

April 1, 2024

Urban County Planning Commission
Division of Planning – Planning Services Section
101 E Vine Street, Floor 7
Lexington KY 40507

Re: ZOTA Application - Solar Energy Systems Zoning Ordinance

Dear Members of the Planning Commission:

This firm represents Silicon Ranch with respect to its text amendment request to create a new article of the Zoning Ordinance (the “Solar Energy Systems Zoning Ordinance”) to facilitate the siting, development, construction, installation, and decommissioning of solar energy systems (“SEs”) in Lexington-Fayette Urban County in a predictable manner. The text amendment designates SEs as either a permitted use or conditional use in each zone and further sets forth the development standards and specifications applicable to SEs in each zone. America needs both renewable energy and productive, resilient farms and ranches. The intent of this text amendment is to balance the potential conflicts between these two land uses and to provide guidance on how and where our community will encourage SEs, while protecting our farmland.

Silicon Ranch is a full-service solar and carbon solutions company that owns and operates solar projects in 15 states coast to coast. Silicon Ranch specializes in agrivoltaic projects, which is its proven, holistic approach to designing, building, and operating projects in alignment with natural systems to regenerate soil health, biodiversity, water quality, and habitat. At many project sites, Silicon Ranch partners with or employs in-house local farmers, ranchers, and land managers to keep the solar project land in agricultural production. At such agrivoltaic project sites, Silicon Ranch produces two crops on one piece of land – renewable solar energy and pasture-raised lamb. The livestock are managed intentionally to restore the project sites to functioning grassland ecosystems. Silicon Ranch’s agrivoltaic projects demonstrate how our community can grow its renewable solar energy production and protect our farmland.

During our initial discussions with planning staff, Silicon Ranch proposed to only address SE projects outside of the Urban Service Boundary with this text amendment. However, planning staff suggested that a more comprehensive approach would benefit the community. Therefore, Silicon Ranch’s text amendment now addressed SEs in each zone.

Silicon Ranch based this text amendment upon review of best practices from across America. It has tailored its proposal to encourage appropriate siting of SESs, protection of the correlative rights of landowners to the use and enjoy of their lands, and to ensure that our agricultural land can be concurrently used for solar energy production and farming into the future. The proposed text of the Solar Energy Systems Zoning Ordinance is attached as Exhibit A hereto.

The Comprehensive Plan commits to community-wide net zero greenhouse gas emissions by the year 2050 and the development of SEs is critical to meet this goal. Significantly more renewable energy, including solar, is needed in America to reduce greenhouse gas emissions and combat the climate crisis. This transition is necessary to mitigate global warming and minimize the impact of droughts, floods, extreme heat, and other effects of climate change that impact both urbanites and farmers.

However, presently, SESs are not expressly permitted in any zone under the Zoning Ordinance. The Solar Energy Systems Zoning Ordinance is intended to establish the construction and operation of SESs as an allowed land use activity, to provide for the appropriate siting and development of SESs, and to encourage the growth of the renewable solar energy in Lexington-Fayette Urban County, while protecting our farmland.

This text amendment would allow for the development of SESs at different scales and in different zones throughout our community. As previously stated, SESs are not expressly recognized as land uses under the Zoning Ordinance, provided there are certain existing provisions that limit the maximum height of solar heating and solar collection devices. The Solar Energy Systems Zoning Ordinance distinguishes between SESs by type and size and, depending on such categorization, designates SESs as either permitted or conditional use in each zone identified under the Zoning Ordinance. Further, the Solar Energy Systems Zoning Ordinance establishes the development standards and specifications applicable to each category of SES, including restrictions and requirements meant to achieve the dual goals of expanding renewable solar energy generation and protecting farmland. Finally, the Solar Energy Systems Zoning Ordinance also addresses information to be provided by SESs regulated by the Kentucky State Board on Electric Generation and Transmission Siting (“Siting Board Regulated SESs”), including the decommissioning plan of any such Siting Board Regulated SES that applies for local land use approvals under the Zoning Ordinance. In sum, this request would remove the ambiguity and uncertainty concerning the construction and operation of SESs and ensure the growth of the local solar industry in an organized and efficient manner.

