

## Smart Solar Siting Scorecard

NYSDERDA is requiring all Proposers under RESRFP21-1 (RFP) to submit a completed copy of this Smart Solar Siting Scorecard (Scorecard) for **each solar Bid Facility**. Despite its name, NYSDERDA will not consider information contained within completed Scorecards in the RFP scoring or evaluation process. Instead, NYSDERDA will use the Scorecard information to better understand the underlying siting conditions for solar Bid Facilities included within Step Two Bid Proposals.

The Scorecard addresses multiple solar siting considerations and site management practices from the perspective of environmental, agricultural, and climate interests. NYSDERDA intends that the Scorecard will provide criteria for developers to consider in siting future projects, and include within project design, operations and maintenance, and decommissioning plans to encourage a balanced approach between renewable energy siting and other New York State policies, goals and objectives. The Scorecard features strategies to *avoid* sensitive or protected land, *minimize* project impacts to environmental and agricultural resources, and *innovate* and *collaborate* with the community. The submission of a complete Scorecard for each Bid Facility is mandatory under the RFP.

### Directions:

- 1) Users should first estimate the solar project's proposed Facility Area<sup>1</sup> and then, using the Scorecard's Environmental and Agricultural Resources (listed on Page 2) and/or the results of on-site surveys and other mapping resources, calculate the percentage of land impacted by the solar project as outlined in the *avoid* strategies below. Smart Solar projects will avoid sensitive and protected land and therefore have low percentages.
- 2) Next, complete the Scorecard's checklist of strategies the project will implement to *minimize* the project's impact and *innovate* and *collaborate* with the host landowners and community. Check each strategy that is applicable (i.e., if the minimization strategy is possible/feasible to implement on the project site) to the solar project and then check those strategies that are being included in the project plans or design. Strategies may be relevant to only the Facility Area or may include additional land controlled by the developer. Smart Solar projects include as many applicable Scorecard strategies as possible in the final project plans and design.

Proposed Nameplate Capacity (MW):

Proposed Facility Area size (acres):

### Part 1: **Avoid** locating the solar project Facility Area on sensitive or protected land to prevent impacts to resources or services of concern.

- ☐ Grassland (**NLDC**; Large open area of land covered with grass not being used for agricultural purposes.)  
Percentage of Facility Area located on Grassland: \_\_\_\_\_%
- ☐ Forested Land (**NLDC**; Large area of land covered mainly with trees and undergrowth.)  
Percentage of Facility Area located on Forested Land: \_\_\_\_\_%
- ☐ Wetlands (**ERM**; Land consisting of wet meadows, marshes or swamps; saturated land.)  
Percentage of Facility Area located on Wetlands: \_\_\_\_\_%

<sup>1</sup> The Facility Area is defined by [RESRFP21-1 Appendix 2 Permitting Plan Requirements and Guidelines, Agricultural Mitigation Definitions, P9](#).

- ☐ **Prime Farmland (SSURGO)**; Land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is also available for these land uses.)<sup>2</sup>  
Percentage of Facility Area located on Prime Farmland: \_\_\_\_\_%
- ☐ **Farmland of Statewide Importance (SSURGO)**; Land that is of statewide importance for the production of food, feed, fiber, forage, and oilseed crops as determined by the appropriate state agency or agencies. Farmland of Statewide Importance may include tracts of land that have been designated for agriculture by state law.)<sup>3</sup>  
Percentage of Facility Area located on Farmland of Statewide Importance: \_\_\_\_\_%
- ☐ **Mineral Soil Groups 1-4 (NYSDERDA)**; Grade of mineral soil.)  
Percentage of Facility Area located on Mineral Soil Groups 1-4: \_\_\_\_\_%
- ☐ **Cultivated Crops (2016 & 2019 NLDC & CDL)**; Land used for raising crops in the last five years/since 2016.)  
Percentage of Facility Area located on areas with Cultivated Crops: \_\_\_\_\_%
- ☐ **Pasture (NLDC & CDL)**; Large area of land where animals feed on the grass) or **Hay Land (NLDC & CDL)**; Large area of land where grass is grown to be made into hay.)  
Percentage of Facility Area located on Pasture and/or Hay Land: \_\_\_\_\_%

(Optional) Explain how the design of your Facility Area has avoided these sensitive or protected lands or has been sited on developed land:

- ☐ **Developed Land (NLDC)**; Land that has been modified from its natural state and typically includes physical structures and buildings or pre-disturbed land.)  
Percentage of Facility Area located on Developed Land: \_\_\_\_\_%

### Environmental and Agricultural Resources

NYSDERDA Environmental Resource Mapper (ERM), <https://www.dec.ny.gov/animals/38801.html>. (Relevant Data Layers: State Regulated Freshwater Wetlands and National Wetlands Inventory)

