SOLAR ENERGY SYSTEMS ORDINANCE

CITY OF LATHRUP VILLAGE ORDINANCE NO. [X]

AN ORDINANCE AMENDING THE ZONING CODE OF LATHRUP VILLAGE TO ALLOW FOR THE USE OF SOLAR PANELS AND BATTERY STORAGE SYSTEMS ON COMMERCIAL & RESIDENTIAL PROPERTIES AND REGULATING THE PROCESS FOR DECOMMISSIONING SOLAR PANELS & THEIR BATTERY SYSTEMS FOR SAFE, ENVIRONMENTALLY FRIENDLY METHODS.

Section [X]: The Use of Solar Energy Systems on Commercial Properties

WHEREAS, the City of Lathrup Village recognizes the importance of promoting sustainable energy practices, including the use of renewable energy sources such as solar panels and battery storage systems; and

WHEREAS, the City seeks to create an environment that fosters the installation of solar energy systems on commercial properties while ensuring safety, compatibility with existing structures, and consideration of aesthetics; and

WHEREAS, solar energy technology has advanced to provide affordable, efficient, and environmentally friendly alternatives for homeowners; and

WHEREAS, the City desires to regulate the installation of solar panels and battery storage systems to meet energy needs while maintaining the character of the community.

WHEREAS, the City desires to ensure that solar panels and battery storage systems are installed safely, are aesthetically compatible with existing structures, and adhere to established zoning and building code requirements.

NOW, THEREFORE, the City of Lathrup Village ordains:

Section 1. Amendment to Zoning Ordinance

A new section is hereby added to the Zoning Ordinance of the City of Lathrup Village to permit solar panels and battery storage systems on commercial and residential properties, whilst also ensuring that solar energy systems, including photovoltaic (PV) panels and energy storage batteries, are properly decommissioned at the end of their useful life. This section shall be titled "Solar Panels and Battery Storage Systems on Commercial & Residential Properties" and shall be read as follows:

Section 2. Definitions

For the purposes of this ordinance, the following definitions apply:

- **Solar Panel**: A device or system that captures solar energy and converts it into electricity, including photovoltaic panels installed on roofs, walls, or ground-mounted systems.
- **Battery Energy Storage System (BESS)**: One 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

- **On-Site BESS:** A Battery Energy Storage System (BESS) that is intended primarily to serve the electricity needs of the applicant property but may, at times, discharge into the electric grid.
- **Off-Site BESS:** A Battery Energy Storage System (BESS) for the primary purpose of off-site use through the electrical grid.
    - **Small Off-Site BESS:** An Off-Site Battery Energy Storage System (BESS) with a nameplate capacity of 20 MW or less.
    - **Medium Off-Site BESS:** An Off-Site Battery Energy Storage System (BESS) with a nameplate capacity greater than 20 MW and less than 50 MW. Off-Site BESS with a nameplate capacity of 50 MW or more but with an energy discharge capability of less than 200 MWh are also considered Medium Off-Site BESS.
    - **Large Off-Site BESS:** An Off-Site Battery Energy Storage System (BESS) with a nameplate capacity of 50 MW or more and an energy discharge capability of 200 MWh or more.
- **Solar Energy System (SES)**: A photovoltaic system or solar thermal system for generating and/or storing electricity or heat, including all above and below ground equipment or components required for the system to operate properly and to be secured to a roof surface or the ground. This includes any necessary operations and maintenance building(s), but does not include any temporary construction offices, substation(s) or other transmission facilities between the SES and the point of interconnection to the electric grid.
- **Solar Array**: A photovoltaic panel, solar thermal collector, or collection of panels or collectors in a solar energy system that collects solar radiation.
- **Commercial Property**: Property used for commercial purposes, including retail, office, industrial, and mixed-use zones.
- **Residential Property**: A property used for Residential Purposes, including homes, apartments and other dwellings as permitted by the Zoning Ordinance.
- **Roof-Mounted Solar Energy System**: A solar energy system mounted on a racking that is attached to or ballasted on the roof of a building or structure.

