

Chapter 15 – Design Standards

SECTION 15.01 LANDSCAPE STANDARDS

- A. Intent: It is the intent of this Section to promote the public health safety and welfare by establishing minimum standards for the design, installation and maintenance of greenbelt landscaping as buffer zones between uses. The standards of this Article shall apply to all projects subject to site plan review. When land covered by this chapter is owned by the state of Michigan, state law shall apply.

Location of greenbelt and proposed planting design demonstrating suitable materials listed with the spacing as required shall be provided on proposed building site plans (D2-18).

- B. Required Green Belts: A green belt shall be a minimum of ten (10) feet in depth and shall extend the full length of the nonresidential property where such property is adjacent to a residential district or as a condition of site plan approval. Green belt plantings shall be installed within side (D2-22) and rear (D2-22) yard setbacks from the edge of adjacent property to the required width. The green belt shall meet the following standards:

1. The green belt shall include only living materials and planting beds except for approved signs and essential services.
2. Green belt trees should be arranged to simulate a natural setting such as massing or staggered rows, except where a more formal arrangement is determined to be more consistent with the existing character of the Township.
3. Landscaping materials arrangement shall insure adequate site visibility for motorists, adequate clearance for pedestrians and vehicles and accessibility to fire hydrants. Plant materials within the 25-foot site distance triangle shall not be more than 30 inches in height.

- C. Plant Material Spacing

1. Plant materials shall not be placed closer than 4 feet from the fence line or property line.
2. Where plant materials are placed in two or more rows, plantings shall be staggered in rows.
3. Evergreen trees shall be planted not more than 15 feet on centers.
4. Narrow evergreens shall be planted not more than 6 feet on centers.
5. Deciduous canopy trees shall be planted not more than 25 feet on centers.
6. Ornamental trees shall be planted not more than 10 feet on centers.

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7. Large deciduous shrubs shall be planted not more than six 6 feet on centers.

D. Minimum Standards for Installation and Maintenance

1. Installation: Landscaping shall be installed in a sound workman like manner.
2. Maintenance: Greenbelt areas and plant materials shall be kept free from refuse and debris. Plant materials shall be maintained in a healthy growing condition, neat and orderly in appearance. If any plant materials die or become diseased, they shall be replaced within 30 days of written notice from the Township or within an extended time period as specified in said notice.

SECTION 15.02 BUFFER YARDS

A. Buffer Yard Criteria

1. Purpose - The purpose of these regulations are to provide a flexible method of protecting the various uses permitted in the Mixed Development zoning district from adverse impacts associated with adjacent uses. Under the "performance oriented" system, the buffer yard will provide both distance and plantings in order to minimize negative impacts.
2. Land Use Classifications - The buffering requirements of this ordinance are based upon the type of use being developed and the type of uses adjacent to it. Uses are divided into three classes:
 - a. Class I - Single family (*D2-18*) and duplex (*D2-7*) residential uses.
 - b. Class II - All other uses permitted by right in the Mixed Development zoning district.
 - c. Class III - All uses permitted by Special Use Permit in the Mixed Development zoning district.

3. Buffer yards:

The buffer yard is a designated unit of yard (*D2-22*) or open area together with any plant materials, barriers or fences required thereon. Both the amount of land and the type and amount of landscaping specified are designed to minimize potential nuisances such as noise, glare, activity, dirt, unsightly parking areas and so forth, will be minimized.

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It is a further intent of the following provisions to provide flexibility to the developer or property owner through the manipulation of four basic elements – distance, plant material type, plant material density and structural or land forms.

