

**CASE NO. 2020-00040**  
**TURKEY CREEK SOLAR, LLC**  
**RESPONSES TO SITING BOARD'S SECOND REQUEST FOR INFORMATION**  
**ON REHEARING TO TURKEY CREEK SOLAR, LLC**

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**1. Refer to Turkey Creek's response to Siting Board Staff's First Request for Information on Rehearing (Staff's First Request), Item 3.c.**

**a. State whether there is an industry best practice standard as it relates to mitigation of noise and visual impacts at solar sites in general.**

Turkey Creek is not aware of an industry best practice standard as it relates to mitigation of noise and visual impacts at solar sites, except that the solar industry encourages listening to the communities in which projects are located and working with those communities to address their concerns and needs. Whether a particular project will require noise or viewshed mitigation measures is site-specific, depending upon the site's location and proximity to neighboring structures; elevation, terrain, and existing vegetation; identified concerns of the community and other stakeholders; and local ordinances or permitting requirements. A solar project located in a remote area bordering only acres of vacant and unimproved land will not raise the same noise and viewshed concerns as a solar project located next to a neighborhood subdivision or area with frequent commercial activity.

With respect to viewshed, the visual impact of solar projects is minimal because of the low profile of the installed system, which is usually no higher than 15 feet above the ground. At Turkey Creek, the estimated height of the panels from the ground is expected to be 8 to 12 feet, which is approximately the height of a one-story single-family home. Silicon Ranch's historical approach to viewshed has been to start with a site plan that complies with local zoning, permitting, and similar ordinances (if any) and then to engage with the community on any precise concerns raised during stakeholder meetings or public hearings. This engagement often allays community members' fears of adverse visual impacts, but where concern still exists, Silicon Ranch works with the impacted individuals to identify effective, cost-efficient remedial

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measures, which may result in modifications to the site plan narrowly tailored to address those specific impacts.

With respect to noise, the ordinary operation of solar projects does not generate loud noise. In a key study conducted by the Massachusetts Clean Energy Center and frequently referenced in the solar industry, researchers measured from various distances the sound produced by three solar projects operating in optimal conditions.<sup>1</sup> The study found that the projects were “loudest” (i.e., had the highest noise levels) standing ten feet from the inverter, measuring 72.7 dB, 60.8 dB, and 60.9dB, respectively—similar to the level of a normal conversation (65 dB).<sup>2</sup> From that point, noise levels continued to decrease as distance from the noise source increased. For comparison, the anticipated noise levels of Turkey Creek’s inverters located 300 feet from the property boundary nearest a residence, *as measured at such property boundary*, are only 47.78 dB (if using a central inverter) or 35.18 dB (if using string inverters)—roughly the level of a whisper (30-40 dB).<sup>3</sup> Consequently, because operating solar projects do not generate loud noise, there is little need for an industry-standard approach and no single “best practice.” To the extent a particular solar project’s location makes noise an exceptional concern, Silicon Ranch has found setbacks to be a common place solution, but noise is not a regular concern of solar projects meriting specific industry action.

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<sup>1</sup> *Study of Acoustic and EMF Levels from Solar Photovoltaic Projects*, prepared by Tech Environmental, Inc., for Massachusetts Clean Energy Center, December 17, 2012. Available at <https://files.masscec.com/research/StudyAcousticEMFLevelsSolarPhotovoltaicProjects.pdf>.

<sup>2</sup> Id.

<sup>3</sup> Noise Addendum, Turkey Creek Solar Facility, dated October 13, 2020, to Noise and Traffic Assessment, dated March 19, 2020, prepared by POND.