Allowing the construction and operation of SESs will also comply with many of the sustainability goals and objectives of the Comprehensive Plan:

Theme B – PROTECT THE ENVIRONMENT

Goal 2: Identify and mitigate local impacts of climate change by tracking and reducing Lexington-Fayette County's carbon footprint and greenhouse gas emissions and commit to community-wide net zero greenhouse gas emissions by the year 2050.

Based upon 2016 data, Lexington-Fayette Urban County consumed roughly 4,546,424 megawatt-hours (MWh) of electricity across industrial, commercial, and residential sectors. Allowing SSE projects would diversify the Lexington-Fayette Urban County's energy sources and directly support our commitment to renewable energy. Furthermore, Lexington-Fayette Urban County currently emits roughly 4,016,765 tons of carbon dioxide each year. SSE projects will reduce emissions from electrical generation. Each unit of renewable solar energy would reduce one unit of carbon dioxide generated by fossil fuels. Indeed, the project contemplated by Silicon Ranch is estimated to reduce the carbon emissions resulting from energy consumption in Energy Systems by up to 105,722 tons or 2.6%. This is an opportunity for private funding to substantially increase renewable energy generation within our community to reach the Comprehensive Plan's 2050 reduction goals.

Theme E – MAINTAINING A BALANCE BETWEEN PLANNING FOR URBAN USES AND SAFEGUARDING RURAL LAND

Goal 2: Support the agricultural economy, horse farms, general agricultural farms, local food production, ag-tech, and the rural character of the Rural Service Area.

The Solar Energy Systems Zoning Ordinance is drafted to encourage any SESs that would be located outside of the Urban Service Boundary to be agrivoltaic projects. The intent is to encourage any SESs in the rural areas to be simultaneously used for agricultural purposes, including the keeping or grazing of livestock such as cattle, chicken or sheep, beekeeping, and crop or vegetable production. These SESs projects will allow local-land owners to have another revenue stream, while maintaining their land as active farmland. Further, as discussed above, the agricultural activities at these sites are prime examples of the locally sourced food that is encouraged by the Comprehensive Plan.

For the above states reason, Solar Energy Systems Zoning Ordinance complies with the Comprehensive Plan.

Thank you for your consideration of this text amendment request.

Sincerely,

A handwritten signature in blue ink, consisting of a stylized 'J' followed by a horizontal line and a large, sweeping loop.

Job D. Turner, III
Partner

Attachment (1)

EXHIBIT A

Solar Energy Systems Zoning Ordinance

See attached.

NEW ARTICLE TO ZONING ORDINANCE SOLAR ENERGY SYSTEMS

Section 1. Purpose

The purpose of this ordinance is to facilitate the siting, development, construction, installation, and decommissioning of solar energy systems in Lexington-Fayette Urban County in a predictable manner that promotes and protects the safety, health, and welfare of the community. This ordinance encourages the appropriate siting of solar energy systems to bolster local economic development and job creation, diversify the state's energy portfolio, strengthen energy and grid security, and reduce other environmental impacts. The appropriate siting of solar energy systems considers, avoids to the extent possible, and mitigates any adverse impacts to wildlife, productive and nationally important agricultural lands, forests, endangered species habitat, and historic, natural, and other sensitive lands. The appropriate siting of solar energy systems also establishes standards and requirements to assure that the use and enjoyment of lands located adjacent to and in the proximity of solar energy systems are fully protected.

The requirements of this Ordinance are intended to be supplemental as permissible to any safety, health, or environmental requirements of federal and state law and regulation.

Section 2. Definitions

Agrivoltaic Project means the simultaneous use of an area of land for both a Ground Mounted SES and agricultural purposes compatible with Ground Mounted SESs, including the keeping or grazing of livestock such as cattle, chicken or sheep, beekeeping, and crop or vegetable production.

