

DRAFT

Lovells Township Ordinance No. XX of 2026

An ordinance to amend the Lovells Township Zoning Ordinance to address renewable energy.

Lovells Township, Crawford County, Michigan ordains:

Section 1: Amendment to Section 2.02 (Definitions)

Section 2.02 of the Lovells Township Zoning Ordinance is hereby amended to add the following definitions:

Battery Energy Storage System (BESS). One (1) or more devices, assembled together, capable of storing and discharging electricity primarily intended to supply electricity to a building or to the electrical grid. This includes, but is not limited to, the following: battery cells; enclosures and dedicated-use buildings; thermal, battery, and energy management system components; inverters; access roads; distribution, collection, and feeder lines; wires and cables; conduit; footings; foundations; towers; poles; crossarms; guy lines and anchors; substations; interconnection or switching facilities; circuit breakers and transformers; overhead and underground control, communications and radio relay systems, and telecommunications equipment; utility lines and installations; and accessory equipment and structures.

Battery Energy Storage System (BESS), Off-Site. Battery Energy Storage System (BESS) that is a principal use (or co-located with another principal use), designed and built to connect into the transmission or distribution grid.

Battery Energy Storage System (BESS), On-Site. A Battery Energy Storage System (BESS) that is an accessory use that is intended to primarily serve the needs of the consumer on-site.

Participating Lot(s). One (1) or more lots under a signed lease or easement for development of a solar energy facility, wind energy facility, battery energy storage facility, or wireless communications facility associated with the applicant project.

Non-Participating Lot. One (1) or more lots for which there is not a signed lease or easement for development of a solar energy facility, wind energy facility, battery energy storage facility, or wireless communication facility associated with the applicant project.

Solar Energy Definitions.

1. Solar Energy Facility (Utility Scale). A system that captures and converts solar energy into electricity, for the purpose of sale or for use in locations other than solely the solar energy facility property. Solar energy facility includes, but is not limited to, the following equipment and facilities to be constructed by an electric provider or independent power producer: photovoltaic solar panels; solar inverters; access roads; distribution, collection, and feeder lines; wires and cables; conduit; footings; foundations; towers; poles; crossarms; guy lines and anchors; substations; interconnection or switching facilities; circuit breakers and transformers; energy storage facilities; overhead and underground control; communications and radio relay systems and telecommunications equipment; utility lines and installations; generation tie lines; solar monitoring stations; and accessory equipment and structures.

2.Solar Energy Panels (Accessory) - Solar collection devices designed to capture and utilize the energy of the sun to generate electrical power primarily for use on-site.

1. Building-Integrated Accessory Solar Energy Panels. Accessory solar energy panels that are an integral part of a primary or accessory building or structure (rather than a separate mechanical device), replacing or substituting an architectural or structural component of the building or structure. Building-integrated systems include, but are not limited to, photovoltaic or hot water solar energy systems that are contained within roofing materials, windows, skylights, and awnings.

2. Ground-Mounted Accessory Solar Energy Panels. Accessory solar energy panels mounted on support posts, like a rack or pole, that are attached to or rest on the ground.

3. Building-Mounted Accessory Solar Energy Panels. A solar energy system mounted on racking that is attached to the wall of a building or structure or is attached to or ballasted on the roof of a building or structure.

3. Solar Collection Device. The actual material(s) used to collect solar rays and all associated ancillary and structural devices needed to support and convert/transmit the energy collected.

4. Dual Use. A solar energy system that employs one or more of the following land management and conservation practices throughout the project site:

1. Pollinator Habitat. Solar sites designed to meet a score of seventy-six (76) or more on the Michigan Pollinator Habitat Planning Scorecard for Solar Sites.

2. Conservation Cover. Solar sites designed in consultation with conservation organizations that focus on restoring native plants, grasses, and prairie with the aim of protecting specific species (e.g., bird habitat) or providing specific ecosystem services (e.g., carbon sequestration, soil health).

3. Forage. Solar sites that incorporate rotational livestock grazing and forage production as part of an overall vegetative maintenance plan.

4. Agrivoltaics. Solar sites that combine raising crops for food, fiber, or fuel, and generating electricity within the project area to maximize land use.

5. Maximum Tilt. The maximum angle of a solar collection device (i.e., most vertical position) for capturing solar radiation as compared to the horizon line.

6. Minimum Tilt. The minimal angle of a solar collection device (i.e., most horizontal position) for capturing solar radiation as compared to the horizon line.

Repowering. Reconfiguring, renovating, or replacing a solar energy facility to maintain or increase the power rating of the solar energy facility within the existing project footprint.

Wildlife Friendly Fencing. A fencing system with openings that allow wildlife to traverse over or through a fenced area.

Wind Turbines.

- A. **Wind Energy Facility.** A system that captures and converts wind into electricity, for the purpose of sale or for use in locations other than solely the wind energy facility property. Wind energy facility includes, but is not limited to, the following equipment and facilities to be constructed by an electric provider or independent power producer: wind towers; wind turbines; access roads; distribution, collection, and feeder lines; wires and cables; conduit; footings; foundations; towers; poles; crossarms; guy lines and anchors; substations; interconnection or switching facilities; circuit breakers and transformers; energy

storage facilities; overhead and underground control; communications and radio relay systems and telecommunications equipment; monitoring and recording equipment and facilities; erosion control facilities; utility lines and installations; generation tie lines; ancillary buildings; wind monitoring stations; and accessory equipment and structures.

B. Wind Turbine Generator - A tower, pylon, or other structure, including all accessory facilities, upon which any, all, or some combination of the following are mounted:

1. A wind vane, blade, or series of wind vanes or blades, or other devices mounted on a rotor for the purpose of converting wind into electrical or mechanical energy.
2. A shaft, gear, belt, or coupling device used to connect the rotor to a generator, alternator, or other electrical or mechanical energy-producing device.
3. A generator, alternator, or other device used to convert the energy created by the rotation of the rotor into electrical or mechanical energy.

C. Wind Energy System, on-site. - A wind turbine designed and used primarily to generate electricity or produce energy for use on the property where the system is located.

D. Wind Energy System, Utility Scale. A wind turbine designed and used primarily to generate electricity for sale to utility companies.

E. Wind Turbine Generator Height. The distance between the ground and the highest point of the wind turbine generator, plus the length of the rotor blades, in the full upright position. Height is measured from grade for ground and roof-mounted systems.

F. Ambient. The sound pressure level exceeded ninety (90) percent of the time.

G. Anemometer. A device used to measure wind speed.

H. dB(A). The sound pressure levels in decibels. Refers to the "A" weighted scale defined by ANSI. A method for weighting the frequency spectrum to mimic the human ear.

I. Decibel. The unit of measure used to express the magnitude of sound pressure and sound intensity.

J. Horizontal Axis Wind Turbine. A wind turbine in which the rotor(s) rotate around a horizontal shaft.

K. Shadow Flicker. Alternating changes in light intensity caused by the moving blade of a wind turbine casting shadows on the ground and stationary objects, such as the window of a dwelling.

L. Vertical Axis Wind Turbine. A wind turbine in which the rotor rotates around a vertical shaft.

ARTICLE IX INDUSTRIAL DISTRICT, I

Add to SECTION 9.03 - SPECIAL PERMIT USES

F. Solar Energy Facilities

G. Wind Energy Facilities

H. Battery Energy Storage Systems

I. Data Centers

3: Add to Section 14.01 (SECTION 14.01 - SITE DEVELOPMENT STANDARDS FOR SPECIFIC USES) Section S. Solar Energy Facilities (Utility-Scale) Section T. Solar Energy Facilities (Onsite-Private) Section Q. Wind Energy Facilities (Utility-Scale), R. Wind Energy Facilities (Onsite-Private), Section U. Battery Energy Storage Systems (Utility-Scale).

Add the following

Section S. Solar Energy Facilities (Utility-Scale)

Solar energy facilities shall adhere to the following requirements in addition to the requirements contained in Article VII.

