Chapter 4 SITE DEVELOPMENT STANDARDS

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10-4-1 GENERAL REQUIREMENTS

(A) Number of Structures on a Lot

In the R-1, R-2, R-3 and R-4 Residential Districts there must be no more than one principal building per lot. ln all other districts, more than one principal building is permitted on a lot, provided that each complies with all lot area, height, and placement requirements of a district as though it were a principal building on an individual lot.

(B) All Activities within an Enclosed Structure

Within all districts, all activities must be conducted entirely within an enclosed structure, with the exception of the following activities and uses:

1. Parking lots.

2. Businesses with a permitted outdoor component, including, but not limited to, outdoor recreation, outdoor storage yards, contractor storage yards, outdoor dining, car washes, kennels, animal care facilities, and similar businesses. However, these businesses may be limited or the outdoor components prohibited as a condition of a special use, when special use approval is applicable.

3. Permitted outdoor storage, outdoor sales, and display areas.

4. Permitted outdoor temporary uses.

(C) Frontage on a Public or Private Street

All lots must front on a public or private street. Frontage on an alley or limited access highway (e.g., interstate highway) does not satisfy this requirement.

(D) Required Setbacks

No lot may be reduced in area so that the setbacks are less than required by this Ordinance. The required setbacks for a lot cannot be considered a setback for any other lot. No principal building or accessory structure may be located in a required setback unless permitted by this Ordinance

(E) Applicability of Lot Area, Height, and Placement Standards

All structures lawfully erected after the effective date of this Ordinance must meet the lot and building requirements of the zoning district in which the structure is located. No existing structure may be enlarged, altered, reconstructed, or relocated in such a manner that conflicts with the requirements of the district in which the structure is located.

(F) Sight Visibility Triangle

Except for the exempt structures indicated in Items i and ii of this provision, nothing shall be constructed, erected, placed, planted, or allowed to grow in such a manner as to materially impede vision within a sight visibility triangle.

i. Lawfully existing buildings as of the date of adoption of this Ordinance provision shall be exempt.
ii. Authorized public traffic control signs, signals, or devices shall be exempt.

10-4-2 ACCESSORY STRUCTURES AND USES

All accessory structures and uses are subject to the requirements of this section and to all applicable standards of this Ordinance.

(A) General Regulations for Accessory Structures

1. No accessory structure may be constructed on a zoning lot prior to construction of the principal building to which it is accessory, and no accessory building shall be used unless the main building on the lot is also being used. This does not preclude the use of a temporary construction shed for the storage of tools, material, and equipment by a contractor during building construction.

2. Accessory buildings may not be used as dwelling units or for sleeping purposes.

3. As indicated in Section 10-10-1 of this Ordinance, a zoning permit is required for the construction of an accessory structure, unless specifically exempted by this

Ordinance.

4. On a through lot, no detached accessory structure, with the exception of a fence or wall constructed in accordance with this section, is permitted within the required rear yard. In the case where through lots are all facing the same way along a block face, encroachment into the rear setback is permitted, so long as it does not exceed two-thirds of the rear setback depth.

10-4-3 AMATEUR HAM RADIO EQUIPMENT

(A) Towers that solely support amateur HAM radio equipment and conform to all applicable performance criteria as set forth in Section 10-4-15 Environmental Performance Standards are permitted only in the rear yard, and must be located a minimum of 10 feet from any lot line. Towers are limited to the maximum building height of the applicable district plus an additional 10 feet.

(B) Antennas may be ground- or building-mounted and are limited to the maximum building height of the applicable district plus an additional 10 feet.

(C) An antenna or tower that is proposed to exceed the height limitation requires a special use approval. The operator must provide evidence that a taller tower and/or antenna is necessary to engage successfully in amateur radio communications.

(D) Radio antennas and/or towers owned and operated by the Village are exempt from these requirements and other requirements of this Ordinance.

10-4-4 DONATION BOXES/DROP BOXES

(A) Donation boxes/drop boxes are permitted for nonresidential uses only.

(B) Only one donation box/drop box is permitted per lot.

(C) The donation box/drop box must be accessory to and owned by the principal use on the site. However, donation boxes/drop boxes that are not accessory to the principal use on the site shall be allowed on Village owned property with the permission of the Village.

(D) Donation boxes/drop boxes may only be located within a side yard setback or within a rear yard setback and a minimum of 10 feet from any lot line. No donation box/drop box may be located within a parking space. No donation box/drop box may interfere with vehicle circulation on the site.

(E) The area surrounding the donation box/drop box must be kept clean and free of any junk, debris or other material.

(F) Donation boxes/drop boxes must be maintained in good condition with no structural damage, holes, or visible rust, and free of graffiti.

(G) Donation boxes/drop boxes must be locked or otherwise secured.

(H) Donation boxes/drop boxes must provide the following contact information on the front of each donation box: name, address, email, and phone number of the operator.

(I) Donation boxes/drop boxes are limited to six feet in height and 60 cubic feet in size.

10-4-5 FENCE OR WALL

(A) A fence or wall is exempt only from the requirement that a zoning permit be obtained prior to construction. However, a special use permit shall be required to allow the construction of a fence or wall with sharp material as indicated in Paragraph (F) of this section.

(B) Fences or walls may be erected along property lines but shall not encroach within six inches of existing public sidewalks or public rights of way.

(C) Fences or walls built on or within a public easement may be removed by the village or at the direction of the village at the owner's expense in the event repairs, maintenance, replacements or improvements are deemed necessary by the village in such easements.

(D) Fences or walls shall not obstruct any watercourse.