Solar Energy System (SES) means a device, including its components and subsystems, that collects solar energy for electricity generation, consumption, or transmission, or for thermal applications. SESs are in turn divided into three types depending on how the system is incorporated into the existing land use:

Integrated Solar Energy System means an SES where the solar materials are incorporated into the building materials, such that the building and solar system are reasonably indistinguishable, or where the solar materials are used in place of traditional building components, such that the SES is structurally an integral part of the house, building, or other structure. An Integrated SES may be incorporated into, among other things, a building façade, skylight, shingles, canopy, light, or parking meter.

Rooftop Solar Energy System means an SES that is structurally mounted to the roof of a house, building, or other structure and does not qualify as an Integrated SES.

Ground Mounted Solar Energy System means an SES that is structurally mounted to the ground and does not qualify as an Integrated SES. Ground Mounted SESs are subcategorized as follows:

- *Small Scale Ground Mounted Energy System (Small Scale SES)* which is a Ground Mounted SES with a Footprint of less than two thousand five hundred (2,500) square feet.
- *Intermediate Scale Ground Mounted Energy System (Intermediate Scale SES)* which is a Ground Mounted SES with a Footprint of between two thousand five hundred one (2,501) square feet and ten (10) acres.
- *Large Scale Ground Mounted Solar Energy System (Large Scale SES)* means a Ground Mounted SES with a Footprint of more than ten (10) acres.

Exempt Solar Energy System (Exempt SES) means a SES that is a facility of a municipally owned electric system or public utility regulated by the Kentucky Public Service Commission or Federal Energy Regulatory Commission, which is exempt from planning and zoning requirements under KRS 100.324 and otherwise in conformance with then existing law or regulation.

Footprint of the SES is calculated by drawing a perimeter around the outermost SES panels and any equipment necessary for the equipment to function, such as transformers and inverters. The footprint does not include perimeter fencing or visual buffers, nor transmission lines or portions thereof that are required to connect the SES to a utility or customer outside the SES perimeter.

Siting Board Regulated SES means a SES that constitutes a “merchant electric siting facility” under KRS 278.700(2), the construction and siting of which is subject to review and approval of the Kentucky State Board on Electric Generation and Transmission Siting. A merchant electric siting facility is an electricity generating facility or facilities that, together with all associated structures and facilities are capable of operating at an aggregate capacity of ten megawatts (10 MW) or more and sell the electricity produced in the wholesale market, at rates and charges not regulated by the Kentucky Public Service Commission.

Section 3. Applicability

- (a) This ordinance applies to the siting, construction, installation, and decommissioning of any new SES within the jurisdiction of the Lexington-Fayette Urban County Government after the effective date of this ordinance.
- (b) An SES in operation, or which has begun physical construction prior to adoption of this ordinance, shall be considered to have legal nonconforming status in accordance with KRS 100.253.
- (c) The following are not subject to this ordinance:
 1. Modification to an existing SES that alone or in combination increases the total SES Footprint by no more than 5% of the original Footprint.
 2. Routine maintenance and repair, including replacement of solar panels, not increasing the existing SES Footprint.

- (d) Any Exempt SES shall provide the Lexington-Fayette Urban County Planning Commission ("Planning Commission"), Lexington-Fayette Urban County Board of Adjustment ("Board of Adjustment"), or other Lexington-Fayette Urban County authority having jurisdiction, with information concerning service facilities which have been located on and relocated on private property in accordance with KRS 100.324(3).
- (e) An SES shall comply with all applicable federal, state, and local laws, regulations, permitting, and other requirements, and applicable building, fire, electrical, and plumbing codes.

Section 4. Permitted Uses and Conditional Use

P: The SES is a use that is permitted as a principal in a particular zone, subject to the requirements contained herein. A variance from any of the standards applicable to a SES may be obtained through the Board of Adjustment or other authority having jurisdiction.

CUP: Conditional Use Permit required. The SES is permitted as a conditional use in a particular zone subject to the requirements contained herein.

