

CHEBOYGAN COUNTY
ZONING ORDINANCE AMENDMENT #150

AN ORDINANCE TO AMEND THE CHEBOYGAN COUNTY ZONING ORDINANCE NO. 200
RELATIVE TO SOLAR ENERGY SYSTEMS

THE COUNTY OF CHEBOYGAN, STATE OF MICHIGAN ORDAINS:

Section 1. Amendment of Section 2.2.

Section 2.2. of the Cheboygan County Ordinance 200 is hereby amended to add the following definitions in their appropriate alphabetical locations which shall read in their entirety as follows:

ELECTRICAL ENERGY STORAGE SYSTEM

A system for storage of electrical energy (usually battery) for release and use in connection with a SES-PV System.

GENERATION STATION STEP-UP TRANSFORMER FACILITY

A security fenced compound including transformers, switching gear and all associated equipment necessary to accept low voltage, alternating current (AC) converted by inverters located within a Level 3 Solar Energy System and increase the voltage for high voltage transmission.

INVERTER

A device that converts direct current (DC) captured by solar panels into alternating current (AC).

LEVEL 3 SES-PV FACILITY PERIMETER

The boundary of the leased parcel(s) or any portion thereof upon which any solar panels, fencing, screening, equipment, support buildings, electrical storage system or service drives are located. The facility may be one contiguous unit or several non-contiguous parcels connected by an easement(s).

SOLAR ENERGY SYSTEM - PHOTOVOLTAIC (SES-PV)

All components and subsystems necessary to convert incident solar radiation into electric energy for immediate use on-site or for wholesale or retail sales off-site. Electrical energy storage systems may be integrated with these systems. Solar Energy Systems (SES-PV) are classified as follows:

- A. Level 1 SES-PV System – Any building mounted SES-PV System used to produce electrical energy primarily for on-site use in accordance with Section 17.30.6.A.
- B. Level 2 SES-PV System – Any ground mounted SES-PV System used to produce electrical energy for use primarily on-site in accordance with Section 17.30.6.B. Level 2 SES-PV Systems shall be subcategorized as follows:
 - i. Type I, Level 2 SES-PV System – Level 2 SES-PV Systems that include solar panel arrays larger than 1,333 square-feet, but smaller than 33,323 square-feet (0.765 acres).
 - ii. Type II, Level 2 SES-PV System – Level 2 SES-PV Systems that include solar panel arrays and their supporting equipment larger than 33,323 square-feet (0.765 acres).
- C. Level 3 SES-PV System – Any ground mounted SES-PV System used to produce electrical energy for wholesale distribution and use off-site in accordance with Section 17.30.6.C.

SOLAR FARM

A Level 3 SES-PV System, including the land upon which it is located, and related facilities such as road and fencing, generating electricity for wholesale distribution through the electric grid operated by a utility.

SOLAR INTEGRATED SYSTEM

Any solar energy system directly or indirectly connected to the commercial energy grid for the wholesale or retail sale of electric energy or on site self-consumption.

Section 2. Amendment of Sections 4.2, 6.2, 7.2, 8.2, 9.2, 10.2, 12.2, 13.2, 13A.2, 13B.2, 13C.2, 13D.2, 13E.2 and 14.2

Sections 4.2, 6.2, 7.2, 8.2, 9.2, 10.2, 12.2, 13.2, 13A.2, 13B.2, 13C.2, 13D.2, 13E.2 and 14.2 of the Cheboygan County Zoning Ordinance No. 200 are hereby amended to add new subsections 4.2.4, 6.2.34, 7.2.2, 8.2.2, 9.2.10, 10.2.5, 12.2.6, 13.2.11, 13A.2.13, 13B.2.8, 13C.2.12, 13D.2.5, 13E.2.4 and 14.2.13, which shall read in their entirety as follows:

- 4.2.4 Level 1 SES-PV Systems in accordance with Section 17.30.6.A
- 6.2.34 Level 1 SES-PV Systems in accordance with Section 17.30.6.A
- 7.2.2 Level 1 SES-PV Systems in accordance with Section 17.30.6.A
- 8.2.2 Level 1 SES-PV Systems in accordance with Section 17.30.6.A
- 9.2.10 Level 1 SES-PV Systems in accordance with Section 17.30.6.A
- 10.2.5 Level 1 SES-PV Systems in accordance with Section 17.30.6.A
- 12.2.6 Level 1 SES-PV Systems in accordance with Section 17.30.6.A
- 13.2.11 Level 1 SES-PV Systems in accordance with Section 17.30.6.A
- 13A.2.13 Level 1 SES-PV Systems in accordance with Section 17.30.6.A
- 13B.2.8 Level 1 SES-PV Systems in accordance with Section 17.30.6.A
- 13C.2.12 Level 1 SES-PV Systems in accordance with Section 17.30.6.A
- 13D.2.5 Level 1 SES-PV Systems in accordance with Section 17.30.6.A
- 13E.2.4 Level 1 SES-PV Systems in accordance with Section 17.30.6.A
- 14.2.13 Level 1 SES-PV Systems in accordance with Section 17.30.6.A

