

**DESERT TORTOISE COUNCIL**

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**Via email only**

30 October 2023

Attn: Angelica Rose and Erica Stewart  
Bureau of Land Management  
Yuma Field Office  
7341 E 30<sup>th</sup> St., Suite A  
Yuma, AZ 85365  
[BLM\\_AZ\\_CRD\\_SOLAR@BLM.GOV](mailto:BLM_AZ_CRD_SOLAR@BLM.GOV)

RE: Elisabeth Solar Project Environmental Assessment – Scoping Comments (DOI-BLM-AZ-C020-2023-0015-EA)

Dear Ms. Rose and Ms. Stewart,

The Desert Tortoise Council (Council) is a non-profit organization comprised of hundreds of professionals and laypersons who share a common concern for wild desert tortoises and a commitment to advancing the public’s understanding of desert tortoise species. Established in 1975 to promote conservation of tortoises in the deserts of the southwestern United States and Mexico, the Council routinely provides information and other forms of assistance to individuals, organizations, and regulatory agencies on matters potentially affecting desert tortoises within their geographic ranges.

Both our physical and email addresses are provided above in our letterhead for your use when providing future correspondence to us. When given a choice, we prefer to receive emails for future correspondence, as mail delivered via the U.S. Postal Service may take several days to be delivered. Email is an “environmentally friendlier way” of receiving correspondence and documents rather than “snail mail.”

We appreciate this opportunity to provide comments on the above-referenced project, and that you contacted us directly with the opportunity to provide these scoping comments. Given the location of the proposed project in habitats likely occupied by Sonoran Desert tortoise (*Gopherus morafkai*) (synonymous with Morafka’s desert tortoise), our comments include recommendations intended to enhance protection of this species and its habitat during activities authorized by the Bureau of Land Management (BLM), which we recommend be added to project terms and conditions in the authorizing document (e.g., right of way grant, etc.) as appropriate. Please accept, carefully review,

and include in the relevant project file the Council’s following comments and attachments for the proposed Elisabeth Solar Project (Project).

### **Project Description**

According to the BLM’s National Environmental Policy Act (NEPA) ePlanning webpage, “Elisabeth Solar, LLC proposes to construct, own, and operate a utility-scale photovoltaic (PV) energy generating and battery storage facility on approximately 1,411 acres of public lands administered by the BLM in the Agua Caliente Solar Energy Zone (SEZ) in compliance with the Federal Land Policy and Management Act (FLPMA), BLM right-of-way regulations, and other applicable federal laws.”

“The Project has a planned nominal generating capacity of up to 270 megawatts alternating current (MWAC) and up to 300 MW of battery storage. The Project would be developed on approximately 1,411 acres within the western portion of the Agua Caliente SEZ leasehold which is adjacent to the existing Agua Caliente Solar Project and the White Wing Ranch Solar Project currently under construction. The Project would include the solar PV power generating facility, a project substation, and the battery energy storage system, as well as associated access roads, operation and maintenance facilities, temporary construction laydown areas, and other ancillary components. The power produced by the Project would be conveyed to the local power grid via the existing Hoodoo Wash switchyard to the south of the Project site, interconnecting into either the California Independent System Operator or the Arizona Public Service energy grid system. The Project would utilize the electric generation intertie (gen-tie) line developed for the White Wing Ranch Solar Project pursuant to a prior BLM-approved right-of-way (AZA 036884); this gen-tie line is located predominantly on BLM-administered land within the SEZ.”

The Project is located in eastern Yuma County near Dateland, Arizona, approximately 65 miles northeast of the city of Yuma and 60 miles southwest of Buckeye (please see location map below).