Zones	R-1A, R-1B, R-1C, R-1D, R-1E, R-1T, R-2, R-3, R-3, R-4, R-5, EAR-1, EAR-2, EAR-3	B-1, B-2, B-2A, B-2B, B-3, B-4, P-1, P-2, CC	I-1, I-2, ED	A-R, A-B, A-N, A-U
<i>Integrated SES</i>	P	P	P	P
<i>Rooftop</i>	P	P	P	P
<i>Ground Mounted SES</i>				
<i>Small Scale</i>	P	P	P	P
<i>Intermediate Scale</i>	-	P	P	CUP
<i>Large Scale</i>	-	CUP	CUP	CUP

Section 5. Accessory Use

The SES is permitted as an accessory use within any zoning district where the SES is permitted as a principal or conditional use, subject to the requirements contained herein. Notwithstanding the foregoing, a Small Scale Ground Mounted SES qualifies as an accessory use only if its area is less than 50% of the footprint of the primary structure.

Section 6. General Requirements Applicable to Integrated and Rooftop Solar Energy Systems

- (a) *Solar Access.* Consistent with KRS 381.200(2), a property owner may obtain a solar easement from another property owner for the purpose of ensuring adequate exposure to sunlight for an Integrated or Rooftop SES. Such easement shall be recorded.
- (b) *Tree Removal.* The removal of trees or natural vegetation for an Integrated or Rooftop SES shall be limited to the extent practicable and shall comply with all the requirements of the Lexington-Fayette Urban County Government ordinance and zoning code regarding tree removal and any applicable state or federal requirements.
- (c) *Height Restrictions.* A rooftop SES shall conform to any height restrictions for roof-mounted mechanical devices or equipment for the applicable zoning district. A rooftop SES shall be positioned on the roof so as not to extend above or beyond the edge of any ridge, hip, valley, or eave, provided that where it is mounted on a sloped roof, the SES shall not vertically exceed the highest point of the roof to which it is attached by more than five (5) feet.
- (d) *Lighting.* Integrated and Rooftop SESs shall not be illuminated and shall be designed and installed to prevent off-site glare.
- (e) *Historic Preservation.* Where an integrated or rooftop SES is proposed to be installed on a property located within an historic overlay district or which is listed on the National Register of Historic Places, the proposed installation shall be subject to any review and compliance required by federal, state, and local law and regulation for exterior renovations or additions to such structures.

Section 7. General Requirements Applicable to Ground Mounted SESs

- (a) *Solar Access.* Consistent with KRS 381.200(2), a property owner may obtain a solar easement from another property owner for the purpose of ensuring adequate exposure to sunlight for a Ground Mounted SES. Such easement shall be recorded.
- (b) *Tree Removal.* The removal of trees or natural vegetation for a Ground Mounted SES shall comply with all the requirements of the Lexington-Fayette Urban County Government ordinance and zoning code regarding tree removal and mitigation and any applicable state or federal requirements.
- (c) *Height Requirements for Ground Mounted SES.* A Ground Mounted SES shall not exceed twenty (20) feet in height as measured from the highest natural grade below each solar panel without a variance approved by the Board of Adjustment or other authority having jurisdiction. The height restriction excludes utility poles, storage batteries, substation structures, and antennas constructed for the project. A Ground Mounted SES may exceed twenty (20) feet in height upon a finding that the SES would be more productive, use less land, or provide other environmental, economic, or other benefits if the height limitation is increased.

(d) *Agrivoltaic Projects*. Ground Mounted SESs in agricultural zones outside of the Urban Service Boundary shall be encouraged to be Agrivoltaic Projects.

