

Section 6.9: Solar Developments

A. Definitions.

Solar Development: A photovoltaic energy system or systems consisting of one or more solar panels which is or are ground mounted, and not attached to another structure or building. Includes community solar gardens and solar farms. The primary function of a solar development is the generation of electricity for wholesale or retail sale by subscription of multiple households or businesses.

Accessory Solar Energy System: A photovoltaic solar energy system that is owned by a property owner primarily to provide solar electricity for the residence or accessory structure and secondarily for net metering. Accessory Solar Systems are governed by Section 11.4-5 of the Zoning Code and not subject to this ordinance.

B. Standards.

1. **Height.** The height of any solar energy system, including panels, shall not exceed twenty-five (25) feet as measured from adjoining grade at base to the highest elevation of the equipment, when oriented at maximum tilt position. This limitation does not apply to transmission lines and interconnection facilities unless in the ROW and granted by variance.
2. **Setbacks and Separation Distances.** Buildings are subject to the setback regulations of the underlying zoning district. Ground-mounted solar energy systems must be set back at least 50 feet from all property lines. Setbacks shall be applied to only the portion of the property occupied by the solar farm and the setbacks of the underlying district shall continue to apply to the balance of the property. Solar panels must be set back three hundred feet (300') from the nearest exterior wall of a residential home. A separation distance of 1000 feet between Solar Developments as measured from property line to property line of the subject property must be maintained.
3. **Visual Screening.** Ground-mounted mechanical equipment that is visible outside the perimeter of the property on which the solar development is located must be screened from view of roads and dwelling units located within five hundred (500') of the solar development in accordance with the provisions of this subsection. Required screening may be located within required setbacks, but outside of right of way, and must comply with the following or a similar alternative approved by the Village at the time of special use permit:
 - a. A landscaped area at least ten feet in width. Evergreen trees shall be planted contiguously around any the perimeter of the solar farm that abuts a residential zone. There shall be at least two evergreen trees in staggered formation per 25 linear feet. Native shrubs shall be included between the trees to fill in and increase opacity.
 - b. Every evergreen in the landscaped area at the time of planting, shall be at least five feet in height. Every shrub must be at least three feet in height at the time of planting.

All landscaping materials must be approved by the Village in consultation with a qualified expert on native species. The goal is to create a flexible native plant mix that will result in a mature barrier over a reasonable period of time. In the event that a shrub or tree dies within any such landscaped area, such shrub or tree shall be promptly replaced by the then owner/operator of the solar farm, as soon as weather permits. No portion of the landscaped area shall be situated within any right of way.

4. Glare. The solar energy system utilized must be designed, constructed and sited to insure glare or reflections on adjacent properties and roadways will not materially and negatively impact the use of such adjacent properties and roadways by their owners and travelers and to not interfere with traffic, including air traffic, or otherwise create a safety hazard. The solar development shall have solar panels which have anti-reflective coating. In the event that glare concerns are documented and presented to the Village following commercial operation, the solar development owner will take actions to address those concerns, including adding landscaping or privacy fencing as necessary or otherwise modifying the project site to address such concerns.
5. Noise. Sound levels measured at the property line cannot exceed 50 decibels when located adjacent to an existing residence on a property not participating in the solar development.
6. Soils and Ground Cover.
 - a. Top soils shall not be removed from the site during development unless the removal is expressly approved as part of the special use permit.
 - b. Native perennial vegetative ground cover must be established in all areas containing a solar energy system and in required setbacks to prevent erosion and manage storm water run-off. Plant material may not be treated with insecticides.
 - c. The ground cover shall incorporate native grasses, flowers, and plants which will provide wildlife and pollinator habitat, soil erosion protection and/or aid in strengthening the soil structure. Plant material both inside and outside the fence may be treated with herbicides approved by the Village, as required and in accordance with industry standards, for control of invasive species.
 - d. No trees or other landscaping otherwise required by the municipal ordinances or attached as a condition of approval of any plan, application, or permit may be removed for the installation or operation of a Solar Development.
7. Compliance with Endangered Species Laws. The applicant shall be in compliance with federal and state laws regarding endangered species.
8. Lighting. A solar development may not be artificially illuminated, unless required by the FAA or other applicable government agency or authority or approved by the Village as part of the special use process. If lighting is approved by the Village, such lighting shall

be limited to that required for safety and operational purposes and shall be fully shielded from abutting properties pursuant to the Village's Dark Sky Ordinance. Lighting of the solar panels shall be directed downward and shall incorporate full cut-off fixtures to reduce light pollution.