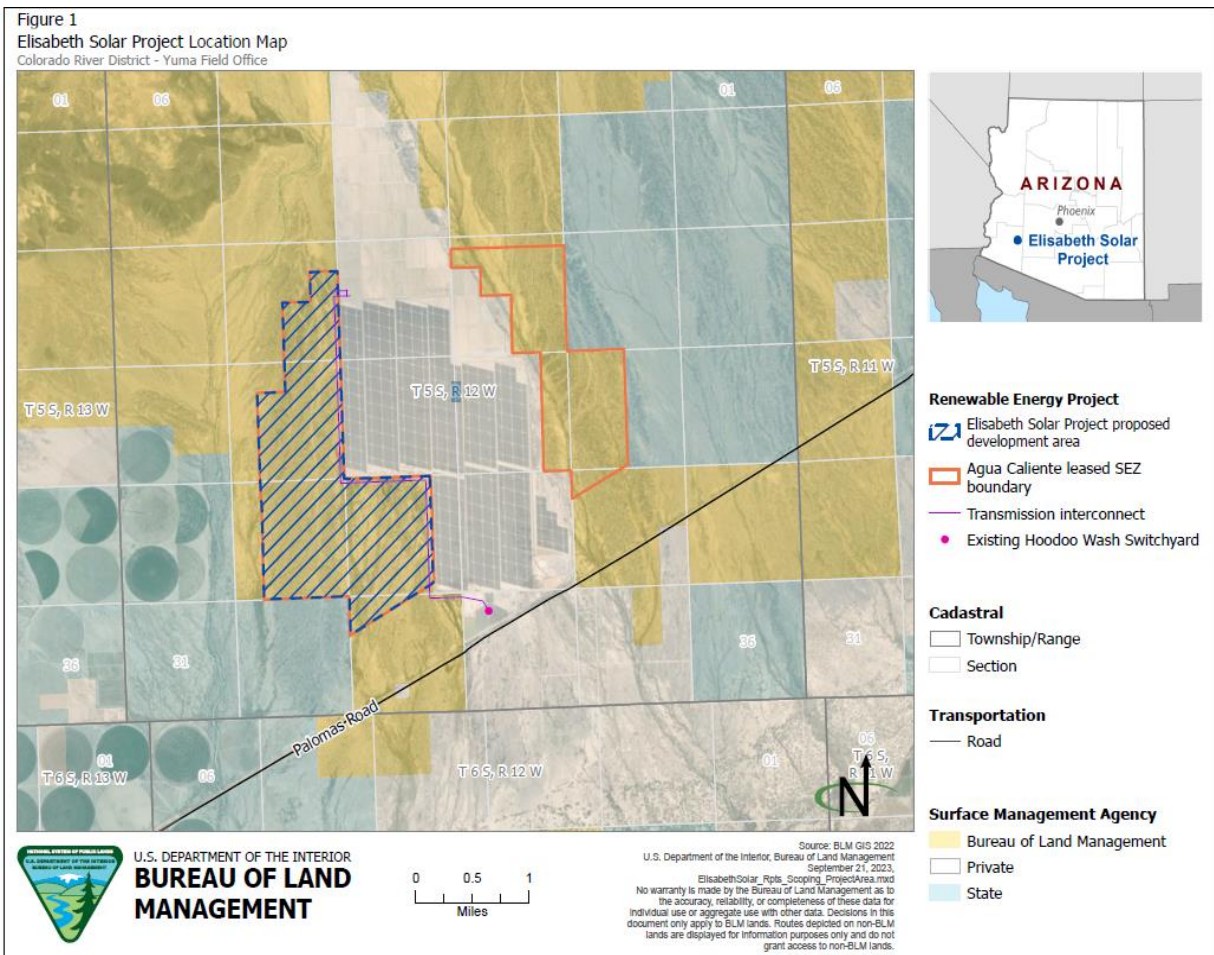
### **Scoping Comments**

The purpose of scoping is to allow the public to participate in an “early and open process for determining the scope of issues to be addressed, and for identifying the significant issues related to a proposed action” [40 Code of Federal Regulations (CFR) 1501.7]. The Draft Environmental Assessment (Draft EA) should discuss how this proposed Project fits within the management structure of the current land management plan for the area [e.g., Programmatic Solar EIS (BLM DOE 2012), Yuma Resource Management Plan (BLM 2010), etc.].

### **Compliance with Policies Relevant to the Sonoran Desert Tortoise**

Please be sure that the Project adheres to and implements measures and regulations given in the following documents:

- Arizona Game and Fish Department. 2010. Desert Tortoise Survey Guidelines for Environmental Consultants.
- Arizona Game and Fish Department. 2014. Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects.



**Figure 1.** Location of Elisabeth Solar Project.

- Arizona Interagency Desert Tortoise Team. 2008. Recommended Standard Mitigation Measures for Projects in Sonoran Desert Tortoise Habitat. June 2008.
- Bureau of Land Management instructional memoranda on Mitigation (BLM 2021a), Mitigation Handbook (BLM 2021b), and Mitigation Manual (BLM 2021c).
- Bureau of Land Management 2022. Habitat Connectivity on Public Lands Instruction Memorandum 2023-005.
- Council on Environmental Quality. 2023. Guidance for Federal Departments and Agencies on Ecological Connectivity and Wildlife Corridors.
- U. S. Fish and Wildlife Service and Cooperating Agencies comprising the Arizona Interagency Desert Tortoise Team. 2015. Candidate Conservation Agreement for the Sonoran Desert Tortoise (*Gopherus morafkai*) in Arizona. Phoenix AZ.

### **Proposed Action and Alternatives Considered**

We fully expect that BLM will comply with all applicable statutes, regulations, Executive and Departmental Orders, BLM manuals, and other requirements as they pertain to this project. BLM should demonstrate in the Draft EA that the proposed project meets all these requirements with respect to the tortoise, that:

- The proposed Project will be in conformance with decisions in current land use plan(s) and the FLPMA with respect to sustained yield;
- the proposed Project will be consistent with priority conservation, restoration, and/or adaptation objectives in the best available landscape-scale information (e.g., for tortoise population connectivity, management of native land species and reduction/elimination of non-native, invasive species, etc.);
- the Project proponent has coordinated with governments and agencies, including consideration of consistency with officially adopted plans and policies (e.g., conservation plans);
- the proposed Project is in an area with low or comparatively low resource conflicts and where conflicts can be resolved;
- the proposed Project will be located in, or adjacent to, previously contaminated or disturbed lands;
- the proposed Project will minimize adverse impacts on important fish and wildlife habitats and migration/movement corridors, including the desert tortoise;
- the proposed Project will minimize impacts on lands with wilderness characteristics and the values associated with these lands;
- the proposed Project will not adversely affect lands donated or acquired for conservation purposes, or mitigation lands identified in previously approved projects such as translocation areas for desert tortoise;
- significant cumulative impacts on resources of concern should not occur as a result of the proposed Project (i.e., exceeding an established threshold such as population viability for the tortoise and connectivity between tortoise populations); and,
- BLM's analysis would use current data on the tortoise for the Project area, population, and range wide, as population numbers and densities have substantially declined in many areas along with the recent destruction of habitat from fires. Consequently, environmental documents should include and analyze all relevant data/knowledge currently available.

We have serious concerns about BLM's commitment to manage effectively for the sustained yield of the tortoise. These concerns include past actions regarding:

- Mitigation to improve conditions within connectivity areas, and if these options do not exist, mitigation may be applied toward the nearest tortoise conservation area; and
- a plan included in the Draft EA that would effectively monitor desert tortoise impacts, including verification that desert tortoise connectivity corridors are functional.

Regarding the first concern, we believe that a multiagency approach is best to ensure BLM is meeting its obligations, soliciting review and input from pertinent federal and state resource agencies, Tribal governments/agencies, and non-governmental organizations (NGOs). Mitigation of impacts should include, in priority order, avoidance, minimization and compensation for unavoidable impacts.

Regarding the second concern, a monitoring plan should (1) be scientifically and statistically credible; (2) be implementable; and (3) require BLM/Project proponent to implement adaptive management to correct land management practices if the mitigation is not accomplishing its intended purposes.