(E) Fence or wall height shall be measured from the ground at a point directly beneath the fence or wall. Where the ground at a point directly beneath the fence or wall has been increased in elevation from its original elevation at the time of subdivision development through berming, retaining walls, fill or other measures and where such increased ground elevation has resulted in an increase in ground elevation above an adjoining lot, the height of the fence shall be measured from the original ground elevation before installation of berming, retaining walls, fill or other measures as determined by the Zoning Administrator. The Zoning Administrator shall consult U.S. geological survey contour maps, village base map contours, recorded subdivision plat information and other available information in making such a determination.

(E) Construction of a Fence or Wall

1. In the Rear Yard or Side Yard of an Interior Lot
Except as provided in this Ordinance, no person shall place, install, construct or maintain any fence or wall on a lot or area to a height greater than six feet of solid construction and two additional feet of open construction, above the original grade, between the rear lot line and the front of the principal building or any projections thereof other than projections of uncovered steps, uncovered

balconies, terraces or uncovered porches. The term "open construction" as used herein shall mean that the fence or wall is less than 50 percent solid construction when viewed at right angle to the fence or wall.

2. In the Front Yard of an Interior Lot

a. Chain-link fencing shall not be allowed in front yards.

b. Fences or walls of not more than four feet and not more than 50 percent solid construction may be erected between the within the front yard setback.

c. Fences or walls in the front yard shall not be located within the driveway visibility area defined as a triangular area consisting of two legs measured as follows: along both sides of the driveway inward from the front property line a distance of 15 feet from the intersection of the front property line and the driveway; and along the right of way measured in the direction away from the driveway a distance of 15 feet. The third leg of such triangle shall be the connection of such two previously described lines. The driveway visibility area shall be kept clear of fences or walls on properties adjacent to the lot on which the driveway is located for that part of the adjacent property on which the driveway visibility area applies.

3. On a Corner Lot

a. On a corner lot, fences or walls in the front yard and side yard adjacent to the side street, shall be as provided in Subsection 2 of this section.

b. Fences or walls in the rear yard and side yard that are not adjacent to a street shall be as provided in Subsection 1 of this section.

c. No fence or wall shall be installed or maintained within the sight visibility triangle at street intersections.

(F) Construction with Sharp Material

1. Barbed Wire
It shall be unlawful for any person to erect or maintain a fence or wall equipped with barbed wired, razor wire or any similar or other sharp or sharp pointed material. However, this section shall not prohibit the use of such material provided that:

i. a special use permit is applied for the subject fence or wall;
ii. the subject fence or wall is located in the commercial or industrial zoning districts, or for government use;
iii. the subject fence or wall used to provide security for a bona fide business operation;

iv. provided no more than two feet of such barbed wire or other such similar device is securely affixed to the top of and above a soundly constructed fence or structural barrier that is at least eight feet in height; and

v. the special use permit is reviewed by the PZC and approved by the Village Board, after review of the documentation indicating the need for security and bona fide operation of a business;

2. Electric Fence
No person shall erect or maintain anywhere in the Village an electrically charged fence or wall.

(G) Pre-existing Nonconforming Fences

Any fence or wall lawfully existing on August 26, 1998 not in compliance with this chapter may continue to lawfully exist, and normal repairs to such fences or walls shall be permissible where such repairs do not constitute a total fence or wall replacement.

10-4-6 HOME OCCUPATION

(A) The home occupation must be conducted by a member or members of the family or individuals permanently residing on the premises.

(B) No more than one person shall be employed in the home occupation, other than an occupant or occupants of the premises.

(C) Signs, displays, or activities that indicate from the exterior that the structure is being used, in part, for any purpose other than that of a residence are prohibited. However, one non-illuminated identification sign on the wall of the structure not exceeding two square feet in area shall be permitted.

(D) The home occupation and all related activity, including storage, must be conducted completely within the dwelling unit or permitted accessory structure.

(E) No commodities shall be sold or services rendered that require receipt or delivery of merchandise, goods, or equipment other than by a passenger motor vehicle or by parcel or letter carrier mail services using vehicles typically employed in residential deliveries.

(G) Alterations to the residence or permitted accessory structures that would alter the residential character of the dwelling shall be prohibited.

(H) The home occupation and any related activity must not create any traffic hazards or nuisances in public rights-of-way. All vehicle parking generated by such operations must be located on the lot of the home occupation.

(I) The home occupation shall not exceed the limitations imposed by the provisions of all

applicable building, fire, health, safety, and housing codes and shall conform with all applicable requirements for business and occupational licensing.

(J) There must be no perceptible noise, odor, smoke, electrical interference, vibration, or other nuisance emanating from the structure where the home occupation is located in excess of that normally associated with residential use.

(K) Repair and service of vehicles or industrial machinery shall be prohibited as a home occupation.

(L) Commercial breeding shall be prohibited as a home occupation.

10-4-7 LARGE SATELLITE DISH ANTENNAS

(A) Definitions

Large Satellite Dish: That part of a satellite signal-receiving antenna characteristically shaped like a saucer or dish that is over 3.28 meters or six feet in diameter.

Dish Type Satellite Signal Receiving Antennas, Earth Stations, or Ground Stations: One or a combination of the following:

1. A signal receiving device (antenna, dish antenna or dish type antenna), the purpose of which is to receive communication or other signals from satellites in Earth orbit.

2. A low noise amplifier that is situated at the focal point of the receiving component, the purpose of which is to magnify, store, transfer and/or transmit electronic or light signals.

3. A coaxial cable to carry or transmit said signals to a receiver.

Grounding Rod: A metal pole permanently positioned in the earth to serve as an electrical conductor through which electrical current may safely pass and dissipate.

Receiver: A television set or radio receiver.