A. Purpose.

The purpose of this Section is to provide for the development, installation, and construction of solar energy facilities subject to reasonable conditions that will protect the character of the Township and the nearby lot owners and ensure the health, safety, and welfare of Township residents. In developing these standards, the Township recognizes the following: 1. 4. The Township desires to maintain and provide for the preservation of farmland and woodlands, where feasible. 2. The Township wishes to discourage the conversion of farmland into other more intensive uses and recognizes farmland as contributing to the scenic and rural character of the Township. 3. The Township wishes to maximize the most beneficial agricultural use of agricultural lands in Township, without unnecessarily limiting the economic rights of agricultural landowners. 4. The Township encourages a land use pattern that is oriented to the natural features and water resources of the area.

B. Scope.

1. This Section applies to all solar energy facilities whose primary purpose is to supply power to off-site customers.

2. This Section applies to accessory solar panels whose primary purpose is to supply power to on-site customers and which proposed solar panels will cover one (1) acre or more.

C. Standards.

Solar energy facilities shall meet the following standards:

1. Setbacks and Firebreak. The setbacks of all solar collection devices and ancillary equipment shall be at least one hundred (100) feet from the road right-of-way and all lot lines of non-participating lots and shall be three hundred (300) feet from all residences and occupied community buildings on non-participating lots. Setback shall be measured when solar panels are at maximum tilt (the most horizontal position). There shall be a fifty (50) foot firebreak around the perimeter of the Solar Energy Facility.

2. Height. The total height for all solar collection devices shall not exceed twenty (20) feet when oriented at maximum tilt.

3. Reflection/Glare. Solar collection devices, or a combination of devices, shall be designed and located to avoid glare or reflection onto adjacent properties and adjacent roadways and shall not interfere with traffic or create a safety hazard. This may be accomplished by both the placement and angle of the collection devices as well as human-made or environmental barriers. Plans to reduce glare

may be required in the initial materials submitted. If screening is required, then any glare shall be contained on participating lots by the screening.

4. Groundcover and Impervious Surface/Stormwater.

a. If more than eight thousand (8,000) square feet of impervious surface will be located on the site, the application shall include a drainage plan prepared by a registered civil engineer showing how stormwater runoff will be managed. If detergents will be used to clean solar panels, details on the type of cleaner, frequency, and quantity of use, and stormwater quality protection measures shall be provided. All necessary permits from outside agencies for off-site discharge shall be provided.

b. If groundcover (such as conservation cover, pollinator habitat, forage cover, or agrivoltaics) is utilized, then a drainage plan is not required. The Planning Commission may require soil stabilization through groundcover.

5. Screening.

The Planning Commission may require that solar devices be screened year-round from view from any existing adjacent non-participating lot line and the public right-of-way by use of a screening wall, evergreen vegetation, or other screening of similar effectiveness and quality, as determined by the Planning Commission. Screening shall be placed outside the perimeter fence. Screening shall look as natural as possible using varying plant materials of varying heights, if possible. Natural vegetation may be counted toward screening requirements. Screening shall be maintained throughout the life of the facility including replacing dead vegetation within six (6) months or at the earliest feasible time of year dependent on the weather. The Planning Commission may reduce or waive screening requirements provided that any such adjustment is in keeping with the intent of the Ordinance.

6. Wiring. Wiring (including communication lines) may be buried underground. Any above-ground wiring within the footprint of the solar energy facilities shall not exceed the height of the solar array at maximum tilt.

7. Lighting. Solar Energy Facility lighting shall be limited to inverter and/or substation locations only. Light fixtures shall have downlit shielding and be placed to keep light on-site and glare away from adjacent properties, bodies of water, and adjacent roadways. Flashing or intermittent lights are prohibited.

8. Sound. The sound pressure level of a solar energy facility and all ancillary solar equipment shall not exceed forty-five (45) dBA (Leq (1 hour)) at the lot line of an adjacent non-participating lot. The site plan shall include modeled sound isolines extending from the sound source to the dwelling. The applicant may be required to provide operating sound pressure level measurements from a reasonable number of sampled locations to demonstrate compliance with this standard. Devices which produce sound shall be located as centrally as possible on participating lots.

9. Land Clearing. Land disturbance or clearing shall be limited to what is minimally necessary for the installation and operation of the system and to ensure sufficient all-season access to the solar resource given the topography of the land. Topsoil distributed during site preparation (grading) on the lot shall be retained on site.

10. Access Drives. New access drives within the Solar Energy Facility shall be designed to minimize the extent of soil disturbance, water runoff, and soil compaction on the premises. The use of geotextile fabrics and gravel placed on the surface of the existing soil for temporary roadways during the construction of the Solar Energy Facility is permitted, provided that the geotextile fabrics and gravel are removed once the Solar Energy Facility is in operation.

11. Fencing. Solar Energy Facilities may be secured with perimeter fencing to restrict unauthorized access. Fencing is not subject to setbacks. The Planning Commission may require wildlife-friendly fencing.

12. Lot Coverage. Solar collection devices shall not count toward the maximum lot coverage standards in the ordinance.

13. Agricultural Protection. For sites where agriculture is a permitted use in a district, solar energy facilities shall be sited to minimize impacts to agricultural production through site design and accommodations including:

a. The ground mounting of panels by screw, piling, or a similar system that does not require a footing, concrete, or other permanent mounting to minimize soil compaction.

b. Siting panels to avoid disturbance and compaction of farmland by siting panels along field edges and in nonproduction areas to the maximum extent practicable and financially feasible.

c. Maintaining all drainage infrastructure on-site, including drain tile and ditches, during the operation of the solar energy facility.

d. Siting the solar energy facility to avoid isolating areas of the farm operation such that they are no longer viable or efficient for agricultural production, including, but not limited to, restricting the movement of agricultural vehicles/equipment for planting, cultivation, and harvesting of crops, and creating negative impacts on support infrastructure such as irrigation systems or drains.

e. Voluntarily purchasing agricultural conservation easements from an equivalent number of prime farmland acres if the township has adopted a purchase of development rights ordinance.

14. The Solar Energy Facility shall be maintained in good working order and in accordance with industry standards. Site access shall be maintained, including snow removal at a level acceptable to the local fire department.

15. Broken Panels. It shall be the responsibility of the operator of the solar energy facility to remove broken solar panels and all debris from the broken solar panels from the ground.

D. Repowering.

1. In addition to repairing or replacing solar energy components to maintain the system, a solar energy facility may, at any time, be repowered, without the need to apply for a new Special Use permit, by reconfiguring, renovating, or replacing the solar energy components to increase the power rating within the existing project footprint.

2. A proposal to change the project footprint of an existing solar energy facility shall be considered a new application, subject to the ordinance standards at the time of the request. Expenses for legal services and other studies resulting from an application to modify a solar energy facility will be reimbursed to the Township by the solar energy facility owner in compliance with established escrow policy.

E. Application for Solar Energy Facility.

The applicant shall be responsible for all costs related to any third-party study required by the Planning Commission. An applicant shall submit a site plan (the site plan shall meet all the requirements of the Township Zoning Ordinance and those of the Michigan Public Service Commission) showing the design of all elements to be erected or constructed as a part of the solar energy facility. The site plan shall include the following:

1. All lot lines, dimensions, and setbacks, including a legal description of each lot comprising the Solar Energy Facility.

