

RESRFP22-1 Appendix 4. RESRFP22-1 Smart Solar Siting Scorecard

NYSERDA encourages Proposers to include novel co-use, dual-use, agriphotovoltaics, agrisolar, and/or agrivoltaic activities in the development of renewable energy projects. Proposers that pledge to develop renewable energy projects in harmony with other state objectives as demonstrated through the Smart Solar Siting Scorecard (Scorecard) will be evaluated more favorably; NYSERDA is requiring all Proposers under RESRFP22-1 (RFP) to submit a complete Scorecard for **each solar Bid Facility**. NYSERDA will consider information contained within the completed Scorecards in the RFP scoring and evaluation process and 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 agricultural, environmental, and climate interests. NYSERDA intends that the Scorecard will provide criteria for developers to consider in siting 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 agricultural and environmental resources, and provide *community benefits* and *collaborate* with the community. The submission of a complete Scorecard for each Bid Facility is mandatory under the RFP. NYSERDA reserves the right to make the Scorecards submitted available to the public.

Directions:

- 1) Users should first estimate the solar project's proposed Facility Area¹ and then, using the Scorecard's Part 1 Avoidance Flow Charts for the Agricultural and Environmental Protection sections determine the *Avoidance* points awarded to the project, if any, and which Strategy Lists in Part 2 should be used. Starting from the left side of the page, answer each of the questions in the Avoidance Flow Charts until you hit a red outlined box. The red outlined box will indicate the number of points a project will be awarded in Part 1 for the Agricultural and Environmental Protection sections and the Strategy List to choose in Part 2 for each individual section. Please note that the Strategy List number for one section may not be the same Strategy List number for another section. Summary charts are provided below for reference. Smart solar projects will avoid sensitive and protected land as defined in Part 1 of the Agricultural and Environmental Protection sections, and therefore achieve a higher number of points.
- 2) Next, using the Strategy List based upon the outcome of the Avoidance Flow Charts in Part 1 of the Agricultural (S.1-S.4) and Environmental Protection (S.1-S.3) sections, complete the checklist of strategies the project will implement to *minimize* the project's impact for both Agriculture and Environment. Strategies marked with an "M" are Mandatory and will receive zero points for implementation. Strategies that include a point value may be selected to earn the number of points indicated. However, the proposer is expected to be committed to implement any optional strategies that are elected in the submitted Scorecard. No partial points will be awarded. Users should check the strategies included in their project plans or design and calculate the total points earned in the Scorecard Workbook. Strategies may be relevant to only the Facility Area or may include additional land controlled by the developer. Smart solar projects will include as many applicable Scorecard strategies as possible in their final project plans and design, and therefore achieve a higher number of points.
- 3) Users can earn additional points by selecting strategies to complete from the Community Benefits and Collaboration section. All strategies listed as Mandatory must be completed.
- 4) Users can earn extra credit points by proposing bona fide innovative practices or designs to be implemented that minimize impacts or provide complimentary co-benefits.
- 5) The [Smart Solar Siting Scorecard Workbook](#) can be used to confirm the user's commitment to complete the Mandatory strategies and to calculate the total number of points earned through the Agricultural Protection, Environmental Protection, and Community Benefits and Collaboration sections.