(B) Location of Earth Station

1. Ground-Mounted:

a. No earth station shall be constructed in any front or side yard, but, shall be constructed to the rear of the residence or principal structure.

b. No earth station, including its concrete base slab or other structure, shall

be constructed less than five feet from any property line or easement.

c. No earth station shall be linked, physically or electronically, to a receiver that is not located on the same lot, premises or parcel of land as is the earth station.

d. An earth station shall not exceed a grade height of 15 feet.

e. No ground-mounted earth station shall be constructed upon the rooftop of any garage, residential dwelling, church, school, apartment building, hospital or any other commercial building or structure.

2. Roof-Mounted:

a. Roof-mounted earth stations shall be mounted directly upon the roof, where permitted hereby, of a primary or accessory building and shall not be mounted upon appurtenances such as chimneys, towers, trees, poles or spires, except by variance.

b. A roof-mounted earth station shall not exceed a height of more than six feet in diameter.

c. A roof-mounted earth station dish shall not exceed six feet in diameter.

10-4-8 OUTDOOR SALES AND DISPLAY

(A) Retail goods establishments are permitted on-premises accessory outdoor sales and display of merchandise. However, outdoor storage of goods not offered for sale by the establishment is prohibited.

(B) No sales and display area is permitted in any public right-of-way or in any required front yard setback, rear yard setback, or side yard setback unless as may be specifically allowed with a zoning permit or special use permit that allows for an accessory sidewalk café or similar accessory outdoor use. The outdoor sales or display area must be located within 15 feet of the principal building. Minimum pedestrian and vehicular access requirements must be maintained.

(C) A special use permit shall be required to allow that a portion of the parking area may be used for outdoor sales and display on a temporary basis for a maximum of 45 days no more than two times in a calendar year, in terms of both display structure and goods displayed or sold. Permanent display structures are prohibited in parking areas. No more than 10 percent of the required parking area for the existing use may be used for the temporary outdoor sales and display.

10-4-9 REFUSE AND RECYCLING CONTAINERS

(A) Refuse and recycling containers regulations apply only to multi-family dwellings and non-residential uses.

(B) All refuse and recycling containers must be fully enclosed on three sides by a solid fence, wall, or wall of the principal building a minimum of six feet and a maximum of eight feet in height. The enclosure must be gated. Such gate must be solid and shall remain closed when not in use. When the extension of a principal building is used as a screening wall, the wall must be of the same building materials as the principal building. Such wall must not be the gated enclosure.

10-4-10 SOLAR ENERGY SYSTEM

(A) Applicability

1. The provisions of this section shall apply to solar energy systems erected and operated within the corporate limits of the Village.

2. Pre-existing solar energy systems shall be exempt from the provisions of this section with the exception of maintenance and removal of abandoned systems.

(B) Purpose and Intent

The purpose of these regulations is to provide a uniform and comprehensive set of standards for the siting, installation and operation of solar energy systems within the Village. These regulations are intended to protect the public health, safety and welfare of the community without unduly restricting the use of solar energy systems.

(C) Definitions

Large Solar Energy System: A solar energy conversion system consisting of multiple solar collector panels, support structures, and associated controls or conversion electronics that are mounted on the ground as a principal use and with a nameplate capacity of 100 kilowatts or more.

Self-Contained Solar Energy System: A professionally manufactured system that utilizes solar collectors to produce small amounts of power that are generated exclusively for a single device. A self-contained solar energy system is typically located in areas that are not in close proximity to a utility power source.

Small Solar Energy System: A solar energy conversion system consisting of one or more solar collector panels, support structure(s) and associated controls or conversion electronics that are mounted on a principal building, garage, shed, or on the ground as an accessory structure(s) and with a nameplate capacity of less than 100 kilowatts.

Small Solar Energy System, Building Mounted: A type of small solar energy system that is mounted on the roof of a principal building, garage, or shed. Types of building-mounted small solar energy systems include:

1. Integrated: A building mounted solar energy system that is an integral part of a building, rather than a separate mechanical device, replacing or substituting for an architectural or structural part of the building. Integrated systems include, but are not limited to, photovoltaic or thermal systems that are contained within roofing materials, skylights, shading devices and similar architectural components.

2. Flush Roof Mounted: A building mounted solar energy system that is mounted to a finished roof surface where the solar collector panels, once installed, project no farther than six inches in height beyond the roof surface and is parallel to the roof surface.

3. Nonflush Roof Mounted: A building mounted solar energy system that is mounted to a finished roof surface where the solar collector panels, once installed, project more than six inches in height beyond the roof surface.

Small Solar Energy System, Ground Mounted: A type of small solar energy system that is mounted to the ground.

Solar Energy System: Equipment, whether permanent or temporary, that converts and stores or transfers energy collected from the sun into usable forms of energy such as thermal, electrical, and mechanical, and includes any solar collector panel, support structure, pole, base or foundation, control, wire, battery, energy storage device, inverter, transformer, generator, heat pump, heat exchanger, or other component used in the system.

Total Height: The vertical distance from grade to the highest point of the solar energy system.

(D) Large Solar Energy System: Large solar energy systems shall be prohibited within all zoning districts of the village.

(E) Small Solar Energy Systems

General Provisions: Small solar energy systems shall be a permitted use in all zoning districts subject to the following provisions:

1. All small solar energy systems require an approved zoning permit.

a. In order to receive a zoning permit, small solar energy systems must be approved by a small solar certification program recognized by the Solar Rating Certification Corporation or other recognized industry association

and be installed by an experienced installer.

b. Prior to permit issuance, the owner shall sign an acknowledgement that said owner will be responsible for any and all enforcement costs and remediation costs resulting from any violations of this section. These costs could include, but are not limited to, removal of system, property restoration necessary upon removal of the system, village legal expenses and hearing costs associated with violations of this section.