Section 3. Amendment of Sections 4.2, 6.2, 7.2., 8.2, 9.2, 10.2, 12.2, 13.2, 13A.2, 13B.2, 13C.2, 13D.2, 13E.2 and 14.2

Sections 4.2, 6.2, 7.2, 8.2, 9.2, 10.2, 12.2, 13.2, 13A.2, 13B.2, 13C.2, 13D.2, 13E.2 and 14.2 of the Cheboygan County Zoning Ordinance No. 200 are hereby amended to add new subsections 4.2.5, 6.2.35, 7.2.3, 8.2.3, 9.2.17, 10.2.6, 12.2.7, 13.2.16, 13A.2.20, 13B.2.14, 13C.2.17, 13D.2.16, 13E.2.5 and 14.2.14 which shall read in their entirety as follows:

- 4.2.5 Type I, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 6.2.35 Type I, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 7.2.3 Type I, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 8.2.3 Type I, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 9.2.17 Type I, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 10.2.6 Type I, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 12.2.7 Type I, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 13.2.16 Type I, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 13A.2.20 Type I, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 13B.2.14 Type I, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 13C.2.17 Type I, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 13D.2.16 Type I, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 13E.2.5 Type I, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 14.2.14 Type I, Level 2 SES-PV Systems in accordance with Section 17.30.6.B

Section 4. Amendment of Sections 4.3, 6.3, 7.3., 8.3, 9.3, 10.3, 12.3, 13.3, 13A.3, 13B.3, 13C.3, 13D.3, 13E.3 and 14.3

Sections 4.3, 6.3, 7.3, 8.3, 9.3, 10.3, 12.3, 13.3, 13A.3, 13B.3, 13C.3, 13D.3, 13E.3 and 14.3 of the Cheboygan County Zoning Ordinance No. 200 are hereby amended to add new subsections 4.3.10, 6.3.18, 7.3.19, 8.3.18, 9.3.26, 10.3.3, 12.3.5, 13.3.11, 13A.3.9, 13B.3.6, 13C.3.10, 13D.3.8, 13E.3.9 and 14.3.14 which shall read in their entirety as follows:

- 4.3.10 Type II, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 6.3.18 Type II, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 7.3.19 Type II, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 8.3.18 Type II, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 9.3.26 Type II, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 10.3.3 Type II, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 12.3.5 Type II, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 13.3.11 Type II, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 13A.3.9 Type II, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 13B.3.6 Type II, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 13C.3.10 Type II, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 13D.3.8 Type II, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 13E.3.9 Type II, Level 2 SES-PV Systems in accordance with Section 17.30.6.B
- 14.3.14 Type II, Level 2 SES-PV Systems in accordance with Section 17.30.6.B

Section 5. Amendment of Sections 6.3, 7.3, 8.3, 9.3 and 10.3

Sections 6.3, 7.3, 8.3, 9.3 and 10.3 of the Cheboygan County Zoning Ordinance No. 200 are hereby amended to add new subsections 6.3.19, 7.3.20, 8.3.19, 9.3.27 and 10.3.16 which shall read in their entirety as follows:

- 6.3.19 Level 3 SES-PV Systems in accordance with Section 17.30.6.C
- 7.3.20 Level 3 SES-PV Systems in accordance with Section 17.30.6.C
- 8.3.19 Level 3 SES-PV Systems in accordance with Section 17.30.6.C
- 9.3.27 Level 3 SES-PV Systems in accordance with Section 17.30.6.C
- 10.3.16 Level 3 SES-PV Systems in accordance with Section 17.30.6.C

Section 6. Amendment of Article 11.

Article 11 of the Cheboygan County Zoning Ordinance No. 200 is hereby amended to add a new Section 11.7, which new section shall read in its entirety as follows:

SECTION 11.7 SOLAR ENERGY SYSTEMS

Solar Energy Systems shall be allowed in the Natural Rivers Protection District (P-NR) as provided in this Section.

- 11.7.1 A Level 1 SES-PV System shall be a permitted use in accordance with Section 17.30.6.A.
- 11.7.2 A Type I, Level 2 SES-PV System shall be a permitted use in accordance with Section 17.30.6.B.
- 11.7.3 A Type II, Level 2 SES-PV System shall be a use requiring a special use permit in accordance with Section 17.30.6.B.

