Delta County Solar Ordinance

Section 101

1. Definitions

A. **Solar Energy System (SES):** A system consisting of a device or combination of devices, structures, or parts thereof, that collect, transfer, or transform solar radiant energy into thermal, chemical, or electrical energy, excluding systems that substantially rely on mirrors or similar technologies to focus solar radiant energy onto a considerably smaller area and are sometimes referred to as “concentrated solar power” systems.

B. **Solar Collection Panels:** Panels (including bifacial panels), tiles, or thin membranes comprised of semiconductor devices and typically referred to as photovoltaic cells, which collect solar energy that is converted into electricity.

C. **Bifacial Panels**: Solar collection panels that collect solar energy from both the top side and the underside of the panel.

D. **Racking**: Also called photovoltaic mounting systems, a solar racking system is used to safely fix solar panels to various surfaces such as roofs, building facades, or the ground.

E. **Ground-mounted:** Solar collection panels that are mounted to the ground by a pole or poles or a frame (metal, wood, or other similar material).

F. **Roof-mounted:** Solar collection panels that are mounted on the roof by a frame. Roof-mounted solar energy systems that function as shingles or are otherwise shingle-like in general character are exempt from regulation and are not subject to the issuance of a zoning permit.

G. **Energy Storage:** The capture of energy produced at one time for use later to reduce imbalances between energy demand and energy production. A device that stores energy is generally called an accumulator or a battery.

H. **Net Metering**: a system in which solar panels or other renewable energy generators are connected to a public-utility power grid and surplus power is transferred onto the grid, allowing customers to offset the cost of power drawn from the utility.

I. **Micro-Grid**: Micro-grids serve local energy sources where power transmission and distribution from a major centralized energy source is too far and costly to execute. They offer an option for rural electrification in remote areas and on smaller geographical islands. As a controllable entity, a micro-grid can effectively integrate various sources of distributed generation through renewable energy sources. Micro-grids can be associated with small, medium, and large SES installations but are not associated with utility scale SES installations.

J. **Brownfield**: a tract of land that has been developed for commercial or industrial purposes, polluted, and/or abandoned.

K. **Overlay District:** An overlay district means a district in which additional requirements act in conjunction with the underlying zoning district. The original zoning district designation does not change. It is recognized there are unique areas within

existing Zone Districts of Delta County that require special consideration. Where the property is classified in an overlay district the regulations governing the development will apply in addition to the regulations governing development in the underlying district. In the event of a conflict between general standards applicable in a zone and the standards of an overlay district that apply to a particular property, the overlay district standards control, unless otherwise specified.

L. **Solar Energy Overlay District**: This overlay district is specific to Utility Scale Solar Energy Systems and requires energy transport through ATC transmission lines. This district runs parallel to ATC high transmission electrical lines located in Delta County and extends perpendicular from the center of the ATC lines 1.5 miles in both directions, effectively creating a 3-mile-wide corridor. Federally listed brownfield lands (including capped landfills) are included in the Solar Energy Overlay District even when located outside of the 3-mile-wide corridor. This exception is granted to encourage development of lands with very limited use.

M. **PA 116, the Michigan Farmland and Open Space Preservation Act**: A law that works to preserve farmland by offering incentives to farmers who are willing to participate. The law, which was passed in 1974, allows a farm landowner to enter into an agreement with the state that ensures that the land remain in agricultural use for a minimum of 10 years and up to 90 years. In return, the farm owner may be entitled to income tax benefits and exemption from special assessments on the land. Michigan Department of Agriculture and Rural Development (MDARD) has developed a policy for allowing commercial solar panel development on PA 116 lands. Specific conditions must be met for any solar energy system development on lands enrolled in PA 116. Refer to the MDARD policy for details. The direct link is listed below.
https://www.michigan.gov/documents/mdard/MDARD_Policy_on_Solar_Panel_and_PA116_Land_656927_7.pdf

N. **Wildlife Corridors**: The arrangement of panels within a project site that allow wildlife travel through the site. Existing trees, wetlands, or other vegetation that link open areas will be preserved as wildlife corridors as well as substantial buffer zones that break up perimeter fencing and allow unimpeded migration.

