

Ohio Department of Natural Resources (ODNR)
Guidance for Proposed Solar Energy Facilities in Ohio
(updated 4/7/22)

Disclaimer: The guidance document is non-exhaustive. Project recommendations are made on a site-specific basis and may include additional considerations. It is ODNR's expectation that the conditions below are incorporated into the site development plan for all proposed solar energy facilities in Ohio which are subject to Ohio Power Siting Board regulation. The incorporation of these conditions will help ensure that the project will result in the minimum adverse environmental impact.

A. Design Requirements

1. Construction of utility-scale installations on ODNR owned or managed lands will not be permitted.
2. Avoid unstable land surfaces such as karst features and hillslopes in landslide-prone formations. Projects located in areas with a history of mining (both surface and underground mining) should not be advanced unless geotechnical, engineering, and constructability evaluations and reports demonstrate the project is suitable for the area being considered. Developers should be cautious of unstable slopes, surface settling, and rapid erosion when constructing and managing solar facilities on reclaimed mine lands.
3. Developers should be conscious of oil, gas, and water wells to avoid impeding the extraction of other natural resources.
4. Permanent security lighting should be designed to minimize light pollution and take into consideration lighting initiatives that aim to reduce impacts to wildlife (shielded, motion triggered, and directed lighting).
5. Conduct environmental resource surveys as described in the ODNR Environmental Review process. Delineate wetlands and streams, prior to OPSB application submission.
6. Avoid existing wetlands and adjacent woodlands. A minimum 120-foot buffer should be maintained on Category 1 and 2 wetlands. A minimum 300-foot buffer should be maintained on Category 3 wetlands to preserve ecological integrity. This recommendation is based on research by Semlitsch and Bodie (Semlitsch, R. D., and J. R. Bodie. 2003. Biological Criteria for Buffer Zones around Wetlands and Riparian Habitats for Amphibians and Reptiles. Conservation Biology 17(5): 1219-1228) and further utilized by New Jersey (Landscape Project Version 3.3 methodology - <https://www.state.nj.us/dep/fgw/ensp/landscape/>). Buffer distances for wetlands should be measured from delineated and verified wetland boundaries.

7. Maintain a minimum 120-foot buffer along streams (including ephemeral and intermittent streams), retaining existing, non-invasive trees or shrubs. Buffer distances for streams should be measured from delineated and verified stream boundaries.
8. A layout that maintains riparian/corridor access and connectivity for wildlife is preferred.

B. Construction Best Management Practices (BMPs)

1. Fencing around panels should incorporate gaps or spaces of at least 6 inches x 6 inches to allow passage of small mammals.
2. Efforts should be taken to avoid entrapping wildlife within the facility during construction of the fence and that the solar facility be checked regularly or structures installed to allow animals to escape.
3. ODNR recommends that the construction plan minimize the amount of exposed or open trenches. If spans of trenching will be open for extended periods of time ODNR recommends the installation of trench plugs, earthen ramps, or other means as necessary to ensure that open trenches do not trap wildlife or impair wildlife movement.
4. Developers should avoid installing new drain tile systems that may drain or impede replenishment of nearby wetlands or significantly increase drainage into adjacent waterways during precipitation events.

C. Post-construction/operational requirements

1. Solar development sites are required to plant a minimum of 70% of the developed project area in beneficial vegetation, utilizing plant species as described in Attachment A (or other suitable species as approved) and follow the [Ohio Solar Site Pollinator Habitat Planning and Assessment Form](#) with a minimum score of 80 points. Routine mowing will be limited to fall/spring seasons, as needed, to allow for natural reseeding of plantings and reduce impacts to ground-nesting birds. These requirements are intended to provide wildlife habitat, encourage water infiltration, and reduce erosion. This requirement not applicable to sites committed to alternative agricultural uses to control vegetation, as described in the vegetation management plan.
2. Should solar facilities be proposed adjacent to environmentally sensitive sites such as State Scenic Rivers or State Nature Preserves with significant and unique plant and/or animal communities, additional species or seed mixes may be recommended.
3. The Applicant shall contact OPSB staff, ODNR DOW, and USFWS within 24 hours if state or federal listed species are encountered during construction activities. Construction activities that could adversely impact the identified plants or animals shall be immediately halted until an appropriate course of action has been agreed upon by the Applicant, OPSB staff, and the appropriate agencies. The Applicant shall also notify OPSB staff, ODNR

DOW, and USFWS within 24 hours if any mortality, injury, or entrapment of a state or federal threatened and endangered listed species is discovered in the facility during operation. For wildlife not categorized as state or federal threatened or endangered, the Applicant shall also notify OPSB Staff, ODNR DOW, and USFWS at annual intervals if any mortality, injury, or entrapment of wildlife is discovered in the facility during operation for the purpose of general data collection.