Section 7. Amendment of Article 17

Article 17 of the Cheboygan County Zoning Ordinance No. 200 is hereby amended to add Section 17.30., which shall read in its entirety as follows:

SECTION 17.30 SOLAR ENERGY SYSTEMS – PHOTOVOLTAIC (SES-PV)

17.30.1 PURPOSE

The purpose of this Section is to promote the development of renewable solar energy resources in Cheboygan County, and promote economic development, protect the health, safety and welfare and prevent adverse impacts on the agricultural, water, recreational, scenic and wildlife resources of the county while furthering the State of Michigan's renewable energy goals. This Section will address Solar Energy Systems – Photovoltaic (SES-PV) for a range of applications, from strictly on-site utilization to wholesale distribution off-site, and will provide guidance on the planning, design, construction, operation and subsequent decommissioning of solar facilities at the end of their economic lives.

17.30.2 GENERAL PROVISIONS APPLICABLE TO ALL SOLAR ENERGY SYSTEMS

Code Compliance:

Any SES-PV Systems shall meet or exceed any applicable standards and regulations of the International Fire Code as amended, the National Electric Safety Code as amended and any other applicable regulations of the state and federal government with the authority to regulate solar energy systems in effect at the time of SES-PV System approval.

17.30.3 APPLICATION REQUIREMENTS

In addition to the application requirements of Article 18 and Article 20 of this Ordinance, an application for site plan review and/or special use permit for SES-PV Systems shall be required to furnish all of the following information unless expressly indicated otherwise.

1. Level 1 SES-PV Systems shall require the following:

A site plan review for any electrical storage system associated with the Level 1 SES-PV to include the type, size and location of all components in addition to the requirements of Section 20.10.

2. Type I, Level 2 SES-PV Systems shall require the following:

A. Site plan review per the requirements of Section 20.10. for any Type I, Level 2 SES-PV System that includes panels in the solar collection array less than 1,333 square-feet.

B. Site plan review for Type I, Level 2 SES-PV Systems that include panels in the solar collection array larger than 1,333 square-feet shall include the following information in addition to the requirements of Section 20.10.:

- i. Information on the height, length and angle of panels in the solar collection array.
- ii. The size, height, length, and location of solar arrays, parcel boundaries, setback lines and location of all buildings on site.
- iii. The type, size, location and engineering specifications for any energy storage system proposed to be part of the Type I, Level 2 SES-PV System.

3. Type II, Level 2 SES-PV Systems shall require the following:

Special use permit per the requirements of Section 18.7. The application shall also include the following information:

- i. All land/timber clearing proposed.
- ii. The percentage of private farm land to be used.
- iii. Access or service roads to be developed.

4. Level 3 SES-PV Systems shall require a special use permit in accordance with Section 18.7. and a site plan review in accordance with Section 20.10.

The following information shall be required in addition to that required in Section 18.7. and Section 20.10.:

A. Project Description:

Identify the Level 3 SES-PV Facility perimeter of the project development area, maximum rated power output, safety and noise characteristics of the individual components of the system, including inverters and transformers system including the transmission line/grid connection. Identify the project construction timeframe, project life, potential development phases and potential future expansions.

B. Visual Impacts:

Graphically demonstrate the visual impact of the project using digital and/or photographic renditions with consideration given to required setbacks and proposed landscaping.

C. Waste:

Identify any solid or hazardous waste generated by the project and provide a disposal plan for such waste.

