



McHenry County
Department of Planning and Development

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MEMORANDUM

REGARDING: Native Vegetation Performance Standards for Solar Farms
FROM: McHenry County Department of Planning and Development
TO: Developers of Solar Farms
DATE: Effective October 8, 2019

In accordance with the McHenry County Unified Development Ordinance, solar farms are required to install and maintain native vegetation on the facility (including beneath and between the panels, but excluding the access road and equipment building). A strip of turfgrass, the width of one commercial mower, or as otherwise required to allow for maneuvering emergency vehicles, may be maintained along the edge of the access road and equipment building. The native vegetation shall meet the performance standards set forth in this document and shall be maintained to those standards throughout the life of the project. The applicable sections of the Unified Development Ordinance include the following portions of Section PP. Solar Farm, 2. Site Design (§16.56.030.PP.2):

- f. In order to prevent erosion, manage run-off, and provide ecological benefit, the facility shall be planted with “low-profile” native prairie species, using a mix appropriate for the region and soil conditions.; and
- h. Any part of the facility that is within five hundred (500) feet of a residence, other than a residence on the same ownership parcel, or road right-of-way, shall be landscaped with an arrangement of native shrubs, subject to approval by the County, unless the facility is screened from view by existing vegetation.; and
- i. Prior to construction, the operator shall prepare a landscape monitoring and maintenance plan to ensure the establishment and continued maintenance of the native prairie species, all installed landscape screening, and all existing vegetation that provides required landscape screening.

NATIVE VEGETATION - REQUIRED MATERIALS FOR SOLAR FARMS

LANDSCAPE PLAN:

The Landscape Plan should provide specific information about the native plant species that are proposed, where they will be located, and how they will be installed and established. All proposed plant species shall consist of “low-profile” native prairie species using a mix appropriate for the region and soil conditions. Required landscape screening shall consist of native trees or shrubs. Lists of proposed native species to be installed, including scientific name, common name, and quantity shall be provided for review by McHenry County Department of Planning and Development (P&D) Staff. The following information shall be provided in the proposed landscape plan:

- Project name and geographic location;
- A site plan showing the location of each plant community proposed on-site (e.g. different plant communities under panels, between panels, landscape screening, or other site areas);
- A separate species list shall be provided for each plant community being proposed;
- A general description of the proposed site preparation and installation methods for the native species (e.g. seed drill, hand broadcast, plant plugs).

MAINTENANCE PLAN:

The Maintenance Plan shall provide an explanation of how the ecological quality of the site will be achieved and maintained throughout the life of the solar farm. At a minimum, the Year 5 performance standards described below should continue to be met. Basic elements of the Maintenance Plan shall address the following activities:

Mowing: A discussion of the mowing strategy(s) and frequency(s) that will be used. For instance, annual mowing should be properly timed and kept to a minimum to avoid disturbance of wildlife and native vegetation but frequent enough to prevent the establishment of weeds/trees/shrubs that may be introduced by seed over time. Annual mowing is recommended once a year, after October 15, since most native plants have flowered and gone to seed by this time, and before April 15, which is the typical start of prime nesting season for birds. If invasive or weedy species need to be targeted outside of this time frame, the use of high mowing (mower blade over 12” high) or properly timed use of brush cutter/weed whip can be implemented to target specific species and prevent the formation weed seed without harming native plants. To prevent smothering of native plants, the cut material should be chopped into small enough parts or cut material should be collected, removed, and properly disposed of.

Chemical Control: Chemical pesticides/herbicides shall be applied selectively (e.g., spot application rather than routine broadcast spraying) unless part of an approved adaptive management strategy to address selected problem areas (e.g., areas with a dominance of invasive plant species that do not respond well to mechanical control measures). Pesticide/herbicide applications are to be performed by a licensed professional applicator in strict compliance with all warning labels and applicable codes, standards and best management practices.

Fertilizer Use: Fertilizers shall not be used in areas planted with native vegetation.

Erosion Control: No area on the vegetated portion of the site greater than 1 square meter shall be devoid of vegetation, as measured by aerial coverage. The site shall have no rills or gullies greater than four inches wide by four inches deep.

Supplemental Seeding/Revegetation: Remedial actions may be needed as site conditions warrant. Such actions may include reseeding or planting live plugs of native plant species. Installation of supplemental plugs and/or seed should be consistent with the approved seed mix and appropriate for the habitat conditions, or approved by P&D.

Tree/Shrub Replacement: At least 80% of the trees/shrubs identified in the permitted plans must remain alive and healthy throughout the life of the solar farm. The Long-Term Maintenance Plan shall include a discussion of how trees/shrubs will be monitored and replaced.

Adaptive Management: To maintain the ecological quality of the site, the applicant must be prepared to adapt management practices if site conditions change. For instance, an outbreak of an invasive species may require more intensive management and reseeding to restore habitat. The earlier a problem is identified and adaptive strategies are implemented, the less corrective action is typically required. The Plan shall include a brief discussion of how adaptive management strategies would be established and implemented.

INSPECTIONS:

P&D reserves the right to request access to the site to conduct visual inspections and assess the condition of the native planting areas.