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**b. State whether there is an industry best practice standard as it relates to mitigation of noise associated with the tamping process during construction at solar sites.**

Response:

Turkey Creek is not aware of an industry best practice standard as it relates to mitigation of noise associated with the tamping process during construction at solar sites. While tamping piles may be a more integral part of the construction process on a ground-mounted solar project than on other types of structures, Turkey Creek is not aware of a reason the construction noise on a solar project site is unique compared to any other type of commercial or industrial site, thereby requiring special industry attention or practices. In Silicon Ranch's experience, local authorities have typically treated solar project construction in the same manner as any other type of commercial construction activity; to the extent local ordinances or building permits place restrictions on the time, place, or manner (including noise) of construction, Silicon Ranch will comply with those, but it is not aware of specific measures to address tamping.

Turkey Creek has acknowledged that tamping will likely produce the highest noise levels during the construction period, and it understands that neighbors do not want to endure loud construction for an extended duration. In this way, Turkey Creek believes its neighbors' and its interests may be aligned—Turkey Creek similarly desires to complete construction in a time-efficient manner, on schedule, and with limited interruptions. For that reason, in its Petition for Reconsideration and prior response to the Siting Board's Requests for Information, Turkey Creek has requested permissible working days of Sunday through Saturday and permissible working hours of 6 a.m. until 9 p.m. These periods maximize available working hours, thereby shortening the overall construction duration and disruption to neighbors. However, Turkey Creek

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is amenable to limiting tamping specifically to between the hours of 7 a.m. until 7 p.m., Monday through Saturday, so that neighbors are not disturbed in the early morning or late evening hours or on Sundays. Turkey Creek still requests that it be permitted to carry on other, non-tamping activities during these designated quiet periods because such other activities will not generate nearly as much sound as tamping.

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**2. Refer to Turkey Creek's response to Staff's First Request, Item 3.e.**

**a. Provide the estimated total cost of the non-mature vegetative buffers that will be implemented as indicated on the preliminary site layout plan.**

Response: After further review by one of Silicon Ranch's EPC contractors, the total estimated cost of the non-mature (3-foot-tall) vegetative buffer to be implemented as indicated on the preliminary site layout plan is approximately \$159,000. This estimate assumes roughly 0.75 miles of vegetative buffer as indicated in the preliminary site plan with two staggered rows of 3-foot-tall evergreen shrubs, a 15-foot distance between trees in the same row, and a 7.5-foot horizontal distance between trees in alternating rows. This does not include the ongoing maintenance cost of the vegetative buffer throughout project operations. The provided estimate is preliminary and is not based on a formal quote. Additional time and site-specific review during the EPC analysis are required to provide a more accurate estimate.

**. Provide the estimated total cost of planting mature vegetative buffers if those buffers were implemented as marked on the preliminary site layout plan.**

Response: After further review by one of Silicon Ranch's EPC contractors, the total estimated cost of the mature (6-foot-tall) vegetative buffer to be implemented as indicated on the preliminary site layout plan is approximately \$278,000. This estimate assumes roughly 0.75 miles of vegetative buffer as indicated in the preliminary site plan with two staggered rows of 6-foot-tall evergreen shrubs, a 15-foot distance between trees in the same row, and a 7.5-foot horizontal distance between trees in alternating rows. This estimate does not include the ongoing maintenance cost of the vegetative buffer throughout project operations. The provided estimate is preliminary and is not based on a formal quote. Additional time and site-specific review during the EPC analysis are required to provide a more accurate estimate.

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**3. Refer to Turkey Creek's response to Staff's First Request, Item 3.f(3). Provide the estimated total cost of the alternate buffer configuration assuming that the vegetative buffer would be located as indicated in the preliminary site layout plan.**

Response: After further review by one of Silicon Ranch's EPC contractors, the total estimated cost of an alternate vegetative buffer with a combination of 3- and 6-foot-tall evergreen shrubs in the locations indicated in the preliminary site layout plan is approximately \$218,000. This estimate assumes roughly 0.75 miles vegetative buffer as indicated in the preliminary site plan with two staggered rows of alternating 3- and 6- foot-tall evergreen shrubs, a 15-foot distance between trees in the same row, and a 7.5-foot horizontal distance between trees in alternating rows. This estimate does not include the ongoing maintenance cost of the vegetative buffer throughout project operations. The provided estimate is preliminary and is not based on a formal quote. Additional time and site-specific review during the EPC analysis are required to provide a more accurate estimate.