- D. Lighting:
Provide a plan showing all lighting within the facility. All lighting shall be in compliance with the standards of Sections 3.7.1 and 20.10h.
- E. Transportation Plan:
Provide a proposed access plan to be utilized during construction and operational phases. The plan must show proposed project service road ingress and egress locations to adjacent roadways. Due to infrequent access following construction, it is not required to provide for paved curbs and gutters on access drives unless required by the State Department of Transportation or County Road Commission.
- F. Public Safety:
Identify emergency and normal shutdown procedures, potential hazards to adjacent properties, public roadways and to the general public that may be created.
- G. Engineering and Installation:
A preliminary design layout shall be provided to include standard drawings of the structural components of the solar farm and any electrical storage system in support of the Level 3 SES-PV System, including base and footings along with engineering data and calculations to demonstrate compliance with the applicable approval standards of this Ordinance. Drawings and engineering calculations shall be certified by a registered engineer licensed to practice in the State of Michigan.
- H. Drainage and Soil Erosion:
i. The application shall show compliance with stormwater runoff and soil erosion control requirements and shall demonstrate how solar panels shall be positioned to prevent erosion.
ii. The application shall also demonstrate how vegetative cover will be maintained under and around the solar panels.
- I. Impervious Surface/Stormwater:
If more than 8,000 square-feet of impervious surface will be located on the site, the application shall require a drainage plan prepared by a registered civil engineer showing how stormwater runoff from hardstand areas will be managed and demonstrating that runoff from the site will not exceed the natural runoff rate or otherwise cause undue flooding. Material Safety Data Sheets (MSDA) shall be supplied for all hazardous materials to be used on site. Any necessary permits from outside agencies for off-site discharge or disposal shall be provided. Solar panels are not considered impervious.
- J. Safety Access:
A security access plan shall be provided with the application for Level 3 SES-PV Systems. Lockboxes and keys shall be provided for any locked entrances for emergency personnel access to any locked fenced portions of the facility.
- K. County Review:
Because of the ever-changing technical capabilities of photovoltaic solar panels and of new technology in general, the County Planning Commission will have the authority to review and consider alternatives in both the dimensional and physical requirements contained in this Section as part of the special land use review process.
- L. Telecommunications Infrastructure:
Identify any electromagnetic fields which are generated that will interfere with electronic communication devices located outside the perimeter of the facility.
- M. Final Decommissioning and Reclamation Plan:
A decommissioning and reclamation plan shall be developed and furnished to the Planning Commission describing actions to be taken at the end of the Level 3 SES-PV System's useful life or in the event of abandonment and termination of the project. The information shall include a description of how the following conditions shall be met:

- i. Removal of all non-utility owned equipment, including conduit buried at less than three (3) feet, structures, fencing, roads and foundations.
- ii. Restoration of the property to its original condition prior to construction of the Level 3 SES-PV System, subject to reasonable wear and tear. The owner of the leased parcel, however, may request the restored ground surface not to be revegetated, and may request that graveled areas, developed access roads, fences, vegetative screening and berms remain.
- iii. A timeframe for completion of decommissioning with specific timeframes specified for:
 - a) All above ground buildings, equipment and structures.
 - b) All below ground foundations and electrical cables.
 - c) Restoration of all ground surfaces not specifically exempt.
 - d) Furnishing a description and copy of any memorandum of lease or any other agreement(s) with the landowner(s) regarding decommissioning.
 - e) Providing a list of names, addresses and telephone numbers of persons or parties responsible for designating the contractor(s) responsible for decommissioning.
 - f) Providing a plan and schedule for updating the decommissioning plan every 5 (five) years.
 - g) Justification for the requested decommissioning time period requested must be sufficient to allow the Planning Commission to approve or revise the proposed decommissioning timeframe based on the material submitted.

17.30.4 APPLICATION REVIEWED BY ZONING ADMINISTRATOR

- A. The Zoning Administrator shall review the application and information submitted under Section 17.30.3 of this Ordinance within 15 business days to determine if all required information is provided. If the Zoning Administrator determines that the application is deficient, written notification shall be sent to the applicant identifying all deficiencies. Applications for Level 3 SES-PV Systems shall not proceed until all required information has been submitted.
- B. Once all the required information is submitted, the Zoning Administrator shall forward the application to the Planning Commission for review under the procedures of Section 17.30.3 and 18.5.

17.30.5 PUBLIC HEARING COMMENTS

Following receipt of a complete application for a Level 3 SES-PV System, the Planning Commission shall hold at least one (1) public hearing. Notice of the public hearing shall be provided per the requirements of Section 18.5. of this Ordinance.

17.30.6 STANDARDS AND CONDITIONS

17.30.6.A Level 1 Solar Energy Systems - Photovoltaic (SES-PV):

Level 1 SES-PV Systems can be placed on any building, and shall comply with all of the following:

- i. Permitted Districts: Level 1 SES-PV systems shall be permitted uses in all zoning districts.
- ii. Size: A Level 1 PV-SES PV System should be sized small enough that it does not exceed the customer's electrical needs on an annual basis, and can either be connected or not connected to the electrical grid operated by a commercial public utility provider.
- iii. Setbacks: Level 1 SES-PV Systems shall meet the setback requirements of the zoning district in which the building(s) on which they are mounted is located.
- iv. Height Restrictions: Except for buildings with a flat roof, the placement of a Level 1 SES-PV System shall not exceed the height limitations of the building on which the system is placed. A Level 1 SES-PV System installed on a building(s) with a flat roof shall not be higher than ten (10) feet above the flat roof.
- v. Placement on residential structures: solar collection panels of any type shall be placed in accordance with Michigan Residential Code (2015 MRC, dated February 8, 2016 as amended).

