR’s mitigation scheme, after year 1, the Project applicant has the option to replace diesel and gasoline-powered vehicles with electric or other low or zero-GHG emissions equipment and to switch to alternative fuel types, if and when it decides that adoption is “feasible, based on availability of the technology and whether the cost would be prohibitive.” ((DEIR at 3.8-12.) Similarly, the Project Applicant is required to install EV charging, but only “if and when electric trucks are used.” (DEIR at 3.8-12, MM 3.8-1c.)

Under CEQA, the County – not the applicant – must decide whether mitigation measures are infeasible and support that finding with substantial evidence. (Pub. Resources Code, § 21081, subd. (a)(3); Guidelines § 15091, subd. (a)(3).) As drafted, these measures’ reliance on the Project applicant’s future and self-interested determinations of feasibility creates an enormous loophole undermining the measures’ effectiveness. The Project Applicant should not be permitted to determine unilaterally at a later date, without oversight or objective standards, and without supporting its decision with substantial evidence, whether mitigation will be adopted. The measures plainly create an incentive for the Project Applicant to conclude lower-emissions vehicles are unavailable or too expensive, and continue to rely on the diesel and gasoline-powered vehicles the Project Applicant purchased the year prior, simply because they are the cheapest option.

Here, the DEIR offers no evidence showing that it is infeasible to impose such requirements on the Project Applicant at the time the Project is approved. Indeed, many other projects across the state commit to zero-emissions equipment and the installation of EV charging stations as a matter of course. (See, e.g., Fontana 2022 [requiring all new warehouse development to use only zero-emissions on-site motorized operational equipment and to install EV charging stations for at least 10 percent of parking spots].) (Beaumont 2022 at 4.22-4.23.)

Even worse, the DEIR proposes to afford the Project Applicant an opportunity, every five years, to submit a report with a revised GHG accounting estimate, potentially reducing the amount it may be required offset. This will occur outside of the public process, with no objective standards to guide the County’s subsequent approval. Should the Project Applicant later decide to revise its mitigation program, then it must – via a public process – apply to the County for such a revision.

f. The DEIR Fails to Adopt all Feasible Mitigation Measures.

CEQA mandates that significant environmental effects be avoided or substantially lessened where feasible. (Pub. Res. Code § 21002; CEQA Guidelines §§ 15002(a)(3), 15021(a)(2), 15126(d).) In the DEIR’s quickness to rely on offsets, it fails to adopt a single mitigation measure to directly reduce onsite emissions. It is the “policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures which will avoid or substantially lessen the significant environmental effects of such projects.” (Pub. Res. Code § 21002.) Adoption of additional feasible mitigation measures during construction and operation of the Project would lower the Project’s overall GHG emissions and contribution to climate change. It is also consistent with the State’s recommendation that Projects prioritize on-site mitigation and local off-site mitigation before considering GHG offsets. (CARB 2022 at pp.14-15.)

It is not credible for the DEIR to claim that there are no feasible on-site mitigation measures to reduce or avoid the Project’s GHG emissions, especially given the countless other projects in the state that routinely adopt such on-site measures. (See, e.g., Fontana 2021; Beaumont 2022.) The DEIR includes no evidence demonstrating it has considered, let alone adopted, any on-site mitigation measures to reduce its GHG emissions. (See AGO 2021; CEQA

Guidelines Appendix F for a list of on-site mitigation measures meant to reduce GHG emissions; the DEIR must consider these measures.)

This failure violates CEQA and must be rectified either through the adoption of all feasible mitigation measure or explanation from the County on why it is infeasible to mitigate the Project's significant GHG emissions. Additionally, the County's failure to take all feasible steps to reduce emissions from this proposed project undermines California's ability to meet its GHG reduction target. Mitigation of a project's environmental impacts is one of the "most important" functions of CEQA. (*Sierra Club v. Gilroy City Council* (1990) 222 Cal.App.3d 30, 41.) The County's abandonment of its responsibility here will only hasten the impacts of climate change and further imperil California's wildlife, water, communities and ecosystems.