2. Any owner or operator of a small solar energy system shall maintain said system in compliance with the standards contained in the current and applicable state or local building codes and any applicable standards for solar energy systems that are published by the international building code and national electrical code as amended from time to time.

3. If, upon inspection, the zoning administrator, or his designee, concludes that a solar energy system fails to comply with such codes and standards or constitutes a danger to persons or property, the zoning administrator or his designee, shall require immediate repair or removal of the system at the owner's expense.

4. All support structures for small solar energy systems shall be a monochromatic, neutral, and nonreflective color and shall match the color of the material it is being mounted to or the color of structures located on the lot. Multiple solar collector panels shall match each other.

5. When more than one solar collector panel is located on a lot, the multiple solar collector panels shall be uniform in style.

6. All electrical wires associated with a small solar energy system, other than wires necessary to connect the solar collector panels to the pole wiring, the pole wiring to the disconnect junction box, and the grounding wires, must be hidden or enclosed.

7. A small solar energy system shall not be artificially illuminated.

8. Concentrated sunlight or glare from solar collector panel surfaces shall be oriented away from neighboring windows.

9. One small solar energy system is permitted per lot, but the system may include one or more solar collector panels. A ground mounted system and a building mounted system shall not both be installed on a single lot.

10. The utility company shall be informed of the customer's intent to install an interconnected customer owned generator. No small solar energy system shall be installed until proof of acceptance from the utility company has been provided to the village. Off grid systems (independent systems or systems not connected to

the utility electrical system) shall be exempt from this requirement.

11. All batteries and energy storage systems shall be installed within buildings and not outside.

(F) Small Solar Energy Systems Ground Mounted Standards

1. Ground mounted small solar energy systems shall only be permitted as an accessory structure to an existing principal building/principal use, must be mounted on the ground and must have a nameplate capacity of less than 100 kilowatts.

2. a. A ground mounted small solar energy system with monopole support structure must be set back:

(1) At least 1.1 times its total height from any property line of the lot on which it is located.

(2) At least 1.1 times its total height from any public road right of way.

(3) At least 1.1 times its total height and no less than ten feet from any overhead utility lines.

b. A ground mounted small solar energy system with no monopole support structure shall be set back at least five feet from the property line.

c. No ground mounted small solar energy system shall be located in an easement.

3. No ground mounted small solar energy components shall be located in the front yard of any lot.

4. Ground mounted small solar energy systems shall be limited to a maximum of 15 feet in total height.

5. Soil Conditions: A soil analysis may be required as part of the zoning permit application and inspection process to confirm that the soils meet the minimum bearing capacity assumed by the structural design of the pole(s), support structure, and foundation.

(G) Small Solar Energy Systems Building Mounted Standards

1. Building mounted small solar energy systems shall only be permitted as accessory structures, must be mounted to the roof of a principal building, a garage, or a shed and must have a nameplate capacity of less than 100 kilowatts.

2. Integrated and flush roof mounted systems are allowed on sloped or flat roofs. Nonflush roof mounted systems are allowed only on flat roofs if the solar collector panels are completely screened from view to an observer's eye six feet above the ground at any point along an abutting property line.

3. Building mounted small solar energy systems must meet all building setback requirements, or accessory building setback requirements in the case of garages and sheds, and are not allowed to encroach into required yards. Additionally, they must be set back a minimum of one foot from all edges of the individual roof plane on which they are mounted.

4. Nonflush roof mounted systems shall not extend above the highest point of the roof plane on which they are mounted.

5. The solar collector panel surface area shall not exceed sixty percent of the roof plane upon which the solar collector panels are mounted. If more than one roof area is to contain solar collector panels, the fire district shall review and comment on the installation of the solar collector panels to verify that adequate roof access is provided to emergency personnel in the event of an emergency.

6. Nonflush roof mounted systems are prohibited on roof planes adjacent to front yards. Integrated and flush roof mounted systems are permitted on any roof plane, however if installed on roof planes adjacent to front yards they may only be installed on one plane with that plane being the highest plane.

7. Building mounted small energy systems shall meet all weight and wind resistance requirements of applicable building codes.

(H) Self-Contained Solar Energy System Standards:

1. Self-contained solar energy systems are a permitted use. Any low voltage self-contained solar energy systems shall be an allowed use.

2. A self-contained solar energy system shall be set back at least five feet from the property line.

3. No self-contained solar energy system components shall be located in the front yards of any zoning lot, except for parking lot light poles.

4. Self-contained solar energy systems shall be limited to a maximum aggregate solar collector panel surface area of six square feet.

(I) Abandonment

All abandoned or unused solar energy systems shall be deemed a nuisance after two months of the cessation of operations unless an extension is approved by the village

board. The village may act to abate such nuisance and require removal at the property owner's expense. After the solar energy system is removed, the owner of the property shall restore the site to its original condition, or to an approved improved condition within 30 days of removal.

10-4-11 SWIMMING POOLS AND HOT TUBS

(A) Private swimming pools and hot tubs are permitted as an accessory to a residential use. Private swimming pools or hot tubs, in-ground or aboveground, of a design water depth of less than three feet are exempt only from the requirement that a zoning permit be obtained prior to installation and/or construction.

(B) Private swimming pools and hot tubs must be operated for the exclusive use of residents of the lot and their invited guests. No private swimming pool or hot tub may be operated as a business or private club.

(C) No private swimming pool or hot tub, or portion thereof, including but not limited to aprons, walks, and mechanical equipment integral to the pool, may be located within a front yard or side yard.

(D) Private swimming pools and hot tubs must be located at least 10 feet from a rear lot line unless approved in a side yard by variance, and cannot encroach into any easement.

(E) Non-residential swimming pools and/or hot tubs must be set back at least 100 feet from adjacent residential property lines.