Attachment A

Recommended plant species for Ohio solar facilities. Additional species may be considered after consultation with ODNR. NN = Non-native to Ohio. (*moist soils)

Common Name	Species
Aster, Heath	<i>Symphotrichum ericoides</i>
Aster, Sky blue	<i>Symphotrichum oolentangiense</i>
Aster, Smooth Blue	<i>Symphotrichum laeve</i>
Broom-sedge Grass	<i>Andropogon virginicus</i>
Beardtongue, Foxglove	<i>Penstemon digitalis</i>
Beardtongue, Hairy	<i>Penstemon hirsutus</i>
Black-eyed Susan	<i>Rudbeckia hirta</i>
Blue-eyed-grass, Narrow-leaved	<i>Sisyrinchium angustifolium</i>
Brown-eyed Susan	<i>Rudbeckia triloba</i>
Bush Clover, Round-headed	<i>Lespedeza capitata</i>
Butterflyweed	<i>Asclepias tuberosa</i>
Clover, Alsike (NN)	<i>Trifolium hybridum</i>
Clover, Crimson (NN)	<i>Trifolium incarnatum</i>
Clover, Ladino (NN)	<i>Trifolium repens</i>
Flowering Spurge	<i>Euphorbia corollata</i>
Golden Alexanders	<i>Zizia aurea</i>
Goldenrod, Gray	<i>Solidago nemoralis</i>
Goldenrod, Stiff	<i>Solidago rigida</i>
Hoary Vervain	<i>Verbena stricta</i>
Lance-leaved Coreopsis	<i>Coreopsis lanceolata</i>
Little Bluestem Grass	<i>Schizachyrium scoparium</i>
Lobelia, Pale Spike	<i>Lobelia spicata</i>
Milkweed, Prairie	<i>Asclepias sullivantii</i>
Milkweed, Whorled	<i>Asclepias verticillata</i>
Mountain Mint, Narrow-leaved	<i>Pycnanthemum tenuifolium</i>
Mountain Mint, Virginia	<i>Pycnanthemum virginianum</i>
Nodding Onion	<i>Allium cernuum</i>
Ox-eye Sunflower	<i>Heliopsis helianthoides</i>
Partridge Pea	<i>Chamaecrista fasciculata</i>
Purple Coneflower	<i>Echinacea purpurea</i>
Purple Love Grass	<i>Eragrostis spectabilis</i>
Seedbox*	<i>Ludwigia alternifolia</i>
Side-oats Grama Grass	<i>Bouteloua curtipendula</i>
Tall Rough Dropseed Grass	<i>Sporobolus compositus</i>
Wild Bergamot	<i>Monarda fistulosa</i>
Wild Senna	<i>Senna hebecarpa</i>
Yarrow	<i>Achillea millefolium</i>

Recommended plants sorted by average maximum height. Note: Site conditions will impact individual plant height.

(<1) 1 to 2 Feet	2 to 2 ½ Feet	2 ½ to 3 Feet	3 to 3 ½ Feet	3 ½ to 4 Feet	4 to 4 1/2
Clover, Ladino	Aster, Heath	Broom-sedge Grass	Aster, Sky Blue	Brown-eyed Susan	Bush-clover, Round-headed
Onion, Nodding	Beardtongue, Hairy	Butterflyweed	Aster, Smooth Blue	Goldenrod, Stiff	Senna, Wild
Partridge Pea	Clover, Alsike	Flowering Spurge	Black-eyed Susan	Ox-eye Sunflower	
Purple Love Grass	Clover, Crimson	Goldenrod, Gray	Hoary Vervain	Tall Rough Dropseed Grass	
	Golden Alexanders	Little Bluestem Grass	Mountain Mint, Virginia	Wild Bergamot	
	Lance-leaved Coreopsis	Milkweed, Prairie	Purple Coneflower		
	Lobelia, Pale Spike	Milkweed, Whorled	Seedbox		
	Mountain Mint, Narrow-leaved	Side-oats Grama Grass			
	Yarrow				