

# Gilford Township Planning Commission Zoning Ordinance Amendments

Draft: January 26, 2023

(Proposed text additions in *italics*. Proposed text deletions with a ~~strikethrough~~.)

## **Section 13.19 Solar Energy Systems**

**A. Definitions:** The following terms, phrases and definitions shall apply for the purpose of this Article.

1. 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 sometimes referred to as “concentrated solar power” systems or “CSP” systems.
2. Small Solar Energy System (Small SES): A solar energy system that relies on ~~roof mounted and/or ground mounted collection systems that have a total cumulative surface area of no more than two thousand (2,000) sq. ft.~~ *occupy no more than two thousand (2,000) sq. ft. of land area including access aisles between solar panels.* A Small SES typically serves a single residential unit, agricultural operation, business or other singular facility, located on the same lot as the Small SES.
  - a. *Solar powered lights used to illuminate walkways, gardens, and similar landscape areas, that do not exceed one (1) sq. ft. in solar panel area, shall not be construed as a Small SES.*
3. Medium Solar Energy System (Medium SES): A solar energy system that relies on ~~roof mounted and/or ground mounted collection systems that have a total cumulative surface area of more than two thousand (2,000) sq. ft. but not more than ten thousand (10,000) sq. ft.~~ *occupy more than two thousand (2,000) sq. ft. but not more than ten thousand (10,000) sq. ft. of land area including access aisles between solar panels.* A Medium SES commonly serves multiple dwellings, businesses and/or other facilities, all on a single lot on which the system is located and may serve users on other lots.
4. Large Solar Energy System (Large SES): A solar energy system that relies on ~~roof mounted and/or ground mounted collection systems that have a total cumulative surface area of more than ten thousand (10,000) sq. ft. and/or is used principally to provide service to customers not located on the same lot as the Large SES, irrespective of the cumulative area of the panels~~ *occupy more than ten thousand (10,000) sq. ft. of land area including access aisles between solar panels.* A Large SES commonly serves multiple dwellings, businesses and/or other facilities, all on a single lot on which the system is located and may serve users on other lots including in association with energy utility providers.
5. Self-Contained Solar Energy Systems: Solar energy systems that do not exceed four (4) square feet in total solar collector panel area, and intended to provide energy to operate a device to which such panel is attached such as in the case of a panel powering an exterior light or an attic fan.
6. Solar Collection Panels: Panels or tiles made of semiconductor devices and commonly referred to as photovoltaic cells, which collect and convert solar energy directly into electricity. Ground mounted panels are panels attached to the ground by a pole, metal frame or other similar support structure.

**B. Compliance with Table 3-4:** Solar energy systems shall comply with the standards of Table 3-4 except as provided otherwise by this Section.

### **C. Small Solar Energy Systems (Small SES)**

1. Small SES Authorization, Review and Approval Procedures: A Small SES is an authorized accessory use/structure in all districts. Small SES shall be subject to Zoning Administrator approval. An application for a Small SES shall include all information required by Section 2.4(B) including the delineation of all SES structures and facilities, and all structures on adjacent properties within fifty (50) feet of a shared lot line.
2. Small SES General Provisions: Small SES collection panels shall be placed such that concentrated solar radiation or solar glare shall not be directed onto nearby properties and public roads. The applicant shall submit documentation to verify compliance with this requirement. When deemed necessary, the Zoning Administrator may require a report from a qualified person with documented training, certification and/or licensing in the generation of glare associated with SES including training in the use of computer software designed to assess glare potential, attesting to the glare and radiation impact on nearby properties and public roads.
3. Small SES Roof-Mounted Systems
  - a. No system part of a Small SES roof-mounted system shall extend more than four (4) feet above the roof surface directly below such system part, but in no case shall the total height of the SES, measured to the ground below, exceed the building height restriction of the district in which it is located.
4. Small SES Ground-Mounted Systems
  - a. Small SES ground-mounted collection panel systems and associated equipment are prohibited in a front yard and shall be set back a minimum of fifteen (15) feet from all side and rear lot lines.
  - b. Small SES ground-mounted collection panel systems and associated equipment shall not exceed fifteen (15) feet in height as measured from the ground below.
  - c. If a ground mounted Small SES ceases to operate or is abandoned for six (6) months, or is deemed by the Building Inspector to be unsafe or not consistent with the building code, the applicant shall repair and restore the system to good working order within thirty (30) days of notification by the Zoning Administrator, or otherwise remove the system in its entirety including posts, equipment, panels, foundations and other features and restore the ground to its preconstruction state.
    - 1) The Zoning Administrator may permit a repair period greater than thirty (30) days if the Zoning Administrator determines a longer period is necessary due to conditions not within the control of the applicant