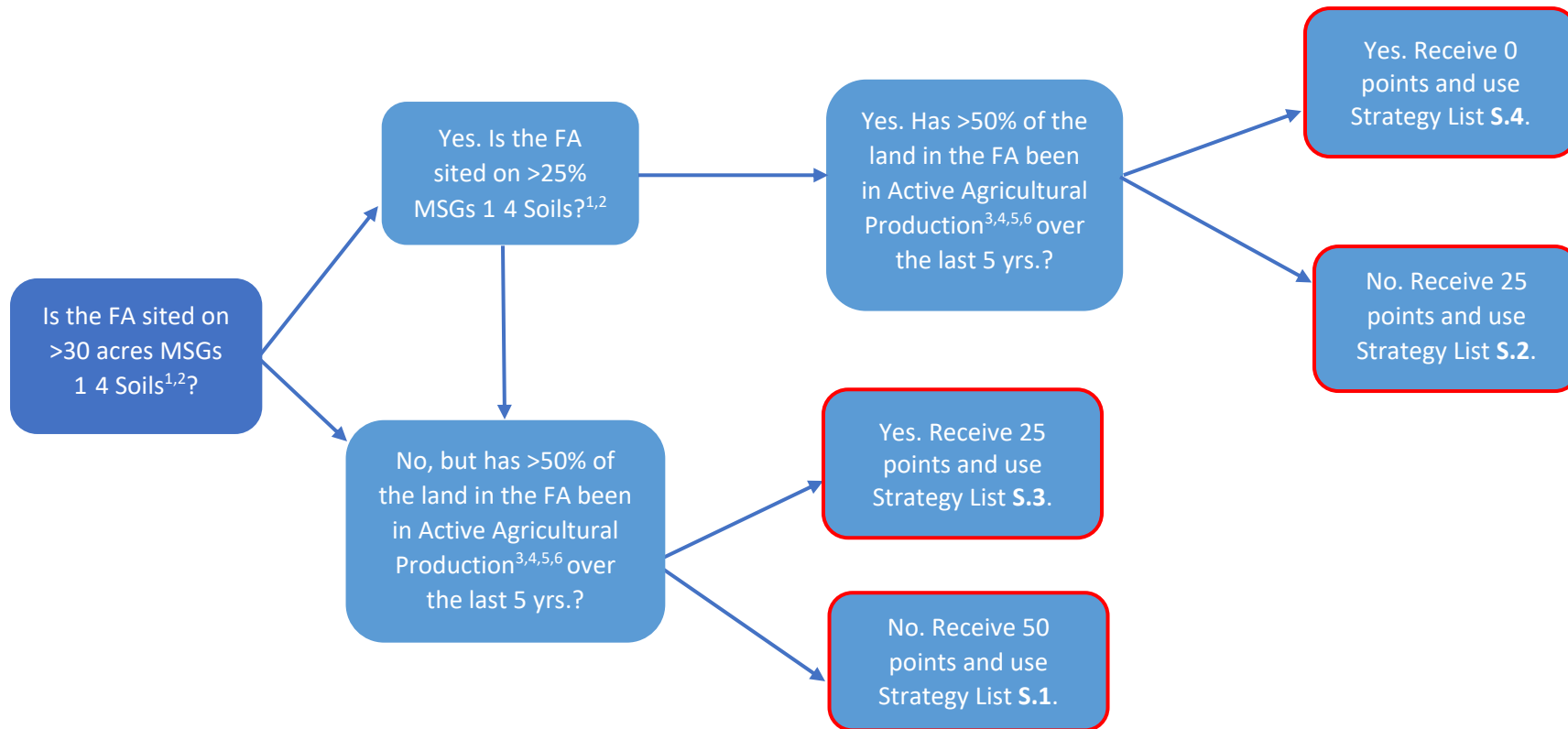
¹ The Facility Area is defined by RESRFP22-1 Appendix 2. Permitting Plan Requirements and Guidelines, Agricultural Mitigation Definitions, P9.

Scorecard Breakdown of Points By Category

Scorecard Section	Number of Points Available		Total
	Avoidance	Minimization	
Agricultural Protection	50	45	95
Environmental Protection - <i>Forested Lands</i>	30/0/10	5/10/10	35
Community Benefits & Collaboration	25		25
Extra Credit: Innovation	5		5
TOTAL POINTS AVAILABLE			160

AGRICULTURAL PROTECTION

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



FA = Facility Area

¹MSGs 1-4 Soils = Mineral Soil Groups 1-4 as identified in the 2022 New York State Agricultural Land Classification issued by NYSAGM for the applicable county. A pdf can be downloaded with this link: <https://agriculture.ny.gov/system/files/documents/2022/01/masterlistofagriculturalsoils.pdf>.

²MSGs 1-4 Soils NYSERDA Interactive Map of Mineral Soil Groups 1 through 4 is available as an interactive map and as shapefiles for download at [NYSERDA 2022 Soils Data for use in the Large-Scale Renewables and NY-Sun Programs](https://www.nyserda.ny.gov/ces/rfp) and www.nyserda.ny.gov/ces/rfp.