- **Wall-Mounted Solar Energy System:** A solar energy system mounted or attached to the wall of a building or structure.
- **Principal-Use Solar Energy System**: A commercial solar energy system that converts sunlight into electricity for the primary purpose of off-site use through the electrical grid or export to the wholesale market
    - **Small Principal-Use SES**: A Principal-Use Solar Energy System with a nameplate capacity less than 5 MW AC.
    - **Medium Principal-Use Solar Energy System**: A Principal-Use Solar Energy System with a nameplate capacity 5 MW AC and greater but less than 50 MW AC.
    - **Large Principal-Use Solar Energy System**: A Principal-Use Solar Energy System with a nameplate capacity of 50 MW AC and more, any portion of which is on property regulated by this zoning ordinance.
- **Non-Participating Lot(s)**: One or more lots for which there is not a signed lease or easement for development of a principal-use SES associated with the applicant project.
- **Participating Lot(s)**: One or more lots under a signed lease or easement for development of a principal-use SES associated with the applicant project.
- **Accessory Ground-Mounted Solar Energy System**: A ground-mounted solar energy system with the purpose primarily of generating electricity for the principal use on the site.
- **Building-Integrated Solar Energy System**: A solar energy system that is an integral part of a principal or accessory building or structure (rather than a separate mechanical device), replacing or substituting for 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.
- **Photovoltaic (PV) System**: A semiconductor material that generates electricity from sunlight.
- **Solar Carport**: A solar energy system of any size that is installed on a structure that is accessory to a parking area, and which may include electric vehicle supply equipment or energy storage facilities. Solar panels affixed on the roof of an existing carport structure are considered a Roof-Mounted SES.
- **Maximum Tilt**: The maximum angle of a solar array (i.e., most vertical position) for capturing solar radiation as compared to the horizon line.

- **Minimum Tilt**: The minimal angle of a solar array (i.e., most horizontal position) for capturing solar radiation as compared to the horizon line.
- **Decommissioning**: The process of removing and disposing of the solar energy system and associated components, including panels and batteries, at the end of their operational life or when the system is no longer in use.
- **Repowering**: the process of upgrading or replacing components of an existing SES to restore or enhance its capacity, performance, or efficiency. This may include, but is not limited to, the replacement of solar panels, inverters, mounting systems, or other associated equipment.

Section 3: Permitted Uses

Solar panels and battery storage systems are permitted in all zoning districts of Lathrup Village, subject to the following conditions:

Chapter 1: Roof-Mounted Solar Panels:

Commercial-Use Roof-Mounted Solar panels may be installed on the roof of a commercial structure, provided the panels do not extend more than 24 inches beyond the plane of the roof surface and comply with building code height limitations.

Residential-Use Roof-Mounted Solar Panels may be installed on the roof of a residential structure, provided the panels do not extend more than 12 inches beyond the plane of the roof surface and do not exceed the height of the existing structure.

- **Nonconformities**:
  - A Roof-Mounted SES installed on a nonconforming building, structure, or use does not constitute an expansion of the nonconformity.
  - A Wall-Mounted SES installed on a nonconforming building, structure, or use shall not be considered an expansion of the nonconformity.
  - Building-Integrated SES are subject only to zoning regulations applicable to the structure or building and not subject to Roof-Mounted, Wall-Mounted, or Accessory Ground-Mounted SES permits.

Chapter 2: Ground-Mounted Solar Panels

A. Applicability

- *Accessory Ground-Mounted SES – Commercial Use:* Accessory ground-mounted solar panels are not permitted due to the limited space in commercial business districts.

- *Accessory Ground-Mounted SES – Residential Use:* Permitted in accordance with the standards listed below.
- *Principal-Use Ground-Mounted SES – All Districts:* May be permitted in cleared or available space without a variance if the applicant provides a full site plan, construction plan with material list, decommissioning plan, maintenance plan, and signed agreements from all benefiting properties. Such proposals are subject to administrative and/or Planning Commission review and approval.