We note that a federal appellate court has previously ruled that in an environmental impact statement (EIS) a federal agency must evaluate a reasonable range of alternatives to the project including other project and mitigation sites, and must give adequate consideration to the public's needs and objectives in balancing ecological protection with the purpose of the proposed project, along with adequately addressing the proposed project's impacts on the desert's sensitive ecological system [*National Parks & Conservation Association v. Bureau of Land Management*, Ninth Cir. Dkt Nos. 05-56814 et seq. (11/10/09)]. Although this decision was for the development and analysis of an EIS, we believe it is applicable to an environmental assessment (EA). Therefore, the Council requests that the BLM describe the purpose and need for this Project and develop and analyze other viable alternatives, such as rooftop solar, which we believe constitute "other reasonable courses of actions" (40 CFR 1508.25).

The Council supports alternatives to reduce the need for additional solar energy projects in relatively undisturbed tortoise habitats in the Sonoran Desert. For example, the City of Los Angeles has implemented a rooftop solar Feed-in Tariff (FiT) program, the largest of its kind in America. The FiT program enables the owners of large buildings to install solar panels on their roofs, and sell the power they generate back to utilities for distribution into the power grid.

We request that BLM include an urban solar alternative. Under this alternative, owners of large buildings or parking areas would grant the Project proponent permission to install solar panels on their roofs and cover parking areas, and sell the power they generate back to utilities for distribution into the power grid.

This approach puts the generation of electricity where the demand is greatest, in populated areas. It may also reduce transmission costs; greenhouse gas emissions from constructing energy projects far from the sources of power demand and materials for construction; carbon sequestration lost from degrading/destroying thousands of acres of native vegetation for decades or longer to construct and operate this one project; the number of affected resources in the desert that must be analyzed under the NEPA; and mitigation costs for all direct, indirect, and cumulative impacts; monitoring and adaptive management costs; and habitat restoration costs following decommissioning. The Draft EA should include an analysis of where the energy generated by this project would be sent and the needs for energy in those targeted areas that may be satisfied by urban solar. We request that at least one viable alternative be analyzed in the Draft EA where electricity generation via solar energy is located much closer to the areas where the energy will be used, including generation in urban/suburban areas.

In addition, BLM should include another viable alternative of locating solar projects on bladed or highly degraded tracts of land (e.g., abandoned agricultural fields). Such an alternative would not result in the destruction of desert habitats and mitigation for the lost functions and values of these habitats. These losses and mitigation are costly from an economic, environmental, and social perspective.

The latter two alternatives are important to consider to minimize or avoid the loss of vegetation that sequesters carbon. Studies around the world have shown that desert ecosystems can act as important carbon sinks. For example, the California deserts account for nearly 10 percent of the state's carbon sequestration; below ground in soil and root systems, and above ground in biomass. Protecting this biome can contribute to securing carbon stores in the state (MDLT 2021). A similar

situation is likely true for Arizona. Given the current climate change conditions, there is an increasing need for carbon sequestration. Vascular plants are a primary user of carbon, and the proposed Project would result in the loss/degradation of more than 1,400 acres of plants, the release of carbon they currently hold, and their ability to sequester carbon for decades or longer unless successful measures are implemented to restore the same biomass of native vegetation as it is being destroyed. Consequently, it is imperative that the proposed Project not result in the loss of vegetation.

The Draft EA should consider the monitoring results of recently developed solar projects where soil has been bladed versus those facilities where the vegetation has been mowed or crushed and allowed to revegetate the area. In the latter case, it may be appropriate to allow tortoises to enter the facilities and re-establish residency (i.e., repatriate) under the solar panels as vegetation recolonizes the area. This could be an *option* for the currently described project alternative. It should be designed/implemented as a scientific experiment to add to the limited data on this approach to determine the extent of effects on Sonoran Desert tortoise populations and movements/connectivity between populations, which is an important issue for this species, particularly over the long-term. Long-term monitoring for the life of the Project would need to be included to accurately evaluate the effectiveness of this strategy.

### **Connected Actions**

Pursuant to Section 1508.25 of the Council on Environmental Quality's (CEQ) regulations (40 CFR 1508.25), any Draft EA must cover the entire scope of a proposed action, considering all connected, cumulative, and similar actions in one document. Pursuant to Section 1506.1(a) of these regulations, an agency action cannot "[l]imit the choice of reasonable alternatives" before reaching a final decision in a published [Record of Decision] (ROD). These regulations ensure agencies will prepare a complete environmental analysis that provides a "hard look" at the environmental consequences of all proposed actions instead of segmenting environmental reviews (Novack 2015). Please explain whether any current proposed actions within the region are connected and if not, why.

### **Affected Environment**

The Elisabeth Solar Project Draft EA should include data on tortoise survey results in the Agua Caliente Solar Energy Zone (SEZ) and adjacent areas. We presume that BLM has completed an inventory of tortoise abundance within the Agua Caliente SEZ. If these field data are unavailable, we request that BLM use available models of tortoise presence/habitat and overlay the proposed route networks for comparison/overlap. We ask that BLM be conscientious about minimizing the total number of disturbed acres in portions of the SEZ that are known to contain tortoises and higher quality habitat. Failure to provide these data would indicate that BLM lacks information of the demographic status of the tortoise within the Agua Caliente SEZ and is unable to demonstrate that BLM is managing for the tortoise on a landscape level, as it committed to in the Sonoran Desert Tortoise Candidate Conservation Agreement (USFWS et al. 2015).



## **Standardized Surveys – Desert Tortoise and Other Species**

For the Draft EA to fully analyze the effects and identify potentially significant impacts, the following surveys must be performed to determine the extent of rare plant and animal populations occurring within areas to be directly and indirectly impacted.