### **D. Medium Solar Energy Systems (Medium SES)**

1. Medium SES Authorization, Review and Approval Procedures: A Medium SES is permitted as an accessory use only, and only in the C-1 and I-1 Districts. A Medium SES shall be subject to site plan approval according to Sec. 6.04 of this Ordinance.
2. Medium SES General Provisions
  - a. Medium SES collection panels shall be placed such that concentrated solar radiation or solar glare shall not be directed onto nearby properties and public roads. The applicant shall submit a report to the Planning Commission, prepared by a qualified person with documented training, certification and/or licensing in glare associated with SES including training in the use of computer software designed to assess glare potential, attesting to the glare and radiation impact on nearby properties and public roads and verifying compliance with this section.
3. Medium SES Roof-Mounted Systems: No part of a Medium SES roof-mounted system shall extend more than six (6) feet above the roof surface directly below such system part but in no case shall the total height of the SES, measured to the ground below, exceed the building height restriction of the district in which it is located.
4. Medium SES Ground-Mounted Systems
  - a. Ground-mounted collection panel systems and associated equipment are prohibited in a front yard and shall be set back a minimum of fifteen (15) feet from all side and rear lot lines. The setback shall be increased to thirty (30) feet along those segments of a shared lot line where the adjacent lot is in an Agricultural or Residential District.
  - b. Ground-mounted solar collection panels shall not exceed eighteen (18) feet in height.
  - c. In the case of ground mounted solar panels located on a lot that is adjacent to a lot in an Agricultural or Residential District, including on the opposite side of a public road, screening shall be provided along such shared lot lines. The screening shall consist of evergreen trees of a minimum of six (6) feet in height at the time of planting and with a projected growth rate of a minimum of six (6) inches per year and to a minimum projected height of twenty (20) feet, and spaced no greater than twelve (12) feet apart measured on-center. The site plan shall specify the proposed plant material according to common name, botanical name, and minimum planting size. All plant material shall be maintained

in a healthy condition to provide the intended screening, shall be permitted to grow according to its natural habit, and shall be replaced upon death or disease.

- 1) In the case where a dwelling is present within seventy-five (75) feet of a shared lot line, a second row of tree plantings shall be provided and placed no greater than twelve (12) feet from the first row as measured on-center, with the second row of trees positioned in a staggered formation to the first row so as to have trees spaced at no greater than six (6) feet on-center as viewed from the shared lot line.
  - 2) Required screening need not be in the immediate area of the panels that the plantings are intended to screen if the planting locations provide for the intended screening effect. No tree shall be located within five (5) feet of a lot line.
  - 3) The Planning Commission may decrease the number of required plantings, required plant spacing and/or planting height requirements, by a maximum fifty percent (50%) where specific conditions warrant such modifications such as, by example, the adjacent property is vacant and not likely to be developed within the next three (3) years based on nearby development trends during the preceding three (3) years, where natural features are present that serve to assist in the screening of the panels such as topographic or vegetative conditions, or where existing structures will assist in the screening of the panels. In no case shall required screening along a public road right-of-way be reduced.
  - 4) *The proposed landscaping measures shall be presented as part of the required site plan, subject to Article 14. The landscape plan shall conform to this subsection (c) and Section 10.3, and need not comply with the balance of Article 10 unless the approving body requires otherwise to minimize negative impacts on adjacent lots.*
- d. Ground-mounted Medium SES shall comply with the Small SES requirements regarding cessation of operations, abandonment and/or disrepair.
  - e. Fencing that may be installed as part of a ground-mounted Medium SES shall be exempt from the fence height restrictions of this Ordinance including Section 4.10, subject to site plan review, but in no case shall such fencing exceed ~~seven (7)~~ *ten (10)* feet in height. Where fencing is to be erected in excess of five (5) feet in height, a minimum of fifty percent (50%) of the required tree plantings shall be on the exterior side of the fencing. Where fencing is to restrict the free flow of air by more than ten percent (10%) opacity of the fence, the Planning Commission may require additional vegetative screening measures to minimize the visual impact of such fencing. If fencing is proposed, fencing details shall be submitted as part of the required site plan.
  - f. *No topsoil shall be removed from any lot as part of the SES construction phase and during the operational life of the facility.*