(e) *Non-Agrivoltaic Projects*. Ground Mounted SESs that are not Agrivoltaic Projects, or cease to be Agrivoltaic Projects, located in agricultural zones outside of the Urban Services Boundary on land identified by the Natural Resources Conservation Services of the United States Department of Agriculture as either (A) prime farmland, or (B) farmland of statewide importance, shall be designed and constructed to allow for future farming of the site to the extent commercially practicable, including the establishment of effective ground cover, minimization of erosion and sedimentation, and decompaction of soil. For the purposes of this Section 7, a Ground Mounted SES shall not be treated as an Agrivoltaic Project, or shall cease to be treated as an Agrivoltaic Project, as applicable, if the Ground Mounted SES is not co-located on a parcel of land being simultaneously used for Agricultural use. For the purposes of this Section 7, Agricultural use has the same meaning as found in KRS 100.111(2).

(f) *Siting Restrictions for Ground Mounted SES*.

1. An Intermediate or Large Scale Ground Mounted SES, measured from the closer of the outer edge of the nearest panel or perimeter fencing, shall be located at least fifty (50) feet from the property line of any property zoned for residential or agricultural use, at least thirty (30) feet from the property line of any property zoned for commercial, business, industrial, office, or institutional use, and at least fifty (50) feet from the centerline of any public road.
2. An Intermediate or Large Scale Ground Mounted SES, measured from the closer of the outer edge of the nearest panel or perimeter fencing, shall be located no closer than one hundred (100) feet from a residence located on a property other than that on which the Ground Mounted SES is to be installed.
3. These setback provisions above can be waived in writing by the adjacent property owner to whom the property line or residence setback is applicable.
4. Setbacks are not required where the property line is shared by two or more participating landowners.
5. Setback requirements may be reduced by 25% where effective existing or proposed visual screening is determined to exist.

(g) *Screening*. Ground Mounted SESs shall be reasonably screened from properties zoned for residential use other than that on which the SES is to be constructed.

1. Ground Mounted SESs approved as a conditional use shall have or install a visual buffer of natural vegetation, plantings, earth berms, and/or fencing that will provide a reasonable visual and lighting screen between the SES and properties zoned for

residential use. Existing buffers along an SES perimeter shall be preserved when reasonably practicable.

- (h) *Signage*. A Ground Mounted SES may include such signage as is required by law to provide safety information and other signage as may be permitted by law.

Section 8. General Requirements Applicable to Siting Board Regulated SESs

- (a) *Decommissioning*. Whenever an application is submitted that is for a Siting Board Regulated SES for land use approvals under this ordinance, such application shall include a decommissioning plan that shall describe how the Siting Board Regulated SES will be decommissioned and dismantled following the end of its useful life. The decommissioning plan shall, at a minimum, include plans to:

1. Unless (A) the applicant is or will be the landowner, or (B) the applicant is the lessee of the land and has reached an agreement with the lessor providing otherwise, remove all above-ground facilities;
2. Unless (A) the applicant is or will be the landowner, or (B) the applicant is the lessee of the land and has reached an agreement with the lessor providing otherwise, remove any underground components and foundations of above-ground facilities. Facilities removed under this subparagraph shall be removed to a depth of three (3) feet below the surface grade of the land in or on which the component was installed, unless the applicant is the lessee of the land and has reached an agreement with the lessor providing otherwise;
3. Return the land to a substantially similar state as it was prior to the commencement of construction;
4. Unless (A) the applicant is or will be the landowner, or (B) the applicant is the lessee of the land and has reached an agreement with the lessor providing otherwise, leave any interconnection or other facilities in place for future use at the completion of the decommissioning process;
5. Secure a bond or other similar security as defined below for the project to assure financial performance of the decommissioning obligation, provided that:
 - a. The amount of the proposed bond or similar security shall be determined by an independent, licensed engineer who is experienced in the decommissioning of solar electric generating facilities and has no financial interest in either the Siting Board Regulated SES or any parcel of land upon which the Siting Board Regulated SES is located. The proposed amount of the bond or similar security shall be the net present value of the total estimated cost of completing the decommissioning plan, less the current net salvage value of the Siting Board Regulated SES's components.