The Project proponent should fund focused surveys for all rare plant and animal species reported from the vicinity of the proposed Project. Results of the surveys will determine appropriate permits from Arizona Game and Fish Department (AZGFD), BLM, and USFWS and associated avoidance, minimization, and mitigation measures. Focused plant and animal surveys should be conducted by knowledgeable biologists for respective taxa (e.g., rare plant surveys should be performed by botanists), and to assess the likelihood of occurrence for each rare species or resource (e.g., plant community) that has been reported from the immediate region. Focused plant surveys should occur only if there has been sufficient winter rainfall to promote germination of annual plants in the spring. Alternatively, the Draft EA may assess the likelihood of occurrence with a commitment by the proponents to perform subsequent focused plant surveys prior to ground disturbance, assuming conditions are favorable for germination.

Migratory Birds/Eagles: BLM should ensure that all actions it authorizes are implemented in compliance with the Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, and associated regulations, executive orders, and policies (e.g., Driscoll 2010, Pagel et al. 2010) to avoid mortality or injury to migratory birds and harassment of eagles.

Burrowing owl: Since Arizona does not have a specified protocol, surveys for western burrowing owl (*Athene cunicularia*) should be coordinated with the USFWS as the species is protected under the Migratory Bird Treaty Act. BLM should consider implementing available survey methods (CDFG 2012). In addition to the project footprint, the protocol requires that peripheral transects be surveyed at 30-, 60-, 90-, 120-, and 150-meter intervals in all suitable habitats adjacent to the subject property to determine the potential indirect impacts of the project on this species. If burrowing owl sign is found, California Department of Fish and Game (CDFG) (2012) describes appropriate minimization and mitigation measures that would be required. Also note that BLM should demonstrate in the Draft EA how it will comply with “E.O. 13186 – Responsibilities of Federal Agencies To Protect Migratory Birds.” If burrowing owl sign is found, BLM and the Project proponent should develop a science-based relocation/mitigation/monitoring/adaptive management plan with the USFWS and AZGFD and ensure that this plan is implemented.

Sonoran Desert Tortoise Surveys: Surveys for Sonoran Desert tortoise must be conducted at the proper times of year. Although there is not a formal protocol survey method for Sonoran desert tortoises, we believe that the survey methods for Mojave desert tortoise (USFWS 2019) would be appropriate. Because USFWS (2009) requires only experienced biologists to perform protocol surveys, USFWS biologists should review surveyors’ credentials prior to initiating the surveys. Per this protocol, if the impact area is larger than 500 acres, the surveys must be performed during the active time periods for the tortoise so that a statistical estimate of tortoise densities can be determined for the “action area” (please see below). The results of these surveys should be published in the Draft EA and should include density estimates for each alternative assessed. If

any tortoise sign is found, the Project proponent should coordinate with USFWS and AZGFD prior to conducting any ground disturbance.

The Council's persisting concern is that proponents of solar projects continue to identify a single site for development without any attempt to identify alternative sites. As such, when focused studies reveal significant accumulations of tortoises on the proponent's selected site, because there is only one site identified for the project, there is no opportunity to select an alternative site where impacts would be minimized.

Too often, a single impact footprint is identified, all surveys are restricted to that site, and no alternative sites are assessed. We are concerned that this Project may have already pre-determined the project footprint. As such, there may be other areas of lower tortoise densities where impacts could be minimized. However, those areas would not be considered if the project footprint is predetermined before survey data are available. As such, we request that more than one site, preferably three, be identified and analyzed in the Draft EA and that the alternative with the fewest impacts to tortoises be adopted for development.

If that is not feasible, we ask that the "action area" of the proposed Project be several times larger than the project footprint so that those portions of the site with fewer tortoises could be selected. Proponents of the Gemini Solar Site in southern Nevada, for example, ignored these recommendations, and displaced more than 100 tortoises, when based on their presence-absence tortoise surveys, a shift of the site to the east would have avoided many of those animals. We believe strongly that protocol surveys should occur on multiple or enlarged sites as given above *and* on all proposed translocation sites, assuming tortoises will be translocated, if found.

## **Environmental Consequences**

### Sonoran Desert Tortoise Impacts Analysis:

*Analysis of Direct and Indirect Impacts:* The alternatives analysis should include an economic analysis that provides the total cost of constructing the proposed Project versus other alternatives, so the public can see how much the total cost of each alternative is. This would include an analysis of the costs of replacing all public resources that would be lost from granting the proposed Project including direct, indirect, and cumulative impacts. Please note, this analysis would include habitat replacement or restoration costs including the time needed to achieve full replacement, not just acquisition, management, monitoring, and adaptive management costs.

The Draft EA should include a thorough analysis of the status and trend of the tortoise in the action area and rangewide. Tied to this analysis should be a discussion of all likely sources of mortality for the tortoise and degradation and loss of habitat from implementation of solar development including construction, operation and maintenance, decommissioning, and restoration of the public lands. The Draft EA should use the data from focused plant and wildlife surveys in their analysis of the direct, indirect, and cumulative impacts of the proposed Project on the Sonoran desert tortoise and its habitat, any listed species, and species of concern/special status species.

We expect that the Draft EA will document how many acres would be impacted directly by solar arrays, access roads to the site, administration/maintenance buildings, parking areas, transmission



towers, switchyards, laydown areas, internal access roads, access roads along gen-tie lines, a perimeter road, perimeter fencing, substations, battery storage (e.g., the project footprint). We also request that separate calculations document how many acres of desert tortoise habitat would be temporarily and permanently impacted both directly and indirectly (e.g., “road effect zone,” etc.) by the proposed Project. As given below, these acreages should be based on field surveys for tortoises not just available models.

*Road Effect Zone:* We request that the Draft EA include information on the locations, sizes, and arrangements of roads to the proposed project and within it, who will have access to them, whether the access roads will be secured to prevent human access or vandalism, and if so, what methods would be used. The presence/use of roads even with low vehicle use has numerous adverse effects on the desert tortoise and its habitats that have been reported in the scientific literature. These include the deterioration/loss of wildlife habitat, hydrology, geomorphology, and air quality; increased competition and predation (including by humans); and the loss of naturalness or pristine qualities.