³Active Agricultural Production = Total amount of Cultivated Crops, Hay Land and Pasture on the FA in last five years/since 2016

⁴USGS National Land Cover Database (NLCD) 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/>.

⁵Cultivated Crops = The land used for raising crops assessed using the two most recent available updates to the National Land Cover Database (NLCD) datasets (Data Source 2016 & 2019 NLCD, 2022 if available, Relevant Data Layer: 2016 & 2019 Map: cultivated crops)

⁶Pasture/Hay Land = The land where animals fed on the grass and the land where grass was grown to be made into hay assessed using the two most recent available updates to the National Land Cover Database (NLCD) datasets (Data Source 2016 & 2019 NLCD, 2022 if available, Relevant Data Layer: 2016 & 2019 Map: pasture/hay)

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

Strategy List Options Based Upon Outcome of Avoidance Flow Chart in Part 1

S.1 – No Exceedances

S.2 – Exceeds MSGs 1-4 Threshold

S.3 – Exceeds Active Agricultural Production Threshold

S.4 – Exceeds MSGs 1-4 Threshold AND Active Agricultural Production Threshold

Note: M = Mandatory; 0 points awarded for strategy

1-3 = Number of points awarded for strategy

Land Use and Operations

Soil Conservation

ID#	S.1	S.2	S.3	S.4	Strategy
1	M	M	M	M	Develop an Agricultural Plan, consistent with the New York State Department of Agriculture and Markets Guidelines for Solar Energy Projects - Construction Mitigation for Agricultural Lands to the maximum extent practicable, to avoid, minimize, and mitigate agricultural impacts to active agricultural lands within NYS Agricultural Land Classified MSGs 1-4.
2	M	M	M	M	To establish a benchmark for restoration activities, before any topsoil is stripped, conduct compaction tests ^{1,2} and soil sampling for pH, percent organic material, cation exchange capacity, Carbon (C), Nitrogen (N), Phosphorus/Phosphate (P), and Potassium/Potash (K). ^{2,3,4}
3	1	2	2	2	Within the security fence, conduct compaction tests ^{1,2} and soil sampling for pH, percent organic material, cation exchange capacity, Carbon (C), Nitrogen (N), Phosphorus/Phosphate (P), and Potassium/Potash (K) ^{3,4,5} every five (5) years while operational to measure changes in soil quality over the duration of the project. Develop an approach to ensure that every five years the results are made available to the public.
4	M	M	M	M	Stockpile all topsoil disturbed during construction or modification of the solar project and, upon completion of disturbance, return topsoil to the site and restore the surface grade. ¹
5	M	M	M	M	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. ¹
6	M	M	M	M	In all agricultural lands immediately returning to agricultural use, where the topsoil was stripped, conduct soil decompaction of prior to topsoil replacement. ¹
7	M	M	M	M	Revegetate restored soil areas consistent with best management practices applicable to the land and soil type to optimize soil health and prevent soil erosion.
8	M	M	M	M	Respect existing site topography by strategically locating stormwater runoff storage and recharge lines within vegetated drainage reserve areas. ⁵
9	1	1	1	1	Install and maintain culverts and/or waterbars to maintain or improve site specific natural drainage patterns.
10	1	1	1	1	Improve on-site hydrology through the construction of green infrastructure like bioswales, where appropriate for existing site topography or changes to site topography.
	3	4	4	4	Subtotal

Project Landscaping and Infrastructure

ID#	S.1	S.2	S.3	S.4	Strategy
11	M	M	M	M	Construct access roads with materials appropriate for the site and designed to minimize impervious surfaces, maintain original surface drainage patterns, and minimize soil compaction.
12	M	M	M	M	Outside the security fence, where feasible use existing roads or locate roads along the edge of agricultural fields, in areas next to hedgerows and field boundaries, and so that the roads do not fragment existing fields.
13	2	2	2	2	Within the security fence, locate roads in consultation with the farmer(s)/landowner(s) to minimize impacts to lands in active agricultural production and to limit soil compaction.
14	M	M	M	M	Outside the security fence, where feasible (considering, for example, bedrock) bury all underground electric conduits and direct buried conductors where on lands in active cultivated crop production or hayland within MSGs 1-4 to a minimum depth of 48 inches; at this depth they can be left in place during decommissioning, with landowner approval, avoiding the need to disturb the soil. In areas where the depth of soil over bedrock is less than 48 inches, bury the electric conductors below the bedrock surface if friable/rippable, or as near as possible to the bedrock surface. ¹
15	2	2	2	2	Within the security fence, where feasible (considering, for example, bedrock), bury all underground electric conduits where on lands in active agricultural production or MSGs 1-4 to a minimum depth of 48 inches; at this depth, with landowner approval, the conduits can be left in place during decommissioning, avoiding the need to disturb the soil. ¹
16	M	M	M	M	Where necessary, locate structures for overhead collection lines along the edge of agricultural fields, in areas next to hedgerows and field boundaries, and so that the roads do not fragment existing fields.
	4	4	4	4	Subtotal