O. **Lake-effect**: A recent hypothesis that proposes groups of birds' mistake utility scale solar arrays for bodies of water.

P. **Small Solar Energy System**: A SES located on the same lot as the use served by the SES and which relies on roof or ground-mounted collection systems that occupy no more than 2,000 sq ft. of roof and/or land area, including access aisles between solar panels. A small SES is typically intended to serve a single residential unit, multi-home unit, or small business. Installations can be energy independent and/or distributed to the energy grid (net metering).

Q. **Medium Solar Energy System**: A SES located on the same lot as the use served by the SES and which relies on roof or ground-mounted collection systems that occupy more than 2,000 sq ft but less than 50,000 sq ft of roof and/or land area, including access aisles between solar panels. A medium SES is typically intended to produce energy for use in association with multiple dwellings and/or businesses on a single lot. Installations can be energy independent and/or distributed to the energy grid (net metering).

R. **Large Solar Energy System**: A SES that relies on roof and/or ground mounted collection systems that occupy more than 50,000 sq ft but less than 10 acres of roof or land area, including access aisles between solar panels. A Large SES is typically intended to produce energy for use principally in association with multiple dwellings and/or businesses on a single lot on which the system is located but are not in association with energy utility providers. Installations can be energy independent and/or distributed to the energy grid (net metering).

S. **Utility Scale Solar Energy System**: A SES that relies on ground mounted collection systems that occupy more than 10 acres of land area. Contiguous installations over 40 acres require siting considerations to reduce or eliminate lake-effect for migrating birds and will include wildlife corridors. In contrast to solar energy systems generating power for on-site consumption, utility scale or solar farms are considered generation facilities that supply power to the grid. The utility scale solar site may also include a substation and a switchyard, and it may require generator lead lines to *interconnect* to the grid. Installations rely on existing energy distribution infrastructure.

Sections 202-219

2. District Requirements

A. **Small Solar Energy System**: Net metering is encouraged. Energy storage is allowed.
Allowable Districts: ALL (R-1, R-2, R-3, C-1, C-2, C-3, I, OS, PL, RP, AP, RR, LS/R, LS/R-2, TD)
Permitted: Exempt.

B. **Medium Solar Energy System**: Net metering is encouraged. Energy storage is allowed.
Allowable Districts: C-1, C-2, C-3, I, PL, RP, AP, RR
Permitted: Conditional Use. Subject to site plan approval.

Shall be considered an accessory use, subject to the following requirements:

a. Clear cutting forest land for SES development is prohibited. This does not include tree plantations.
b. All power transmission or other lines, wires, or conduit from a ground-mounted SES shall be located underground.
c. Energy storage must meet current accessory building regulations for the associated district.
d. No more than 20% of the lot area may be covered by a ground-mounted SES.
e. A ground-mounted SES shall be in the rear or side yard and shall meet all existing setback requirements.
f. Installations shall be placed such that solar radiation and/or glare shall not be directed onto neighboring properties or public roads.
g. Any accessory lighting will illuminate by means of occupancy sensors and directed downward.
h. No SES shall produce noise that exceeds forty (40) dBA, as measured at any neighboring property line.
i. Installations shall be subject to state and federal safety requirements.

C. **Large Solar Energy System**: Net metering is encouraged. Energy storage is allowed. Multiple projects owned or leased by an individual, company, agency, or municipality sited on nearby land are considered one project, submitted as a single site plan.

Allowable Districts: C-1, C-2, C-3, I, PL, RP, AP, RR
Permitted: Conditional Use. Subject to site plan approval.