Vehicle use on new roads and increased vehicle use on existing roads equates to increased direct mortality and an increased road effect zone for desert tortoises. Road construction, use, and maintenance adversely affect wildlife through numerous mechanisms that can include mortality from vehicle collisions, and loss, fragmentation, and alteration of habitat (Nafus et al. 2013; von Seckendorff Hoff and Marlow 2002).

In von Seckendorff Hoff and Marlow (2002), they reported reductions in Mojave desert tortoise numbers and signs from infrequent use of roadways to major highways with heavy use. There was a linear relationship between traffic level and tortoise reduction. For two graded, unpaved roads, the reduction in tortoises and sign was evident 1.1 to 1.4 km (3,620 to 4,608 feet) from the road. Nafus et al. (2013) reported that roads may decrease tortoise populations via several possible mechanisms, including cumulative mortality from vehicle collisions and reduced population growth rates from the loss of larger reproductive animals. Other documented impacts from road construction, use, and maintenance include increases in roadkill of wildlife species as well as tortoises, creating or increasing food subsidies for common ravens, and contributing to increases in raven numbers and predation pressure on the desert tortoise.

Please include in the Draft EA analyses, the five major categories of primary road effects to the tortoise and special status species: (1) wildlife mortality from collisions with vehicles; (2) hindrance/barrier to animal movements thereby reducing access to resources and mates; (3) degradation of habitat quality; (4) habitat loss caused by disturbance effects in the wider environment and from the physical occupation of land by the road; and (5) subdividing animal populations into smaller and more vulnerable fractions (Jaeger et al. 2005a, 2005b, Roedenbeck et al. 2007). These analyses should be at the regional population and rangewide levels.

In summary, road establishment/increased use is often followed by various indirect impacts such as increased human access causing disturbance of species’ behavior, increased predation, spread of invasive species that alters/degrades habitat, and vandalism and/or collection. The analysis of the impacts from road establishment and use should include cumulative effects to the tortoise with respect to nearby occupied tortoise habitats. These and other indirect impacts to the Sonoran Desert

tortoise should be analyzed from project construction, operations and maintenance, decommissioning, and habitat restoration.

*Desert Tortoise Habitat Linkages/Connectivity among Populations:* The Draft EA should analyze how this proposed Project will impact the movement of tortoises relative to nearby occupied habitats. The Draft EA should include an analysis of the minimum linkage design necessary for conservation of the desert tortoise, and how the project, along with other existing projects, would impact the linkages between regional tortoise populations. We strongly request that the environmental consequences section of the Draft EA include a thorough analysis of this indirect effect (40 Code of Federal Regulations 1502.16) and appropriate mitigation to maintain the function of population connectivity for the Sonoran desert tortoise and other wildlife species. Similarly, please document how this project may impact proximate conservation areas, such as BLM-designated Areas of Critical Environmental Concern (ACECs).

During the last decade or more, the scientific community has published numerous scientific journal articles on the necessity for connectivity among populations to maintain population viability and genetic diversity (e.g., Ament et al. 2014, Heller and Zavaleta 2009)EQ , and CEQ (2023) recently issued a policy to all Federal agencies on “Guidance for Federal Departments and Agencies on Ecological Connectivity and Wildlife Corridors.” CEQ directed this guidance should be implemented in the analyses sections of all environmental assessments and environmental impacts statements. This directive would include the Draft EA.

## **Mitigation Plans**

The Draft EA should include effective mitigation for all direct, indirect, and cumulative effects to the tortoise and its habitats. The mitigation should use the best available science with a commitment to implement the mitigation commensurate to impacts to the tortoise and its habitats. Mitigation should include a fully-developed desert tortoise translocation plan, including protection of tortoise translocation area(s) from future development and human disturbance in perpetuity; raven management plan; non-native plant species management plan; fire prevention plan; compensation plan for the degradation and loss of tortoise habitat that includes protection of the acquired, improved, and restored habitat in perpetuity for the tortoise from future development and human use; and habitat restoration plan when the lease is terminated and the proposed project is decommissioned.

All plans should be provided in the Draft EA so the public and the decisionmaker can determine their adequacy (i.e., whether they are scientifically rigorous and would be effective in mitigating for the displacement and loss of tortoises and degradation and loss of tortoise habitat from project implementation). Too often, such plans are alluded to in the draft environmental document and promised later, which does not allow the reviewers to assess their adequacy, which is unacceptable. If not available as appendices in draft documents, all indicated plans must be published in the final environmental documents. Their inclusion is necessary to determine their adequacy for mitigating direct, indirect, and cumulative impacts, and monitoring for effectiveness and adaptive management regarding the desert tortoise. If these plans are not provided, it is not possible for BLM, other decisionmakers, and the interested public to determine the environmental consequences of the Project to the tortoise.

These mitigation plans should include an implementation schedule that is tied to key actions of the construction, operation, maintenance, decommissioning, and restoration phases of the project so that mitigation occurs concurrently with or in advance of the impacts. The plans should specify success criteria, include an effectiveness monitoring plan to collect data to determine whether success criteria have been met, and identify/implement actions that would be required if the mitigation measures do not meet the success criteria.

BLM Manual 6840: Special Status Species Management includes the following BLM directives (BLM 2008b) that are applicable to the Sonoran Desert tortoise:

*6840.01 Purpose.* The purpose of this manual is to provide policy and guidance for the conservation of BLM special status species and the ecosystems upon which they depend on BLM-administered lands. BLM special status species are: (1) species listed or proposed for listing under the FESA, and (2) species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the FESA, which are designated as BLM sensitive by the State Director(s).

*6840.02 Objectives.* The objectives of the BLM special status species policy are (1) to conserve and/or recover FESA-listed species and the ecosystems on which they depend so that FESA protections are no longer needed for these species, and (2), to initiate proactive conservation measures that reduce or eliminate threats to BLM-sensitive species to minimize the likelihood of and need for listing of these species under the FESA, the latter of which applies to this project. With respect to the Sonoran Desert tortoise, we request that the Proposed action or other alternatives contribute to meeting objectives in BLM Manual 6840 – Special Status Species Management (BLM 2008b).