2. Names/owners of each lot in the Township that is proposed to be within the Solar Energy Facility.

3. Vicinity map showing the location of all surrounding land uses.

4. The location of all solar arrays, including setbacks.

5. The width of arrays.
6. The distance between arrays plus total height (and distance to the lowest edge of the array above grade).
7. Ancillary structures and electrical equipment.
8. Utility connections.
9. Dwellings on the lot and within five hundred (500) feet of the lot lines (participating and nonparticipating lots).
10. Existing and proposed structures as part of the Solar Energy Facility.
11. Buried or above ground wiring.
12. Temporary and permanent access drives.
13. Fencing details.
14. Screening/landscape detail and berm detail.
15. Signs.
16. The location of any battery energy storage systems on-site.
17. Plans for land clearing and/or grading required for the installation and operation of the system, and plans for ground cover establishment and management.
18. Sound modeling study including sound isolines extending from the sound source(s) to the lot lines of adjoining non-participating lots.
19. Completed copy of Michigan Pollinator Habitat Planning Scorecard for Solar Sites (when applicable).
20. The location of prime farmland [and/or farmland of statewide importance, farmland of local importance, unique farmland, and prime farmland if drained] as defined in the U.S. Department of Agriculture, Natural Resources Conservation Service - Web Soil Survey.
21. Drainage plan including a plan to control runoff during construction.
22. Emergency Response Plan. A copy of the approved Emergency Response Plan shall be given to the system owner, the local fire department, and local fire code official. Copies of Emergency Response Plans shall be maintained at an approved on-site and off-site location accessible to facility personnel, the local fire department, and emergency responders, which should be outside the perimeter fence. Such a plan shall document and verify that the system and its associated controls and safety systems are in compliance with the Fire Code. The Emergency Response Plan shall include the following information:
 - a. A description of all on-site equipment and systems to be provided to prevent or handle fire emergencies.
 - b. A description of all contingency plans to be implemented in response to the occurrence of a fire emergency, including evacuation control measures and community notification measures.
 - c. Procedures for safe shutdown or isolation of equipment and systems under emergency conditions to reduce the risk of fire, electric shock, and personal injuries, and for safe start-up following cessation of emergency conditions.
 - d. Procedures for inspection and testing of associated alarms and controls.
 - e. Procedures to be followed for summoning service and repair personnel and providing agreed upon notification to fire department personnel for potentially hazardous conditions in the event of a system failure.

f. Emergency procedures to be followed in case of fire, explosion, damage to critical moving parts, or other potentially dangerous conditions. Procedures can include sounding the alarm, notifying the fire department, evacuating personnel, and controlling and extinguishing the fire.

g. Response considerations like a safety data sheet (SDS) that will address response safety concerns and extinguishment when an SDS is not required.

h. Other procedures as determined necessary by the Township to provide for the safety of occupants, neighboring properties, and emergency responders.

i. Procedures and schedules for conducting drills of these procedures and for training local first responders on the contents of the plan and appropriate response procedures.

j. An identification of potential approach and departure routes to and from the facility site for police, fire, ambulance, and other emergency vehicles.

k. An analysis of whether plans to be implemented in response to an emergency can be fulfilled by existing local emergency response capacity, and identification of any additional personnel and specific equipment or training deficiencies in local emergency response capacity and recommendations for measures to mitigate emergencies. The Township may require that the applicant provide training and/or funding for any specific equipment which is necessary to handle emergency situations at the facility.

l. A commitment to review and update the ERP with local emergency services at least once every three (3) years.

m. A commitment to offer to conduct, or provide funding to conduct, site-specific training drills with local emergency services before commencing operation, and at least once per year while the facility is in operation, at the expense of the project owner. Training should familiarize the local emergency services with the project, hazards, procedures, and current best practices.

n. Additional details and information as required by the Special Use requirements of the Zoning Ordinance, or as required by the Planning Commission.

23. Pre-Development Sound Modeling Study. Include sound isolines extending from the sound source(s) to all lot lines and dwellings on non-participating properties within five hundred (500) feet of the lot boundary.

24. Road Analysis and Agreement/Bond. A description of the routes to be used by construction and delivery vehicles and of any road improvements that will be necessary to accommodate construction vehicles, equipment, or other deliveries, and an agreement or bond which guarantees the repair of damage to public roads and other areas caused by construction of the Solar Energy Facility. Additional Studies.

25. Additional studies may be required by the Planning Commission if reasonably related to the standards of this ordinance as applied to the application site, including but not limited to:

a. Visual Impact Assessment. A technical analysis by a third-party qualified professional of the visual impacts of the proposed project, including a description of the project, the existing visual landscape, and important scenic resources, plus visual simulations that show what the project will look like (including proposed landscape and other screening measures) a description of potential project impacts, and mitigation measures that would help to reduce the visual impacts created by the project and documented on the site plan.

b. Environmental Analysis. An analysis by a third-party qualified professional to identify and assess any potential impacts on the natural environment including, but not limited to wetlands and other fragile ecosystems, wildlife, endangered and threatened species, historical and cultural sites, and antiquities. If required, the analysis shall identify all appropriate measures to minimize, eliminate, or mitigate adverse impacts identified and show those measures on the site plan, where applicable.

c. Stormwater Study. An analysis by a third-party qualified professional that considers the proposed layout of the Solar Energy Facility and how the spacing, row separation, and slope affect stormwater infiltration, including calculations for a one hundred (100) year rain event (storm). Percolation tests or site-specific soil information shall be provided to demonstrate infiltration onsite without the use of engineered solutions.

d. Glare Study. An analysis by a third-party qualified professional to determine if glare from the solar collection devices will be visible from nearby residents and roadways. If required, the analysis shall consider the changing position of the sun throughout the day and year, and its influence on the facility.

e. Groundwater Study. An analysis by a third-party qualified professional that considers the planned groundwater use of the Solar Energy Facility and the impacts on local water resources.

26. Decommissioning Plan. A decommissioning plan is required at the time of application.

a. The decommissioning plan shall include:

(1) The anticipated life of the project.

(2) The anticipated manner in which the project will be decommissioned, including a description of which above-grade and below-grade improvements will be removed, retained (e.g. access drive, fencing), or restored for viable reuse of the property consistent with the zoning district.

(3) The County Road Commission approved traffic routes for decommissioning and surety bonds to ensure no perceived road damage is done.

(4) The estimated decommissioning costs in current dollars. Such costs shall not include credit for salvageable value of any materials. The Township may require one (1) or more third-party entities to develop decommissioning cost estimates. If this is required, the Township will select the most appropriate cost estimate.

(5) The method of ensuring that funds will be available for site decommissioning and stabilization (in the form of surety bond, irrevocable letter of credit, or cash deposit). The Planning Commission shall require the owner of the solar energy facility (maintained by any successive owners) to deposit.

a performance guarantee in an amount equal to 1.25 times the estimated costs associated with the removal of the solar energy facility and all associated equipment and accessory structures and restoration of the site to a reusable condition which shall include the removal of all underground structures to a depth of five (5) feet below the natural ground level at that location. The amount of performance guarantee shall be reviewed every three (3) years. The amount of the performance guarantee shall be increased based on an inflation rate equal to the average of the previous ten (10) years of Consumer Price Index. The performance guarantee shall be in the form of a cash deposit, certified check, irrevocable bank letter of credit, or surety bond acceptable to the Township.

b. A solar energy facility owner may at any time:

(1) Proceed with the decommissioning plan approved by the Planning Commission and remove the system as indicated in the most recent approved plan; or

(2) Amend the decommissioning plan with Planning Commission approval and proceed according to the revised plan. c. Prior to beginning decommissioning, a solar energy facility owner/operator shall notify the Township of the date that decommissioning will begin.

F. Requirement Prior to Installation. No solar energy facilities shall be installed until written evidence has been submitted to the Township that the electric utility company has been informed of the applicant's intent to install a solar energy facility which will generate electric power for distribution by interconnection to the electric power grid of the electric utility company serving the area in which the solar energy facility is located.

G. Abandoned Solar Energy Facilities.

1. If a solar energy facility owner or operator intends to abandon and, in fact, does abandon a solar energy facility by not operating it for a continuous period of twelve (12) months, said solar energy facility shall be considered abandoned, and the owner of such solar energy facility shall remove the same within one hundred eighty (180) days of the receipt of a notice of abandonment by the Township.

2. Failure to remove an abandoned solar energy facility within the one hundred eighty (180) day period provided in this subsection shall be a violation of this Ordinance. The Planning Commission may grant an extension to this one hundred eighty (180) day period if it finds substantial justification for such an extension. In addition to removing the solar energy facility, the owner shall restore the site of the solar energy facility to its original condition prior to location of the solar energy facility, subject to reasonable wear and tear. Any foundation associated with a solar energy facility shall be removed to a minimum depth of five (5) feet below the final grade, and site vegetation shall be restored. The Planning Commission may require that vegetative screening be removed to provide access to the agricultural site.