B. Screening / Landscaping

- *All Accessory Ground-Mounted SES:* Must be screened from public view when visible from the public right-of-way or adjacent residential properties. Screening must consist of non-deciduous landscaping or opaque fencing at least 6 feet in height.

C. Setbacks

- *Residential Accessory Ground-Mounted SES:* Minimum setback of 10 feet from any property line.
- *Commercial Accessory Ground-Mounted SES:* Minimum setback of 10 feet from any property line.

D. Height

- *Residential Accessory Ground-Mounted SES:* Shall not exceed 15 feet above grade, including framing, and shall not be lower than 2 feet above ground level.
- *Commercial Accessory Ground-Mounted SES:* Shall not exceed 10 feet above grade, including framing.

E. Lot Coverage

- *Commercial Accessory Ground-Mounted SES:* The solar array area shall not exceed 35% of the square footage of the primary building, unless located over required parking (i.e., a solar carport), in which case there is no maximum lot coverage. These systems shall not count toward the maximum number or square footage of accessory structures or maximum impervious surface limits if the ground beneath remains pervious.
- *Residential Accessory Ground-Mounted SES:* The solar array area shall not exceed 50% of the square footage of the primary building, unless located over required parking (i.e., a solar carport), in which case there is no maximum lot coverage. These systems shall not count toward the maximum number or square footage of accessory structures or maximum impervious surface limits if the ground beneath remains pervious.

F. Visibility

- *Residential Accessory Ground-Mounted SES:* Must be located in the side or rear yard to minimize visibility from public right-of-way(s). Front yard placement may be allowed by administrative approval if the applicant demonstrates that:

    1. Rear or side yard placement decreases efficiency due to topography, structures, or shading;
    2. Rear or side yard placement interferes with accessory structures or septic systems; or
    3. Rear or side yard placement requires sitting on the waterfront side of the property (if applicable).

G. Exemptions

- *All Accessory Ground-Mounted SES:* Any system used solely to power a single small device or feature, such as a lawn ornament, light, weather station, thermometer, clock, or well pump, is exempt from the requirements in this section.

Chapter 3: Rooftop Solar Energy Systems

A. Applicability

- Rooftop Solar Energy Systems (RSES) are permitted as accessory uses in all zoning districts, provided they meet the standards outlined below.

B. Design Standards

- *Residential Accessory RSES:* Panels shall be mounted parallel to the roof surface and not project more than 12 inches above the roof plane. Systems must not extend beyond the edge of the roof or exceed the building height limit defined in the zoning district.
- *Commercial Accessory RSES:* Panels may be mounted at an angle on flat roofs but must be screened from public view with parapet walls or similar architectural features, where feasible. The system may not exceed 10 feet in height above the roof deck.

C. Aesthetic Integration

- Panels and mounting hardware shall be of a color that minimizes contrast with the underlying roof material (e.g., black or dark tones) when visible from the public right-of-way.
- Conduit, wiring, and other visible system components shall be painted to match the surface to which they are affixed. Alternatively, any method used to hide such components within the structure that ensures they are not visible are acceptable, so long as they are in line with NFPA and Michigan Building Code Standards.

D. Visibility

- For residential structures, rooftop solar systems are encouraged to be located on rear- or side-facing roof planes to minimize visual impact from the street. Placement on front-facing roofs may be permitted when rear or side installation is impractical due to efficiency loss, structural constraints, or shading.

E. Historic or Design Review Districts

- Rooftop Solar Energy Systems located within designated historic or design review districts are subject to the provisions outlined in Chapter 7 of this ordinance.

F. Structural Requirements

- All rooftop installations must comply with the Michigan Building Code and local structural load requirements. Roofs must be capable of supporting the weight and wind loads of the proposed system. A structural certification may be required at the discretion of the Building Official.

G. Fire Access and Emergency Provisions

- All RSES installations must comply with applicable fire access and emergency clearance requirements as detailed in Chapter 4.