See Diagrams in Enclosure 1

17.30.6.B Level 2 Solar Energy Systems - Photovoltaic (SES-PV):

Any ground-mounted solar energy photovoltaic system accessory to the primary or secondary use of any principal or accessory building(s) on a parcel or combination of contiguous parcels under the same ownership or control and producing electric power primarily for the use of the owner or tenant shall comply with all of the following requirements:

- A. Type I, Level 2 SES-PV Systems shall be permitted uses in all zoning districts.
- B. Type II, Level 2 SES-PV Systems (Systems that include solar panel arrays and their supporting equipment larger than 33,323 square-feet [0.765 acres]) shall be permitted in all zoning districts subject to special use permit approval.
- C. Location and Placement:
Level 2 SES-PV Systems may be located on any lot or lot of record to service each building on that lot or lot of record. However, Level 2 SES-PV Systems shall not be placed between the front lot line and the principal structure on the lot or lot of record.
- D. Size:
Level 2 SES-PV Systems should be sized small enough so that they do not exceed the customer's electrical needs on an annual basis, and can be connected or unconnected to the electrical grid operated by a commercial public utility provider.
- E. Setbacks:
All Level 2 SES-PV Systems shall comply with all setback requirements of the zoning district in which located.
- F. Height Restriction:
All Level 2 SES-PV Systems shall not exceed 16-feet in height when oriented at maximum tilt and as measured from the grade at the base of the system structures.
- G. Maximum Lot Coverage:
 - i. Level 2 SES-PV Systems on parcels of less than two (2) acres shall be limited to 50% of the area within the setback boundaries of the parcel after subtracting the areas covered by any building(s) on the parcel.
 - ii. Level 2 SES-PV Systems on parcels of two (2) acres or more with more than 1,333 square-feet of solar collection surface shall require a site plan review application in accordance with Section 20.10. If the solar array covers more than 33,323 square-feet (0.765 acres), setbacks shall be as follows:
 - a) 100 feet from any dwelling not owned by the owner of the proposed Level 2 SES-PV System. This setback may be waived upon written request of the owner of the dwelling.
 - b) 50 feet from any adjacent parcel boundary not abutting a public or private road.
 - c) 50 feet from any public or private road right of way.
 - d) 500 feet from any major body of water as listed in Section 10.1.2.
 - e) 40 feet from any perennial stream, other than those listed in Section 10.1.2, shown as part of the Lake and Stream Protection (P-LS) zoning district.

17.30.6.C. Level 3 Solar Energy Systems - Photovoltaic (SES-PV):

Level 3 SES-PV Systems shall be allowed in the Commercial Development (D-CM), Light Industrial Development (D-LI), General Industrial Development (D-GI), Agriculture and Forestry Management (M-AF) and Lake and Stream Protection (P-LS) zoning districts. All Level 3 SES-PV Systems and associated electrical storage facilities shall comply with the following requirements:

- A. Setbacks:
 - i. All Level 3 SES-PV Systems along with their supporting structures, inverters and supporting buildings and equipment (excluding fencing, vegetative screening, berms, roads, underground

cables and generator system step-up transformer facilities) shall comply with the following setbacks:

- a) 100 feet from any dwelling. This setback may be waived or reduced if requested by the owner of the dwelling to be screened.
 - b) 50 feet from any Level 3 SES-PV Facility perimeter not abutting a private or public road unless requested to be waived by the property owner of the parcel to be screened.
 - c) 50 feet from any public or private road right of way..
 - d) 500 feet from any major body of water as listed in section 10.1.2.
 - e) 40 feet from any perennial stream, other than those listed in Section 10.1.2, shown as part of the P-LS zoning district. However, underground cables may be allowed if permitted by the Michigan Department of Environmental Quality (MDEQ) and the Army Corps of Engineers.
- ii. The generator system step-up transformer facility and any electrical storage facility shall meet the following setbacks:
- a) 500 feet from any dwelling.
 - b) 250 feet from any public or private road abutting the Level 3 SES-PV Facility perimeter of or bisecting the project.
 - c) 500 feet from the ordinary high water mark of any body of water listed in Section 10.1.2.