H. Post-Approval Documentation.

Any Zoning Permit or Special Use Permit for any Utility-Scale Solar Energy System shall be conditioned upon the submission of the following documents:

1. Amended Emergency Response Plan (ERP) (if applicable). Additional consultation with local emergency services is required for amended plans.

2. Post-Construction Sound Survey. Documentation of sound pressure level measurements shall be provided to the Zoning Administrator by a third-party qualified professional selected by the Planning Commission and at the expense of the Solar Energy System owner within six (6) months of the commencement of the operation of the project. The study will be designed to verify compliance with sound standards applicable to this ordinance.

T. SOLAR ENERGY FACILITIES, (ON-SITE OR PRIVATE)

A. Scope.

1. This Section applies to Accessory Solar Panels for the primary purpose of providing power on-site.

2. Solar energy panels falling under this Section shall be allowed as a permitted accessory for use in all zoning districts subject to the requirements below. A zoning permit shall be required.

3. Accessory solar panels which provide power on-site, but which cover more than one (1) acre of land shall fall under

B. Submittal Requirements.

Applicants shall submit drawings that show the location of the system on the lot, height, tilt features (if applicable), the primary structure, accessory structures, and setbacks to lot lines. Accessory solar energy panel applications that meet the ordinance requirements shall be granted administrative approval by the Zoning Administrator.

C. Height.

1. Ground-mounted accessory solar energy panels shall not exceed the allowable height of structures in that district. When panels are oriented at maximum tilt, height is measured from the ground to the top of the system.

2. Building-mounted accessory solar energy systems shall not exceed five (5) feet above the finished roof.

D. Setbacks/Location.

1. Ground-mounted accessory solar energy panels.

a. Ground-mounted accessory solar energy panels shall not be in the front yard unless there is no other location with access to the sun that is feasible. b. Ground-mounted accessory solar energy panels shall be set back to the required distance for accessory buildings in the district (Section 3.18).

c. Setbacks are measured from the lot line to the nearest portion of the structure when oriented at minimum tilt.

d. Freestanding solar energy panels do not count toward the number of accessory buildings on a lot but do count toward the maximum lot coverage percentage in the district. Measurement of lot coverage shall be made when the solar panel is at minimum tilt.

2. Building-mounted accessory solar energy panels shall adhere to district setbacks for a principal building but may encroach into designated principal building setbacks by twelve (12) inches.

E. Glare. Panels shall not result in glare onto adjoining properties or public rights of way.

F. Nonconformities.

1. A building-mounted accessory solar energy panel installed on a nonconforming building use shall not be considered an expansion of the nonconformity. or

2. Ground-mounted accessory solar energy panels installed on a nonconforming lot or nonconforming use shall not be considered an expansion of the nonconformity.

G. Building-Integrated Solar Energy Panels. Building-integrated solar energy panels are subject only to zoning regulations applicable to the structure or building and not subject to standards in this Section.

Section Q. Wind Energy Facilities (Utility-Scale)

A. Purpose. The purpose of this Section is to provide for the development, installation, and construction of wind energy facilities subject to reasonable conditions that will protect the character of the Township and the nearby lot owners and ensure the health, safety, and welfare of Township residents.

B. Scope. Wind energy facilities consisting of one (1) or more wind turbines whose principal purpose is to supply electricity to off-site customers shall be allowed as a Special Use and shall adhere to the following requirements addition to the requirements contained in Article 5 and Article 6 of this Ordinance.

C. Principal or Accessory Use. A wind energy facility or anemometer tower may be considered either a principal or an accessory use. A different existing use or an existing structure on the same lot shall not preclude the installation of a wind energy facility or a part of such facility on such lot. Wind energy facilities that are constructed and installed in accordance with the provisions of this Article shall not be deemed to constitute the expansion of a nonconforming use or structure.

D. State or Federal Requirements. Any proposed wind turbine or anemometer shall meet or exceed any standards and regulations of the Federal Aviation Administration (FAA), Michigan Aeronautics Commission (MAC), the Michigan Public Service Commission, National Electric Safety Code, Federal Energy Regulatory Commission, Michigan Tall Structure Act (1959 PA 259) and any other agency of the state or federal government with the authority to regulate wind turbines or other tall structures in effect at the time the Special Use approval is approved.

E. Standards. Wind turbines shall meet the following standards:

1. Height. Regarding wind turbine height, the applicant shall demonstrate compliance with the Michigan Tall Structures Act (1959 PA 259, as amended), FAA guidelines, and Michigan Aeronautics Commission guidelines as part of the approval process.

2. Maximum Vibrations. Any proposed wind turbine shall not produce vibrations through the ground humanly perceptible at the lot line of non-participating lots.

3. Minimum Ground Clearance. The lowest point of the arc created by rotating wind vanes or blades on a wind turbine shall be no less than twenty (20) feet.

4. Minimum Site Area. The minimum site area for a wind turbine or an anemometer tower shall be necessary to meet the required wind energy setbacks and other standards of this Section.

5. Noise. The wind energy facility does not generate a maximum sound more than forty-five (45) dBA (Leq (1 hour)) at the lot line of adjacent nonparticipating lots. The site plan shall include modeled sound isolines extending from the sound source to the dwelling. The applicant may be required to provide operating sound pressure level measurements from a reasonable number of sampled locations to demonstrate compliance with this standard.

6. Potential Ice Throw. Wind turbines shall be installed with ice detection, de-icing technology, or a similar application to demonstrate ice throw can be mitigated.

7.Setbacks. Each proposed wind turbine or anemometer tower shall meet the following applicable setback requirements:

a. Setback from Non-Participating Lot Line. Each wind turbine shall be set back from the nearest lot line of a non-participating lot a minimum of 1.1 times its total height as measured from the base of the wind turbine.

b. Setback from Public Road. Each wind turbine shall be set back from the nearest public road distance of 1.1 times its total height determined at the nearest boundary of the underlying right-of-way for such public road.

c. Setback from Occupied Structures on Non-Participating Lots. Each wind turbine shall be set back from the nearest dwelling or occupied community building that is located on non-participating lot(s) at a minimum of 2.1 times its total height as measured from the base of the wind turbine.

d. Dwellings and Other Structures on Participating Lots. Each wind turbine shall be set back from the nearest dwelling or other structure that is located on participating lot(s) at a minimum of 1.1 times its total height as measured from the base of the wind turbine.

e. Setback from Overhead Communication and Power Lines. Each wind turbine shall be set back from overhead communication and electric transmission lines (not including utility service lines to individual houses or outbuildings) a minimum distance of 1.1 times its total height as measured from the base of the wind turbine.

f. Building Setbacks. Setbacks for buildings accessory to a wind turbine shall conform to the setbacks of the district.

8. Shadow Flicker.

a. The wind turbine shall be designed in such a manner as to prevent shadow flicker on any existing structures on non-participating lots. If necessary to prevent shadow flicker from crossing occupied structures, the wind turbine may be programmed to stop rotating during times when the wind turbine shadow crosses these structures. The wind turbine operator may obtain written agreements which allow shadow flicker to cross an occupied structure. The Planning Commission may allow up to thirty (30) hours of shadow flicker on an occupied structure per year.

b. The Planning Commission may require the applicant to conduct an analysis of potential shadow flicker at occupied structures if it deems such an analysis necessary. The analysis shall identify the locations of shadow flicker that may be caused by the project and the expected durations of the flicker at these locations from sunrise to sunset over the course of a year. The analysis shall identify problem areas where shadow flicker may affect the occupants of the structures and describe measures that shall be taken to eliminate or mitigate the problems.

9. Signal Interference. No wind turbine shall be installed in any location where its proximity with existing fixed broadcast, retransmission, or reception antennas for radio, television, navigation, wireless phone, or other personal communication systems would produce electromagnetic interference with signal transmission or reception. No wind turbine shall be installed in any location along the major axis of an existing microwave communications link where its operation is likely to produce electromagnetic interference with the link operation.

10. Tower Separation. Wind turbine separation distance shall be based on 1) industry standards, 2) manufacturer recommendations, and 3) the characteristics (prevailing wind, topography, etc.) of the site location.