Shall be considered principal use and subject to the following requirements:

a. **Deforestation**: Clear cutting forest land for SES development is prohibited. This does not include tree plantations.
b. **Setbacks**: Solar panels and other structures shall be setback sixty (60') from all lot lines, public road rights-of-way, or the district setbacks stated in the underlying zoning district, whichever is greater. In addition, solar panels and other structures must be located at least three hundred (300') feet from all non-participating residential property and all non-participating lot lines. In addition, solar panels and other structures shall not be located within a fifty (50') feet of a drain easement. Non-participating neighboring properties may elect to opt out of setback requirements, in which case written, signed, notarized consent must be included in the site plan documents and registered with the Delta County Register of Deeds.
c. **Maximum Height**: The maximum height for a solar panel shall be twenty-one (21') feet oriented at maximum tilt. The height of all other buildings and accessory structures shall comply with the maximum building height requirements of the applicable zoning district in which the SES is located.
d. **Lighting**: Shall be limited to the minimum necessary, directed downward, and set with motion-sensors. No lighting will extend beyond the perimeter of the SES. See section C.o.iv.
e. **Glare**: No SES shall produce glare that would constitute a nuisance to occupants of neighboring properties or to persons traveling public roads. See section C.o.vi.
f. **Screening**: Screening is required where panels will be adjacent to non-participating properties unless non-participating properties elect to have no screening. In these cases, a notarized written statement from non-participating properties is required. Screening will consist of native Michigan trees and shrubs, with at least 50% conifer. All screening will be a minimum of six (6) feet in height at the time of planting and will be maintained for the life of the project. Any screening vegetation that does not survive will be removed and replaced within one (1) year upon death or disease. Screening will be planted to encourage and provide a natural appearance, such as clustering and non-linear plantings.
g. **Fencing**: All fencing will meet National Electrical Code requirements.
h. **Erosion and Runoff**: Revegetation or other means of controlling runoff and erosion is required. Vegetation will consist of native Upper Peninsula shrubs, grasses, sedges, and/or flowers.
i. **Noise**: No SES shall produce noise that exceeds forty (40) dBA, as measured at any neighboring property line.
j. **Berms**: Earthen berms are discouraged due to the destructive nature of stripping nearby land of topsoil and increased potential for erosion. Earthen berms do not allow for restoration of agricultural land after decommissioning and therefore are not allowed for SES development on agricultural land.
k. **Groundwater**: Protection of groundwater is paramount and any development that may impact groundwater will be compliant with all DEQ and Health Department regulations.
l. **Grazing**: Livestock grazing within a fenced SES is permitted subject to requirements of the applicable underlying zoning district.
m. **Advertising**: No solar panels or associated equipment or buildings shall be used for advertising.

n. **Decommissioning, Re-Powering, or Re-Purposing**: A plan will be developed that details and estimates the costs of decommissioning, re-powering, or re-purposing the SES at the end of the project's life.
o. **Additional Submittal Requirements**: The following information shall be provided for site plan review and for special land use applications.
    i. Project Description and Rationale: The type, size, rated power output, and safety guidelines. Identify timelines, project life, and possible future expansions.
    ii. Operator's Agreement: Shall set forth the operations parameters, the name and contact information of the certified operator, inspection protocol, emergency proceedings and general safety documentation.
    iii. Visual Impacts: A presentation of the visual impacts using photos or renditions of the project with consideration given to tree plantings, setback requirements, property lines, buildings, fences, and road right of ways.
    iv. Lighting: Indicate the extent of exterior lighting to be installed including locations, heights, fixture specifications, light levels along property lines, and the frequency lights will be illuminated.
    v. Telecommunications Interference: Provide a description of the extent to which the SES may interfere with wireless communication within one (1) mile of the SES, or otherwise alter electromagnetic field conditions.
    vi. Glare: Provide a report prepared by a qualified company or organization in glare associated with SES to assess glare potential, attesting to the glare and radiation impact on nearby properties and public roads.

D. **Utility Scale Energy System**: Installations rely on existing energy distribution infrastructure. Multiple projects owned or leased by an individual, company, agency, or municipality sited on proximate land are considered one project, submitted as a single site plan.

Allowable Districts: Solar Energy Overlay District, brownfield land, and capped or abandoned landfills.
Permitted: Special Land Use. Subject to special land use review and approval.