V. The DEIR Fails to Adequately Analyze the Project's Impacts on Water Supplies.

California faces unprecedented challenges in its effort to allocate and conserve limited water resources, especially as water supply dwindles in the face of climate change and population growth. The Project would further exacerbate regional and statewide supply by constructing a mine that threatens to overdraft and endanger downstream communities' water supply. In light of these, and other, underlying concerns, the DEIR's analysis of the Project's water supply fails to adequately consider all potential significant impacts.

a. Santa Clara County Is Experiencing Water Shortages.

The severity of California's drought cannot be overstated. (Rogers 2022.) According to the latest Drought Monitor analysis, as of May 25, 2022, not only is the entire state of California in drought, but 26% of the state is in "exceptional drought," the highest category. (NOAA 2022.) California's Sierra snowpack, which typically supplies about one-third of the State's water, is disappearing at an alarming rate, months earlier than the historical average. (Becker 2022.) Of the state's ten largest reservoirs, eight are below 40 percent capacity. (Roseville 2022.) The most recent year, 2021-2022, was the driest year since 800 A.D. (Rogers 2022.) In light of this, the Governor has declared a state of drought emergency for every county in California. (Executive Order N-7-22 (2022).)

Officials are preparing for a future where water supplies across the state dwindle. Studies predict that in the next 35 to 60 years, if emissions of carbon dioxide and other greenhouse gases continue unchecked, the American West's snowpack will shrink even more, disappearing for a decade or more at a time. (Siirila-Woodburn 2021.) Consequently, a recent Executive Order from Governor Newsom declared that California must "redouble near-, medium-, and long-term efforts to adapt its water management to a changing climate, shifting precipitation patterns, and water scarcity." (Executive Order N-7-22 (2022).)

As a result of dwindling supplies, users increasingly turn to groundwater. A study from Stanford University found that nearly 60 percent of the state's water needs are now met by groundwater, up from 40 percent in years when normal amounts of rain and snow fall. (Choy 2021.) In many basins, groundwater withdrawal exceeds the amount that is replenished over the long term. This is known as "overdraft," and its repercussions can include higher energy use to

pump water from deeper wells, sinking lands, reduced streamflow, and reduced water quality. (Hanak 2017.) Californians are now drilling so deep to find water – often thousands of feet – that the water being pumped is 20,000 years old. (Knudsen 2015.)

Like many counties, Santa Clara County is enduring a third consecutive year of drought, with record-dry conditions in 2022. According to the Santa Clara Valley Water District, its water supplies are “in jeopardy” and, without immediate reductions in water use, the County may not have enough safe, clean drinking water in the future. (SCVWD 2022a.) This led the Board of Directors to declare a water shortage emergency. (SCVWD 2022b.) Groundwater currently supplies 44% of Santa Clara’s water. (SCVWD 2020.) To protect this key resources, Santa Clara Valley Water District is taking steps to reduce existing groundwater demand. (*Ibid.*)

b. The DEIR Discussion of the Project’s Estimated Water Need Is Misleading.

Despite the regional water shortage, the DEIR improbably concludes there is adequate water supply available to meet the needs of the Project, and thus finds a less than significant impact related to sufficient supply. (DEIR at 3.14-9 – 3.14-10.) The Project’s water supply will be provided exclusively via groundwater pumping. (*Ibid.*) The Project estimates it will require approximately 82-acre feet per year. (DEIR 3.14-9, Appendix I.3, sec. 2.4) This estimate is based on two critical unsupported assumptions that do not withstand scrutiny.

First, the DEIR’s 82-acre feet per year estimate rests on the assumption that water recycling – specifically a lined pump and return pumping system – will supply up to 80 percent of the Project’s water needs for processing. (DEIR at 2-38, 2-39 [86K total “assumes that 80 percent of the total aggregate processing water (384,000 gal/day) would be reused.”], Appendix I.3, sec. 2.2, 3.14-9) The DEIR provides few details, no modelling and no project design features or mitigation measures describing how the Project plans to successfully recycle such a large proportion of the water’s needs. (see, e.g., DEIR at 2-21.) The likelihood of recycling is further undermined by (and inconsistent with) the Project’s commitment to employ its used water elsewhere, as part of other mitigation measures. (DEIR at 3.4-64 [after processing, water will be pumped downstream to maintain downstream flows].) Without any commitment or obligation to recycle water on-site, such as via project design features or mitigation measures, it is unclear what mechanisms would be available should the Project opt to recycle less and pump more out of the ground. Thus, the Project’s actual annual water needs are potentially much greater than disclosed in the DEIR.