B. Vegetative Screening, Landscaping and Fencing:

- i. Level 3 SES-PV facilities abutting a public or private road or property line of an adjacent parcel shall comply with the following requirements:
 - a) Screening shall be required along any public or private road right(s)-of-way and opposite any dwelling on the same or adjacent parcels unless the owner of the dwelling to be screened requests in writing otherwise.
 - b) Evergreen coniferous trees or a combination of trees or berms shall be the minimum acceptable methods of screening wherever screening is required.
 - c) Minimum height at time of planting requirements for trees utilized for screening are as follows:
 1. Trees planted opposite a dwelling shall be a minimum of eight (8) feet tall at the time of planting. The tree height may be reduced by one (1) foot for each one (1) foot in the height of the berm on which it is planted, i.e., the total of the berm and tree height must be a minimum of eight (8) feet in height. If the road bed is elevated above the surrounding land surface at the location requiring screening, tree tops shall be at least eight (8) feet above the road surface.
 2. Tree height at the time of planting shall not be allowed to be reduced below four (4) feet in height regardless of berm height (see Figure 2).
 3. Trees planted for screening along road rights-of-way not opposite a dwelling shall require a minimum height at the time of planting of five (5) feet.
- ii. All tree plantings utilized for screening shall have setbacks of seven (7) feet from any property line, public or private road right(s)-of-way, utility or driveway easement(s) or the Level 3 SES-PV Facility perimeter. The seven (7) foot setback shall be measured at the time of planting from the center of the trunks of the trees used for screening.
- iii. Buried electrical cables within easements used to connect noncontiguous parcels with the Level 3 SES-PV facility, although an integral part of the facility, shall not require screening regardless of proximity to any dwelling.
- iv. All tree plantings or combination of trees or berms utilized for screening opposite a dwelling shall extend 100 feet in either direction from a point on the Level 3 SES-PV facility perimeter directly opposite the midpoint of the opposing dwelling.
- v. In the event a property line lies within the road right(s)-of-way, setbacks shall be measured from the edge of the road right(s)-of-way.

- vi. At road or driveway intersections, vegetative screening or combination of trees or berms or fences shall be established or maintained in a manner that does not obstruct the view of vehicular traffic in any direction. All right-of-way intersections shall be provided and maintained with a clear unobstructed vision corner extending not less than 20 feet from all right-of-way line intersections along said right-of-way line in the form of a triangle.
- vii. Natural vegetative screening is encouraged to be incorporated and maintained into the evergreen coniferous tree screening requirements per Sections 17.30.6.C.B and 17.30.6.C.D. However, natural vegetative screening shall be considered an addition to, and not a replacement for, the evergreen coniferous tree screening requirements.
- viii. All trees planted for screening shall be maintained in good condition for the life of the project. All dead, dying or diseased trees shall be replaced within one (1) year with trees in compliance with the standards set forth in this Section.
- ix. Fencing shall be no closer than one (1) foot from any property line, public road right(s)-of-way, utility or driveway easement(s) or the established Level 3 SES-PV Facility perimeter. Fencing is considered a security measure and cannot be considered as adequate screening for a Level 3 SES-PV System.

C. Noise:

No Level 3 SES-PV facility shall generate noise that, when measured at the Level 3 SES-PV Facility's perimeter, shall exceed 60 decibels (dBA). This standard does not apply during construction, routine equipment maintenance, repair or replacement, or at the time of decommissioning and reclamation.

D. Electrical Interconnection:

All electrical interconnections or distribution lines shall comply with all applicable codes and standards. Only existing above-ground transmission lines as well as above-ground transmission lines from the project generation station step-up transformer facility to the point of interconnection with transmission lines are permitted above ground. All other electrical interconnections shall be buried unless other requirements are determined at the time of building permit review

E. Height Restriction:

Level 3 SES-PV solar collection panels with their support structures shall not exceed 20 feet in height when oriented at maximum tilt. All other structures except those within the generation station step-up transformer facility and associated transmission towers shall be limited to thirty-five (35) feet. Equipment within the generation station step-up transformer facility shall be exempt from height restrictions.

F. Performance Guarantee:

In conjunction with the approval of a Level 3 SES-PV System the Planning Commission shall require the owner of the Level 3 SES-PV System to furnish the County with a performance guarantee in the form of a cash deposit, certified check, irrevocable letter of credit or surety bond acceptable to the County in an amount equal to the estimated costs associated with removal of the Level 3 SES-PV facility, including all solar panels, supporting structures, inverters, transformers and all associated equipment in accordance with the decommissioning and restoration plan in Section 17.30.3.3.m. This performance guarantee shall be furnished prior to the construction of the Level 3 SES-PV System and may be combined with any performance guarantee required to be given to the owner of the site.

G. Final Reclamation:

Any Level 3 SES-PV System not operated for a continuous period of twelve (12) months shall be considered abandoned. The owner of any Level 3 SES-PV System that is abandoned as provided herein shall be removed from the property upon receipt of notice from the Zoning Administrator of such abandonment, or the end of operation under the terms and conditions of this subsection. The timeframe for final reclamation shall be determined and approved by the Planning Commission and made a condition of approval of the special use permit.

Except as provided herein, the Level 3 SES-PV System shall be removed from the property by the owner of the Level 3 SES-PV System, including all structures, equipment, components, and subsystems, except underground cables buried at a depth greater than three (3) feet. Berms and trees, service roads and fencing, however, if requested by the owner of the property on which the Level 3 SES-PV System is located, shall be permitted to remain. Furthermore, the property owner may request that the property on which the Level 3 SES-PV System functioned remain unvegetated.

