

August 31, 2023

Joanne Snarski
Energy Facility Siting Specialist
Washington Energy Facility Site Evaluation Council
PO Box 43172
Olympia, WA 98504 -3172

Re: Responses to Data Request 2 for Carriger Solar, LLC Project Application for Site Certificate

Dear Ms. Snarski,

Cypress Creek Renewables, LLC, (CCR) is submitting the enclosed responses to Data Request 2 for the Carriger Solar, LLC Project (Project) Application for Site Certification (ASC) submitted on February 10, 2023, to the Washington Energy Facility Site Evaluation Council (EFSEC). Data Request 2 was received by CCR on 07/26/2023. The response package includes a table with CCR's associated responses. If you have any questions or require further information, please contact me at: lauren.altick@ccrenew.com.

Sincerely,



Lauren Altick
Project Developer

Cc:

Sean Greene, EFSEC
Tai Wallace, CCR
John Hanks, CCR
Julie Alpert, CCR
Leslie McClain, Tetra Tech

Redacted under EFSEC code 9 Archaeological Sites

Any site form, report, specific fields and tables relating to site form data within a database, or geographic information systems spatial layer obtained by any state agency or local government, or shared between any state agency, local government, or tribal government, is exempt from disclosure under this chapter pursuant 42.56.300(3)