9. **Underground Utilities.** On-site power lines communications and utility connections must be placed underground unless expressly provided otherwise in the text of the body of the ordinance granting the special use permit. Such undergrounding requirement includes but is not limited to those power, communication or other lines running between banks of solar panels, and includes transmission lines and interconnection facilities that will be used by the solar development to connect to electric lines, electric substations or interconnections with buildings, unless granted by variance.
10. **Signage.** Any sign on a solar development shall comply with the Village's sign ordinances. A sign consistent with the Village's sign ordinance shall be required to identify the owner/operator of the solar farm and provide a 24-hour emergency contact phone number.
11. Solar panels shall not be used for displaying any advertising.
12. **Abandonment and Decommissioning.** A solar development that (a) does not produce energy for a continuous period of twelve consecutive months or more and (b) where the owner/operator is not pursuing the repair of such solar development will be presumed to have been abandoned.
 - a. Any solar development that has been abandoned must be decommissioned and removed within 180 days.
 - b. Decommissioning must consist of:
 - i. Physical removal of all solar panel installations, structures, foundations, equipment, security barriers or fences and transmission lines from the site to a depth below grade of three (3) feet. The Zoning Board is authorized to allow the owner or operator to leave landscaping or designated foundations three (3) feet or less below grade in place in order to minimize erosion and disruption to vegetation.
 - ii. Recycling or disposal of all solid and hazardous waste in accordance with local, state, and federal regulations.
 - iii. Reclamation of the site: Stabilization, restoration and/or re-vegetation.
 - c. Decommissioning Plan.
 - i. A decommissioning plan outlining the anticipated means and costs of removing the solar development must be submitted with the building permit

application associated with the special use permit application. Said costs shall be reassessed every three years.

- ii. The decommissioning plan shall ensure that the owner or operator properly removes the equipment and facilities upon the end of project life or after their useful life. The plan must include provisions for the removal of all structures and foundations, the removal of all electrical transmission components and the restoration of soil and vegetation in accordance with this section.
- iii. The owner/operator must provide a present-day decommissioning cost estimate and identify the parties responsible for decommissioning, including a statement that ultimate responsibility for decommissioning and reclamation of the site lies with the then owner of record as guarantor of satisfactory completion of said decommissioning and reclamation.
- iv. The Village reserves the right to require additional information or components to the plan as the Village deems necessary to ensure that an adequate proposal is in place to decommission the facility in its entirety and that adequate funds are available.
- v. In addition, the Village shall require an irrevocable letter of credit (or a performance bond if the owner has been granted a variance to substitute a performance bond for such letter of credit) in an amount equal to 150% of the costs of decommissioning and designating the Village as beneficiary, issued by a financial institution with an office in Illinois upon which the letter of credit may be drawn (or a surety licensed to do business in Illinois with respect to a performance bond) and in a form approved by the Village attorney that may be called or drawn upon by the Village to undertake and complete such plan in the event that the owner/operator fails to complete such plan in accordance with this section.
- vi. The Village may also draw upon such letter of credit (or make claim upon the performance bond if the owner has been granted a variance to substitute a performance bond for such letter of credit) to compensate any adjacent property owner for property damage due to a drain tile on the subject property being damaged by the owner/operator of the solar development on the subject property.
- vii. Such irrevocable letter of credit (or a performance bond if the owner had been granted a variance to substitute a performance bond for such letter of credit) shall be renewed and kept in full force and effect by the owner of the subject property or operator of the solar development without interruption for the term of the special use permit and increased upon reassessment of costs as required in paragraph “i” above. In the event that such letter of credit (or a performance bond if the owner has been granted a variance to substitute a performance bond for such letter of credit) lapses, the operator of the solar development as well

as the owner of the underlying property shall be jointly and severally responsible for causing same to be reinstated.