Monitoring, Maintenance and Operations

ID#	S.1	S.2	S.3	S.4	Strategy
17	3	M	M	M	In areas where MSGs 1-4 exist, appoint environmental monitor(s) with understanding of agricultural practices to oversee the construction, restoration, and follow-up monitoring of agricultural and environmental commitments. ¹
18	2	3	3	3	In active agricultural lands classified as MSGs 5-10, appoint environmental monitor(s) with understanding of agricultural practices to oversee the construction, restoration, and follow-up monitoring of agricultural and environmental commitments. ¹
19	M	M	M	M	On agricultural land needing restoration because of ground disturbance, postpone any restoration practices until favorable (workable, relatively dry) topsoil/subsoil conditions exist. ¹
20	1	3	3	3	Following restoration, provide a monitoring and remediation period of two complete growing seasons following the date upon which the desired crop is planted or revegetation activity completed. On-site monitoring shall be conducted seasonally at least three times during the growing season (Spring, Summer, Fall). Monitoring is limited to the restored agricultural area. ¹
21	2	2	2	2	Use integrated pest management practices to refrain from/limit pesticide use (including herbicides) for long-term operation and site maintenance. ^{6,7}
22	M	M	M	M	Considering the understanding that arrays are proposed to be temporary impacts to agricultural lands, develop a Decommissioning and Site Restoration Plan in compliance with NYS DAM Guidelines for Solar Energy Projects – Construction Mitigation for Agricultural Lands.
23	2	M	M	M	Include within the Decommissioning and Site Restoration Plan how to remediate soil and vegetation to return the parcel to its original state prior to construction, pending landowner agreements.
	10	8	8	8	Subtotal

Co-utilization

General

ID#	S.1	S.2	S.3	S.4	Strategy
24	M	M	M	M	During the design and permitting phase, conduct a site survey or engage landowners/farmers to assess feasibility and land suitability for production of preferred crop(s) or vegetation species.
25	2	2	2	2	Include site-adjacent and/or local farmers (including renting farmers as applicable) in the design process during the development phase of the solar project through commercial operation.
26	3	3	3	3	Design the site to allow for both the land's current and future farming uses and needs.
27	3	3	3	3	Maintain pollinator habitat, crop production, and/or grazing as part of long-term operations (minimum of 5 years).
28	1	2	2	2	Maintain and report to interested parties, co-utilization initiatives as part of long-term operations for life of facility.
	9	10	10	10	Subtotal

Pollinators and Apiaries

ID#	S.1	S.2	S.3	S.4	Strategy
29	1	1	1	1	Plant native seed mixes supporting a proposed apiary farm operation, designed to establish pollinator habitat that can be supportive of pollinator dependent crops located near the facility, and that contribute to soil health. ⁷
	1	1	1	1	Subtotal

Crop(s) Production

ID#	S.1	S.2	S.3	S.4	Strategy
30	2	2	2	2	Within the design, consider spacing/tilt between solar panels to achieve a productive mix of energy generation and crop production, while considering impacts on sensitive or protected land (see Part 1).
31	3	3	3	3	Design and construct the solar facility considering compatibility with the associated farm operator's farm activities and related equipment planned to be used on the site appropriate for the selected crop production.
32	3	3	3	3	Incorporate into the design and management of the Facility Area, the use of regenerative farming practices (e.g., planting cover crops, eliminating or decreasing tillage, etc.) to improve soil health and maximize carbon sequestration at the site.
	8	8	8	8	Subtotal