11. Visual Impact, Lighting, and Power Lines.

a. Wind turbines shall be mounted on tubular towers. All turbines shall maintain a galvanized steel finish on the exterior, or be painted with a neutral white, gray, or pale blue, unless otherwise regulated by the FAA. The appearance of turbines, towers, and buildings shall be maintained throughout the life of the wind energy facility pursuant to industry standards, (i.e. condition of exterior paint, signs, landscaping). A certified registered engineer and authorized factory representative shall certify that the construction and installation of the wind energy facility meet or exceeds the manufacturer's construction and installation standards.

b. The design of the wind energy facility's buildings and related structures shall, to the extent reasonably possible, use materials, colors, textures, screening, and landscaping that will blend facility components with the natural setting and the environment existing at the time of installation.

c. Wind turbines shall not be artificially lit, except to the extent required by the FAA, or the MAC or other applicable authority, or otherwise necessary for the reasonable safety and security thereof. If lighting is required, the lighting alternatives and design chosen:

(1) Shall be the intensity required under state or federal regulations.

(2) Shall not be strobe lighting or other intermittent white lighting fixtures, unless expressly required by state or federal regulations. Such intermittent lighting shall be alternated with steady red lights at night if acceptable to state or federal regulations.

(3) May be a red top light that does not pulsate or blink.

(4) All tower lighting required by state or federal regulations shall be shielded to the extent possible to reduce glare and visibility from the ground.

(5) Radar-activated obstruction lighting system shall be utilized, if available and if permitted by the FAA.

d. Wind turbines shall not be used to display any advertising except for the reasonable identification of the manufacturer or operator of the wind energy facility.

e. The electrical collection system shall be placed underground within the interior of each lot at a depth designed to accommodate the existing agricultural land to the maximum extent practicable. The collection system may be placed overhead adjacent to State and County roadways, near substations or points of interconnection to the electric grid, or in other areas as necessary.

12. Safety.

a. All collection system wiring shall comply with all applicable safety and stray voltage standards.

b. Wind turbines shall not be climbable on the exterior.

c. All access doors to wind turbines and electrical equipment shall be locked.

d. Appropriate warning signs shall be placed on wind turbines, electrical equipment, and facility entrances.

e. All wind turbines shall be equipped with controls to control the rotational speed of the blades within design limits for the specific wind turbine. All wind turbines shall have an automatic braking system to prevent uncontrolled rotation.

f. Site access shall be maintained, including snow removal at a level acceptable to the local fire department.

F. Application Requirements. The applicant shall be responsible for all costs related to any third-party study required by the Planning Commission. A Special Use application for a Utility-Scale Wind Energy Facility shall include a site plan pursuant to Article 5. The following items are required unless waived by the Planning Commission:

1. Site Plan Drawing. All applications for a Utility-Scale Wind Energy Facility shall be accompanied by a detailed site plan, pursuant to Section 5.06, that is drawn to scale and dimensioned, displaying the following information:

a. Existing property features to include the following: lot lines, physical dimensions of the lot, land use, zoning district, contours, setback lines, rights-of-way, public and utility easements, public roads, access roads (including width), sidewalks, non-motorized pathways, large trees, lay down yards, and all buildings. The site plan must also include the adjoining properties as well as the location and use of all structures and utilities within three hundred (300) feet of the lot lines including dwellings within five hundred (500) feet of the lot lines (participating and nonparticipating lots).

b. Location and height of all proposed wind turbines, buildings, structures, ancillary equipment, underground utilities and their depth, towers, security fencing, access roads (including width, composition, and maintenance plans), electrical sub-stations, and other above-ground structures and utilities associated with the proposed Utility-Scale Wind Energy Facility.

c. Additional details and information as required by the Special Use requirements of the Zoning Ordinance or as requested by the Planning Commission.

2. Site Plan Documents. The following shall be included with the site plan:

a. Contact information for the Owner(s) and Operator(s) of the Utility-Scale Wind Energy Facility as well as contact information for all property owners on which the Utility-Scale Wind Energy Facility is located.

b. A copy of the lease, or recorded document, with the landowner(s) if the applicant does not own the land for the proposed Utility-Scale Wind Energy Facility. A statement from the landowner(s) of the leased site that he/she will abide by all applicable terms and conditions of the Special Use permit, if approved.

c. Identification and location of the properties on which the proposed Utility-Scale Wind Energy Facility will be located.

d. The proposed number, representative types, and height of each wind turbine to be constructed; including their manufacturer and model, product specifications including maximum noise output (measured in decibels), total rated capacity, rotor diameter, and a description of ancillary facilities.

e. Documents shall be submitted by the developer/manufacturer confirming specifications for wind turbine separation.

f. Documented compliance with the noise and shadow flicker requirements set forth in this Ordinance.

g. Engineering data concerning construction of the Utility-Scale Wind Energy Facility and its base or foundation, which may include, but not be limited to, soil boring data.

h. A certified registered engineer shall certify that the Utility-Scale Wind Energy Facility meets or exceeds the manufacturer's construction and installation standards.

i. Anticipated construction schedule.

j. The location of any battery energy storage system on-site.

k. A copy of the maintenance and operation plan, including anticipated regular and unscheduled maintenance. Additionally, a description of the procedures that will be used for lowering or removing the Utility-Scale Wind Energy Facility to conduct maintenance, if applicable.

l. Documented compliance with applicable local, state, and national regulations including, but not limited to, all applicable safety, construction, environmental, electrical, and communications. The Utility-Scale Wind Energy Facility shall comply with Federal Aviation Administration (FAA) requirements, Michigan Airport Zoning Act, Michigan Tall Structures Act, and any applicable airport overlay zone regulations. All required approvals from other local, regional, state, or federal agencies must be obtained prior to approval of a site plan. In the case where site plan approval is a requirement for other local, regional, state, or federal agency approval, evidence of such shall be submitted with the site plan.

m. Proof of applicant's liability insurance.

n. Evidence that the utility company has been informed of the customer's intent to install an interconnected, customer-owned turbine and that such connection has been approved.

o. Other relevant information as may be requested by the Township to ensure compliance with the Lovells Township Zoning Ordinance requirements of this Ordinance. 3. 4.

p. Following the completion of construction, the applicant shall certify that all construction completed pursuant to the Special Use Permit. is

q. The Township reserves the right to review all maintenance plans and bonds under this Ordinance to ensure that all conditions of the permit are followed.

3. Hazard Plan. An application shall be accompanied by a hazard prevention plan. Such plan shall contain:

a. Certification that the electrical wiring between turbines and the utility right-of-way does not pose a fire hazard.

b. Location of landscaping to be designed to avoid the spread of fire from any source on the turbine; such preventative measures may address the types and locations of vegetation below the turbine and on the site.

c. A listing of any hazardous fluids that may be used on-site shall be provided, including safety data sheet (SDS).

d. Certification that the turbine has been designed to contain any hazardous fluids shall be provided.

e. A statement certifying that the turbine shall be routinely inspected to ensure that no fluids are released from the turbine.

f. The Wind Energy Facility shall be maintained in good working order and in accordance with industry standards. Site access shall be maintained, including snow removal at a level acceptable to the local fire department.

4. Grading, Erosion, and Stormwater Drainage Plan. A site grading, erosion control, and stormwater drainage plan will be submitted to the Zoning Administrator prior to issuing a Special Use permit for a Utility-Scale Wind Energy System. At the Township's discretion, these plans may be reviewed by the Township's engineering firm. The cost of this review will be the responsibility of the applicant.

5. Road Analysis and Agreement/Bond. A description of the routes to be used by construction and delivery vehicles and of any road improvements that will be necessary to accommodate construction vehicles, equipment, or other deliveries, and an agreement or bond which guarantees the repair of damage to public roads and other areas caused by construction of the Utility-Scale Wind Energy System.

6. Environmental Impact Study. A study assessing any potential impacts on the natural environment (including, but not limited to, assessing the potential impact on endangered species, eagles, birds and/or other wildlife, wetlands, and fragile ecosystems). The study shall conform to state and federal wildlife agency recommendations based on local conditions. The study shall include impacts to migratory birds.