USGS National Land Cover Database (NLDC), [https://www.usgs.gov/centers/eros/science/national-land-cover-database?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](https://www.usgs.gov/centers/eros/science/national-land-cover-database?qt-science_center_objects=0#qt-science_center_objects) and can be viewed through the MRLC Viewer at <https://www.mrlc.gov/viewer/>. (Relevant Data Layers: 2019 Map: grasslands/herbaceous, deciduous forest, evergreen forest, mixed forest, pasture/hay, 2016 & 2019 Map: cultivated crops, and developed-open space, developed-low intensity, developed-medium intensity, and developed-high intensity)

**NYSDERDA** Interactive Map of Mineral Soil Groups 1 through 4, <https://nyserda.maps.arcgis.com/apps/webappviewer/index.html?id=dbb43e0ba18148b4810abed86a49857e> and is available as shape files for download at [www.nyserda.ny.gov/ces/rfp](http://www.nyserda.ny.gov/ces/rfp). (Relevant Data Layers: Mineral Soil Groups 1-4)

<sup>2</sup> [U.S. Department of Agriculture Natural Resources Conservation Service \(NRCS\)'s Soil Survey Geographic \(SSURGO\) Database on Web Soil Survey.](#)

<sup>3</sup> [U.S. Department of Agriculture Natural Resources Conservation Service \(NRCS\)'s Soil Survey Geographic \(SSURGO\) Database on Web Soil Survey.](#)

USDA Natural Resources Conservation Service (NRCS)'s Soil Survey Geographic (**SSURGO**) Database on Web Soil Survey, <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey/>. (Prime Farmland and Farmland of Statewide Importance)

USDA National Agricultural Statistics Service (NASS) Cropland Data Layer (**CDL**), [https://www.usgs.gov/centers/fort/science/usda-national-agricultural-statistics-service-cropland-data-layer-0?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](https://www.usgs.gov/centers/fort/science/usda-national-agricultural-statistics-service-cropland-data-layer-0?qt-science_center_objects=0#qt-science_center_objects). (Relevant Data Layers: cultivated crops (all crops listed), grass pasture, other hay non-alfalfa)

**Part 2: Design solar project to *minimize* impacts to natural and agricultural resources during all phases of the project.**

*Pollinators, Wildlife and Wildlife Habitat (grassland, forest)*

Applicable	Included	Strategy
		Site project to maintain existing native vegetation to the extent practicable pursuant to a vegetation management plan that protects native perennial vegetation and foraging habitat beneficial to game birds, songbirds, and pollinators.
		Site project to protect habitat complexes and corridors to provide “safe zones” and natural passageways for pollinators, as well as nesting and forage sites and water sources.
		Instead of turf grass, plant seed mixes with native perennial vegetation pursuant to a vegetation management plan for native pollinator species or wildlife habitat to provide an environmental enhancement.
		Plant seed mixes to establish pollinator habitat supportive of pollinator dependent crops located near the facility.
		Create bee/bird nesting habitat features, such as boxes or tunnels.
		Include beekeeping onsite.
		Install fencing that does not interrupt the movement of wildlife across the site (balance with fencing for grazing if part of project plan).
		Minimize tree cutting and consider the types of trees and forest types to be removed or impacted by construction (plantations vs early successional forests vs mature forests vs old growth).
		Design site and layout to limit forest fragmentation and maintain forest connectivity.
		Minimize the impact to carbon currently stored on the site by avoiding the disturbance of soil, downed trees, woody debris, and other vegetation.

*Soils*

Applicable	Included	Strategy
		Site project to maintain existing protected soils (MSG 1-4, Prime Farmland, and Farmland of Statewide Importance) to the extent practicable.
		To establish a benchmark, before any topsoil is stripped, conduct compaction tests and soil sampling for pH, percent organic material, cation exchange capacity, Nitrogen (N), Phosphorus/Phosphate (P), and Potassium/Potash (K).

		Stockpile all topsoil disturbed during construction, reconstruction, or modification of the solar project and, upon completion of disturbance, return topsoil to the site and restore the surface grade.
		If topsoil is removed permanently from any impacted areas, spread topsoil evenly in adjacent agricultural areas within the project Limits of Disturbance, without significantly altering the hydrology of the area.
		Revegetate restored soil areas consistent with best management practices applicable to the land and soil type to optimize soil health and prevent soil erosion and airborne dust.

*Water (Wetlands, Stormwater Runoff and Drainage)*

<i>Applicable</i>	<i>Included</i>	<i>Strategy</i>
		Build and maintain a protective buffer around wetland areas to ensure the protection of important ecological resources.
		Maintain forests that border streams to prevent erosion and improve water filtration.
		Respect existing site topography by strategically locating stormwater runoff storage and recharge lines within vegetated drainage reserve areas.
		Install and maintain culverts and/or waterbars to maintain or improve site specific natural drainage patterns.
		Improve on-site hydrology through the construction of green infrastructure like bioswales.
		Maintain land underneath solar panels with perennial vegetation to achieve ground cover sufficient to control erosion and stormwater runoff.