Chapter 4: Building-Integrated and Other Solar Energy Systems

A. Applicability

- Building-integrated solar energy systems (BISES), including but not limited to systems incorporated into walls, windows, skylights, façades, canopies, awnings, or other structural elements, are permitted as accessory uses in all zoning districts.

B. Design Integration

- BISES shall be architecturally integrated into the structure on which they are installed. Materials, color, and design should minimize visual contrast with the host building and surrounding structures.
- The system shall not appear as an unrelated or add-on component and should retain the visual character of the primary structure.

C. Location & Use

- Building-integrated systems may be used on any façade or surface of a principal or accessory building, subject to visibility standards for historic and design review districts (see Chapter 7).

- Systems may project up to 24 inches from the surface of the building, provided the projection does not encroach upon a required setback or public right-of-way.

D. Height and Dimensional Standards

- BISES must comply with all height and bulk regulations of the zoning district, except as otherwise permitted for minor architectural projections.
- For freestanding structures (e.g., solar awnings or pergolas not attached to a principal building), setback, lot coverage, and accessory structure standards shall apply unless specifically exempted under this ordinance.

E. Permitting and Review

- All BISES installations require a building permit and must comply with the Michigan Building Code, National Electrical Code, and applicable local construction and safety standards.
- The Building Official may require architectural drawings or product specifications to verify integration and code compliance.

F. Historic or Design Review Districts

- BISES in designated historic or design review districts are subject to additional review and approval as detailed in Chapter 7.

Chapter 5: Battery Energy Storage Systems (BESS)

A. Applicability

- This section applies exclusively to Battery Energy Storage Systems (BESS), installed on-site as accessory components of a permitted Solar Energy System.
- If no BESS is proposed, the standards in this section do not apply.

B. Residential BESS Standards

- BESS must be located in a detached shed that is:
    - Not visible from the public right-of-way,
    - Set back at least 10 feet from all property lines,
    - Properly enclosed and ventilated for safety.
- If installation in a detached shed is infeasible due to site constraints, the BESS may be installed within an attached garage, provided it:
    - Is mounted on an exterior wall,

    - Includes appropriate air filtration and ventilation systems,
    - Is reviewed and approved by the Building Official for safety compliance.
- BESS are **prohibited** from being located in basements, crawl spaces, or below-grade structures due to safety and environmental concerns.
    - While International Residential Code R302.6 does permit On-Site BESS to be in basements, it is only with proper building requirements. Local Fire Officials believe that current construction on residential properties do not have the necessary construction materials to meet this standard, and thus we prohibit On-Site BESS from being in the basements.
- Outdoor BESS may be permitted if:
    - Located at least 10 feet from any property line,
    - Properly screened from public view with landscaping or fencing,
    - Clearly marked as containing electrical equipment,
    - Compliant with applicable setback and fire safety codes.

C. Commercial BESS Standards

- BESS may be installed within a principal building or accessory structure, or outdoors if:
    - The system is enclosed in a ventilated, secure cabinet,
    - Located at least 10 feet from any property line,
    - Properly screened and labeled for safety,
    - Reviewed for code compliance by the Building Official.

D. Safety Standards

- All BESS installations must comply with:
    - The Michigan Building Code,
    - The National Electrical Code (NEC),
    - National Fire Protection Association (NFPA) standards,
    - Any additional requirements adopted by the City.
- Systems must include:
    - Emergency shutoff capability,
    - Manufacturer specifications for ventilation and thermal management,

- Secure housing to prevent tampering or unauthorized access.

E. Screening and Visibility

- BESS must not be visible from public right-of-way where feasible.
- Screening with non-deciduous landscaping or opaque fencing is required for all outdoor systems.

F. Permits and Inspection

- All BESS installations require a building and electrical permit.
- Regular maintenance and inspection must be performed per manufacturer guidance.
- Proof of BESS inspection and/or maintenance shall be submitted to the City every one to two years to confirm safe operation and environmental compliance.

Section 4: Safety and Structural Standards

A. Applicability

- This section applies to all solar energy systems (SES) and Battery Energy Storage Systems (BESS) permitted under this ordinance, including ground-mounted, rooftop, and building-integrated systems in all zoning districts.