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**4. Refer to Turkey Creek's response to Staff's First Request, Item 4. Provide the estimated total cost of the green slats and temporary canvas fencing.**

Response: After further review by one of Silicon Ranch's EPC contractors, the total estimated cost of the green slats added to the 6-foot-tall chain link fence proposed in the preliminary site plan is \$39,600. The total estimated cost of the green fence canvas is \$59,400. The cost of these alternative visual mitigation measures assumes the same total length of 0.75 miles. This estimate does not include the ongoing maintenance cost of these measures throughout project operations. The provided estimate is preliminary and is not based on a formal quote. Additional time and site-specific review during the EPC analysis are required to provide a more accurate estimate. Although Turkey Creek has suggested the 3-foot-tall vegetative buffer as a sufficient visual buffer to mitigate potential viewshed impacts, Silicon Ranch believes green slats would be equally as effective in mitigating impacts while presenting the least-cost option.

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**5. Refer to Turkey Creek's response to Staff's First Request, Item 6.b. State whether construction work on Sundays is similar to construction work done that is typically done during the nighttime hours of 6 p.m. to 9 p.m., i.e., work that is reserved to make up for delays or limited to electrical work once the project is energized.**

Response: Work on Sundays will typically be similar to work completed in the nighttime hours of 6 p.m. to 9 p.m., that is, work to make up for weather delays or other productivity issues in order to meet the project schedule milestones. This work that is relatively quiet and non-disruptive. Weekend work will only be used as necessary and will comply with all contractual and Kentucky law. As detailed in its response to Question 1.b., Turkey Creek is amenable to limiting tamping to between the hours of 7 a.m. until 7 p.m., Monday through Saturday, with no tamping on Sunday or in the early morning or evening hours. Aside from tamping, Turkey Creek is proposing no other restrictions to the work that is performed on Sunday or between the hours of 6 a.m. until 7 a.m. or 7 p.m. until 9 p.m. Restricting other activities on will significantly limit a contractor's ability to work around delays.

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**6. Refer to Turkey Creek's response to Staff's First Request, Appendix A.**

**a. Confirm that the reference at the top of the schedule to 70 MWdc is equivalent to 50 MWac.**

Response: Turkey Creek confirms that the reference at the top of the schedule to 70 MWdc (direct current) is equivalent to 50 MWac (alternating current).

**b. Regarding the Pile Install, which is expected to last 105 days from March 15, 2022, until August 7, 2022, provide a detailed estimate of the number of days and estimated dates of when the actual tamping process will occur.**

Response: Turkey Creek estimated the duration of the "Pile Install" in the schedule attached to the Responses to Siting Board's First Request for Information based on the duration of pile installation on another, similarly sized Silicon Ranch project; however, Turkey Creek's estimated period also includes time for planning and surveying the pile locations, in addition to the installation itself. The length of time required for pile installation may vary between 75 and 110 days, but the duration of the actual tamping process may vary between 55 and 90 days, as this typically includes a period of planning and potential remedial work. As detailed in its response to Question 1.b., Turkey Creek is amenable to limiting tamping to between the hours of 7 a.m. until 7 p.m., Monday through Saturday, with no tamping on Sunday or in the early morning or evening hours. The loudest anticipated noise for the tamping process is less than 85 decibels at 300 feet and even less at the nearest residence, which is approximately 400 feet the closest pile-driving location. The duration of tamping at any one location would be relatively brief as the tamping would occur for approximately 20% of an hour at each module site, and a majority of the modules will be over 2,000 feet from the nearest residence.

WITNESS: Stefan Eckmann