- a. Location of Buffer yards - Buffer yards shall be located on the side (*D2-11*) and rear (*D2-11*) lot lines of a parcel (*D2-13*) extending to the lot (*D2-10*) or parcel boundary line. Buffer yards shall not extend into or be located within any portion of an existing street (*D2-18*) right-of-way (*D2-14*) (front lot line (*D2-11*)).
- b. Determination of Buffer yard Requirements - To determine the type of buffer yard required between two adjacent parcels, the following procedure shall be followed:
 - i. Identify the Land Use Class of the proposed and each adjoining use by referring to Section 15.02(A)(2).
 - ii. Determine the buffer yard requirements for those side and rear lot lines or portion thereof, on the subject parcel, by referring to the table on the following page. Existing plant material or fences may be counted as contributing to the total buffer yard requirement. The buffer yards specified are to be provided on each lot or parcel independent of adjoining uses or adjoining buffer yards.
 - iii. When a development use is proposed adjacent to vacant land within the Mixed Development zoning district, the vacant land shall be treated as a Class II use, unless a building permit or site plan (*D2-18*) approval has been issued for another class of use. If the development is proposed adjacent to vacant land in another zoning district, then the vacant land shall be treated as if it were developed using the least intensive use permitted in that district.
 - iv. Should a developed use increase in intensity from a given land use class to a higher one (e.g., Class II to Class III), the Planning Commission shall, during the site plan review process, determine if an additional buffer yard is needed and if so to what extent and type.

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| LAND USE CLASS | ADJACENT | EXISTING | LAND USE |
|----------------|----------|----------|----------|
| | I | II | III |
| I | * | * | * |
| II | A | * | A |
| III | B | A | * |

*No buffer yard required.

1. Buffer yard type A, B

The following table indicates the specifications of each buffer yard. Buffer yard requirements are stated in terms of the minimum width of the buffer yard and the number of plant units required per 100 linear feet of buffer yard. The requirements may be satisfied by any of the options indicated (Buffer Yard Type A-B). In all adjoining land use situations when a six foot high vision blocking fence is selected the minimum required buffer width is 5 feet.

| Buffer Yard Type | Width of Buffer Yard | Plants per 100' Length |
|----------------------|----------------------|-------------------------------|
| A – With 6 Ft. Fence | 5 Feet | Optional |
| A – With No Fence | 10 Feet | As specified in Section 15.01 |
| B – With 6 Ft. Fence | 5 Feet | Optional |
| B – With No Fence | 10 Feet | 2-T 2-S |
| | 20 Feet | 3-E 6-NE 8-S |
| | 30 Feet | 2-T 2-E 6-S |

- T = Deciduous Tree
- E = Evergreen
- S = Deciduous Shrub
- NE = Narrow evergreen

- a. Plant Materials - All plant materials required within a specified buffer yard shall be planted to completion within 6 months from date of approval of the site plan (D2-18) and thereafter be properly maintained.
- b. All plant materials required within a specific buffer yard shall comply with the requirements listed in Section 15.01.04 through 15.01.07.

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SECTION 15.03 SPECIFIC DESIGN STANDARDS FOR USES

A. Farm Animals and Horses

On parcels (D2-13) in the Agricultural and Residential Agricultural districts, the breeding, rearing or housing of farm animals including horses, shall meet the following requirements.

1. Animals shall be confined in a suitably fenced area or paddock that preclude their approaching nearer than 75 feet to any dwelling (D2-7) on adjacent premises.
2. The facility shall be so constructed and maintained that odor, dust, noise or drainage shall not constitute a nuisance or hazard to adjoining premises.
3. For private use by the owner or lessee of the land and dwelling, the following number of animals are allowed by right at a rate of 1 animal unit for the first 2 acres of land and 1 additional animal unit for every 1 additional acre. One animal unit is equivalent to:
 - a. 1 horse, donkey, mule, cow or similar animal.
 - b. 2 pigs, or similar animal
4. For private use by the owner or lessee of the land and dwelling, the following number of animals are allowed by right at a rate of 1 animal unit for the first acre of land and 1 additional animal unit for every 1 additional acre. One animal unit is equivalent to:
 - a. 3 sheep, 3 goats, 3 deer or similar animal.
 - b. 20 fowl, rabbits or similar animal.
5. The total number of animals that will be permitted by right on a parcel in the Agricultural Residential Agricultural Districts are calculated by adding the requirements of number 3 and 4 above (ie: on a 5 acre parcel a person (D2-13) could have 3 horses, 1 for the first 2 acres and 2 for 2 more acres) as well as 6 goats (3 per the remaining 2 acres).