13. **Monitoring and Maintenance.** The owner/operator of the solar development is responsible for keeping the solar development in safe, sound and well-maintained condition, including painting, grounds keeping, structural repairs, internal access drives and the integrity of security measures. The owner of the solar development will certify to the Village prior to the start of commercial operations, that the solar development is in compliance with the Site Plan, and its operation will comply with all federal, state and local regulations in effect at that time.

14. **Avoidance and Mitigation of Damages to Public Infrastructure**

a. **Roads.** If the subject property is adjacent to a state route, such state route shall be used for the purpose of transporting components and equipment for construction, operation or maintenance of the solar development. The owner/operator shall obtain applicable permits from the applicable highway authority prior to construction.

b. **Existing Road Conditions.** The owner/operator must conduct a pre-construction survey, in coordination with the applicable highway authority to determine the condition of existing roads within the Village that will be utilized by the solar development. The pre-construction survey must include photographs and a written agreement to document the condition of the roads and applicable public facilities. The owner/operator is responsible for ongoing road maintenance and dust-control measures identified by the applicable highway authority for all vehicles used for construction of the solar development during all phases of construction and installation. A preconstruction baseline survey to determine existing road conditions for assessing future damage due to development related traffic along with a road repair plan to ameliorate any and all damage, installation, or replacement of roads caused by solar development construction activities. Such road repair plan shall include provision for a letter of credit (or a performance bond if the owner has been granted a variance to substitute a performance bond for such letter of credit) to secure the funding of any such future repairs.

c. **Drainage and Detention Systems.** The owner/operator is responsible for identifying the location of all drain tiles, detention and subsurface drainage systems on the property and submitting such information to the Village at the time of application. In addition, the applicant shall identify detention, drain tile or subsurface drainage systems that will be incorporated into the site storm water permit and for preparing a plan for maintaining such drainage systems during construction and operation of the solar facility. Owner/operator is responsible for repairing, at all times, including but not limited to as part of decommissioning, any damage to drain tiles and other drainage systems that result from construction, operation, or maintenance of the solar development. The letter of credit (or a performance bond if the owner has been granted a variance to substitute a performance bond for such letter of credit) shall also reflect that the letter of credit may be drawn upon (or with respect to the

performance bond, a claim may be made) in order to indemnify and hold harmless any third party owner from property damage due to a drain tile on the subject property being damaged by the owner/operator of the solar development on subject property.

15. Financial Assurance. The owner/operator must provide reasonable evidence of financial ability to construct the solar development and all required improvements, as determined by the Village Board at the time of special use permit approval.
16. The owner/operator of the solar farm must submit an agreement to submit a quarterly output report to the Village.
17. Prior to the issuance of a zoning permit, applicants must acknowledge in writing that the issuing of said permit shall not and does not create in the property owner, its, his, her or their successors and assigns in title or, create in the property itself : (a) the right to remain free of shadows and/or obstructions to solar energy caused by development of adjoining or other property or the growth of any trees or vegetation on such property; or (b) the right to prohibit the development on or growth of any trees or vegetation on such property.

C. Procedures. All applications for special use permit approval for a solar development must include the information and documentation listed below in addition to the customary submittal requirements for special use permit applications.

1. A project description – Applicant shall provide a general description of the project, including total generating capacity, the equipment manufacturer, the type and model of solar panels proposed, the number of solar panels, the nameplate generating capacity of each solar panel, the proposed maximum height and overall dimensions of the tallest and largest panel as installed.
2. A non-refundable filing fee of \$250.00 and a signed reimbursement agreement, in a form approved by the Village, which provides for an initial deposit of \$10,000 and maintenance of this amount for the duration of construction, for the Village's professional fees associated with such application and review.
3. A site plan, developed within the last 12 months, which may utilize or be based upon an ALTA survey, showing property lines and physical features, including roads, setbacks, floodplain (if applicable), buildings, the assumed location of solar panels, rights of way, and zoning district designation for the subject property and all abutting properties. Such plan shall also identify the extent to which the site is in a Natural Resource District, Class III Special Resource District or Sensitive Aquifer Resource District and demonstrate compliance with requirements of those districts. Such site plan shall also include the following:

- a. All existing and proposed underground and above ground utilities including but not limited to overhead electric lines on the solar development site including any for the transmission of energy from the solar development to any buyer.
- b. Ingress and egress from the site as proposed during construction and thereafter, which indicates the proposed road surface and cover on the subject property.
- c. Wetland boundaries as shown on the National Wetland Inventory database.
- d. A drain tile study identifying existing drain tiles on the subject property, or, alternatively, a narrative and supporting evidence indicating to the satisfaction of the Village Zoning Board that drain tiles are not likely to be present within the development site. This evidence may consist of soil maps, historic aerial photographs, historic topographic maps; and/or wetland maps.
- e. Location and size of any abandoned wells or septic systems.
- f. Vertical elevation drawings.
- g. Number, location, and spacing of solar panels/arrays.
- h. Solar energy equipment schematic drawing.
- i. Identification of access to, and traffic control for, the project site, during construction and operation of the solar development.
- j. Elevation drawing(s) (and/or photographs and/or architect's renderings) and site plan showing location, size and design details of solar development, including but not limited to how the power generated will be delivered and proposed meter connections.
- k. Endangered Species EcoCat and Illinois Department of Natural Resources (DNR) Consultation Termination and compliance with any recommendations.
- l. Illinois Historic Preservation Act (IPHA) consultation in accordance with Section 20 ILCS 3420 (Illinois State Agency Historic Resources Preservation Act).
- m. Natural Resources Inventory Report (NRI) from McHenry County Soil and Water District and compliance with any recommendations therein.
- n. American Land Title Association (ALTA) survey and title report for the site.
- o. Wetland boundary map/delineation reports with an U.S. Army Corps of Engineers (ACE) jurisdictional determination letter.

- p. Landscape plans. A general landscape plan or narrative defining how the property will be initially landscaped along the perimeter and what native vegetation will be used within the project area. Also describe how the project area will be maintained during the life of the site.
- q. Grading and excavation plan.
- r. A map shall be provided identifying all offsite tributary areas. A calculation of flow depths on overland flow paths including all onsite and offsite tributary area is also required.
- s. Storm water management report shall identify volumes of depressional storage before and after development.
- t. Easement documents (proposed and existing).
- u. Copy of Stormwater Pollution Prevention Plan (SWPPP) for construction and post construction and copy of approved National Pollutant Discharge Elimination System (NPDES) permit.
- v. Signed, sealed and dated Engineer's Opinion of Probable Construction costs for infrastructure improvements relevant to storm water management and municipal services.
- w. Sight distance studies for access points.
- x. Soils reports with logs.
- y. Phasing map or plan, as applicable.

D. No solar development shall be constructed, installed or modified as provided in this section without first obtaining a building permit. The application for a building permit for a solar development must be accompanied by the fee required for a building permit. All applications for a building permit for a solar development must include the information and documentation listed below in addition to the customary submittal requirements for a building permit. All material modifications to a solar development made after issuance of the required building permit shall require approval by the Village.

1. Interconnection service agreement or evidence of filing required Interconnection service applications with the electric utility.
2. Operation and maintenance plan of the solar development, including measures for maintaining safe access to the installation, dust control and maintenance plans for roads, storm water controls, as well as general procedures for operation and maintenance of the solar development.