Second, as discussed in more detail below, the Project’s water needs fail to account for drought and climate change. Its estimate assumes that the Project’s water consumption would remain constant during wet years, normal years, and dry years.¹⁰ (Appendix I.3, sec. 2.4) But as the DEIR admits, climate will have a “significant influence” on water demand, particularly the water needed for dust control (the second largest water use for the Project), pond evaporation, and landscape irrigation. (DEIR at 3.14-9, Appendix I.3, sec. 3.1.) It is difficult to accept,

¹⁰ The DEIR concludes that the Project will have sufficient water supplies under multiple dry year conditions, but it is unclear whether the DEIR assumes that Project demand will remain constant during multiple dry years. (Appendix I.3, sec. 2.4.) The FEIR must clarify how multiple dry years could impact the Project’s water needs.

without future explanation, how the Project's water needs will remain the same, despite the climate's admitted influence on the Project's future needs.

c. The DEIR Fails to Properly Assess the Impacts of Climate Change on the Project's Water Supply.

The DEIR fails to adequately consider the impacts of climate change on the availability of increasingly scarce water resources in the western U.S. during the lifespan of the Project. California law requires agencies to discuss and disclose a proposed project's long-term future water supply. (See *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 430-432; Water Code § 10910.) The DEIR finds the Project will have less than a significant impact on water supply related to sufficiency of water supply. (DEIR at 3.14-9 – 3.14-10.) This finding is based in part on the Water Supply Assessment ("WSA") that was prepared by Todd Groundwater. The WSA report discusses existing water rights, water service contracts, and supply projects that contribute to the supply needs of the Project. (DEIR, Appendix I.3.)

The WSA in passing acknowledges climate change and the dramatic effects it will have on fresh water supplies in the arid West in the near future, and on the Project's future water needs. (Appendix I.3., sec 3.1.) The WSA claims to meet the California Water Code requirement that a WSA include discussion of how supply will meet demand during normal, single dry, and multiple dry years during a 20-year projection. Yet, without basis, the WSA *assumes* that the Project's water needs will not increase with drought and climate change. (Appendix I.3, sec. 2.4)

Significant for the State, as well as the Project area, is climate change's impact on water supply. The Intergovernmental Panel on Climate Change ("IPCC") specifically identified the American West as vulnerable, warning that with projected warming in the western mountains, accumulated snowpack is "virtually certain to decline." (IPCC 2022.) Recently, researchers found that an increase in atmospheric greenhouse gases has contributed to a "coming crisis in water supply for the western United States. . . ." (Barnett 2008.) Using several climate models and comparing the results, the researchers found that "warmer temperatures accompany" decreases in snowpack and precipitation and the timing of runoff, impacting river flow and water levels. (Barnett 2008.) These researchers concluded with high confidence that up to 60 percent of the "climate related trends of river flow, winter air temperature and snowpack between 1950-1999" are human induced. (*Ibid.*) This, the researchers wrote, is "not good news for those living in the western United States." (*Ibid.*)

The California Center on Climate Change has also recognized the problem climate change presents to the state's water supply. It predicts that, if GHG emissions continue under the business-as-usual scenario, snowpack could decline up to 70-90 percent, posing severe impacts to water supply and natural ecosystems. (Vicuna 2007.) California ecosystems rely on consistent levels of precipitation, and their water needs are already strained by the state's increasing water diversions. (Monsen 2007.) The decrease in snowpack in the Sierra Nevada will lead to a decrease in California's already "over-stretched" water supplies and could potentially reduce the state's hydropower. (Lund 2018.) All of this means "major changes" in water management and allocation will have to be made. (Vicuna 2007.) Thus, climate change may directly affect how

the Project will utilize water, and it may also impact other activities outside the Project area, such as agriculture or other offsite uses.

d. The DEIR Fails to Adequately Analyze Impacts to Downstream Users of the Pajaro Subbasin.