B. Home Occupation

Any legal activity carried out for gain by a full-time resident of the residence is permitted subject to the following requirements:

1. No Noise, odor, vibration, smoke, dust, electromagnetic interference or light generated by the home occupation (D2-9) shall be detectable off the lot (D2-10) on which it is operated.

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2. The home occupation may utilize no more than 25% of the first floor area of the home.
3. The home occupation may be conducted in an accessory building (D2-1) as follows:
 - a. A maximum of 2,400 square feet may be utilized for the home occupation in an accessory building on parcels zoned agricultural or residential agricultural.
 - b. A maximum of 800 square feet in an accessory building may be utilized on land parcels in land parcels zoned residential, commercial, industrial, or mixed development.
4. In addition to employees that reside in the home occupation residence, the home occupation may employ:
 - a. No more than 4 non-residents in the Agricultural and Residential/Agricultural zoned districts.
 - b. No more than 1 non-resident in land parcels zoned residential, commercial, industrial and mixed development.
5. Off-street parking that meets the paving requirement of the zone in which the home occupation is located must be provided for all employees and customers.
6. A conditional use permit is required before additional non-resident employee(s) can be employed or additional accessory building space can be utilized.

C. Commercial Kennel Regulations

Commercial kennels (D2-9) are permitted by Conditional Use Permit in the A and RA districts, subject to the following requirements and other conditions determined necessary by the Township Planning Commission:

1. All pens and runs shall not be located any closer than 150 feet from a property line to help prevent noise nuisances.
2. All dog runs shall have concrete surfaces including an approved system for runoff and waste collection and disposal.
3. All commercial kennels shall comply with applicable state and county regulations.
4. Animals will not be allowed access to exterior runs between 7:00 PM and 8:00 AM.

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D. Bed and Breakfast

Bed and Breakfast (*D2-2*) operations are permitted by right in the A, RA, R-1, R-2 and MD districts subject to the following requirements.

1. The bed and breakfast operation must be reviewed and approved through site plan review.
2. 1 parking space per bedroom plus 2 spaces for the owner/operator. No customer parking shall be located in the front yard (*D2-22*).
3. Customers are limited to a maximum continuous stay of 14 days.
4. The bed and breakfast operation is restricted to the dwelling (*D2-7*) and conversion of garages or other accessory structures into bedrooms to be used as part of the bed and breakfast is prohibited.
5. No alteration (*D2-1*) may be made to the dwelling that changes its appearance from that of a single-family residence (*D2-18*).
6. A sign not greater than 6 square feet may be displayed to advertise the bed and breakfast. The sign shall be no closer than the front yard setback for the district it is located in. Neon or internally illuminated signs (*D2-15*) are not permitted.
7. The owner/operator of the bed and breakfast shall reside in the dwelling where the bed and breakfast is conducted.

E. Planned Unit Development

The purpose of this section is to authorize the establishment of Planned Unit Developments (PUD) (*D2-13*), provide a process for submission and review of a PUD and establish standards for their approval. PUD's are intended to provide flexibility in the regulation of land development in order to encourage innovation in land use and variety in design, layout, and type of structures (*D2-20*) constructed; achieve economy and efficiency in the use of land, natural resources, energy, and the provision of public services and utilities; encourage useful open space and provide better housing, employment, shopping, and recreational opportunities:

1. Eligibility Requirements for PUD's – PUD's may be located in the RA, R-1, R-2, and MD districts upon approval of a Conditional Use Permit application. Property proposed for a PUD must be under common ownership.
2. Uses Permitted in PUD's - The uses allowed in a PUD will include those uses permitted by right or Conditional Use Permit in the zoning district the PUD is located

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in. In addition, the Planning Commission may permit other uses accessory to the principle use of the property, such as a restaurant or pro-shop as an accessory use to a golf course (D2-9) or country club (D2-7) if they determine that the use as proposed is appropriate for the site and is compatible with surrounding uses.