(F) All swimming pools must construct barriers in accordance with the requirements of the Illinois Swimming Pool and Bathing Beach Act (210 ILCS 125/3.01).

(G) No swimming pool shall be installed beneath, or have any edge of the pool:
- i. within 10 feet measured horizontally from an overhead or underground electrical wire, telephone wire, cable TV wire, or any other type of wire; or
- ii. with 25 feet measured horizontally from high voltage electrical feeder wires.

All diving boards, diving platforms, and diving towers must maintain a 17-foot distance, measured horizontally, from all wires. No pool shall be constructed within five feet of any type of buried wire.

(H) In-ground swimming pools must not be installed within a utility easement.

(I) The installation of a swimming pool, equipment, and paving must not change the existing water drainage characteristics of the site so as to cause water to drain onto an adjacent property.

(J) Enclosure Requirements

1. Swimming pools, in ground or aboveground, of a design water depth of three or more feet must be enclosed by a fence of at least four feet or another barrier, constructed with minimal horizontal rungs in order to discourage climbing by children.

2. The maximum width of openings in the fence shall be four inches. The maximum spacing between the bottom of the fence and the ground shall be two inches.

3. A permanent in-ground swimming pool or fixed above-ground pool of a design water depth of three feet or more, with or without raised decking, must have a privacy fence and gated around the pool or perimeter of the yard. The minimum height of this privacy fence shall be six feet.

4. If the swimming pool is an above-ground pool at least four feet high, the pool wall may serve as a barrier, but a fence and gate as described in Item (K) below is still required around the access ladder to the pool.

(K) Enclosure Gate Requirements

1. Gates in fences shall swing outward, shall be self-closing, and shall be self-latching with the latch located on the pool-side of the gate.

2. Gates must be at least four feet in height. The maximum width of gate openings shall be four inches. The maximum spacing between the bottom of the gate and the ground shall be two inches.

3. Gates must be constructed with minimal horizontal rungs in order to discourage climbing.

4. Where a minimum fence height of six feet is required, a minimum gate height of six feet shall also required.

(L) If the house or other structure has a door leading directly into the fenced pool area, an automatic audible alarm capable of producing a minimum of 120 decibels is required to sound when the door leading directly to the fenced pool area is opened.

(M) Swimming pool filter equipment must not be installed in a location where a child could climb on the equipment to gain access to the swimming pool.

(N) The swimming pool must not be filled with water until after the fence, gates, and door alarms have been installed.

10-4-12 VEHICLE CHARGING STATION

Electric vehicle charging stations are permitted as an accessory use within any parking lot or parking structure.

10-4-13 WATER FEATURES

(A) Water features for single-family and two-family dwellings are limited to a maximum depth of 24 inches and a maximum surface area of 250 square feet, and are exempt only from the requirement that a zoning permit be obtained prior to installation and/or construction.

(B) Water features included in other developments require a Zoning Permit but are not subject to the limitations indicated in Item A above.

10-4-14 WIND ENERGY SYSTEM

(A) Applicability

1. The provisions of this Section shall apply to wind energy systems erected and operated within the corporate limits of the Village.

2. Pre-existing wind energy systems shall be exempt from the provisions of this Section with the exception of maintenance and removal of abandoned systems.

(B) Purpose and Intent

The purpose of these regulations is to provide a uniform and comprehensive set of standards for the siting, installation and operation of wind energy systems within the Village. These regulations are intended to protect the public health, safety and welfare of the community without unduly restricting the use of wind energy systems.

(C) Definitions

Ambient Sound: The all-encompassing sound at a given location, usually a composite of sounds from many sources, near and far. For the purpose of this Section, the 'ambient sound level' shall mean the quiescent background level, that is, the quietest of 10-second average sound levels measured when there are no nearby or distinctly audible sound sources. Daytime ambient measurements should be made during mid-morning, weekday hours and nighttime measurements should be made after midnight.

Private Waiver: A written statement asserting that a landowner has agreed to waive a specific small wind energy system (SWES) separation distance requirement or rotor diameter size limit, and has knowingly agreed to accept the consequences of the waiver. The landowner must sign a private waiver.

Rotor: The rotating part of a wind turbine, including the blades and blade assembly or the rotating portion of the generator.

Rotor Diameter: The diameter of the circle swept by the rotor, specifically, the distance from the outer-most tip of the blade to the center of the turbine rotor multiplied by two.

Shadow Flicker: A repetitive oscillation of light and shadow cast when light passes through and is interrupted by moving wind turbine blades.

Sound Level: The A-weighted sound pressure level in decibels (dB) (or the C-weighted level if specified) as measured using a sound level meter that meets the requirements of a Type 2 or better precision instrument according to the American National Standards Institute (ANSI) S1.4. The "average" sound level is time-averaged over a suitable period using an integrating sound level meter that meets the requirements of ANSI S12.43.

Test Wind Tower: A temporary wind speed indicator constructed to analyze the potential for utilizing a wind energy system at a given site. This includes the tower, base plate, anchors, cables and hardware, wind direction vanes, booms to hold equipment, data logger, instrument wiring, and any telemetry devices that are used to monitor or transmit wind characteristics over a period of time for either instantaneous wind information or to characterize the wind resource at a given location.

Total Extended Height: The height of a wind energy system turbine as measured from natural grade to the tip of the rotor blade at its highest point of travel, or blade-tip height.

Wind Energy System: All necessary devices that together convert wind energy into electricity, including the rotor, nacelle, generator, tower, electrical components, foundation, transformer, and electrical cabling.

On-Site Wind Energy System (OWES): A wind energy system having a total rated capacity of between 101 and 250 kilowatts and that is incidental and subordinate to and which generates power for the principal use of the zoning lot on which it is situated, even though excess electricity may be used by the utility company in exchange for a reduction in cost of electrical power supplied by that company.