The DEIR concludes there is adequate groundwater supply available to meet the needs of the Project and finds a less than significant impact. (DEIR at 3.14-9 – 3.14-10.) The DEIR identifies two groundwater basins that the Project could impact: the Llagas subbasin and the Pajaro subbasin.

The DEIR concludes impacts to the Llagas basin would be less-than-significant because the Project's water demand would constitute a small percentage – approximately 1 percent – of the basin's planned municipal and industrial demand growth projection. (*Ibid.*) But the Santa Clara Valley Water District did not plan for this Project in its demand growth projections for the Llagas basin. (DEIR at 3.14-10.) The DEIR thus improperly *assumes* without evidence that the basin will provide sufficient Project water, and that sufficient water supplies will be available for the Project in future years. (DEIR at 3.14-10.)

The WSA also warns that the Project's groundwater pumping would reduce Pajaro River water percolation, which accounts for approximately 30 percent of annual recharge for the neighboring, critically-overdrafted Pajaro Subbasin. (DEIR at secs. 4.1, 4.1.1.) Critical overdraft means that the average annual amount of groundwater extraction *already* exceeds the long-term annual supply of groundwater in that basin. (CDWR 2022.) Ninety-five thousand residents rely on the Pajaro subbasin for drinking water. Noticeably missing in the DEIR is any discussion of whether water supply is adequate to meet the Project's needs, given the effects of Project pumping on these downstream groundwater uses.

The DEIR did not consider the Pajaro subbasin when determining whether there was an adequate water supply to meet the needs of the Project. (DEIR sec 3.14.) The DEIR itself does not disclose that the Pajaro subbasin is already in critical overdraft, nor does it study or analyze how Project operations would exacerbate that basin's water crisis. The only mention of the Pajaro Subbasin is in the DEIR's cumulative impact analysis. The DEIR notes that the Project's demand is less than 1 percent of the total water use in the Pajaro Valley subbasin, which the Project concludes is "less than significant in the context of other sources of variability in water supply." (DEIR at 3.14-13.) In other words, because Pajaro Valley subbasin already faces significant challenges in future water reliability, this Project will not have an impact. The DEIR does not describe or explain these other sources of variability, or why the increased background variability endangering the Pajaro Valley subbasin's water supply renders this Project's cumulative contribution irrelevant.

e. The Thresholds of Significance Used in the DEIR Improperly the Limit Water Supply Analysis.

The DEIR used two criteria based on the CEQA Guidelines to determine the significance of the Project's water supply impacts. (DEIR at 3.14-8.) The two CEQA thresholds dictate

analysis of whether current entitlements are sufficient to supply the Project, and whether the Project would require the construction of new facilities or the expansion of existing facilities, which would have significant environmental impacts. (*Ibid.*, CEQA Guidelines Appendix G, XVIII (b), (c).) For this Project, the DEIR studies, more generally, whether there are “sufficient water supplies available” to serve the project, along with whether the Project would require construction of additional facilities. (DEIR at 3.14-8.)

The water supply analysis is improperly narrow in scope in two ways. First, these thresholds only address the ability to supply the Project, without assessing the wisdom of allocating such quantities in this manner, or the implications for regional and state supply. Second, the chosen thresholds of significance omit discussion of whether the Project has secured water sufficient to serve the Project, which it has not. Analysis under these thresholds does not inform the public or decision-makers about the long-term sustainability of Project supplies, or how supplying this water-intensive project will affect other users reliant on finite water resources. The DEIR does not analyze the Project’s effects on state and regional water supplies.

Furthermore, the DEIR’s threshold omits any study of the Project’s need to secure the necessary entitlements for the Project to proceed. The Project proposes construction of a new well and admits that the groundwater pumping will impact the basin yield of the Pajaro subbasin, a groundwater basin in critical overdraft under the Sustainable Groundwater Management Act. Santa Clara Valley Water District, as the designated Groundwater Sustainability Agency, will need to approve the Project’s extraction of groundwater, based on a finding that the well would not be inconsistent with the local groundwater management plan. (DEIR at 3.10-37.) Nowhere does the DEIR analyze, however, whether the Project would be inconsistent with the policies in this management plan for the Pajaro subbasin. (DEIR at 3.10-48, 3.10-49.)