- b. The bond or other similar security names:
 - i. For property that is leased by the applicant, each landowner from whom the applicant leases land and the Energy and Environment Cabinet as the primary co-beneficiaries; or
 - ii. For property that is owned by the applicant, the Energy and Environment Cabinet as the primary beneficiary; and
 - iii. the Lexington-Fayette Urban County Government as a secondary beneficiary.
 - c. The bond or other similar security shall be provided by an insurance company or surety that shall at all times maintain at least an “Excellent” rating as measured by the AM Best rating agency or an investment grade credit rating by any national credit rating agency and, if available, shall be noncancelable by the provider or the customer until completion of the decommissioning plan or until a replacement bond is secured; and
 - d. The bond or other similar security shall provide that at least thirty (30) days prior to its cancellation or lapse, the surety shall notify the applicant, its successor or assign, each landowner, the Energy and Environment Cabinet, and the Lexington-Fayette Urban County Government of the impending cancellation or lapse. The notice shall specify the reason for the cancellation or lapse and provide any of the parties, either jointly or separately, the opportunity to cure the cancellation or lapse prior to it becoming effective. The applicant, its successor, or its assign shall be responsible for all costs incurred by all parties to cure the cancellation or lapse of the bond. Each landowner, or the Energy and Environment Cabinet or the Lexington-Fayette Urban County Government with the prior approval of each landowner, may make a demand on the bond and initiate and complete the decommissioning plan.
- 6. Unless the applicant is or will be the landowner, communicate with the affected landowner at the end of the Siting Board Regulated SES’S useful life so that any requests of the landowner that are in addition to the minimum requirements set forth in this paragraph may, in the sole discretion of the applicant or its successor or assign, be accommodated; and
 - 7. Incorporate the requirements of Section 8(a)(1)-(7) into the applicant’s leases with landowners, if any.

Where the applicant is also seeking a construction certification pursuant to KRS 278.700 – 278.716, the applicant may submit a copy of the complete state siting board application

and site assessment report meeting the requirements of KRS 278.706 and 278.708 in lieu of the above requirements of Section 8(a)(1)-(7).

- (b) *Changes to Decommissioning Plan; Transfer or Sale of Ownership or Control of Siting Board Regulated SES.* It is acknowledged and recognized that KRS 278.210, among other things, requires the secretary of the Energy and Environment Cabinet to periodically review the decommissioning plan and the bond or similar security required by KRS 278.706(2)(m) and imposes notice requirements and other conditions in connection with the transfer or sale of ownership, control, or the right to control, a Siting Board Regulated SES. The Lexington-Fayette Urban County Government deems all such monitoring, review, and change of ownership or control requirements set forth in KRS 278.210 sufficient; provided, however, that the applicant, its successor, or its assign shall notify the Lexington-Fayette Urban County Government of any changes to the decommissioning plan or the bond or similar security required by KRS 278.706(2)(m) that may be made from time to time pursuant to the provisions of KRS 278.210.
- (c) *Construction Certificate.* Whenever an application is submitted that is for a Siting Board Regulated SES for land use approvals under this ordinance, such land use approvals shall be obtained prior to the granting of a construction certification pursuant to KRS 278.700 – 278.716.

Section 9. Conditional Use Permit Review Standards

The Board of Zoning Adjustment shall consider the standards set forth in Section 7-6(a) of the Zoning Ordinance when determining whether the issuance of a conditional permit is warranted. The Board of Zoning shall further determine the granting of a conditional permit for the proposed SES (1) does not materially endanger the public health or safety; (2) meets all applicable conditions and specifications set forth in this Ordinance; (3) would not substantially injure the value of adjoining property; and (4) be in conformity with the Comprehensive Plan, particularly the sustainability goals and objectives of the Comprehensive Plan. A conditional use permit issued by the Board of Zoning Adjustment shall include, at a minimum, all applicable requirements of Sections 6, 7 and 8 of this Ordinance, and any additional conditions deemed by the Board necessary or appropriate pursuant to KRS 100.27 to allow the proper integration of the proposed SES into the zone and location in which it is proposed.