7. Emergency Response Plan. A copy of the approved Emergency Response Plan shall be given to the system owner, the local fire department, and local fire code official. Copies of Emergency Response Plans shall be maintained at an approved on-site and off-site location accessible to facility personnel, the local fire department, and emergency responders, which should be outside the perimeter fence. Such a plan shall document and verify that the system and its associated controls and safety systems are following the Fire Code. The Emergency Response Plan shall include the following information:

a. A description of all on-site equipment and systems to be provided to prevent or handle fire emergencies.

b. A description of all contingency plans to be implemented in response to the occurrence of a fire emergency, including evacuation control measures and community notification measures.

c. Procedures for safe shutdown or isolation of equipment and systems under emergency conditions to reduce the risk of fire, electric shock, and personal injuries, and for safe start-up following cessation of emergency conditions.

d. Procedures for inspection and testing of associated alarms and controls.

e. Procedures to be followed for summoning service and repair personnel and providing agreed-upon notification to fire department personnel for potentially hazardous conditions in the event of a system failure.

f. Emergency procedures to be followed in case of fire, explosion, damage to critical moving parts, or other potentially dangerous conditions. Procedures can include sounding the alarm, notifying the fire department, evacuating personnel, and controlling and extinguishing the fire.

g. Response considerations like a safety data sheet (SDS) that will address response safety concerns and extinguishment when an SDS is not required.

h. Other procedures as determined necessary by the Township to provide for the safety of occupants, neighboring properties, and emergency responders.

i. **Procedures** and schedules for conducting drills of these procedures and for training local first responders on the contents of the plan and appropriate response procedures.

J. An identification of potential approach and departure routes to and from the facility site for police, fire, ambulance, and other emergency vehicles.

k. An analysis of whether plans to be implemented in response to an emergency can be fulfilled by existing local emergency response capacity, and identification of any additional personnel specific equipment or training deficiencies in local emergency response capacity and recommendations for measures to mitigate emergencies. The Township may require that the applicant provide training and/or funding for any specific equipment which is necessary to handle emergency situations at the facility.

l. A commitment to review and update the ERP with local emergency services at least once every three (3) years.

m. A commitment to offer to conduct, or provide funding to conduct, site-specific training drills with local emergency services before commencing operation, and at least once per year while the facility is in operation, at the expense of the project owner. Training should familiarize the local emergency services with the project, hazards, procedures, and current best practices.

n. Additional details and information as required by the Special Use requirements of the Zoning Ordinance, or as required by the Planning Commission.

8.Pre-Development Sound Modeling Study. Include sound isolines extending from the sound source(s) to all lot lines and dwellings on non-participating properties within five hundred (500) feet of the lot boundary.

9.Decommissioning Plan Required. The applicant shall submit a decommissioning plan. The plan shall include:

a. The anticipated life of the project.

b. The anticipated manner in which the project will be decommissioned and the site restored, including a description of which above-grade and below-grade improvements will be removed, retained (e.g. access drive, fencing), or restored for viable reuse of the property consistent with the zoning district.

c. The estimated decommissioning costs in current dollars. Such costs shall not include credit for salvageable value of any materials. The Township may require one (1) or more third-party entities to develop decommissioning cost estimates. If this is required, the Township will select the most appropriate cost estimate.

d. County Road Commission approved traffic routes for decommissioning and surety bonds to ensure no perceived road damage is done.

e. The method of ensuring that funds will be available for decommissioning and restoration. The Planning Commission shall require the owner of the wind turbine to deposit a performance guarantee in an amount equal to 1.25 times the estimated costs associated with the removal of the wind turbine or anemometer tower and all associated equipment and accessory structures and restoration of the site to a reusable condition which shall include the removal of all underground structures to a depth of five (5) feet below the natural ground level at that location. The amount of the performance guarantee shall be reviewed every three (3) years. The amount of the performance guarantee shall be increased based on an inflation rate equal to the average of the previous ten (10) years of Consumer Price Index. The performance guarantee shall be in the form of a cash deposit, certified check, irrevocable bank letter of credit, or surety bond acceptable to the Township.

A facility owner may at any time:

(1) Proceed with the decommissioning plan approved by the Planning Commission and remove the system as indicated in the most recent approved plan; or

(2) Amend the decommissioning plan with Planning Commission approval and proceed according to the revised plan.

f. Prior to beginning decommissioning, a wind energy facility owner/operator shall notify the Township of the date that decommissioning will begin.

g. Equipment Replacement and Repowering.

A Wind Energy Facility may at any time be repowered, without the need to apply for a new Special Use permit, by reconfiguring, renovating, or replacing the wind energy components to increase the power rating within the existing project footprint. A proposal to change the project footprint of an existing wind energy facility or to add a greater number of wind turbines than were approved as part of the Special Use or to increase the height of the existing turbines shall be considered a new application, subject to the ordinance standards at the time of the request. Expenses for legal services and other studies resulting from an application to modify a wind energy facility will be reimbursed to the Township by the wind energy facility owner in compliance with established escrow policy.

H. Abandonment and Removal.

1. If a wind turbine owner or operator intends to abandon and, in fact, does abandon a wind turbine by not operating it for a continuous period of twelve (12) months, said wind turbine shall be considered abandoned, and the owner of such wind turbine shall remove the same within one hundred eighty (180) days of the receipt of a notice of abandonment by the Township. Failure to remove an abandoned wind turbine within the one hundred eighty (180) day period provided in this subsection shall be considered a violation of this Ordinance. The Planning Commission may grant an extension to this one hundred eighty (180) day period if it finds substantial justification for such an extension.

2. In addition to removing the wind turbine, the owner shall restore the site of the wind turbine to its original condition prior to the location of the wind turbine, subject to reasonable wear and tear. Any foundation associated with a wind shall be removed to a minimum depth of five (5) feet below the final grade, and site vegetation shall be restored.

I. Post-Approval Documentation - Utility-Scale Wind Energy Systems. Any Zoning Permit or Special Use Permit for any Utility-Scale Wind Energy System shall be conditioned upon the submission of the following documents:

1. Amended Emergency Response Plan (ERP) (if applicable). Additional consultation with local emergency services is required for amended plans.

2. Post-Construction Sound Survey. Documentation of sound pressure level measurements shall be provided to the Zoning Administrator by a third-party qualified professional selected by the Planning Commission and at the expense of the Wind Energy System owner within six (6) months of the commencement of the operation of the project. The study will be designed to verify compliance with sound standards applicable to this ordinance.

Section U. Battery Energy Storage Systems (Utility-Scale).

A. Purpose.

The purpose of this Section is to provide for the development, installation, and construction of off-site battery energy storage systems subject to reasonable conditions that will protect the character of the Township and the nearby lot owners and ensure the health, safety, and welfare of Township residents.

B. Scope.

1. This Section applies to Off-Site Battery Energy Storage Systems that are stand-alone facilities or are in conjunction with another use such as Solar Energy Facilities or Wind Energy Facilities. Off-site battery energy storage systems shall be located in the Industrial District unless they are proposed in conjunction with a Solar Energy Facility or Wind Energy Facility. Battery Energy Storage Systems shall comply with this Section and the site plan review standards in Article 5.

2. On-Site Battery Energy Storage Systems are regulated as Accessory Structures in Section 18.

C. Maximum Acreage and Lot Coverage.

1. The maximum acreage of each Battery Energy Storage System project is ten (10) acres.

2. The maximum lot coverage for each structure and battery on each lot within the project area is thirty (30) percent.

D. Setbacks, Height, and Spacing.

1. **Setbacks & Firebreak.** The setbacks of all buildings and components of Battery Energy Storage Systems shall be at least two hundred (200) feet from the road right-of-way and all lot lines of non-participating lots and at least six hundred (600) feet from residences and occupied community buildings on non-participating lots. There shall be a fifty (50) foot firebreak around the perimeter of the entire Battery Energy Storage System Facility.

2. **Height.** The maximum height of a Battery Energy Storage System or building containing a Battery Energy Storage System shall not exceed twenty (20) feet.