ANNUAL MONITORING AND MAINTENANCE REPORTS:

A brief monitoring and maintenance report shall be submitted to P&D annually for the first five years or until compliance approval is provided by P&D. See the compliance approval subsection of this document for information on performance standards associated with compliance approval. The reports shall be submitted to P&D by December 31 of each year. The monitoring and Maintenance report shall be prepared by an ecologist and shall include, at a minimum:

- Project name and geographic location;
- Map location and description of each plant community present on-site;
- Description of the general condition of each plant community including any issues or deficiencies from the performance standards;
- List of all species observed in each plant community, including scientific and common names, based on a minimum of 2 meander searches conducted by an ecologist during the growing season (1 meander search in the spring and 1 in the summer);
- List the 5 most dominant species present in each plant community, estimated based on visual observation during the meander searches, including scientific and common names;
- Discussion of maintenance activities implemented during the current year being reported on;
- Summary of maintenance activities planned for the coming year, including any “adaptive management” strategies proposed to address issues or to correct deficiencies from the performance standards; and
- Color photos representing each plant community and their general condition including any issues observed or deficiencies in performance standards.

PERFORMANCE STANDARDS

Upon Completion of Construction:

A temporary cover crop shall be planted to aid in the establishment of the native species and prevent erosion. Cover crop may include species such as Oats (*Avena sativa*). NOTE: Perennial Rye (*Lolium perenne*) and Barnyard Grass (*Echinochloa crusgalli*), which are identified as a cover crop on some regional species lists, shall not be used.

Within Three Months of Seeding:

At least 70% of the project site (excluding access road(s) and equipment pad(s)), as measured by aerial coverage, shall be vegetated or otherwise stabilized against erosion. The cover crop may be used to accomplish this requirement.

Year 1:

By the end of the first full growing season, planted areas shall have 90% vegetation cover. The cover crop may be used to accomplish this requirement. Any planted trees/shrubs that are dead or trees/shrubs with 50% or more dead branches shall be replaced.

Year 2:

By the end of the second growing season at least 50% of the vegetation present shall be native, non-invasive species. No area on the vegetated portion of the site greater than 1 square meter shall be devoid of vegetation, as measured by aerial coverage. Any planted trees/shrubs that are dead or trees/shrubs with 50% or more dead branches shall be replaced.

None of the 3 most dominant species within the planted communities shall be non-native or invasive species including, but not limited to:

Scientific Name	Common Name
<i>Abutilon theophrasti</i>	Velvet Leaf
<i>Agropyron repens</i>	Quackgrass
<i>Alliaria petiolata</i>	Garlic Mustard
<i>Amaranthus spp.</i>	Amaranth Species
<i>Ambrosia spp.</i>	Ragweed - Common and Giant
<i>Arctium minus</i>	Burdock
<i>Cirsium spp., Cardus spp.</i>	Thistle - Non-Native
<i>Conium maculatum</i>	Poison Hemlock
<i>Dipsacus spp.</i>	Teasel - Cut-Leaved and Common
<i>Echinochloa crusgali</i>	Barnyard Grass
<i>Elaeagnus spp.</i>	Olive – Russian and Autumn
<i>Euphorbia esula</i>	Leafy Spurge
<i>Fallopia japonica</i>	Japanese Knotweed
<i>Heracleum mantegazzianum</i>	Giant Hogweed
<i>Hesperis matronalis</i>	Dame’s Rocket
<i>Lotus corniculatus</i>	Birdsfoot Trefoil
<i>Melilotus spp.</i>	Sweet Clover - White and Yellow
<i>Pastinaca sativa</i>	Wild Parsnip
<i>Phalaris arundinacea</i>	Reed Canary Grass
<i>Phragmites australis</i>	Common Reed
<i>Poa pratensis</i>	Kentucky Bluegrass
<i>Pueraria lobata</i>	Kudzu
<i>Rhamnus spp.</i>	Buckthorn
<i>Rosa multiflora</i>	Multiflora Rose
<i>Setaria spp.</i>	Foxtail Species
<i>Sonchus arvensis</i>	Perennial Sowthistle
<i>Sorghum alnum Parodi</i>	Columbus Grass
<i>Sorghum halepense</i>	Johnsongrass

Year 3:

By the end of the third growing season at least 60% of the vegetation present shall be native, non-invasive species. No non-native or invasive species shall be among the 3 most dominant species. No area on the vegetated portion of the site greater than 1 square meter shall be devoid of vegetation, as measured by aerial coverage. Any planted trees/shrubs that are dead or trees/shrubs with 50% or more dead branches shall be replaced.

Year 4:

By the end of the fourth growing season at least 70% of the vegetation present shall be native, non-invasive species. No non-native or invasive species shall be among the 3 most dominant species. No area on the vegetated portion of the site greater than 1 square meter shall be devoid of vegetation, as measured by aerial coverage. Any planted trees/shrubs that are dead or trees/shrubs with 50% or more dead branches shall be replaced.

Year 5:

By the end of the fifth growing season at least 75% of the vegetation present shall be native, non-invasive species. No non-native or invasive species shall be among the 3 most dominant species. No area on the vegetated portion of the site greater than 1 square meter shall be devoid of vegetation, as measured by aerial coverage. A minimum 80% of all trees/shrubs identified in the approved plans must be alive and healthy.

Compliance Approval:

After the Year 5 performance standards have been achieved, the applicant can submit a written request for compliance approval from P&D. P&D Staff will visit the site to evaluate if performance criteria have been met. If performance standards are confirmed to have been met, P&D will provide written confirmation. Once compliance approval has been obtained, the applicant is responsible for implementing the Long-Term Maintenance Plan and maintaining the Year 5 performance standards throughout the life of the solar farm.

Post Compliance Approval Reporting:

At each 5-year interval after compliance approval, a brief monitoring report shall be submitted to P&D for review and acceptance. The format of the report shall follow the format of the Annual Monitoring and Maintenance Report. If the report shows that the site does not meet or exceed the Year 5 performance standards, additional maintenance shall be performed during subsequent years to achieve the Year 5 standards. Monitoring reports shall be submitted annually until such standard is achieved, at which point the 5-year reporting period shall be resumed.