Translocation Plan - Translocated Tortoises & Translocation Sites: How many tortoises will be displaced by the proposed Project? How long will translocated tortoises be monitored? Will the monitoring report show how many of those tortoises lived and died after translocation and over time? Are there any degraded habitats or barren areas that may impair success of the translocation? Are there incompatible human uses in the new translocation area that need to be eliminated or managed to protect newly-translocated tortoises? Were those translocation areas sufficiently isolated that displaced tortoises were protected by existing or enhanced land management? How will the proponent minimize predation of translocated tortoises and avoid adverse climatic conditions, such as low winter rainfall conditions that may exacerbate translocation success? Were tortoises translocated to a site where they would be protected from threats (e.g., off-highway vehicles, future development, etc.)? These questions should be answered in the Environmental Consequences section of the Draft EA.

The Project proponent should implement the USFWS' Translocation Guidance (USFWS 2020) and coordinate translocation with BLM and AZGFD. In addition, the proponent's project-specific translocation plan should be based on current data and developed using lessons learned from earlier translocation efforts (e.g., increased predation, drought). (see *Desert Tortoise Translocation Bibliography Of Peer-Reviewed Publications*<sup>1</sup> in the footnote).

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<sup>1</sup> [https://www.fws.gov/nevada/desert\\_tortoise/documents/reports/2017/peer-reviewed\\_translocation\\_bibliography.pdf](https://www.fws.gov/nevada/desert_tortoise/documents/reports/2017/peer-reviewed_translocation_bibliography.pdf)

The Translocation Plan should include implementation of a science-based monitoring plan approved by the USFWS and AZGFD that will accurately assess these and other issues to minimize losses of translocated tortoises and impacts to their habitat. For example, the health of tortoises may be jeopardized if they are translocated during drought conditions, which is known to undermine translocation successes (Esque et al. 2010). If drought conditions are present at the time of project development, we request that the proponent confer with the USFWS/AZGFD immediately prior to translocating tortoises and seek input on ways to avoid loss of tortoises due to stressors associated with drought. One viable alternative if such adverse conditions exist is to postpone site development until which time conditions are favorable to enhance translocation success.

Moving tortoises from harm's way, the focus of the Translocation Guidance, does not guarantee their survival and persistence at the translocation site, especially if it will be subject to increased human use or development. In addition to the Translocation Guidance and because translocation sites are mitigation for the displacement of tortoises and loss of habitat, these sites should be managed for the benefit of the tortoise in perpetuity. Consequently, a conservation easement or other durable legal designation should be placed on the translocation sites. The Project proponent should fully fund management of the site to enhance it for the benefit of the tortoise in perpetuity.

Tortoise Predators and a Predator Management Plan: Common ravens are known predators of the Sonoran desert tortoise and their numbers have increased substantially because of human subsidies of food, water, and sites for nesting, roosting, and perching to hunt (Boarman et al. 2006). Coyotes and badgers are also predators of tortoises. Because ravens can fly at least 30 miles in search of food and water daily (Boarman et al. 2006) and coyotes can travel an average of 7.5 miles or more daily (Servin et al. 2003), this analysis should extend out at least 30 miles from the proposed Project site.

The Draft EA should analyze if this new use would result in an increase in common ravens and other predators of the desert tortoise in the action area. During construction, operations and maintenance, decommissioning, and restoration phases of the proposed Project, the BLM should require science-based management of common raven, coyote, and badger predation on tortoises in the action area. This would include the translocation sites.

For local impacts, the Predator Management Plan should include reducing/eliminating human subsidies of food and water, and for the common raven, sites for nesting, roosting, and perching to address local impacts (footprint of the proposed Project). This includes buildings, fences, and other vertical structures associated with the Project site. In addition, the Predator Management Plan should include provisions that eliminate the pooling of water on the ground or on roofs.

The Predator Management Plan should include science-based monitoring and adaptive management throughout all phases of the Project to collect data on the effectiveness of the Plan's implementation and implement changes to reduce/eliminate predation on the tortoise if existing measures are not effective.

Fire Prevention/Management Plans: The proposed Project could include numerous infrastructure components that have been known to cause fires. Lithium-ion batteries at the project site have the potential to explode and cause fires and are not compatible with using water for fighting fires.

Photovoltaic panel malfunctions have caused vegetation to burn onsite. We request that the Draft EA include a Fire Prevention Plan in addition to a Fire Management Plan specifically targeting methods to deal with explosions/fires produced by these batteries/panels as well as other sources of fuel and explosives on the Project site.

Habitat Compensation Plan: The Draft EA should include an analysis of all proposed mitigation and how its implementation (including monitoring for effectiveness and adaptive management) would result in “no net loss in quantity and quality of Sonoran desert tortoise habitat....and using offsite mitigation (compensation) for unavoidable residual habitat loss.” We remind BLM of their commitment in 1991 to mitigate for habitat impacted from development (Desert Tortoise MOG 1991) and request that this commitment be honored in the Draft EA.

### **Climate Change and Non-native Plants**

Climate Change: We request that the Draft EA address the effects of the proposed action on climate change warming and the effects that climate change may have on the proposed action. For the latter, we recommend including: an analysis of habitats within the Project area that may provide refugia for tortoise populations; an analysis of how the proposed Project would contribute to the spread and proliferation of nonnative invasive plant species; how this spread/proliferation would affect the desert tortoise and its habitats (including the frequency and size of human-caused fires); and how the proposed Project may affect the likelihood of human-caused fires. We strongly urge that the BLM require the Project proponent to develop and implement a management and monitoring plan using this analysis and other relevant data that would reduce the transport to and spread of nonnative seeds and other plant propagules within the Project area and eliminate/reduce the likelihood of human-caused fires. The plan should integrate vegetation management with fire prevention and fire response.