Chapter 1: Structural Integrity and Installation

A. Applicability

- This chapter applies to all solar energy systems (SES), including rooftop, ground-mounted, and building-integrated systems, as well as any supporting structures required for Battery Energy Storage Systems (BESS).

B. Compliance with Building Codes

- All SES installations must comply with the Michigan Building Code, including:
  - Structural load requirements (wind, snow, seismic),
  - Anchorage and uplift resistance,
  - Frost protection and foundation standards for ground-mounted systems.
- Rooftop solar systems shall not compromise the structural integrity of the roof and may require certification by a licensed structural engineer, as determined by the Building Official.

- Ground-mounted systems must be designed and installed to withstand site-specific soil conditions, prevent erosion, and maintain foundation stability throughout seasonal changes.

C. Engineering and Design Standards

- All components (racking, panels, fasteners, etc.) shall be designed and installed according to the manufacturer's specifications and applicable engineering standards.
- Systems must be reviewed for:
    - Weight distribution and load path (especially for retrofit rooftop systems),
    - Potential for uplift or shear under wind loading,
    - Long-term durability under freeze-thaw and moisture exposure.
- Additional documentation may be required for systems with atypical designs or in areas with known geotechnical constraints (e.g., high water table, slope instability).

D. Approval and Inspection

- Building permits are required for all SES installations, including structural review when applicable.
- The City may require submission of:
    - Structural drawings stamped by a licensed design professional,
    - Load calculations for rooftop systems,
    - Foundation design for large ground-mounted arrays.
- Final approval shall be contingent upon inspection and verification that the system was installed according to permitted plans and applicable codes.

Chapter 2: Fire Access and Emergency Clearance

A. Applicability

- This chapter applies to all rooftop, ground-mounted, and battery-integrated solar energy systems (SES) installed in the City of Lathrup Village.

B. Rooftop Systems – Access & Pathways

- All rooftop solar energy systems shall be installed in compliance with NFPA 1, IFC, and the Michigan Residential Code, which require:
    - Minimum clearances around roof edges and ridgelines (typically 36 inches on either side of a ridge for pitched roofs),

- Pathways for firefighter movement (minimum 36-inch-wide unobstructed walking paths),
- No panels installed over roof vents, skylights, or access hatches,
- A minimum 18-inch setback on either side of a roof ridge for residential buildings, unless otherwise permitted by the Fire Marshal.

- Systems installed on townhouses, multifamily buildings, or commercial structures may require alternate layout reviews by the Fire Department for compliance with more stringent codes.

C. Ground-Mounted Systems – Emergency Access

- Ground-mounted systems must be sited so as not to obstruct:
  - Emergency vehicle routes,
  - Driveways or service access areas,
  - Fire hydrants or utility shutoffs.
- Systems located near emergency infrastructure may be required to submit a site-specific fire access plan showing unobstructed access zones, particularly in commercial or multifamily applications.

D. Battery Energy Storage Systems (BESS)

- BESS installations must:
  - Include a clearly visible emergency disconnect or shutoff switch,
  - Be labeled with hazard warnings and emergency contact information,
  - Maintain clear access around all sides for inspection and emergency personnel, with minimum 3-foot clearance unless otherwise approved.
- Indoor BESS (e.g., garage-mounted) must include:
  - Fire-rated enclosures (if required by product listing or code),
  - Adequate ventilation or filtration as determined by manufacturer specifications and the Building Official.

E. Emergency Signage and Marking

- All SES and BESS installations must be labeled at main service entrances and disconnects with durable placards stating:
  - Presence of solar and/or battery systems,

- System voltage and shutoff locations,
- Name and emergency contact of the installer or system owner.

- Placards shall be weather-resistant, at least 6 inches by 6 inches, and located in accordance with NFPA 70 and NEC Article 690 requirements.