Item	Section	Report	Information Request	Applicant Response
DR-WLF-01	Wildlife	ASC	<p>Original Request: The ASC does not discuss potential indirect effects to wildlife from sensory disturbance or other behavioral changes that may reduce the function of adjacent habitat. Identify the indirect loss of habitat.</p> <p>EFSEC Clarification:</p> <p>Sensory disturbance are changes from the project that deters wildlife from an area or affects wildlife's ability to perform typical behaviours. Changes in noise and light are the two most common sources of sensory disturbance considered. Changes in noise can deter wildlife from an area or require birds to change behaviour (e.g. the level at which birds sing) to compensate. Similarly, light can attract wildlife or deter wildlife. While these are the most common sources considered there can be other sources such as changes in human presence and creation of dust. Sensory disturbance contributes to indirect habitat loss; that is the change in the quality/ suitability of habitat due to changes in habitat condition. The habitat remains present but these changes in condition mean wildlife do not use the habitat in the same way as before the project was built.</p>	<p>Development of the Carriger Solar, LLC Project (Project) will result in a change in land use from active agricultural to a utility scale solar generating facility. Approximately 80% of the Project's Maximum Project Extent (MPE) is under agricultural uses which date back to the early 1900s. The minimal acreage of native habitats and associated wildlife within the MPE have been under the influence of direct and indirect agricultural and livestock grazing practices for many years along with the development of housing, associated infrastructure, and local, state, and federal projects such as roadways, state highways, fish hatchery, hunting areas, and 500kV powerlines and substations within and around the Project.</p> <p>Once the Project is constructed, areas outside of the MPE will remain open to wildlife movement and function with no change to these systems (riparian, streams, and wetlands) and areas within the MPE will have required regulatory buffers to further protect waters, wetlands, and adjacent native habitats and wildlife such as migratory birds, invertebrates, amphibians, and mammals. These buffers are meant to protect surrounding native habitats that include woodland/pine forests and stream courses, such as Spring Creek which flows westward through the WDFW fish hatchery and managed hunting lands to the west of the Project. Woodland/pine forests located outside of the MPE in the northwestern portion of the Project have documented State listed as Threatened western gray squirrel. Based on consultations with WDFW the Project has created adequate permanent buffers from known western gray squirrel habitat and adequate seasonal buffers during the breeding season. A plan will be in place to reduce impacts to this listed species during the breeding season (March 1 to August 31) by phasing construction activities within the 400-foot seasonal buffer. The Applicant has worked to design the Project to avoid other environmental impacts such as unnecessary soil disturbance, tree cutting, and sedimentation and stormwater runoff. Therefore, the Project is not expected to significantly reduce the function of habitat adjacent to the MPE.</p> <p>The Project has addressed potential sensory disturbances to wildlife by integrating proposed best management practices (BMPs) to adequately reduce these impacts. BMPs are discussed in Part 2, Section A.5 of the ASC and in Part 4. Sensory disturbances discussed include noise and human presence, light, and air quality. Noise and human presence are combined for obvious reasons in relation to construction activities.</p> <p>Noise and Human Presence: Noise modeling completed for the Project was focused on fixed receptors (i.e., residences) rather than randomly selected points where wildlife may occur. Therefore, the use of noise modeling as a method to predict what might happen if wildlife is present during construction or operations is at best conservative. In other words, wildlife experiencing noise from the Project would need to be present, which is not a scenario that will occur 100% of the time. While fixed receptors are always there and will always be experiencing the noise, it would be an ephemeral experience for most wildlife that are not otherwise actively breeding, nesting, or denning.</p> <p>According to the Project's Acoustic Assessment Report (Attachment H of the ASC), noise will travel outside of the site at moderate to high levels during construction. The noise models show moderate noise levels, between 60-70 dBA, traveling up to 5,304 feet and high noise levels, above 70 dBA, up to 5,181 feet from the Project MPE during construction. There are some key things to consider regarding what this could mean for direct or indirect impacts to wildlife in the area.</p> <ol style="list-style-type: none">1. Even though the noise modeling made the conservative assumption that these noise levels would be occurring 100% of the time, that would not be the case. The source of the loudest construction noise would come from large equipment (e.g., bulldozers and excavators) and pile drivers. These sources would only be present during a portion of construction, including site grading and road installation and pile driving.2. Construction would only occur during the day. There would be no noise or human presence at night. By limiting construction to only daytime hours potential impacts on wildlife within one mile of the Project are greatly reduced.3. As discussed above, the Project will be phased so that construction activities are minimized near the most sensitive and fixed wildlife resource, documented nesting habitat for western grey squirrels. <p>It is reasonable to assume that some animals may avoid an area due to sustained moderate to high noise levels and associated human presence, but it is not something easily measured. Animals that may be temporarily displaced due to loud noise and/or human presence need first to have the ability to move away. During critical periods of breeding, nesting, denning, and rearing of young, this may not be case, however, during non-critical periods, most wildlife to include larger game species such as mule deer, will have the ability to move away from such disturbances. It is possible, for instance, that mule deer may avoid the environs near the Project while construction activities are happening during the day. But it is similarly conceivable that they would still use those areas at night or during times when noise levels are lower. Also, since construction activities will be occurring for approximately one year it is possible that some individuals will acclimate once the initial threat response diminishes. Mule deer are highly adaptable, routinely interacting with human infrastructure and disturbances (e.g., roads, residences, lawnmowers, generators, etc.) and/or human presence where similar loud noises are routinely experienced.</p> <p>Any indirect effects from noise and/or human presence on wildlife would be confined to the construction period when site preparation, grading and excavation, and solar equipment installation is occurring. Mitigation measures to reduce noise during construction will be implemented as summarized in the Acoustic Assessment Report (Attachment H of the ASC) and Part 2, Section A.5 of the ASC and these measures are anticipated to fully mitigate both direct and indirect effects to wildlife to a less than significant level in concert with construction phasing and timing. During operations, noise modeling shows that the facility will not generate noise above a "quiet" level, a level that is comparable to background (current) conditions. There will be no indirect effects on wildlife from noise during facility operations.</p> <p>Light: Night lighting can disorient or attract birds to solar facilities. Foraging bats can be attracted to lights because of insects lured by the light source. It should be noted that the Project's Acoustic Assessment Report (Attachment H of the ASC) identified a total of 136 noise sensitive receptors (i.e., residences) within roughly one mile of the facility. Presumably each of those residences produces some light, so the area around the proposed facility already has some baseline light that could currently be influencing the behavior of crepuscular or nocturnal animals. Taking this factor into account and to help mitigate this impact to wildlife, Project site security lighting will be designed to minimize light pollution and take into consideration lighting initiatives that aim to reduce impacts to wildlife and will therefore not appreciably change the amount of light present on the landscape either during construction or operations.</p>