Small Wind Energy System (SWES): A wind energy system having a total rated capacity of not more than 100 kilowatts and that is incidental and subordinate to and which generates power for the principal use of the zoning lot on which it is situated, even though excess electricity may be used by the utility company in exchange for a reduction in cost of electrical power supplied by that company.

Wind Energy System, Building-Mounted (BMWES): A wind energy system located on a building.

(D) Test Wind Tower

A Test Wind Tower shall be permitted in all zoning districts as a temporary use for no more than 18 months. An extension of this time period, not to exceed an additional 18 months, may be granted at the discretion of the Village Board upon submittal and review of sufficient evidence to support the requested extension.

(E) Table 10-4A contains wind energy system height, size, and placement restrictions. Table 10-4B describes the type of authorization required for wind energy systems as an accessory use.

Table 10-4A. Wind Energy System Height, Size, and Placement Restrictions

Use Type	**Zoning Districts[1]**	**Maximum Height[2]**	**Maximum Rotor Diameter**	**Minimum Setback**
BMWES: Building-Mounted Wind Energy System	All	10 feet, as measured from the highest point of the roof , for all uses in a residential district; 15 feet, as measured from the highest point of the roof , for all uses in non-residential zoning districts non-residential zoning districts	10 feet	Same as the required minimum yard (front, rear, side) for the zoning district in which it is located
SWES: Small Wind Energy System	All	125 feet in a residential district; 155 feet in a non-residential district	15 – 75 feet, depending on lot size[2]	A distance equal to the *total extended height* from lot boundary lines, public right-of-ways, railroad right-of-ways, and overhead utility lines.
OWES: On-Site Wind Energy System	Agricultural Industrial	175 feet	15 – 75 feet, depending on lot size[3]	A distance equal to the *total extended height* from lot boundary lines, public right-of-ways, railroad right-of-ways, and overhead utility lines.

Table 10-4A Notes:

1. Table 10-4B contains specific limitations with regard to permitting requirements for a wind energy system as an accessory use in each zoning district.

2. Except for a BMWES, the ‘maximum height’ refers to total extended height of each wind energy system.

3. The maximum rotor diameter shall be limited based on the separation distance requirements of this section.

Table 10-4B. Authorization Required for Wind Energy Systems as an Accessory Use[1]

P	By right with a Zoning Permit required
S	Special Use Permit required
	Not Permitted

	District							
Accessory Use	**A**	**R-1**	**R-2**	**R-3**	**R-4**	**TC**	**C**	**I**
Building-mounted wind energy system	P	P	P	P	P	P	P	P
Small wind energy system Total extended height:								
≤ 45 feet	P	P	P	P	P	P	P	P
> 45 feet and ≤ 50 feet	P	S	S	S	P	P	P	P
≥ 50 feet and ≤ 125 feet	S	S	S	S	S	S	S	S
≥ 125 feet and ≤ 155 feet	S					S	S	S
On-site wind energy system Total extended height:								
≤ 100 feet	P							P
> 100 feet and ≤ 175 feet	S							S

Table 10-4B Note:

1. All structures must conform, as applicable, to the regulations and standards of the Federal Aviation Administration, Federal Communications Commission, and Illinois Department of Transportation, Division of Aeronautics.

(F) Building-Mounted Wind Energy System (BMWES)

1. A BMWES shall be considered an accessory use in all zoning districts.

2. A BMWES shall be subject to the following requirements:

a. A BMWES shall meet the design standards set forth in Paragraph I of this

Section.

b. The maximum height of a BMWES shall be 10 feet as measured from the highest point of the roof for all uses in a residential zoning district and 15 feet as measured from the highest point of the roof for all uses in non-residential zoning districts.

c. The rotor diameter of a BMWES shall not exceed 10 feet.

d. The minimum setback for a BMWES shall be equal to the required minimum yard (front, rear, and side) for the zoning district in which it is located. The setback shall be measured horizontally from the farthest outward extension of all moving parts to the nearest lot line.

e. If more than one BMWES is installed, a minimum distance equal to the height of the highest BMWES must be maintained between the base(s) of each BMWES.

f. The maximum number of BMWES on a property shall be based on setback and separation requirements as set forth in the above Items d and e.

g. The building upon which the BMWES is to be mounted shall be able to safely support operation of the BMWES.

(G) Small Wind Energy System (SWES)

1. A SWES shall be considered an accessory use within all zoning districts.

2. A SWES shall be subject to the following requirements:

a. A SWES shall meet the design standards set forth in Paragraph I of this Section.

b. The total extended height of a SWES shall not exceed:
   i. 125 feet in a residential zoning district; and
   ii. 155 feet in non-residential zoning districts.

c. The maximum allowable rotor diameter of a SWES shall be:
   i. 15 feet on a lot with less than one acre of lot area; and
   ii. 24 feet on a lot with one acre or more of lot area.

A rotor diameter greater than 24 feet may be authorized provided both of the following conditions are met:

(1) The separation distance from the SWES to the nearest dwelling under other ownership is a minimum of 8.3 times the rotor diameter, up to a maximum diameter of 75 feet.