#### **E. Large Solar Energy Systems (Large SES)**

1. Large SES Authorization, Review and Approval Procedures: Large SES are permitted as a special land use only, and only in ~~those districts so specified in Tables 3-2 and 3-3 of Article 3~~ *the A-1 District except that Large SES are prohibited within the geographic area comprised of the southwest quarter (1/4) of Section 26, the southeast quarter (1/4) of Section 27, the northeast quarter (1/4) of Section 34, and the northwest quarter (1/4) of Section 35.* Large SES shall comply with special land use application, review and approval provisions of ~~Article 14 and 15~~ *Articles 14 and 15* of this Ordinance including site plan review. *The following additional information shall be made part of the application.*
  - a. *Delineation of the location, grades, and dimensions of all temporary and permanent on-site access roads.*
  - b. *The submittal of an emergency response plan, prepared in consultation with local emergency services, which includes all means of shutting down the SES facility and the manner that such measures shall be clearly marked.*
  - c. *The contact information for a responsible person to address public inquiries in a timely manner throughout the life of the facility.*
  - d. *The SES owner shall provide a copy of the project summary, electrical schematics, and site plan, to the local fire chief for review and comment.*

- e. *The submittal of a maintenance plan that:*
  - 1) *Demonstrates that the SES will be designed, constructed, and operated to minimize dust generation, including during construction.*
  - 2) *Delineates the manner how unpaved access roads will be treated and maintained for dust control.*
  - 3) *Measures that will be employed to maintain and promote native vegetation while minimizing the proliferation of weeds during and following construction.*
- 2. Large SES General Provisions: Large SES shall comply with the site development standards of subsection (D) for Medium SES *except as follows:*
  - a. *Setbacks.*
    - 1) *All SES structures shall be set back a minimum of three hundred fifty (350) feet from an exterior wall of a residential dwelling, church, school, family or group child day-care home, bed and breakfast establishment, and other occupied structures.*
    - 2) *Solar panels shall be set back a minimum of fifty (50) feet from lot lines, subject to subsection (1), except that the minimum setback shall be one hundred (100) feet from any public right of way. No setback shall be required along a shared side or rear lot line between two (2) lots that are part of the same SES Facility.*
  - b. *Landscaping and Screening.*  
*A Large SES shall comply with the landscaping and screening requirements as required for a Medium SES in addition to the following landscaping and screening requirements:*
    - 1) *Land clearing of natural vegetation shall be limited to that which is necessary for the construction, operation, and maintenance of the SES facility per practices of best management of natural areas or good husbandry of the land or forest other prescribed by applicable laws, regulations, and bylaws.*
    - 2) *Best management practices shall be utilized in the establishment, care and maintenance of all landscaping and screening measures including but not limited to, pruning, fertilizer, and mulching, so that the vegetation will reach maturity as soon as practical and will have maximum density in foliage. Dead or diseased vegetation shall be removed and replaced no later than the end of the next growing season. Excluding crops under cultivation, all plants or grasses not part of the required landscaping shall not be permitted to exceed twelve (12) inches in height.*
    - 3) *The landscape plan shall present the measures to be employed to maintain and promote natural vegetation while minimizing the proliferation of weeds during and following SES construction. Failure to install or continuously maintain the required vegetative buffer shall constitute a violation of this ordinance.*
  - c. *Abandonment.*  
*Any part of a Medium or Large SES that ceases to produce energy on a continuous basis for twelve (12) consecutive months shall be considered abandoned unless the owner of the SES provides substantial evidence to the Planning Commission of the intent to maintain and reinstate the operation of the malfunctioning part. In such case, at no less than every six (6) months after the twelve (12) months of malfunction, an updated assessment of the condition shall be provided to the Planning Commission until such time that the malfunctioning components are in operation or the Commission determines insufficient actions are being taken to correct the condition and a determination of abandonment is established.*
    - 1) *Upon determination of abandonment by the Planning Commission, the Zoning Administrator shall direct the SES owner to remove the SES or abandoned portion thereof and restore the site to its condition prior to development of the SES. Such removal and restoration shall be completed within one (1) year of notice by the Zoning Administrator. If the SES owner fails to comply, the Township may remove the SES, sell any removed materials, and initiate judicial proceedings or take any other steps legally authorized to recover the costs required to remove the SES and restore the site to a nonhazardous predevelopment condition.*