				<p>Air Quality: Poor air quality, including heavy dust loads, may cause direct and indirect impacts to wildlife in the local area. To mitigate this potential impact, the Project will incorporate all best management practices to control exhaust emissions and dust during construction. Mitigation measures to be implemented will include but not be limited to employing Project site-wide dust control measures, reduce idling equipment time, protecting soil stockpiles from wind erosion, and ensuring that active construction activities are both preceded and followed by water trucks where and when applicable. These measures will significantly reduce onsite and offsite impacts to wildlife.</p>
Data Request 2-1	4.18 Archaeological and Historical Resources - 4.18.C Existing Condition and Issues		<p>The ASC states that the Project is designed to avoid direct impacts on cultural resources that are unevaluated or eligible for listing in the National Register of Historic Places (NRHP). The ASC does not define direct impacts as they pertain to cultural resources. Direct impacts could include physical disturbance, visual effects, or disruption to the setting of an archaeological site or historic property. Please define and direct impacts that may occur as a result of this project.</p>	<p>Direct impacts are considered to be physical disturbance to an archaeological resource or historic building or structure. Indirect impacts are considered visual effects to the setting of the archaeological site or historic building or structure. These definitions are also consistent with references to direct and indirect impacts in the original Draft Cultural Resource Survey Report (Attachment I to the ASC) and in the Revised Draft Cultural Resources Survey Report (submitted with responses to Data Request 1). For example, in the discussion of management recommendation to Property ID 727069 (Knight-Ostrander No. 1 Transmission Line) in Section 7.5.1.1 (page 99) of the Cultural Resource Survey Report, direct impacts on this resource are referenced as alterations to the property while indirect impacts are referenced as changes to the integrity of the setting. As the Project is designed to avoid physical disturbance to an archaeological resource or historic building or structure that are unevaluated or eligible for listing on the National Register of Historic Places (NRHP), the Project is not anticipated to have direct impacts to these resources. Furthermore, as stated in Section 8.0 of the Draft Cultural Resource Survey Report, potential visual impacts from the Project on the transmission lines, the individual buildings determined to be eligible for listing on the NRHP, and the two historic properties that were left unevaluated/potentially eligible are not considered significant because the Project will not impact the integrity of these resources eligible for listing on the NRHP. Therefore, pending DAHP concurrence, no further management for those resources is recommended.</p>
Data Request 2-2	4.18 Archaeological and Historical Resources - 4.18.B Existing Condition and Issues	Attachment I	<p>The ASC states that the cultural resources survey identified 41 cultural resources. However, a total of 44 were reported in confidential Attachment I. In addition, the ASC states that 16 historic property sites were identified on adjacent parcels. However, confidential Attachment I states that 19 historic property sites were identified on adjacent parcels. Please confirm the correct number of identified Cultural Resources and clarify the total number of historic properties identified on adjacent parcels.</p>	<p>The correct number of documented cultural resources is 44. This includes 19 newly recorded historic property sites documented outside the Cultural Resource Survey Area (within the built environment survey area).</p> <p>The ASC and Draft Cultural Resource Survey Report (Attachment I) both correctly state that the cultural resource survey documented the following 25 sites/properties within the Survey Area:</p> <ul style="list-style-type: none"> 1 previously recorded archaeological site: <ul style="list-style-type: none"> Archaeological site 45KL01989. 2 previously recorded historic properties (transmission lines), including: <ul style="list-style-type: none"> 727069-Knight-Ostrander No. 1 Transmission Line (previously Wautoma–Ostrander No. 1); and 115632 North Bonneville-Midway No. 1 Transmission Line 22 newly recorded archaeological sites, including: <ul style="list-style-type: none"> 10 historic [REDACTED] (45KL02598, 45KL02599, 45KL02600, 45KL02601, 45KL02602, 45KL02617, 45KL02618, 45KL02604, 45KL02606, 45KL02613), 6 historic-era [REDACTED] (45KL02597, 45KL02607, 45KL02608, 45KL02610, 45KL02611, 45KL02612), 4 [REDACTED] (45KL02616, 45KL02605, 45KL02619, 45KL02609), and 2 historic [REDACTED] (45KL02603 and 45KL02620). <p>However, the ASC incorrectly states that 16 newly recorded historic property sites were identified on adjacent tax parcels surrounding the Cultural Resource Survey Area. The correct number of historic property sites identified on adjacent tax parcels is 19 (as correctly documented in the Draft Cultural Resource Survey Report). The 19 historic property sites on adjacent parcels included a total of 79 buildings and structures on farms or agricultural properties. All of the sites that were found were historic era sites and no pre-contact era sites were discovered. See Section 7.5.2 in the Draft Cultural Resources Survey Report for more details.</p> <p>Therefore, the discrepancy between the 41 cultural resources referenced in the ASC and the 44 cultural resources referenced in the Draft Cultural Resource Survey Report (Attachment I) is due to the error in referencing 16 historic property sites identified on adjacent tax parcels rather than 19 historic property sites.</p>
Data Request 2-3			What is the tallest height of any proposed structure(s)?	<p>The tallest height of any proposed structure is 40 feet for the wood or steel poles associated with the overhead collection system that will connect the Project substation to the Bonneville Power Administration Knight Substation, or the point of interconnection. A description of the general overhead collection system is outlined in Section 3.1.3 Additional Project Electrical and Communication Equipment on page 24 of the ASC (Part 2, Section A.2).</p>
Data Request 2-4			What measures are proposed to reduce or control aesthetic impacts?	<p>Aesthetics are discussed in Section 4.16 of the ASC. As noted in Section 4.16b, the Project will implement BMPs including:</p> <ul style="list-style-type: none"> Downward-directed and shielded lighting to minimize horizontal or skyward illumination, and avoidance of steady-burning, high-intensity lights. Utilizing solar panels with an anti-reflective coating to minimize glare. Maintenance of revegetated surfaces until the vegetation has been established. <p>As discussed in the Project's Visual Impact Assessment, the Project infrastructure has been designed to minimize contrast with the surrounding vicinity, which includes the existing electrical infrastructure of the Knight Substation and several existing BPA transmission lines. The Project facilities are located adjacent to this existing electrical infrastructure in order to visually blend in with it. Other measures to minimize visual contrast will include using non-reflective materials and finishes on Project components and post-construction vegetation restoration of temporarily disturbed areas.</p> <p>The Project has been designed to avoid impacts to existing adjacent residences through implementation of setbacks (minimum of 500 feet from closest non-participating residence). Seven Key Observation Points (KOPs) were selected using the criteria described in the Visual Impact Assessment and three-dimensional visual simulations were created from each KOP to approximate the visual conditions resulting with Project implementation. As discussed further in Section 6.0 of the Visual Impact Assessment, the Project infrastructure generally will introduce weak to moderate visual contrast with the surrounding landscape, depending on viewing location, topographic factors, and other landscape features such as existing vegetation and land uses.</p>