(2) The lot area is three acres or larger.

d. The minimum setback for a SWES shall be the distance equal to the total extended height of the SWES from all lot lines, public right-of-ways, railroad right-of-ways, and overhead utility lines. The setback shall be measured from the center of the SWEC tower's base.

e. The requirements of Items c) and d) above may be lessened if a variance is granted by the Village Board, and provided that prior to the decision regarding such a variance request, that each landowner with property that falls within the required setback distance as indicated in Item c) and Item d) above:

i. submits for review a signed private waiver that establishes a specific agreement for a lesser requirement with regard to either Item c) or Item d), or both Item c) and Item d) above, which includes the landowner's acknowledgement and acceptance of the consequences of the waiver; and

ii. the signed private waiver is recorded as part of the chain of title in the deed to any relevant tract of land prior to the authorization of any permit.

f. No SWES guy wire anchors may extend closer than 10 feet to the lot line, or the distance of the required setback in the respective zoning district, whichever results in a greater setback.

g No part of a SWES shall be located on any public easement.

h. In residential districts, the C General Commercial District, or TC Town Center District, a SWES shall be located entirely behind the principal building.

(H) On-Site Wind Energy System (OWES)

1. On-site wind energy systems (OWES) are permitted only in the Agricultural District or Industrial District.

2. An OWES shall be subject to the following requirements:

a. An OWES shall meet the design standards set forth in Paragraph I of this Section.

b. The total extended height of an OWES shall not exceed 175 feet, except that the total extended height shall not exceed 155 feet if located within 500 feet of an existing off-site dwelling, the boundary of a residentially zoned lot.

c. The maximum allowable rotor diameter of an OWES shall be:
   i. 15 feet on a lot with less than one acre of lot area; and
   ii. 24 feet on a lot with one acre or more of lot area.

   A rotor diameter greater than 24 feet may be authorized provided both of the following conditions are met:

   (1) The separation distance from the OWES to the nearest dwelling under other ownership is a minimum of 8.3 times the rotor diameter, up to a maximum diameter of 75 feet.
   (2) The lot area is three acres or larger.

d. The minimum setback for an OWES shall be the distance equal to the total extended height of the OWES from all lot lines, public right-of-ways, railroad right-of-ways, and overhead utility lines. The setback shall be measured from the center of the OWES tower's base.

e. No OWES guy wire anchors may extend closer than 10 feet to the lot line, or the distance of the required setback in the respective zoning district, whichever results in a greater setback.

f. No part of an OWES shall be located on any public easement.

(I) Design Standards

In addition to all other applicable requirements of this section, wind energy systems shall be constructed in conformance with the following design standards:

1. Visual Appearance Standards

a. SWES shall be required to have a monopole type tower.

b. A wind energy system shall be the color supplied by the manufacturer or a non-reflective, non-obtrusive color such as off white, light gray or other neutral color. The required coloration and finish shall be maintained throughout the life of the system.

c. No illumination of a wind energy system shall be allowed unless required by the Federal Aviation Administration. If lighting is required, the lighting alternatives and design chosen must cause the least disturbance to surrounding land uses.

d. Signs, commercial markings, messages, or banners on the wind energy system shall be prohibited, except for one warning sign no more than four square feet in area.

e. All on-site electrical transmission lines connecting a wind energy system

to a building or public utility electricity distribution system or substation shall be located underground. As-built plans shall be submitted showing the location of underground conduit and cable located within the public right-of-way.

2. Safety Standards

a. All wind energy systems shall be equipped with an automatic over-speed control to render the system inoperable when winds are blowing in excess of the speeds for which the system is designed and a manually operable method to render the system inoperable in the event of a structural or mechanical failure of any part of the system.

b. On a tower-mounted wind energy system with a vertically mounted rotor, a minimum clearance of 10 feet between the ground and the lowest arc of the rotor blades is required. On a tower-mounted wind energy system with a horizontally mounted rotor, a minimum clearance of 20 feet between the ground and the lowest arc of the rotor blades is required.

c. Wind energy system towers shall be designed to discourage unauthorized climbing by removal of climbing rungs to a height of 12 feet, or by using a six-foot height fence with locking portals or other applicable anti-climbing measures.

d. All ground-mounted electrical and control equipment shall be labeled and secured to prevent unauthorized access.

e. At a minimum, a wind energy system must be engineered to withstand a wind velocity of 110 miles per hour.

f. All wind energy systems shall be designed and sited so that they shall not cause any significant electromagnetic interference with any radio, television, microwave communication, or satellite navigation on other properties.

(1) All wind energy systems shall comply with the Federal Communication Commission (FCC) requirements for electromagnetic interference including FCC Part 15.

(2) All wind energy system turbines shall utilize nonmetallic rotor blades.

g. A wind energy system shall not produce vibrations detectible by persons without the aid of scientific instruments on any adjacent property.

h. All wind energy systems shall conform to applicable industry standards,

including those of the American National Standards Institute (ANSI).

i. Wind energy systems shall be designed and located to minimize shadow flicker.

(1) Shadow flicker expected to fall on a dwelling shall be acceptable provided that the shadow flicker will not fall on the location of concern for more than 30 hours per year, based on the assumption that cloud cover will not obscure sunlight during the entire course of the year.

(2) Wind energy systems with a total extended height over 155 feet shall be sited in a manner that does not result in significant shadow flicker impacts on adjacent properties. Significant shadow flicker impacts are defined as surpassing the threshold as described in Item (1) above.

A special use permit application for a wind energy system having a total extended height over 155 feet shall include a shadow flicker study. The applicant has the burden of providing evidence that the shadow flicker will not have significant adverse impact. Using available software, the applicant shall show calculated locations of shadow flicker caused by the wind energy system and the expected duration in total number of hours per year of the flicker cast upon adjacent dwellings and within the boundary of adjacent residentially zoned lots. Potential shadow flicker must be addressed either through siting or through other approved mitigation measures.

j. Sound Level Limitations

No wind energy system or combination of wind energy systems on a single lot shall create noise that exceeds the regulatory standards set by the Illinois EPA Pollution Control Board at any property line where the wind energy system is located. Measurement of sound levels shall not be adjusted for, or averaged with, non-operating periods. Any wind energy system exceeding this level shall immediately cease operation upon notification by the Village Board and may not resume operation until the noise levels have been reduced in compliance with the required standards and verified by an independent third party inspector, approved by the Village, at the property owner’s expense. Only upon Village Board review and acceptance of the third party noise level report, may the wind energy system resume operation.