Grazing

ID#	S.1	S.2	S.3	S.4	Strategy
33	M	M	M	M	Engage with the farming community early in the planning process to determine feasibility and solicit interest in grazing activities within the vicinity of the project.
34	1	1	1	1	Seed the fenced project area with a diverse mix of perennial grasses, forbs, and legumes that are grazing-compatible and/or pollinator friendly and that take into consideration soil health and stability, stormwater management, and wildlife.
35	1	1	1	1	When incorporating pollinator-friendly and grazing dual-uses together, review all plants for toxicity to grazers using a regional land grant university livestock toxicity plant list (e.g., Ohio State University ⁸) and select accordingly, formalizing this review in a strategic grazing management plan.

36	2	2	2	2	Design and construct the solar array and infrastructure to be compatible with the class(es) of livestock to be included (e.g., consider wire protection and control, interior/exterior fencing specifications, water and auxiliary power availability, solar panel racking height, and reinforced racking system based on livestock class).
37	2	2	2	2	Develop a project-specific strategic grazing management plan (5-to-7-year duration) for the class(es) of livestock intended for the solar project that includes animal stocking rate and density, forage availability, vegetation height requirements pre/post grazing, acreage to be grazed, duration of seasonal grazing, and ongoing management considerations based on environmental conditions and water supply.
38	1	1	1	1	In the strategic grazing management plan, map the available freshwater resources potentially available for use by graziers and identify types and classes of water, including rights and supplies at the site and a high-level estimate of their functionality and accessibility.
39	1	1	1	1	In the strategic grazing management plan, incorporate specific upfront and ongoing benchmarks for grazing managers, including forage testing protocols and estimated rotation periods.
40	1	1	1	1	Install livestock-appropriate gates, openings, and interior fencing as necessary to rotate and concentrate the herd/flock and for livestock handling.
41	1	1	1	1	If livestock management is intended to be year-round or accommodate other uses, such as a dairy function, include in project design support structures such as intended barns, run in sheds, and feed storage.
	10	10	10	10	Subtotal

Part 1 Agriculture Avoidance Score (0-50 pts): _____

Part 2 Agriculture Minimization Score (0-45 pts): _____

TOTAL for Protection of Agriculture Resources (0-95 pts): _____

Endnotes

¹[New York State Department of Agriculture and Markets Guidelines for Solar Energy Projects – Construction Mitigation for Agricultural Lands \(Revision 10/18/2019\)](#)

²[Comprehensive Assessment of Soil Health – The Cornell Framework, Edition 3.2, Cornell University, p.41](#)

³[Cornell Nutrient Analysis Laboratory Directions for Soil Sample Collection](#)

⁴[Cornell University Cooperative Extension – Guidance on Soil Testing](#)

⁵[New York State Standards and Specifications for Erosion and Sediment Control](#)