*Project Landscaping and Infrastructure*

<i>Applicable</i>	<i>Included</i>	<i>Strategy</i>
		Use non-invasive, native ground cover under and between the rows of solar panels that is low-maintenance, is tailored to suit the microclimates of the site, improves biological and physical soil properties, and is non-fertilizer-dependent (balance with plantings for pollinators, grazing, and crop production if part of project plan).
		Retain/install boundary features, such as ditches, drain tiles, stone walls, rough grassland, field margins, and scrub.
		Prepare a screening and landscaping plan to minimize view-shed impacts from public roadways and adjacent properties to the extent feasible.
		Construct access roads with materials appropriate for the site and designed to minimize impervious surfaces, maintain original surface drainage patterns, and minimize soil compaction.
		Locate roads along the edge of agricultural fields in areas next to hedgerows and field boundaries and in the nonagricultural portions of the site.
		Locate structures for overhead collection lines on the project's nonagricultural areas and along field edges.

*Dual-Use: Crop(s) Production*

<i>Applicable</i>	<i>Included</i>	<i>Strategy</i>
		Prior to commercial operation, conduct a site survey to assess feasibility and land suitability for production of preferred crop(s).
		Include site-adjacent and local farmers in the design process during the pre-development phase of the solar project through commercial operation.
		Design the site to allow for both the land's current and future farming uses and needs.
		Provide proper spacing/tilt between solar panels to achieve a productive mix of electricity and crop production, while considering impacts on sensitive or protected land (see Part 1).
		Design and construct the solar facility to be compatible with farm equipment and related farm activities planned to be used on the site appropriate for the selected crop production.

*Dual-Use: Grazing*

<i>Applicable</i>	<i>Included</i>	<i>Strategy</i>
		Seed the fenced project area with grazing-compatible vegetation that, after a grazing episode, responds to a rest period with regrowth and that takes into consideration the hydrologic cycle, wildlife, and the potential for improved soil health.
		When incorporating pollinator-friendly and grazing dual-uses together, review all plants for toxicity to grazers and select accordingly, formalizing this review in a vegetation management plan.
		Design and construct the solar array and infrastructure to be compatible with the classes of livestock to be included (i.e., set solar panel racking height and reinforce racking system based on livestock class).
		Develop a project-specific strategic grazing management plan (3-to-7-year duration) for the class(es) of livestock intended for the solar project that includes herd size, forage availability, time of year, acreage to be grazed, weather conditions, and producer requirements.
		In the strategic grazing management plan, include a water distribution plan that maps water supplies and identifies styles, types, and specifications for water supply.
		Locate utilities such as water and electricity to allow for flexibility to move the herd/flock around the Facility Area while maintaining adequate access to water and electricity (for temporary electric fencing).
		In the strategic grazing management plan, incorporate specific upfront and ongoing benchmarks for grazing managers, including forage testing protocols and estimated rotation periods.
		Install perimeter and interior paddock fencing (i.e., electronic fencing) with gates and crossings as necessary to rotate and concentrate the herd/flock.
		If livestock management is intended to be year-round or accommodate other uses, such as a dairy function, include in project design structures such as intended barns, run in sheds, and feed storage.

*Monitoring, Maintenance and Operations*

<i>Applicable</i>	<i>Included</i>	<i>Strategy</i>
		Appoint monitor(s) to oversee the construction, restoration, and follow-up monitoring of agricultural and environmental commitments.
		Following restoration, provide a monitoring and remediation period of two complete growing seasons following the date upon which the desired crop is planted.
		Refrain from fertilizer or herbicide use for long-term operation and site maintenance to the extent feasible.
		If planting type requires mowing, mow grasslands between August 16 and October 1 to protect grassland birds during nesting season.
		Maintain pollinator habitat, crop production, and/or grazing as part of long-term operations (longer than 3 years).
		Develop a decommissioning plan that demonstrates how to remove all infrastructure not necessary for future operations at the site and how to remediate soil and vegetation to return the parcel to its original state prior to construction.

***Innovate and collaborate with the community during all phases of the project.***

<i>Applicable</i>	<i>Included</i>	<i>Strategy</i>
		Make the site's applicable management plan(s) (i.e., vegetation management plan, strategic grazing management plan, screening and landscaping plan, decommissioning plan, Community Engagement Plan, etc.) available to the public.
		Initiated community engagement (i.e., met with local officials and/or project neighbors, held public meetings, provided newsletters to the community, placed advertisements in the local newspaper, or developed project website) prior to a required project development milestone (e.g., participation in a NYSERDA Tier 1 procurement, initiation of Office of Renewable Energy Siting pre-application meetings).
		Engage relevant stakeholders, including farmers, in discussion of potential agribusiness and dual-use opportunities.
		Include in the project's Community Engagement Plan <sup>4</sup> , public engagement and education regarding the project and specifically the benefits of solar, pollinator-friendly solar, dual-use, and the site's other mitigation practices.
		Involve the site in an ongoing research project with a university or other organization.
		(Optional) Describe an innovative practice or design proposed for the project that further minimizes impacts or provides complimentary co-benefits.

<sup>4</sup> Please refer to [RESRFP21-1 RFP Summary, Section 4.1 Project Viability, Operational Flexibility and Peak Coincidence \(Community Engagement, pages 31, 59-61\)](#).