The DEIR’s water supply analysis should be revised, using thresholds of significance that take into account the Project’s impact on the water supply system. While it is within the County’s discretion to use the Appendix G checklist questions in the significance determination, the checklist may “not necessarily cover all potential impacts that may result from a particular project. (*Joshua Tree Downtown Business Alliance v. County of San Bernardino* (2016) 1 Cal.App.4th 677, 689.) Therefore, thorough impact analysis may require the changes to the checklist questions in order to fully address all of a project’s potentially significant impacts. (*Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099, 1111.) In light of the water supply challenges facing California and the Western United States, the DEIR should analyze whether this Project represents a wise allocation of water resources, and what its allocation would mean for other users within the system.

f. The DEIR’s Analysis of Water Supply Gives Short Shrift to Cumulative Impacts.

The DEIR concludes that the Project will have no cumulative impact on water supply because the DEIR found that the Project in isolation, will have an adequate water supply. It then assumes that any future cumulative stressors on the regional water supply will be addressed by applicable groundwater management plans and Urban Water Management Plan, and relies on the

WSA’s conclusion that this Project would be consistent with those plans to conclude that this Project’s incremental contribution would not be cumulatively considerable.

This bare conclusion lacks support in the record. The WSA identifies the 2020 Urban Water Management Plan (“UWMP”) and the 2021 Groundwater Management Plan (“GWMP”) prepared by Santa Clara Valley Water District (“SCVWD”, now Valley Water) as “foundational documents” for preparing the WSA. (Sec 1.) The WSA also mentions that Pajaro Valley Water Management Agency submitted the Pajaro Valley Water Groundwater Sustainability Plan, approved by DWR, to fulfill its requirements under the Sustainable Groundwater Management Act (“SGMA”). But *nowhere* does the WSA analyze the Project’s consistency with these plans. The WSA does not even feign consistency with the Pajaro Valley Water Groundwater Sustainability Plan.

And more importantly, the DEIR here too relies on faulty significance thresholds. It concluded the Project would have a less than significant cumulative impact on water supply because the Project would have a less than significant individual impact. This reasoning contravenes CEQA’s core mandate for studying cumulative impacts in the first place – projects that do not have significant individual impacts may nonetheless create significant cumulative impacts. (See, e.g., *Kings Cty. Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 720.)

VI. The Project Applicant’s Mid-Stream Attempt to Change the Proposed Project Undermines the DEIR as an Informational Document.

At the August 25, 2022 Santa Clara County Planning Commission to receive comments on the DEIR, the Project Applicant’s representative testified that the Project Applicant would be pursuing the EIR’s Alternative 3 as the proposed Project moving forward.¹¹ In his testimony to the Planning Commission, the Project Applicant representative indicated that Alternative 3 is preferable because it would reduce the Project’s significant impacts. However, notwithstanding the DEIR’s flawed analysis of the Project’s impacts and their significance, the DEIR itself suggests that compared to the proposed Project, Alternative 3 would reduce only one of the Project’s significant impacts to less than significant. (See DEIR at S-54 to -56, Table S-1). By the DEIR’s own admission, numerous impacts—including those to biological resources and air quality—would remain significant and unavoidable even with the adoption of Alternative 3.

The EIR provides only minimal information about what Alternative 3 entails, and this limited description of what now appears to be the proposed project does not satisfy CEQA’s requirements for the level of detail required either for and EIR’s description of alternatives (see CEQA Guidelines § 15126.6(d)) or its description of the project (see CEQA Guidelines § 15124(c)). Many of the DEIR’s shortcomings are exacerbated by this abrupt apparent shift in the design of the Project. For example, as described above the DEIR’s analysis of and mitigation for the Projects’ impacts to biological resources, including wildlife corridors and habitat for

¹¹ As of the date of this letter, however, the County has not published any revised project application or any other materials indicating that the Project Applicant is seeking to modify its entitlements and/or project approvals to conform to Alternative 3. This only sows further confusion among the public and decision-makers about what version of the Project, exactly, is under consideration by the County.

sensitive species, is unacceptably vague, with study, disclosure, and mitigation postponed to an uncertain future date. The potential for a new, different processing plant location and site design for which scant details are provided in the EIR amplifies this problem. Readers of the document can have no appreciable understanding of how many acres of habitat will be affected and how, or how many acres of mitigation lands will be conserved or where. If the Project Applicant actually intends to move forward with an alternative to the proposed Project, it should submit a revised application to the County and the County should oversee the preparation of an EIR with a revised project description and a revised range of alternatives.