Chapter 3: Electrical Standards and Code Compliance

A. Applicability

- This chapter applies to the electrical components of all solar energy systems (SES) and Battery Energy Storage Systems (BESS) installed within the City of Lathrup Village, including rooftop, ground-mounted, and building-integrated systems.

B. National Electrical Code Compliance

- All electrical work associated with SES and BESS must comply with the most recent edition of the National Electrical Code (NEC), including but not limited to:
  - Article 690 (Photovoltaic Systems),
  - Article 706 (Energy Storage Systems),
  - Article 705 (Interconnected Power Production Sources).
- Electrical permits must be obtained prior to installation, and all work shall be inspected by a licensed City or State electrical inspector.

C. Equipment Standards and Listings

- All electrical components (inverters, disconnects, charge controllers, combiner boxes, batteries, etc.) shall be UL-listed or listed by a nationally recognized testing laboratory (NRTL).
- Wiring, conduits, junction boxes, and cable trays must be:
  - Weather-rated for exterior installations (where applicable),
  - Properly grounded and bonded,
  - Protected from physical damage and sunlight exposure.

D. Disconnect and Overcurrent Protection

- All SES installations must include a readily accessible AC and DC disconnect switch, clearly labeled and installed per NEC standards.
- Overcurrent protection (fuses or breakers) must be sized according to system design and NEC requirements.

- For grid-tied systems, the point of interconnection must be identified on the electrical service panel, with any line-side taps requiring documentation.

E. Conduit and Wiring Appearance

- Conduit and electrical raceways shall be:
    - Mounted neatly and as inconspicuously as possible,
    - Painted to match the surface to which they are affixed (on visible surfaces),
    - Secured at regular intervals and protected from corrosion.

F. System Labeling and Diagrams

- Placards and permanent labels must be installed at:
    - The main electrical panel,
    - All disconnect switches,
    - The inverter or combiner box,
    - Battery enclosures (if applicable).
- A one-line diagram of the full system must be submitted as part of the electrical permit and must be posted at the main disconnect for systems with BESS.

Section 5: Decommissioning, Abandonment, and Removal

Applicability

This section applies to all Solar Energy Systems (SES), including ground-mounted, rooftop, building-integrated systems, and any Battery Energy Storage Systems (BESS) installed as part of the SES. The provisions herein apply to both residential and commercial properties, with additional requirements for principal-use systems as applicable.

Chapter 1: Triggers for Decommissioning

A. Applicability

This chapter applies to all solar energy systems (SES) and associated Battery Energy Storage Systems (BESS), including rooftop, ground-mounted, building-integrated, residential, and commercial installations.

B. Required Decommissioning

Decommissioning and removal of the SES and any associated BESS shall be required under any of the following conditions:

1. **Abandonment of Use**
    - The system fails to produce energy or demonstrate regular use for a continuous period of 12 consecutive months, unless the property owner provides documentation of an ongoing maintenance or repair plan approved by the City.
2. **Damage or Structural Failure**
    - The system is damaged and declared inoperable or unsafe by the City's Building Official, Fire Marshal, or another authorized authority having jurisdiction.
3. **Zoning or Site Use Change**
    - The property undergoes a change in zoning, use, or ownership that renders the system noncompliant with applicable regulations, and no variance or special land use approval is granted.
4. **Ongoing Noncompliance**
    - The system is in violation of this ordinance or other applicable codes, and the owner fails to take corrective action within the timeframe prescribed by the City following official notice.

Chapter 2: Decommissioning Plan Requirements

A. Applicability

This chapter applies to all Principal-Use SES and large-scale Commercial Accessory SES installations. It does not apply to typical residential rooftop or ground-mounted systems unless otherwise required by the City.

B. Required Submittals

A **Decommissioning Plan** shall be submitted as part of the site plan review and must include the following:

1. **Component Removal Plan**
    - Description of how all SES and BESS components will be dismantled and removed, including panels, mounting hardware, foundations, underground wiring, fencing, and battery systems.
2. **Site Restoration Plan**
    - Steps for restoring the site to its pre-installation condition, including:

- Removal of concrete or gravel pads unless repurposed,
- Grading and backfilling where needed,
- Topsoil replacement and revegetation with native or approved ground cover.