3. **Spacing.** The minimum spacing between each battery shall be according to the recommended manufacturer's specifications unless superseded by state or federal law. If no spacing requirements are recommended or mandated, then the spacing between batteries shall be thirty (30) feet.

E. Screening.

(1) The Planning Commission may require that battery energy storage systems be screened year-round from view from any existing adjacent non-participating lot line and the public right-of-way by use of a screening wall, evergreen vegetation, or other screening of similar effectiveness and quality, as determined by the Planning Commission. Screening shall be placed outside the perimeter fence. Screening shall look as natural as possible using varying plant materials of varying heights, if possible. Natural vegetation may be counted toward screening requirements. Screening shall be maintained throughout the life of the facility including replacing dead vegetation within six (6) months or at the earliest feasible time of year dependent on the weather. The Planning Commission may reduce or waive screening requirements provided that any such adjustment is in keeping with the intent of the Ordinance.

(2) Areas within two hundred (200) feet on each side of a Battery Energy Storage System shall be cleared of combustible vegetation and other combustible growth (including stumps of trees).

F. Lighting. Lighting of the Battery Energy Storage System shall be limited to that minimally required for safety and operational purposes and shall be reasonably shielded and downcast from abutting properties.

G. Sound. The sound pressure level of a battery energy storage system and all ancillary equipment shall not exceed fortyfive (45) dBA (Leq (1 hour)) at the lot line of an adjacent non-participating lot. The site plan shall include modeled sound isolines extending from the sound source to the dwelling. The applicant may be required to provide operating sound pressure level measurements from a reasonable number of sampled locations to demonstrate compliance with this standard.

H. Land Clearing. Land disturbance or clearing shall be limited to what is minimally necessary for the installation and operation of the system. Topsoil distributed during site preparation (grading) on the lot shall be retained on site.

I. Access Drives. New access to drives within the Battery Energy Storage Systems shall be designed to minimize the extent of soil disturbance, water runoff, and soil compaction on the premises. The use of geotextile fabrics and gravel placed on the surface of the existing soil for temporary roadways during the construction of the Battery Energy Storage System is permitted, provided that the geotextile fabrics and gravel are removed from those temporary roadways once the Battery Energy Storage System is in operation. Access drives shall be removed upon decommissioning unless the lot owner requests the access drives remain in place, or the Planning Commission decides that the access drives should remain in place.

J. Fencing. Battery Energy Storage Systems may be secured with perimeter fencing to restrict unauthorized access. Fencing is not subject to setbacks. The Planning Commission may require wildlife-friendly fencing.

K. Safety and Compliance.

1. Construction of a Battery Energy Storage System shall comply with the National Electric Safety Code and the Building Code. In the event of a conflict between the County Building Code and National Electric Safety Code (NESC), the NESC shall prevail.

2. System Certification. All Battery Energy Storage Systems shall follow the latest edition of NFPA 855 Standard for the Installation of Stationary Energy Storage Systems at the time of application. Compliance includes that all system components and equipment shall be listed by Nationally Recognized Testing Laboratory to UL 9540 (Standard for Energy Storage Systems and Equipment) and that Battery Energy Storage Systems are subject to UL 9540A (Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems), as applicable. Battery Energy Storage Systems, components, and associated ancillary equipment shall have required working space clearances, and electrical circuitry shall be within weatherproof enclosures marked with the environmental rating suitable for the type of exposure in compliance with NFPA 70.

3. Site Access. Battery energy storage systems shall be maintained in good working order and in accordance with industry standards. Site access shall be maintained, including snow removal at a level acceptable to the local fire department.

4. Battery Energy Storage Systems, components, and associated ancillary equipment shall have required working space clearances, and electrical circuitry shall be within weatherproof enclosures marked with the environmental rating suitable for the type of exposure in compliance with NFPA 70.

5. Battery Energy Storage Systems shall be maintained in good working order and in accordance with industry standards. Site access shall be maintained, including snow removal at a level acceptable to the local fire department.

L. Increased Storage Capacity.

1. The components of the Battery Energy Storage System may be reconfigured, renovated, or replaced to increase the power storage capacity within the existing project footprint.

2. A proposal to change the project footprint of an existing Battery Energy Storage System shall be considered a new application, subject to the ordinance standards at the time of the request. Expenses for legal services and other studies resulting from an application to modify a Battery Energy Storage System will be reimbursed to the Township by the Battery Energy Storage System owner in compliance with established escrow policy. M. Application Requirements and Performance Guarantee. The applicant shall be responsible for all costs related to any third-party study required by the Planning

1. Site Plan. A site plan pursuant to Article 5 shall be required. The site plan shall include the following:

a. All lot lines and dimensions, including a legal description of each lot comprising the Battery Energy Storage System.

b. Names of owners of each lot within the Township that is proposed to be within the Battery Energy Storage System.

c. Vicinity map showing the location of all surrounding land uses.

d. Location of all proposed battery structures, buildings that house batteries, other buildings or structures, electrical tie lines and transmission lines, security fencing, and all above-ground structures and utilities associated with a Battery Energy Storage System.

e. Horizontal and vertical (elevation) to-scale drawings with dimensions.

f. Proposed setbacks from the Battery Energy Storage System to all existing and proposed structures on participating and non-participating lots. g

g. Dwellings on the lot and within one thousand (1,000) feet of the lot lines (participating and non-participating lots).

h. Temporary and permanent access drives.

i. Screening/landscape detail and berm detail.

j. Signs.

k. Plans for land clearing and/or grading required for the installation and operation of the system, and plans for ground cover establishment and management.

1. Sound modeling study including sound isolines extending from the sound source(s) to the lot lines of adjoining non-participating lots.

m. Planned security measures to prevent unauthorized trespass and access during the construction, operation, removal, maintenance, or repair of the Battery Energy Storage System.

n. A written description of the maintenance program to be used for the Battery Energy Storage System, including decommissioning and removal. The description shall include maintenance schedules, types of maintenance to be performed, and decommissioning and removal procedures and schedules if the Battery Energy Storage System is decommissioned.

o. Planned lightning protection measures.

p. A preliminary equipment specification sheet that documents the proposed battery energy storage system components and associated electrical equipment that are to be installed. A final equipment specification sheet shall be submitted prior to the issuance of a zoning permit.

q. Name, address, and contact information of proposed or potential system installer and the owner and/or operator of the battery energy storage system. This info is required prior to the issuance of the zoning permit.

2. Emergency Response Plan. A copy of the approved Emergency Response Plan shall be given to the system owner, the local fire department, and local fire code official. Copies of Emergency Response Plans shall be maintained at an approved on-site and off-site location accessible to facility personnel, the local fire department, and emergency responders, which should be outside the perimeter fence. The Emergency Response Plan shall include the following information:

a. A description of security systems in place to prevent unauthorized parties from accessing the site.

b. A description of all on-site equipment and systems to be provided to prevent or handle emergencies.

c. Procedures for safe shutdown, de-energizing, or isolation of equipment and systems under emergency conditions to reduce the risk of fire, electric shock, and personal injuries, and for safe start-up following cessation of emergency conditions.

d. Procedures for inspection and testing of associated alarms, interlocks, and controls.

e. Procedures to be followed for summoning service and repair personnel and providing agreed-upon notification to fire department personnel for potentially hazardous conditions in the event of a system failure.

f. Emergency procedures to be followed in case of fire, explosion, release of liquids or vapors, damage to critical moving parts, or other potentially dangerous conditions. Procedures can include sounding the alarm, notifying the fire department, evacuating personnel, de-energizing equipment, and controlling and extinguishing the fire.

g. Response considerations like a safety data sheet (SDS) that will address response safety concerns and extinguishment when an SDS is not required.

h. Procedures for dealing with battery energy storage system equipment damaged in a fire or other emergency event, including maintaining contact information for personnel qualified to safely remove damaged battery energy storage system equipment from the facility.

i. Procedures and schedules for conducting drills of these procedures and for training local first responders on the contents of the plan and appropriate response procedures.

k. An identification of potential approaches and departure routes to and from the facility site for police, fire, ambulance, and other emergency vehicles. A description of all contingency plans to be implemented in

response to the occurrence of an emergency, including evacuation control measures and community notification measures.