				<p>It is understood by the Applicant that strong visual contrast will occur along Knight Road (see KOPs 3 and 5) but the views of the project would be short in duration and the Project components would be consistent with other horizontal and vertical lines and geometric shapes visible throughout the landscape and would not block views of the hills and mountains in the background. Knight Road does not have stopping points for scenic vistas or other tourist attractions. It is primarily used by local residents traveling to and from residences and work locations, shopping, or other errands. This viewer group is likely to produce relatively minimal traffic volumes because of the scattered resident population around the Project Site Control Boundary. Motorist views of the Project components would be short in duration and confined to a relatively narrow field of view.</p> <p>Views from the non-participating houses near KOPs 3 and 5 were assessed to have moderate visual contrast due to the distance from the Project components and due to the fact that the Project components would be consistent with other horizontal and vertical lines and geometric shapes visible throughout the landscape and would not block views of the hills and mountains in the background.</p> <p>In contrast to Knight Road, a greater number of motorists would be expected on SR-142, immediately south of the Project Site Control Boundary; however, only a small section of the Project would be visible within 100 feet of SR-142. A view of the Project from SR-142 is provided in KOP 1. Moderate visual contrast will occur along SR-142, but views of the Project components would be short in duration and confined to a relatively narrow field of view. Furthermore, where the Project is visible from any roads or residences in the Project vicinity, the Project components would be consistent with other horizontal and vertical lines and geometric shapes visible throughout the landscape and would not block views of the hills and mountains in the background.</p>
Data Request 2-5	Part 2 - 3.0 Project Components - 3.4 Operations and Maintenance Building		What is the exterior building material(s) proposed for the O&M facility?	<p>The exterior building material for the O&M facility will be LP SmartPanel siding with an EPDM roof. LP SmartSide Trim and Siding is made from engineered wood that is treated with their proprietary SmartGuard® process, which includes four components of protection that helps it to withstand weather-related, fungal decay and termite damage. To help minimize glare and better conform with its surrounding conditions, darker colored flashing and a flat, neutral colored paint will be utilized. The EPDM roof will consist of a durable, fire resistant synthetic rubber material.</p>