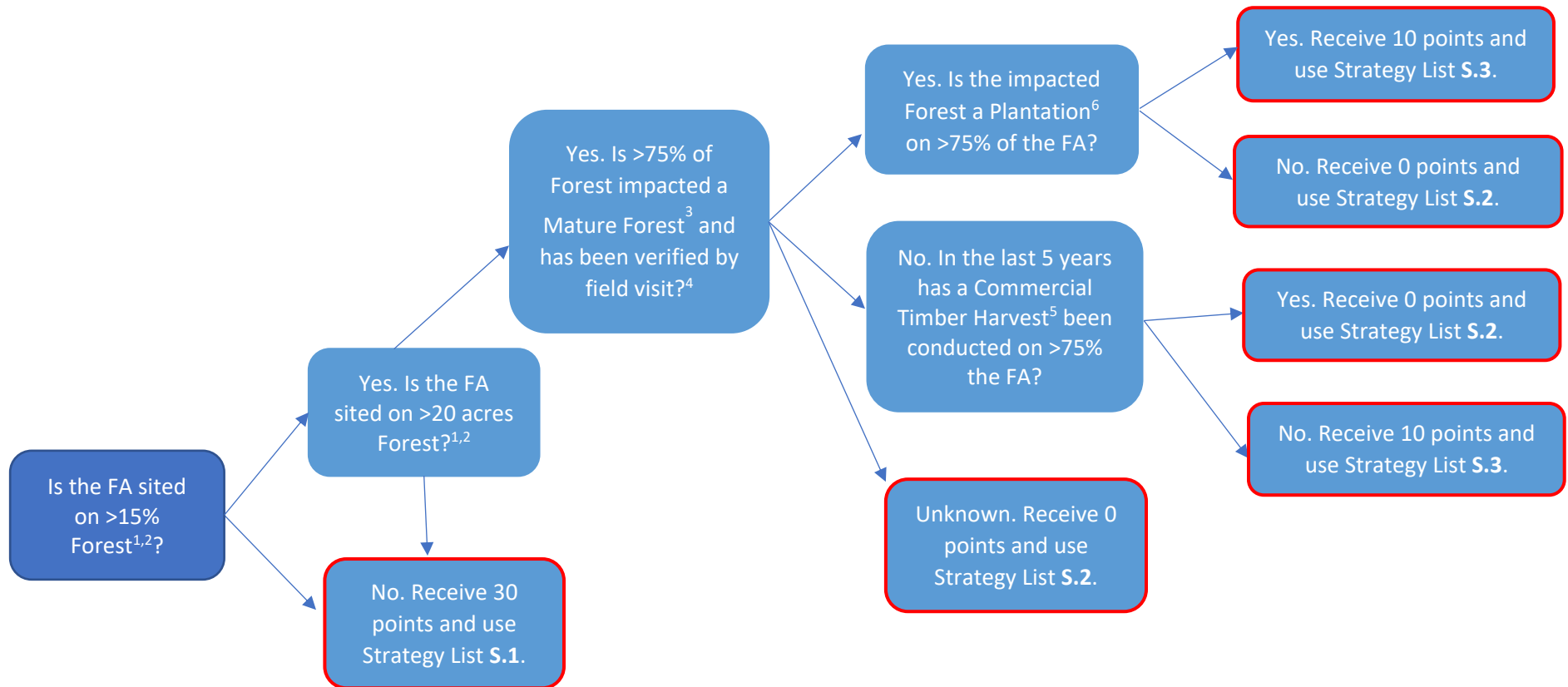
⁶[EPA Integrated Pest Management \(IPM\) Principles](#)

⁷[New York State Department of Agriculture and Markets NYS Utility Corridor Pollinator Habitat Guidelines](#)

⁸[J.M. Luginbuhl, Poisonous Plants to Livestock, Ohio State University College of Food, Agricultural, and Environmental Sciences](#)

ENVIRONMENTAL PROTECTION – Forested Lands

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



FA = Facility Area

¹Forest = Areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover.

²USGS National Land Cover Database (NLCD) 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/>. Or confirmed by field visit.

³Mature Forest = Forest, as defined above, and area containing trees with greater than 12-inch average diameter at breast height (DBH); not including individual standalone trees outside a Forested area or hedgerows.

⁴Conducted by a qualified professional such as a forester, biologist, arborist, or similarly qualified individual.

⁵Commercial Timber Harvest = The cutting or removal, or both, of timber or other solid wood forest products for a commercial purpose.

⁶Plantation = Forested areas artificially established by planting or seeding. The trees usually belong to the same specie (whether native or introduced), have the same age and are regularly spaced.

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

Strategy List Options Based Upon Outcome of Avoidance Flow Chart in Part 1

S.1 – No Exceedances OR Exceeds Forested Lands (Percentage Only) Threshold

S.2 – Exceeds Forested Lands Thresholds and Mature Forest (is) Unknown OR Exceeds Forested Lands Thresholds AND Commercial Timber Harvest Threshold OR Exceeds Forested Lands Thresholds AND Mature Forest Threshold

S.3 – Exceeds Forested Lands Thresholds, Mature Forest Threshold, AND Plantation Threshold OR Exceeds Forested Lands Thresholds, but Does Not Exceed Mature Forest Threshold AND Commercial Timber Harvest Threshold