(J) Additional Permit Application Requirements

In addition to the requirements established in Chapter 10 for a zoning permit application and in Chapter 11 for a special use permit application, an application for a zoning permit

or a special use permit for a wind energy system shall include:

1. A copy of the manufacturer's standard drawings of the wind turbine structure and stamped engineering drawings of the tower, base, footings, and/or foundations as provided by the manufacturer sufficient to prove that the wind energy system is safe for the use intended. Wet stamps shall not be required.

2. A copy of the wind turbine manufacturer's certification of compliance with FCC requirements with the zoning permit application.

3. Certificates of design compliance that equipment manufacturers have obtained from Underwriters Laboratories (UL), National Renewable Energy Laboratories (NREL), Det Norske Veritas (DNV), Germanischer Lloyd Wind Energie (GL), or an equivalent third party.

4. Evidence must be given that the utility company has been informed of the customer's intent to install an interconnected customer-owned generator. Off-grid systems shall be exempt from this requirement.

5. Such evidence and documentation as required verifying that the wind energy system meets all other zoning ordinance requirements.

(K) Maintenance

All wind energy systems shall be maintained in good condition and in safe working order throughout the life of the system. If the system is not maintained in operational condition and/or poses a potential safety hazard, the owner shall immediately correct the situation at the expense of the owner. Any wind energy system found to be unsafe by the Village Board or appointed designee, must stop operation immediately upon notification. If the owner fails to correct the unsafe condition, the Village Board may remove or cause to be removed, altered or repaired, at cost to the owner, an unsafe wind energy system immediately and without notice, if, in his/her opinion, the condition of the system is such as to present an immediate threat to the safety of the public.

(L) Removal of an Inoperable Wind Energy System

The Wind Energy Conversion System or individual turbine is hereby declared to be a public nuisance if it has been inoperable or has not been operated to generate any electricity for 180 or more consecutive days. If a wind energy system is derelict for 180 or more consecutive days, the owner shall be notified that they must, within six months of receiving the notice, restore their system to operating condition. If the owner(s) fails to restore their system to operating condition within the six-month period, then the owner shall be required, at the expense of the owner, to remove the wind energy system. Removal of a wind energy system that constitutes a public nuisance shall include removal of the turbines, tower, and any above ground improvements, including fencing. If the owner fails to remove the wind energy system within one month, the Village Board or

appointed designee shall send a notice that the wind energy system is in violation of the Zoning Ordinance and subject to a daily fine as provided for in this Ordinance.

(M) Violation. Should a wind energy system or any part thereof violate the requirements of this Section, the owner shall cease operations immediately. Upon receipt of a complaint or the notice of a complaint from the owner, the Village Board shall make a determination as to whether there is a violation requiring the immediate cessation of operation. The system may resume operation once the violation(s) have been remedied.

(N) Pre-Existing Wind Energy Systems

1. Pre-existing wind energy systems shall be allowed to continue. Routine maintenance shall be permitted on such pre-existing systems.

2. A zoning permit and any other necessary zoning and development approvals shall be obtained to alter, enlarge, extend, replace or relocate a pre-existing wind energy system.

3. If a pre-existing wind energy system is nonconforming with this Section, it shall not be altered, enlarged, extended or relocated such that the nonconformity of the system is increased.

4. Pre-existing wind energy systems that are substantially damaged or destroyed must be rebuilt to conform to this section.

10-4-15 ENVIRONMENTAL PERFORMANCE STANDARDS

All uses must comply with the performance standards established in this section unless any federal, state, county or local law, ordinance or regulation establishes a more restrictive standard, in which case, the more restrictive standard shall apply.

(A) Noise

All activities and uses must comply with the Illinois State Code, Administrative Code Subtitle H (Noise), Chapter 1: Pollution Control Board, Part 901, as amended from time to time.

(B) Glare and Heat

Any activity or the operation of any use that produces glare or heat must be conducted so that no glare or heat from the activity or operation is detectable at any point off the lot on which the use is located. Flickering or intense sources of light must be controlled or shielded so as not to cause a nuisance across lot lines.

(C) Vibration

No earthborn vibration from the operation of any use may be detectable at any point off the lot on which the use is located.

(D) Dust and Air Pollution

Dust and other types of air pollution, borne by the wind from sources, such as storage areas, yards, roads, conveying equipment and the like, within lot boundaries, must be kept to a minimum by appropriate landscape, screening, sheltering, paving, fencing, wetting, collecting, or other acceptable means.

(E) Discharge and Disposal of Radioactive and Hazardous Waste

The discharge of fluid and the disposal of solid radioactive and hazardous waste materials must comply with applicable federal, state, and local laws, and regulations governing such materials or waste. No operation that produces radioactive or hazardous waste material may commence without prior notice to the Village. Radioactive and hazardous material waste must be transported, stored, and used in conformance with all applicable federal, state, and local laws.

(F) Electromagnetic Interference

Electromagnetic interference from any operation of any use that does not comply with the rules and regulations of the Federal Communications Commission must not adversely affect the operation of any equipment located off the lot on which such interference originates.

(G) Odors

Any condition or operation which results in the creation of odors of such intensity and character as to be detrimental to the public health and welfare, or which interferes unreasonably with the comfort of the public, must be removed, stopped or modified so as to remove the odor.

(H) Fire and Explosion Hazards

Materials that present potential fire and explosion hazards must be transported, stored, and used only in conformance with all applicable federal, state, and local regulations.