If the property owner on which the Level 3 SES-PV System is located obtains zoning approval for a Level 2 SES-PV System on the same property that incorporates a portion of a Level 3 SES-PV System, then that portion of the Level 3 SES-PV System incorporated into the approved Level 2 SES-PV System may remain as part of the approved Level 2 SES-PV System and the associated trees and berms allowed to remain. The owner of the Level 3 SES-PV System shall remediate the property to its condition immediately prior to the construction of the Level 3 SES-PV System, subject to reasonable wear and tear.

Failure to remove the Level 3 SES-PV System during the timeframe approved by the Planning Commission at a public hearing and made as a condition of approval of the special use permit shall be grounds for the County to remove the Level 3 SES-PV System as provided herein at the expense of the owner of the Level 3 SES-PV System.

Section 8. Severability

If any section, clause, or provision of this Ordinance is declared unconstitutional or otherwise invalid by a court of competent jurisdiction, said declaration shall not affect the validity of the remainder of the Ordinance as a whole or any part thereof, other than the part so declared to be unconstitutional or invalid.

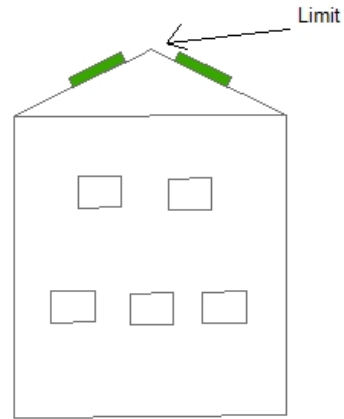
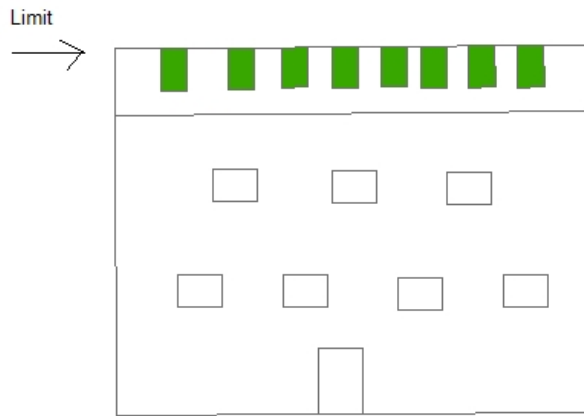
Section 9. Effective Date

This Ordinance shall become effective eight (8) days after being published in a newspaper of general circulation within the County.

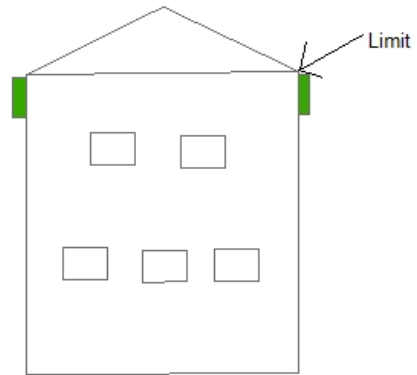
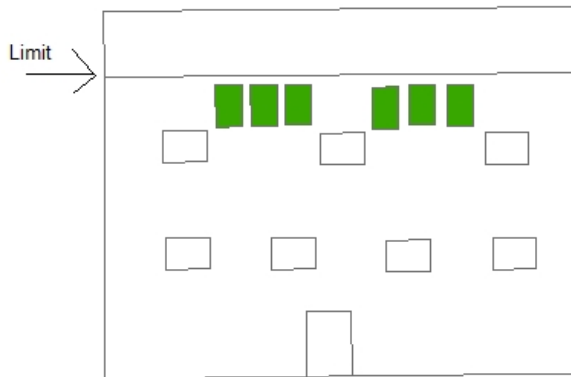
CHEBOYGAN COUNTY