d. *Decommissioning.*

*The application for a Medium or Large SES shall include a decommissioning plan that addresses the removal of the SES and the restoration of the site to its same condition as it existed prior to SES construction. The decommissioning plan shall address and provide for the following minimum elements:*

- 1) The anticipated life of the project.*
- 2) The complete removal of all components comprising the SES including equipment, conduit, structures, fencing, and solar panels and foundations, to a depth of a minimum of four (4) feet below grade, and including a description of the removal process for each of the elements comprising the SES.*
- 3) The complete removal of all SES access roads and regrading of such areas to their pre-construction condition, unless the property owner requests, in writing, a desire to maintain an access road. Nothing in this subsection shall be construed as an expectation that the Township shall take ownership of any access road or that such access road shall be considered a public road.*
- 4) The establishment of grass or other approved ground cover unless the property owner specifies in writing that agricultural crops are to be planted over restored areas of the site within six (6) months of the removal of the SES components.*
- 5) The estimated decommissioning costs exclusive of the value of any salvaged materials, in current dollars, including the basis for the cost assigned to each element of the decommissioning plan including the SES components referenced in subsection (b).*

e. *Performance Guarantee Requirements*

- 1) Prior to the issuance of a Large SES permit, the applicant shall engage a licensed professional engineer to estimate the total cost of decommissioning the SES and reclamation efforts to return affected land back to its physical condition prior to construction. Said estimates shall be submitted to the Township for review.*
- 2) Prior to the issuance of a Large SES permit, the applicant shall post a performance guarantee in a form acceptable to the Township, equal to one hundred percent (100%) of the total estimated decommissioning and reclamation costs. Decommissioning and reclamation costs shall be re-evaluated and the value of the bond shall be adjusted accordingly every five (5) years.*
- 3) Said performance guarantee shall be posted and maintained with a bonding company licensed in the State of Michigan or Federal or State chartered lending institution chosen by the owner(s) or operators and acceptable to the Township.*
- 4) An applicant shall maintain the approved performance guarantee for the duration of the SES operations, until decommissioning and removal is complete. The guarantee documents shall prohibit the applicant from terminating or withholding renewal of the guarantee except upon written approval from the Township Clerk. The termination or non-renewal of a guarantee without the Township's approval shall be a violation of this Ordinance and the Township may revoke approval of the SES, require its removal, and/or exercise any other authority permitted by law.*
- 5) The performance guarantee provisions of Section 2.8 shall apply except where otherwise modified by this subsection.*

**F. Self-Contained SES:** Self-Contained SES are permitted in all districts and may be erected without the issuance of a zoning permit, subject to the restrictions of this Section.

1. Heights: Self-contained solar energy systems shall not exceed four (4) feet in height above the structure to which it is attached. In the case of roof-mounted self-contained SES, no system part of the SES shall extend more than four (4) feet above the roof surface directly below such system part, but in no case shall the total height of the SES, measured to the ground below, exceed the building height restriction of the district in which it is located.

**G. Exempt SES:** The following ~~are exempt from the regulations of~~ *may be erected without the issuance of a zoning permit, subject to the restrictions* of this Section.

1. Roof-mounted SES ~~that function as shingles or are otherwise shingle-like in general character.~~