3. **Responsible Party**
    - Name and contact information of the party responsible for carrying out the decommissioning.
4. **Cost Estimate and Financial Assurance** *(if required)*
    - An itemized estimate of the cost to decommission and restore the site, prepared by a qualified contractor or engineer.
    - The City reserves the right to require financial security (e.g., bond, escrow) to ensure availability of funds for decommissioning.

Chapter 3: Removal and Restoration Standards

A. Applicability

This chapter applies to all SES and BESS installations that are decommissioned, regardless of size, zoning district, or use classification.

B. Removal Requirements

Upon decommissioning, the following components shall be fully removed from the site unless otherwise approved by the City:

1. **Above-Ground Equipment**
    - Solar panels, racking, support structures, fencing, inverters, batteries, and accessory electrical components.
2. **Below-Ground Infrastructure**
    - Foundations, mounting poles, and underground conduit or wiring must be removed to a depth of at least three feet below grade, unless the City permits otherwise due to safety, environmental, or reuse considerations.
3. **Utility Connections**
    - All utility connections shall be disconnected and removed in accordance with utility company and electrical code requirements.

C. Site Restoration

After component removal, the following restoration steps must be completed:

1. **Grading and Drainage**
    - Ground must be regraded to blend with surrounding terrain and prevent erosion.
2. **Soil Stabilization**
    - Any disturbed topsoil must be replaced and stabilized.
3. **Revegetation**
    - Site must be revegetated with grass, native plantings, or other ground cover acceptable to the City.

D. Exceptions and Reuse

- Property owners may request to retain specific system elements (e.g., concrete pads, fencing) if they are to be repurposed in a manner consistent with the Zoning Ordinance and approved in writing by the City.

Chapter 4: Timelines and Enforcement

A. Decommissioning Timeline

- Decommissioning must begin within 90 days of the trigger event defined in Chapter 1 (e.g., system abandonment, structural failure, zoning change).
- Decommissioning must be completed within 180 days, including:
    - Full removal of equipment,
    - Restoration of the site,
    - Final inspection and approval by the City.
- The City may grant a one-time extension (not to exceed 90 additional days) upon written request showing good cause.

B. Property Owner Responsibility

- The property owner is solely responsible for:
    - All costs associated with decommissioning and site restoration,
    - Compliance with all applicable permit and safety regulations,
    - Coordinating with utility providers for disconnection and equipment removal.

C. Enforcement and Penalties

- If decommissioning is not completed within the prescribed timeline, the City may:

- Issue a Notice of Violation requiring compliance within a specified period,
- Perform removal and restoration itself and recover costs from the owner via lien or special assessment,
- Issue municipal civil infractions for continued noncompliance or documented environmental damage, in accordance with City Code.

Section 6: Repowering of Solar Energy Systems

A. Applicability

This section applies to the repair, upgrade, or replacement of any component of a previously approved Solar Energy System (SES), including panels, inverters, racking systems, or Battery Energy Storage Systems (BESS), whether residential, commercial, or principal-use.

B. Definition of Repowering

For the purposes of this ordinance, "repowering" shall mean the partial or complete upgrade, replacement, or rebuilding of an existing SES or BESS using newer or higher-efficiency technology, where the system's fundamental purpose (on-site generation and/or storage) remains the same.

C. Permitting Requirements

- Repowering activities that involve changes to the physical footprint, system height, location, or visual impact (e.g., panel relocation, racking changes) shall require submission of updated site plans and a zoning review.
- If repowering includes only internal component swaps (e.g., inverter replacement, panel-for-panel upgrades of the same size and placement), a building and/or electrical permit may be required, but zoning approval is not unless specified by the Building Official.
- In all cases, repowered systems must comply with the current Michigan Building Code, NEC, and NFPA safety standards.

D. Decommissioning Timeline Reset

- A repowered system is considered "active" and shall reset any decommissioning or abandonment timelines outlined in Section 5, provided it resumes operation within 60 days of completion.