By: _____
John B. Wallace
Its: Chairperson

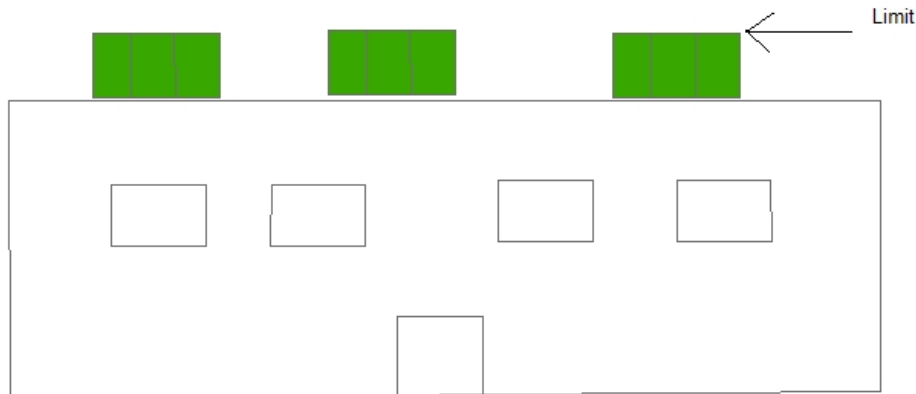
By: _____
Karen L. Brewster
Its: Clerk



Roof mount not to exceed height of roof peak.

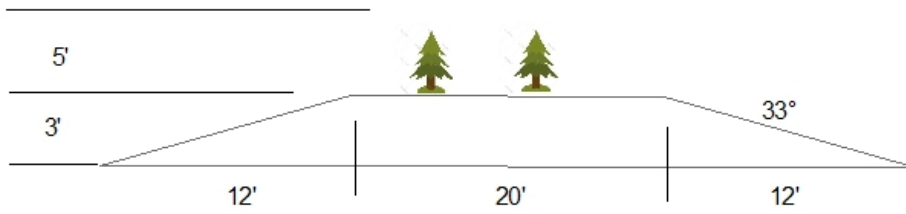


Wall mount not to exceed wall height.

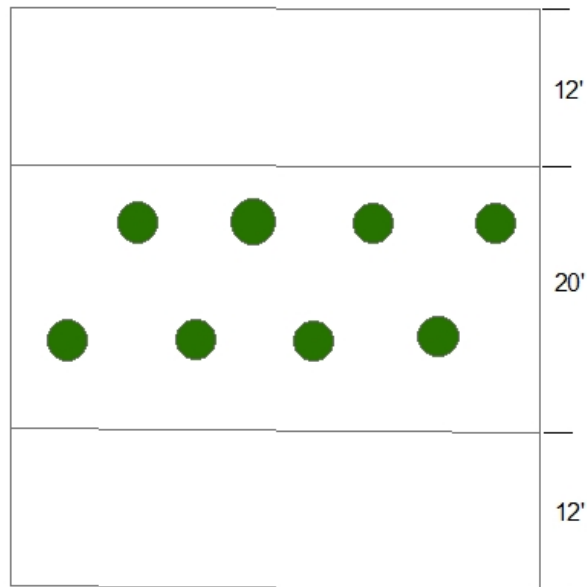


Flat Roof Mount not to exceed 10 feet above the roof or 35' above ground level, whichever is less.

Enclosure 1



Cross Section View



Top View

Enclosure 2

Data To Be Considered

This is not part of Amendment #150 to Cheboygan County Zoning Ordinance #200

1. 1 acre = 43,560 square-feet or approximately 208.71 feet x 208.71 feet.
2. 43,560 square-feet/acre x 15 watts/square-foot = 653,400 watts/acre.
3. 1 megawatt = 1,000 kilowatts.
4. A solar farm of 300 - 400 acres would produce approximately 196 - 261 MV.
5. 20 kW is a manufacturing standard for non-commercial systems. This equates to 1,333 square-feet of solar collection surface (36.3 feet x 36.3 feet).
6. 40kW requires 51.6 feet x 51.6 feet (2,663 square-feet) of solar panel surface.
7. 500KW requires 33,323 square-feet or 0.765 acres of solar panel surface.
8. 15 Watts/square-foot = expected output currently for PV.
9. Maximum solar efficiency output is 1000 watts per square-meter at the equator at high noon.
10. It is anticipated that electric car batteries will be repurposed into systems for electrical storage in the future.
11. Current car batteries have a storage capacity of 60-160kV and it is anticipated they will have a capacity of 200kV in the near future.
12. Michigan's Net Metering Program ended June 1, 2018, replaced with an avoided-cost tariff or "inflow/outflow" model. (https://www.michigan.gov/documents/mpsc/U-18383_4-18-18_620947_7.pdf)
13. Bodies of water listed in Section 10.1.2.:

Black River (Lower)
Cheboygan River
Indian River
Sturgeon River
Black Lake
Burt Lake
Devereaux Lake
Douglas Lake
Echo Lake
Munro Lake

Mullett Lake
Kleber Pond
Lake Huron
Lake Rondo
Lancaster Lake
Lance Lake
Long Lake
Paradise Lake
Reswell Lake
Roberts Lake

Silver Lake (Koehler
Township)
Silver Lake (Wilmot
Township)
Tower Pond
Twin Lakes
Vincent Lake
Wildwood Lake
Woldan Pond