Shall be considered principal use and subject to the following requirements:

a. **Active Land**: If SES development is proposed for agricultural land, that land must be agriculturally active for 5 years prior to site plan application. An SES on agricultural land must restore the land to active agricultural status after decommissioning.
b. **Deforestation**: Clear cutting forest land for SES development is prohibited. This does not include tree plantations.
c. **Setbacks**: Solar panels and other structures shall be setback sixty (60') from all lot lines, public road rights-of-way, or the district setbacks stated in the underlying zoning district, whichever is greater. Solar panels and other structures shall be setback 1000' from any Lake Michigan shoreline. For rivers, streams, and inland lakes, the underlying zoning districts requirements will be met. Solar panels and other structures must be located at least three hundred (300') feet from all non-participating residential property and all non-participating lot lines. Solar panels and other structures shall not be located within a fifty (50') feet of a drain easement. When a utility scale SES comprises lots of more than one owner, the internal setback shall not apply. Non-participating neighboring properties may elect to opt out of setback requirements, in which case written, signed, notarized

consent must be included in the site plan documents and registered with the Delta County Register of Deeds.

d. **Maximum Height**: The maximum height for a solar panel shall be twenty-one (21') feet oriented at maximum tilt. The maximum height of a switching station shall not exceed the minimum height needed to tie into electrical transmission lines. The height of all other buildings and accessory structures shall comply with the maximum building height requirements of the applicable zoning district in which the SES is located. The height of lightning rods shall be limited to the height necessary to protect the switching station and shall not be lighted.
e. **Lighting**: Shall be limited to the minimum necessary, directed downward, and set with motion-sensors. No lighting will extend beyond the perimeter of the SES. See section D.q.viii.
f. **Glare**: No SES shall produce glare that would constitute a nuisance to occupants of neighboring properties or to persons traveling public roads. See section D.q.xii.
g. **Screening**: Screening is not required except where panels will be adjacent to non-participating properties unless non-participating properties elect to have no screening. In these cases, a notarized written statement from non-participating properties is required. Screening will consist of native Michigan trees and shrubs, with at least 50% conifers. All screening will be a minimum of six (6) feet in height at the time of planting and will be maintained for the life of the project. Any screening vegetation that does not survive will be removed and replaced within one (1) year upon death or disease. Screening will be planted to encourage and provide a natural appearance, such as clustering and non-linear plantings.
h. **Fencing**: All fencing will meet National Electrical Code requirements.
i. **Erosion and Runoff**: Revegetation or other means of controlling runoff and erosion required. Vegetation will consist of native Upper Peninsula shrubs, grasses, sedges, and/or flowers. See section D.q.vi.
j. **Noise**: No SES shall produce noise that exceeds forty (40) dBA, as measured at any neighboring property line.
k. **Berms**: Earthen berms are discouraged due to the destructive nature of stripping nearby land of topsoil and increased potential for erosion. Earthen berms do not allow for restoration of agricultural land after decommissioning and therefore are not allowed for SES development on agricultural land.
l. **Groundwater**: Protection of groundwater is paramount and any development that may impact groundwater will be compliant with all DEQ and Health Department regulations.
m. **Wildlife**: Care will be taken to minimize or eliminate negative impacts on wildlife, including overflight migrating birds and riparian zones, and provide on-going monitoring by an independent organization when impacts to wildlife are identified. See section D.q.v.
n. **Grazing**: Livestock grazing within a fenced SES is permitted, subject to requirements of the applicable underlying zoning district as it relates to livestock.
o. **Advertising**: No solar panels or associated equipment or buildings shall be used for advertising.
p. **Decommissioning**, **Re-Powering, or Re-Purposing**: A plan will be developed and reviewed every 5 years that details and estimates the costs of decommissioning, re-powering, or re-purposing the SES at the end of the project's life. See section D.q.xiii.
q. **Additional Submittal Requirements**: The following information shall be provided for site plan review and for special land use applications.

i. Project Description Summary: The type, size, rated power output, performance, safety, and noise characteristics of the system. Identify timelines, project life, development phases, likely market for the generated energy, and possible future expansions.