3. Name, address and telephone number of the person, firm or corporation constructing and installing the solar development.
4. Manufacturer specifications and installation methods of the solar panels, poles and racks and other major equipment and devices including: wattage capacity, dimensions of panels, mounting mechanisms and/or foundation details and structural requirements.
5. Evidence that the system shall conform to applicable industry standards including those of the American National Standards Institute (ANSI).
6. A certificate of compliance demonstrating that the equipment comprising the solar development has been tested and approved by Underwriters Laboratories (UL) or other approved independent testing agency.
7. The solar development owner or operator shall provide a copy of the project summary, electrical schematic, and site plan to the local fire chief. All means of shutting down the solar development shall be clearly marked. The owner or operator shall identify a responsible person by title for public inquiries throughout the life of the solar development.
8. Description of the hours of operation for construction and maintenance of the facility, numbers of employees and type of traffic to be generated from the site Traffic Impact Study (TIS).
9. Water usage impact study indicating any impact on county and Village water resources.
10. Complaint Resolution Process – The Village and the applicant shall develop a process to review and address any complaints that may arise from neighboring property owners during the construction and operation of the solar development. The owner/operator of the solar farm at the time of the complaint shall pay all costs associated with the process.
11. Within 15 days of notice by the Village of violation of any provision of this ordinance the current SD operator must a.) cure said violation, or b.) submit written assurance and a plan to cure the violation within a time to be agreed upon by the Village and c.) mitigate any damage resulting from the violation. Failure to comply with a. b. or c. above will result in fees being assessed based on the Village's cost to cure or mitigate the damage from the violation.
12. Waste Disposal Plan – All solid waste generated from supplies, equipment, parts, packaging or operation of the facility shall be removed from the site weekly. Any hazardous waste generated by the facility including but not limited to lubricating materials shall be removed consistent with all local, state and federal rules and regulations.

13. Weed/grass control plan.
14. Signage plan – signs warning of the high voltage associated with the solar development shall be posted at every entrance to the facility, at the base of all pad mounted transformers and substations. A sign that provides emergency contact information, such as phone number, shall be posted near the entrance of the solar development.
15. Fence Plan (8' minimum) with appropriate warning signage.
16. Utility interconnection details, offsite interconnection plans and a copy of written notification to the utility company requesting the proposed interconnection.
17. A fire protection plan for the construction and operation of the facility, and emergency access to the site.
18. A permanent, nonexclusive easement, in a form approved by the Village, providing for a blanket ingress and egress easement in and upon the subject property in favor of the Village allowing it, in its sole discretion, in the event the solar development is no longer in operation for a twelve month period or is determined to be unsafe due to inadequate maintenance, obsolescence, fire hazard, damage or other conditions, to i) remove all solar panel installations, structures, facilities, equipment, and security barriers or fences, as well as transmission lines from the subject property to a depth below grade of three feet; ii) remove and recycle or dispose of all solid or hazardous waste in accordance with local regulations, and state and federal law; and iii) stabilize, restore or re-vegetate the subject property and to restore the soil on the subject property.
19. Storm water Management Permit application including storm water management report, drainage plan and erosion control plan.
20. Grant by warranty deed(s) with plats of dedication from the owner of the property to the appropriate governmental unit(s) dedicating a right-of-way from the center line of the road to three feet adjacent to the roadway adjacent to the subject property.
21. An encroachment, cooperation or similar agreement from owner of gas or other pipelines to grade over their pipeline.
22. A current general liability policy covering bodily injury and property damage naming the Village as additional insured with limits of at least two million dollars per occurrence and four million dollars in aggregate.
23. An agreement to defend, indemnify and hold harmless the Village of Bull Valley and it's elected and appointed officials, employees and volunteers from and against

any and all claims, demands, losses, suits, class action, damages, property damage, injuries including bodily injuries or death, costs, expenses and liabilities whatsoever, including attorney's fees, without limitation arising out of or in any way connected with acts or omissions of the applicant, contractor or subcontractor, owner and/or operator associated with the construction and/or operation of the solar project.

24. Structural Engineering plans for foundation and design of solar panels racking and support given local soil and climate conditions.
25. Tree survey and tree preservation plan for those trees on the subject property, if any, identified by the Village's arborist.
26. Storm sewer calculations.
27. Illinois Department of Transportation (DOT) approval, if required.
28. All material modifications to a solar development made after issuance of the required building permit shall require approval by the Village.

All other requirements of the underlying zoning district and special use chapter of this code shall apply unless relief is provided by the Village. In addition, the Village may require as a condition of such special use that a development or annexation agreement be entered into by the parties.