Section 7: Historic and Design Review Districts

A. Applicability

This section applies to all Solar Energy Systems (SES) and Battery Energy Storage Systems (BESS) proposed on properties located within a designated Historic District or Design Review Overlay District as defined by City ordinance.

B. Review Authority and Process

- Any SES or BESS installation within a historic or design review district shall be subject to review and approval by the Historic District Commission (HDC) or Design Review Board, as applicable.
- Applicants must submit:
    - A site plan or roof layout showing proposed system placement,
    - System specifications (color, mounting style, panel finish),
    - Photographic documentation of the existing conditions,
    - A visibility analysis, where requested.
- The Commission or Board shall review applications for conformance with:
    - The City's Historic District ordinance,
    - Design guidelines or overlay standards,
    - The Secretary of the Interior's Standards for Rehabilitation, where applicable.

C. Design Compatibility Standards

- Systems should be installed in locations that minimize visibility from the public right-of-way whenever feasible.
- Preferred placement includes:
    - Rear-facing roof planes,
    - Detached accessory structures (e.g., garages or sheds),
    - Ground-mounted systems in rear yards with appropriate screening.
- Where front-facing or highly visible installations are proposed due to site constraints, systems must:
    - Be integrated into the building form or roofline,
    - Use low-profile panels with matte or non-reflective finishes,
    - Match or complement existing materials and colors.

D. Exceptions and Appeals

- If strict application of these standards would prevent effective use of solar energy, the Commission or Board may approve alternative placement or design with documented justification.
- Applicants may appeal a denial in accordance with the City's established procedures for the Historic District Commission or Design Review Board.

Section 8: Administrative Procedures

A. Applicability

This section outlines the procedures for the review, approval, and enforcement of all Solar Energy Systems (SES) and Battery Energy Storage Systems (BESS) regulated under this ordinance.

B. Permit Application Requirements

- All proposed SES or BESS installations shall require the submittal of a permit application to the City’s Building Department or Planning Department, as applicable.
- The application shall include:
    - A completed application form,
    - Site plan or roof layout showing location and dimensions of SES/BESS,
    - Structural details and mounting method,
    - Electrical system plan including inverter, disconnects, and interconnection points,
    - Product specifications for panels, batteries, and inverters,
    - For ground-mounted systems: screening/landscaping plan and setback distances,
    - For historic/design districts: materials required in Section 7.
- If required by this ordinance, the applicant shall also submit a:
    - Decommissioning Plan,
    - Maintenance plan (for commercial systems or BESS),
    - Structural certification (for retrofit rooftop systems).

C. Review and Approval Process

- Permit applications will be reviewed by the Zoning Administrator, Building Official, and other relevant City staff to ensure compliance with this ordinance and all applicable building and safety codes.
- Applications may be referred to the Planning Commission, Historic District Commission, or Design Review Board for additional review where applicable.
- Permits shall be issued upon confirmation that the application meets all relevant standards, and all fees have been paid.
- Work must begin within 180 days of permit issuance and be completed within the time period specified in the permit or as required by the applicable code.

D. Modifications, Appeals, and Variances

- Any modification to an approved SES or BESS (e.g., system expansion, relocation) shall require updated plans and review by the appropriate City departments.
- Applicants may request administrative relief or minor adjustments (e.g., alternate screening, panel placement) where strict compliance would cause undue hardship or significantly reduce system performance. Requests must include justification and may be approved at staff discretion or referred to the Planning Commission.
- Appeals of permit denials or interpretation of this ordinance shall follow the City's standard appeal procedures, including those available under the Zoning Ordinance or to the Zoning Board of Appeals (ZBA), if applicable.

Section 9. Severability

If any section, sentence, clause, or phrase of this ordinance is held to be invalid by a court of competent jurisdiction, such invalidity shall not affect the validity of the remaining sections.

Section 10. Effective Date

This ordinance shall take effect on [Effective Date], following its adoption and publication as required by law.