ii. Site Plans: Shall identify (1) all lots in the project, and as to each lot, existing and proposed (a) buildings, (b) accessory structures, (c) utilities, (d) transmission lines, (e) solar panels, (f) drainage ways, (g) grades, (h) topographical conditions, (i) vegetation, (j) regulated wetlands, (k) regulated floodplains, (l) regulated and endangered species, (m) regulated lakes, streams, or ponds; (2) required setbacks; (3) access routes to lots that are part of the project; (4) proposed roadway and driveway improvements; (5) any lots within three hundred (300') feet; (6) proposed transmission lines to and from power switchyards and/or between lots; (7) proposed signage; and (8) methods for dust and erosion control. All maps and visual representations need to be drawn at an appropriate scale and in accordance with Sections 502, 503, and 503-2 (503-2 needs to be added to the Delta County Zoning Ordinance, specific site plan requirements for Solar).

iii. Operator's Agreement: Shall set forth the operations parameters, the name and contact information of the certified operator, inspection protocol, emergency proceedings, and general safety documentation.

iv. Environmental Siting Considerations: The applicant shall provide evidence of compliance with applicable State of Michigan statutes including, but not limited to: Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act (MCL 324.3101 et. seq.); Part 91, Soil Erosion and Sedimentation Control (MCL 324.9101 et. seq.); Part 301, Inland Lakes and Streams (MCL 324.30101 et. seq.); Part 303, Wetlands (MCL 324.30301 et. seq.); Part 365, Endangered Species Protection (MCL 324.36501 et. seq.), and Parts 703 & 704 of the federal Migratory Bird Treaty Act.

v. Wildlife Study: Prepare a report by a qualified, independent organization of the real and potential impacts on wildlife on the site and the surrounding areas, including overflights by migratory wildlife and riparian zones. Incorporate findings into the development to eliminate harm or disturbance to wildlife. Study will include 10 years of post-construction monitoring to determine ongoing impacts to wildlife, with emphasis on migratory birds. Study results shall be made available to the public and shall be endorsed by the US Fish and Wildlife Service (FWS) and the Department of Natural Resources (DNR).

vi. Erosion and Runoff: Requires submission of both storm water and erosion/sediment control plans to comply with federal and state environmental regulations.

vii. Property Values: Any SES that borders existing residential properties will provide a property value study conducted by a qualified third-party valuation advisory service.

viii. Lighting: Indicate the extent of exterior lighting to be installed including locations, heights, fixture specifications, light levels along property lines, and the frequency lights will be illuminated.

ix. Public Safety: A description of the public health and safety risks the SES may present and measures to manage access to the facility by the public.

x. Telecommunications Interference: Provide a description of the extent to which the SES may interfere with wireless communication within one (1) mile of the SES, or otherwise alter electromagnetic field conditions.

xi. Power Distributions: Identify how the SES will integrate with the existing power grid.

xii. Glare: Provide a report prepared by a qualified person or company in glare associated with SES designed to assess glare potential, attesting to the glare and radiation impact on nearby properties and public roads.

xiii. Project Duration, Decommissioning, and Reclamation: Provide a detailed decommissioning plan addressing the project's estimated duration period, the way all SES features shall be removed, and the way the site shall be reclaimed to its former condition. The decommissioning plan shall include a detailed description of the decommissioning bond guaranteeing removal of the system, and which shall be posted at the time of receiving a construction permit for the facility. The amount of the guarantee shall be no less than the estimated cost of removal and may include provision for inflationary cost adjustments. The estimate shall include estimated hours and costs for labor and equipment and shall be subject to approval by the County. The party requiring the purchase of a solar decommissioning bond is the party that owns or is responsible for the use of the land that the solar energy system occupies. This could be a private landowner who has leased the property to a utility company, or it could be a municipality, state, or federal government with oversight responsibility for public land. The bond makes any decommissioning costs the financial responsibility of the utility company, the principal in the surety bond contract. The decommissioning plan will be reviewed and updated every 5 years.