We also expect that the Draft EA will provide a detailed analysis of the “heat sink” effects of solar development on adjacent desert areas and particularly the Sonoran desert tortoise in addition to climate change.

Impacts from Proliferation of Nonnative Plant Species and Management Plan: The Draft EA should include an analysis of how the proposed Project would contribute to the spread and proliferation of non-native invasive plant species; how this spread/proliferation would affect the desert tortoise and its habitats (including the frequency and size of human-caused fires); and how the proposed Project may affect the frequency, intensity, and size of human-caused and naturally occurring fires. For reasons given in the previous paragraph, we strongly urge that the BLM require the Project proponent to develop and implement a management and monitoring plan for nonnative plant species. The plan should integrate management/enhancement of native vegetation with fire prevention and fire response to wildfires.

### **Hydrology and Water Quality**

Regarding water quality of surface and ground water, the Draft EA should include an analysis of the impacts of water acquisition, use, and discharge for panel washing, potable uses, and any other uses associated with this proposed project, and cumulative impacts from water use and discharge on native perennial shrubs and annual vegetation used for forage by the Sonoran Desert tortoise, including downstream and downstream impacts. The Draft EA should analyze how much water is

proposed to be used during construction and operation; how any grading, placement, and/or use of any project facilities will impact downstream/downslope flows that are reduced, altered, eliminated, or enhanced. This analysis should include impacts to native and non-native vegetation and habitats for wildlife species including the Sonoran desert tortoise, for which washes are of particular importance for feeding, shelter, and movements.

Therefore, we request that the Draft EA include an analysis of how water use during construction, operations and maintenance, decommissioning, and habitat restoration will impact the levels of ground water in the region. These levels may then impact surface and near-surface flows at springs, seeps, wetlands, pools, and groundwater-dependent vegetation in the basin. The analyses of water quality and quantity of surface and ground water should include appropriate measures to ensure that these impacts are fully mitigated, preferably beginning with avoidance and continuing through CEQ's other forms of mitigation (40 CFR 1508.20).

### **Federal Land Policy and Management Act**

In 1976, Congress passed the Federal Land Policy and Management Act (FLPMA) “to establish public land policy; to establish guidelines for its administration; to provide for the management, protection, development, and enhancement of the public lands; and for other purposes.”

Congress wrote a lengthy definition of “multiple use” for the management of public lands and their various resource values. The definition included “... the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and non-renewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output.”

Congress defined “sustained yield” as the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use. The Sonoran desert tortoise and its habitats are renewable resources.

The definition of “environmental quality” is a set of properties and characteristics of the environment, either generalized or local, as they impinge on human beings and other organisms. It is a measure of the condition of an environment relative to the requirements of one or more species and or to any human need or purpose. Thus, BLM must consider the quality or condition of the environment of the Sonoran desert tortoise with respect to the species’ requirements for persistence and must maintain this habitat quality.

When analyzing and implementing aspects of the proposed Project, we request that BLM demonstrate how it is contributing effectively to the conservation of the Sonoran desert tortoise, in Arizona. We request that BLM show how mitigation for the proposed Project will do more than offset all direct, indirect, and cumulative impacts so that the status of the Sonoran desert tortoise as described herein will improve.

## Cumulative Effects

Please see *Grand Canyon Trust v. F.A.A.*, 290 F.3d 339, 345-46 (D.C. Cir. 2002) in which the court decided that agencies must analyze the cumulative impacts of actions in environmental assessments.

With regards to cumulative effects, the NEPA document should list and analyze all Project impacts within the region including future state, federal, and private actions affecting special status species on state, federal, and private lands.

Please ensure that the direction provided by CEQ in this document is followed, including the eight principles, when analyzing cumulative effects of the proposed action to the affected resource issues. This CEQ document is referenced in BLM's National Environmental Policy Act Handbook (BLM 2008a).

CEQ states, "Determining the cumulative environmental consequences of an action requires delineating the cause-and-effect relationships between the multiple actions and the resources, ecosystems, and human communities of concern. The range of actions that must be considered includes not only the project proposal but all connected and similar actions that could contribute to cumulative effects." The analysis "must describe the response of the resource to this environmental change." Cumulative impact analysis should "address the sustainability of resources, ecosystems, and human communities."

CEQ's guidance on how to analyze cumulative environmental consequences, which contains eight principles, are listed below:

**1. Cumulative effects are caused by the aggregate of past, present, and reasonable future actions.**

The effects of a proposed action on a given resource, ecosystem, and human community, include the present and future effects added to the effects that have taken place in the past. Such cumulative effects must also be added to the effects (past, present, and future) caused by all other actions that affect the same resource.

**2. Cumulative effects are the total effect, including both direct and indirect effects, on a given resource, ecosystem, and human community of all actions taken, no matter who (federal, non-federal, or private) has taken the actions.**

Individual effects from disparate activities may add up or interact to cause additional effects not apparent when looking at the individual effect at one time. The additional effects contributed by actions unrelated to the proposed action must be included in the analysis of cumulative effects.

**3. Cumulative effects need to be analyzed in terms of the specific resource, ecosystem, and human community being affected.**

Environmental effects are often evaluated from the perspective of the proposed action. Analyzing cumulative effects requires focusing on the resources, ecosystem, and human community that may be affected and developing an adequate understanding of how the resources are susceptible to effects.



**4. It is not practical to analyze the cumulative effects of an action on the universe; the list of environmental effects must focus on those that are truly meaningful.**

For cumulative effects analysis to help the decision maker and inform interested parties, it must be limited through scoping to effects that can be evaluated meaningfully. The boundaries for evaluating cumulative effects should be expanded to the point at which the resource is no longer affected significantly or the effects are no longer of interest to the affected parties.