Note: M = Mandatory; 0 points awarded for strategy

1-4 = Number of points awarded for strategy

Carbon Storage, Wildlife, and Wildlife Habitat

ID#	S.1	S.2	S.3	Strategy
42	-	1	1	Minimize tree cutting and consider the types of trees and forest types to be removed or impacted by construction, minimizing impact to mature forests, except when required as part of mitigation for protection of federal or state threatened or endangered species. Prioritize protection of mature forests which are known to store the most carbon.
43	-	1	1	Design site layout to limit forest fragmentation, maintain forest connectivity, and protect wildlife corridors. Provide “safe zones” and natural passageways for wildlife.
44	M	M	M	Minimize the impact to carbon currently stored in and around the site by avoiding the disturbance of soil, downed trees, woody debris, and other vegetation.
45	2	4	4	Plant and replace trees on site or on an alternative local site that supports a similar forest type and improves forest connectivity, riparian buffers, and/or carbon sequestration. Planting should be consistent in acreage and character to forest impacted by Facility Area development. Planting and maintenance guidance can be found on DEC’s webpage. ¹
46	M	M	M	Avoid damaging residual trees and seedlings in and around the site to the maximum extent possible.
	2	6	6	Subtotal

Soils

ID#	S.1	S.2	S.3	Strategy
47	1	1	1	When removing trees, do so when soils are not wet to minimize soil disturbance and erosion, following NYS Forestry Best Management Practices. ²
48	1	1	1	Ensure utilization of wood removed during development for durable long lasting wood products such as lumber.
49	1	1	1	In Forests containing State jurisdictional stream(s), preserve existing forested areas by designing a 50’ buffer along the State jurisdictional stream(s) border to prevent erosion and improve water filtration.
50	M	M	M	Restore and maintain land underneath solar panels with vegetation to achieve ground cover sufficient to control erosion and stormwater runoff.
	3	3	3	Subtotal

Part 1 Forested Lands Avoidance Score (0-30 pts): _____

Part 2 Forested Lands Minimization Score (0-10 pts): _____

TOTAL for Protection of Forested Lands Resources (0-35 pts): _____

Endnotes

¹[New York State Department of Environmental Conservation - Tree Planting and Maintenance Guidance](#)

²[NYS Forestry Best Management Practices for Water Quality Field Guide](#)

COMMUNITY BENEFITS AND COLLABORATION

Yes/No Response

<i>ID#</i>	<i>Yes</i>	<i>No</i>	<i>Strategy</i>
51	5	0	Prepare a screening and landscaping plan, incorporating community feedback, to minimize view-shed impacts from sensitive resources and adjacent properties to the extent feasible.
52	M	M	Make the site's applicable management plan(s) (e.g., vegetation management plan, strategic grazing management plan, screening and landscaping plan, decommissioning plan, Community Engagement Plan, ¹ etc.) available to the public as appropriate.
53	5	0	Initiated community engagement (e.g., 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 (ORES) pre-application meetings).
54	5	0	Engage relevant stakeholders, including farmers and farm agencies/extension services, in discussion of potential agribusiness and co-utilization opportunities.
55	M	M	Include in the project's Community Engagement Plan, ¹ public engagement and education regarding the project and specifically the benefits of solar, co-utilization, and the site's other mitigation practices (e.g., how impacts on wetlands, threatened and endangered species, and/or farmland are being minimized or how they are being enhanced).
56	M	M	To extent feasible, project is consistent with local (county/municipal) agricultural and environmental protection planning efforts.
57	5	0	Involve the site in an ongoing research project with a university or other organization (e.g., an Agrivoltaic research project).
58	5	0	At least 10% of the Facility Area is sited on developed land (i.e., land that has been modified from its natural state and typically includes physical structures and buildings) Developed land does not include plowed/tilled farmland.
	25	0	Subtotal

TOTAL for Community Benefits and Collaboration (0-25 pts): _____

Endnotes:

¹[RESRFP22-1 RFP Summary, Section 4.1 Project Viability, Operational Flexibility and Peak Coincidence \(Community Engagement, pages 44, 81-82\).](#)

EXTRA CREDIT: INNOVATION

Yes/No Response – Up to five points will be assigned if proposed innovative practices or designs are approved as meeting the spirit of the Innovation category by NYSERDA.

ID#	Yes	No	Strategy
59	1-5	0	Describe innovative practices or designs proposed for the project that further minimizes impacts or provides complimentary co-benefits (insert description below).