L. The results of a toxic and flammable gas plume dispersion analysis for the anticipated BESS equipment in a severe fire emergency scenario to assess potential impacts on surrounding communities.

m. An analysis of whether plans to be implemented in response to an emergency can be fulfilled by existing local emergency response capacity, and identification of any specific equipment or training deficiencies in local emergency response capacity.

n. Other procedures as determined necessary by the Township to provide for the safety of occupants, neighboring properties, and emergency responders.

o. A commitment to offer to conduct, or provide funding to conduct, site-specific training drills with local emergency services before commencing operation, and at least once per year while the facility is in operation, at the expense of the project owner. Training should familiarize the local emergency services with the project, hazards, procedures, and current best practices.

p. An analysis of whether plans to be implemented in response to a fire emergency can be fulfilled by existing local emergency response capacity. The analysis should include identification of any additional personnel, specific equipment or training deficiencies in local emergency response capacity, and recommendations for measures to mitigate deficiencies. The Township may require that the applicant provide funding for training and/or any specific equipment which is necessary to handle emergency situations at the facility.

q. A commitment to review and update the ERP with local emergency services at least once every three (3) years.

r. Additional detail(s) and information as required by the Special Use requirements of the Zoning Ordinance, or as required by the Planning Commission.

3.Land Clearing and/or Grading Plan. A plan showing proposed clearing and/or grading as required for the installation and operation of the system.

4. Stormwater Management Plan. Computations and design of a stormwater management system. For a BESS in a well-head protection zone and/or if the Fire Response Plan requires liquid agents for firefighting, additional calculations and design of the emergency runoff retention system in the area within ten (10) feet of the BESS shall be submitted.

5. Pre-Development Sound Modeling Study including sound isolines extending from the sound source(s) to all lot lines and dwellings on non-participating properties within one thousand (1,000) feet of the lot boundary.

6. Preliminary Equipment Specification Sheet. Such sheet documents the proposed battery energy storage system components, inverters, and associated electrical equipment that are to be installed. A Final Equipment Specification Sheet shall be submitted as part of Post-Construction Reporting.

7. System Maintenance Plan. A detailed maintenance schedule covering all affected equipment and the activities performed as outlined in the NFPA 855 Standard for the Installation of Stationary Energy Storage Systems.

8. Contact Information. Name, address, and contact information of proposed or potential system installer and the owner and/or operator of the battery energy storage system. Information on the final system installer shall be submitted as part of Post-Construction Reporting.

9. NFPA 855 Compliance. Confirmation that the facility complies with the latest edition of NFPA 855 "Standard for the Installation of Stationary Energy Storage Systems."

10. Decommissioning Plan. A decommissioning plan is required at the time of application. The decommissioning plan shall include:

a. The anticipated life of the project.

b. The anticipated manner in which the project will be decommissioned, including a description of which above-grade and below-grade improvements will be removed, retained (e.g. access drive, fencing), or restored for viable reuse of the property consistent with the zoning district. Removal shall include removing equipment, foundations, and other items so that the ground is restored to its preconstruction state and is ready for development as another land use.

c. The projected decommissioning costs for the removal of the Battery Energy Storage Systems and soil stabilization. The Township may require one (1) or more third-party entities to develop decommissioning cost estimates. If this is required, the Township will select the most appropriate cost estimate.

d. The method of ensuring that funds will be available for site decommissioning and stabilization. The Township shall require the owner or operator (maintained by any successive owners/operators) to deposit a performance guarantee equal to 1.25 times the estimated decommissioning cost.

A review of the amount of the performance guarantee based on inflation, salvage value, and current removal costs shall be completed every five (5) years, for the life of the project, and approved by the Township Board. A Battery Energy Storage System owner may at any time:

(1) Proceed with the decommissioning plan approved by the Planning Commission and remove the system as indicated in the most recent approved plan; or

(2) Amend the decommissioning plan with Planning Commission approval and proceed according to the revised plan.

e. Prior to beginning decommissioning, a battery energy storage system owner/operator shall notify the Township of the date that decommissioning will begin.

11. Additional Studies. Additional studies may be required by the Planning Commission if reasonably related to the standards of this Ordinance as applied to the application site, including but not limited to:

a. Visual Impact Assessment. A technical analysis by a third-party qualified professional of the visual impacts of the proposed project, including a description of the project, the existing visual landscape, and important scenic resources, plus visual simulations that show what the project will look like (including proposed landscape and other screening measures) a description of potential project impacts, and mitigation measures that would help to reduce the visual impacts created by the project and documented on the site plan.

b. Environmental Analysis. An analysis by a third-party qualified professional to identify and assess any potential impacts on the natural environment including, but not limited to wetlands and other fragile ecosystems, wildlife, endangered and threatened species, historical and cultural sites, and antiquities. If

required, the analysis shall identify all appropriate measures to minimize, eliminate or mitigate adverse impacts identified and show those measures on the site plan, where applicable.

c. Groundwater Study. An analysis by a third-party qualified professional that takes into account the planned groundwater use of the Battery Energy Storage System and the impacts on local water resources.

N. Abandonment.

1. If a battery energy storage system owner or operator intends to abandon and, in fact, does abandon a battery energy storage system by not operating it for a continuous period of twelve (12) months, said battery energy storage system shall be considered abandoned, and the owner of such battery energy storage system shall remove the same within one hundred eighty (180) days of the receipt of a notice of abandonment by the Township. Failure to remove an abandoned battery energy storage system within the one hundred eighty (180) day period provided in this subsection shall be considered a violation of this Ordinance. The Planning Commission may grant an extension to this one hundred eighty (180) day period if it finds substantial justification for such an extension.

2. In addition to removing the battery energy storage system, the owner shall restore the site to its original condition prior to the location of the battery energy storage system, subject to reasonable wear and tear. Any foundation associated with a battery energy storage system shall be removed to a minimum depth of five (5) feet below the final grade and site vegetation shall be restored.

O. Post-Approval Documentation. Any Zoning Permit or Special Use Permit for any Off-Site BESS shall be conditioned upon the submission of the following documents:

1. Pre-Construction Documents. Prior to the commencement of construction activities, the following documents shall be prepared and/or updated in compliance with NFPA 855 and developed in consultation with the local fire department. These shall be submitted to the local fire department and the Zoning Administrator. Copies of all Pre-Construction Documents shall be maintained at an approved on-site location accessible to facility personnel, the local fire department, and emergency responders.

a. Final Equipment Specification Sheet. Documenting the final battery energy storage system components, inverters, and associated electrical equipment.

b. Contact Information. Name, address, and contact information of the system installer and the owner and/or operator of the battery energy storage system.

c. Amended Emergency Response Plan (ERP) (if applicable). Changes to the design, type, manufacturer, etc. of BESS facilities or equipment after site plan approval must be analyzed to determine if changes are necessary to the ERP or FRP. Additional consultation with local emergency services is required for amended plans.

d. Commissioning Plan. A Commissioning Plan as outlined in NFPA 855.

e. Hazard Mitigation Analysis (HMA). A Hazard Mitigation Analysis as outlined in NFPA 855.

2. **Post-Construction Reporting.** Prior to the commencement of commercial operations, the following documents shall be prepared and/or updated in compliance with NFPA 855 and developed in consultation with the local fire department. These shall be submitted to the local fire department and the Zoning Administrator prior to final inspection and approval by the fire inspector. Copies of all Post-Construction Reporting shall be

maintained at an approved on-site location accessible to facility personnel, the local fire department, and emergency responders.

- a. Amendments or updates to any Pre-Construction Documents.
- b. Commissioning Report. A Commissioning Report as outlined in NFPA 855.72.
- c. Emergency Operations Plan. An Emergency Operations Plan as outlined in NFPA 855.73.

3. Post-Construction Sound Survey. Documentation of sound pressure level measurements shall be provided to the Zoning Administrator by a third-party qualified professional selected by the Planning Commission and at the expense of the BESS system owner within six (6) months of the commencement of the operation of the project. The study will be designed to verify compliance with sound standards applicable to this ordinance.