**5. Cumulative effects on a given resource, ecosystem, and human community are rarely aligned with political or administrative boundaries.**

Resources are typically demarcated according to agency responsibilities, county lines, grazing allotments, or other administrative boundaries. Because natural and sociocultural resources are not usually so aligned, each political entity actually manages only a piece of the affected resource or ecosystem. Cumulative effects analysis on natural systems must use natural ecological boundaries and analysis of human communities must use actual sociocultural boundaries to ensure including all effects.

**6. Cumulative effects may result from the accumulation of similar effects or the synergistic interaction of different effects.**

Repeated actions may cause effects to build up through simple addition (more and more of the same type of effect), and the same or different actions may produce effects that interact to produce cumulative effects greater than the sum of the effects.

**7. Cumulative effects may last for many years beyond the life of the action that caused the effects.**

Some actions cause damage lasting far longer than the life of the action itself (e.g., acid mine damage, radioactive waste contamination, species extinctions). Cumulative effects analysis needs to apply the best science and forecasting techniques to assess potential catastrophic consequences in the future.

**8. Each affected resource, ecosystem, and human community must be analyzed in terms of its capacity to accommodate additional effects, based on its own time and space parameters.**

Analysts tend to think in terms of how the resource, ecosystem, and human community will be modified given the action's development needs. The most effective cumulative effects analysis focuses on what is needed to ensure long-term productivity or sustainability of the resource.

Note that CEQ recognizes that synergistic and interactive impacts as well as cumulative impacts should be analyzed in the NEPA document for the resource issues.

We request that the Draft EA (1) include these eight principles in its analysis of cumulative impacts to the Sonoran desert tortoise, especially #3, 5, 7, and 8; (2) use the best available science when conducting this analysis; (3) address the sustainability of the tortoise in/near the Project area; and (3) include effective science-based mitigation, monitoring, and adaptive management that protect desert tortoises and their habitats during BLM's implementation of the proposed Project.

As a signatory to the Agreement (USFWS et al. 2015), BLM committed to manage for the tortoise with the goal of conserving the Sonoran desert tortoise and its habitat on BLM-managed lands in cooperation with other agencies and to implement:

- (1) BLM Manual 6840 (BLM 2008b) that establishes specific procedures for managing the Sonoran desert tortoise as it is a BLM sensitive species;
- (2) landscape level conservation measures (e.g., identifying areas of potential conflict between agency mission and Sonoran desert tortoise habitat and identifying and reducing or otherwise mitigating dispersal barriers between Sonoran desert tortoise populations, etc.); and
- (3) local level conservation measures (e.g., considering the effects of actions on the Sonoran desert tortoise during the planning process, and avoiding or minimizing impacts, or implementing mitigation measures to offset impacts to tortoise populations and habitat where practical and feasible, avoid, where practicable, or otherwise minimize or mitigate adverse effects of actions that could result in isolation of known Sonoran desert tortoise populations and/or landscape-level fragmentation of Sonoran desert tortoise habitat, etc.).

These three measures may only be effectively implemented when BLM has data on the status and trend of tortoise populations on the lands it manages, and where the direct and indirect impacts to the tortoise are occurring, especially at a landscape level.

The Council is concerned about projects and management decisions that contribute to degradation and loss of tortoise habitat (including habitat needed for connectivity among populations) (CEQ 2023) from habitat fragmentation, activities that introduce and spread non-native plant species, wildfires, etc., and ultimately result in a reduction of tortoise numbers and/or densities. To conduct an accurate regional or cumulative effects analysis and comply with the Agreement, BLM would need to track these and other impacts to the tortoise at a local and landscape level using a geospatial tracking system for all management actions and projects that it authorizes, funds, or implements.

We request that BLM implement such as tracking system and add the proposed Project, its impacts, and monitoring data, and effectiveness of mitigation for each project to the system. Without such a tracking system, BLM is unable to analyze cumulative impacts (e.g., surface disturbance, paved and unpaved routes, linear projects, invasive species occurrence, herbicide/pesticide use, wildfires, etc.) to special status species (e.g., Sonoran desert tortoise) with any degree of confidence. Without such a tracking system, BLM is unable to determine whether its management for the tortoise complies with its commitment in the Candidate Conservation Agreement for the Sonoran Desert Tortoise (Agreement) (USFWS et al. 2015) to implement landscape level conservation measures (Section 9.1.1), local conservation measures (Section 9.1.2), and Agency-Specific Species and Habitat Conservation Actions (Section 9.2.1 for BLM). Please add this proposed Project to this data base and geospatial tracking system and explain in the NEPA document how the proposed Project with required mitigation will adhere to these commitments in the Agreement including in section 9.2.1 “[r]enewable energy projects have been sited to avoid all occupied SDT habitat. Roads, pipelines and transmission lines have been designed to minimize impacts to SDT habitat or mitigated to achieve no net loss.”

When BLM completes its analysis of cumulative effects following CEQ’s direction, it is likely to indicate these impacts to the Sonoran desert tortoise, its habitat, and/or population connectivity are substantial. If so, then BLM must prepare an environmental impact statement (EIS). We request that this rigorous analysis of all impacts to the tortoise be transparently shown in the NEPA document and that BLM consider preparing an EIS rather than an EA.

We appreciate this opportunity to provide scoping comments on this project and trust they will help protect tortoises during any resulting authorized activities. Herein, we reiterate that the Desert Tortoise Council wants to be identified as an Affected Interest for this and all other projects funded, authorized, or carried out by the BLM that may affect desert tortoises, and that any subsequent environmental documentation for this project is provided to us at the contact information listed above. Additionally, we ask that you respond in an email that you have received this comment letter so we can be sure our concerns have been registered with the appropriate personnel and office for this project.

Respectfully,



Edward L. LaRue, Jr., M.S.  
Desert Tortoise Council, Ecosystems Advisory Committee, Chairperson

cc. Heather Whitlaw, Field Supervisor, Arizona Ecological Services Field Office (Phoenix), U.S. Fish and Wildlife Service, [heather\\_whitlaw@fws.gov](mailto:heather_whitlaw@fws.gov)  
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