VII. The County Must Revise and Recirculate the DEIR.

“Public participation is an essential part of the CEQA process.” (CEQA Guidelines § 15201.) To that end, CEQA requires lead agencies to make the Draft EIR available for public review and comment, and then to respond to those comments. (Pub. Res. Code § 21092, CEQA Guidelines § 15088(a).) The information in a draft EIR must provide the public with “a meaningful opportunity to comment” on a project’s impacts. (*Spring Valley Lake Assn. v. City of Victorville* (2016) 248 Cal.App.4th 91, 108 [recirculation was required where draft EIR omitted air quality information].) Given the public’s vital role in the CEQA process, a lead agency must recirculate an EIR for additional of public review and comment when, after the close of the comment period, “new significant information” shows that the draft EIR’s analysis was fundamentally inadequate and conclusory in nature such that that meaningful public review and comment were precluded. (CEQA Guidelines § 15088.5(a)(4).) New information is significant where the EIR is changed in a way that “deprives the public of a meaningful opportunity to comment” on a substantial adverse effect or feasible (but unimplemented) mitigation measures or alternatives. (CEQA Guidelines § 15088.5(a) [emphasis added].) Where new information demonstrates the inadequacy of the draft EIR’s analysis, recirculation is required “so that the public is not denied an ‘opportunity to test, assess, and evaluate the data and make an informed judgment as to the validity of the conclusions to be drawn therefrom.’” (*Save Our Peninsula Committee v. Monterey County Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 131 [emphasis added].)

The DEIR is rife with shortcomings, inadequate analysis, and deficiencies. As described above, its analysis of and mitigation for the Project’s impacts to biological resources, wildfire, air quality, GHG emissions, and water supply fall far short of what CEQA requires. When this is combined with the fact that the Project Applicant is no longer pursuing the Project considered in the DEIR, but is instead pursuing an alternative for which the DEIR provided even less analysis, it is clear that the public has already been deprived of a meaningful opportunity to comment on the Project and the County’s environmental review. New information cannot remedy a DEIR’s inadequate analysis of a project’s impacts in the first instance. (*Ukiah Citizens for Safety First v. City of Ukiah* (2016) 248 Cal.App.4th 256, 266-67.) The substantial revisions and additions necessary to remedy the DEIR’s deep-rooted shortcomings will necessarily entail significant new information. The County will therefore need to recirculate a revised draft EIR for public review and comment prior to approving the Project.

VIII. Conclusion

Thank you for the opportunity to submit comments on the DEIR for the Sargent Ranch Quarry Project. Due to the Project's significant impacts and the legal deficiencies identified above, we urge the County not to approve or certify the EIR for the Project.

Given the possibility that the Center will be required to pursue legal remedies in order to ensure that the County complies with its legal obligations including those arising under CEQA, we would like to remind the County of its statutory duty to maintain and preserve all documents and communications that may constitute part of the "administrative record" of this proceeding. (See Pub. Res. Code § 21167.6(e); *Golden Door Properties, LLC v. Superior Court* (2020) 53 Cal.App.5th 733.) The administrative record encompasses any and all documents and communications that relate to any and all actions taken by the County with respect to the Project, and includes "pretty much everything that ever came near a proposed [project] or [] the agency's compliance with CEQA" (*County of Orange v. Superior Court* (2003) 113 Cal.App.4th 1, 8.) The administrative record further includes all correspondence, emails, and text messages sent to or received by the County's representatives or employees, that relate to the Project, including any correspondence, emails, and text messages sent between the County's representatives or employees and the Applicant's representatives or employees. Maintenance and preservation of the administrative record requires that, *inter alia*, the County (1) suspend all data destruction policies; and (2) preserve all relevant hardware unless an exact replica of each file is made.

Please include the Center on your notice list at the address below for all future updates to the Project and do not hesitate to contact the Center with any questions.

Sincerely,



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