3. Review Procedures- Initial review of a PUD shall be based upon a preliminary plan drawn to illustrate the location and density of land uses, traffic circulation and ingress/egress, parking and natural features. This concept will be reviewed following the procedures outlined for all conditional uses. Once the concept is approved, the applicant shall have approval for two years for the development. Site plans (D2-18) must then be submitted for development of any portion of the site that comply with the preliminary plan, as well as, the criteria established for site plan approval. The conceptual drawing may be amended following the same process as initial approval.
4. Clustering - To encourage the development of land in an environmentally sensitive manner, the township will allow clustering of uses on to a portion of the total site. Total number of units shall be based on total acreage divided by the minimum lot (D2-10) size permitted in the district. The actual minimum lot size for each clustered lot shall be approved by the Planning Commission on a case-by-case basis, and shall be dependent on the arrangements made for sewage disposal and topographic and other site characteristics.
5. Design Standard - In addition to the criteria established under Chapter 10, the following design standards shall apply to PUD's (D2-13):
 - a. Open Space - The minimum amount of open space required to be provided in return for clustering shall be that amount necessary to form a usable site for recreation, agriculture, or wildlife habitat, as determined by the Planning Commission.
 - b. Private Streets - Private streets shall meet Tuscola County's standards, and provisions shall be established to ensure adequate maintenance of the street in compliance with Section 3.14.
 - c. Setbacks - Residential dwellings shall be set back from the edge of the PUD boundary in compliance with the setback requirements of the district it is located in. Non-residential uses in a PUD adjacent to residentially or agriculturally zoned property shall meet the following setbacks:
 - i. setback from side yard (D2-22) 30 feet
 - ii. setback from rear yard (D2-22) 50 feet

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F. Development Requirements for Sand and Gravel Extraction Activities

The regulations set forth in this section are designed to provide for the regulation of sand and gravel extraction (*D2-14*) activities and to specify the conditions and circumstances under which a use may be developed in order to protect the health, safety, and general welfare of the residents of the community, preserve ecologically important features, and to prohibit development which, unregulated, may have an adverse impact upon the safety, health, and welfare of Tuscola Township.

1. General Provisions.
 - a. Sand, soil, and gravel extraction may be permitted as a Conditional Use within the Agricultural zoning district subject to the approval of the Planning Commission upon a finding that the proposed use meets the requirements of this Section and federal and state regulations.
 - b. The purpose of these requirements is to provide for the use of lands which have significant gravel and/or sand deposits and which, if extracted for the deposits or filled, would not constitute a hazard to the public health, safety, and welfare.
 - c. The regulations are intended to result in: excavation and soil removal operations that will not be detrimental to the public health, safety, and welfare; and operations which will be conducive to and result in the reclamation of the land so that it will be suitable for other purposes. These requirements shall not apply to:
 - i. The excavation and earth fill for on-site building construction purposes pursuant to a duly issued building permit; or
 - ii. Where the moving, grading or leveling of materials is carried on by the landowner for the immediate use or development of the same or adjacent parcel (*D2-13*) of land.
2. Permit procedures. An application for the approval of a sand, soil, or gravel removal or extractive Conditional Use Permit shall be made by an owner of an interest in the land on which the use is to be located, to the Zoning Administrator accompanied by the necessary fees, financial guarantees, and documents. The application shall be accompanied by a site plan (*D2-18*) as required by Section 11.03 as well as the following information:
 - a. Name of the owner, or owners, of land from which removal is to be made;
 - b. Name and address of the applicant(s) making a request for the permit;

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- c. Name and address of the person, firm, or corporation who or which will be conducting the actual removal operation;
- d. Location, size, and legal description of the total land area proposed for the use;
- e. Location of the processing plant (if any);
- f. Type of materials or resources to be removed or to be brought to the site;
- g. Proposed method of removal or filling, general haul route, and whether blasting or other use of explosives will be required;
- h. General description of equipment to be used;
- i. Any buildings, structures (*D2-20*), sheds or trailers which are to be constructed or brought onto the site;
- j. The estimated time to complete total operations;
- k. The total area (in acres) proposed to be excavated or removed in the first year of operation, and in subsequent years.
- l. A reuse plan, drawn to a scale of 1 inch equals 50 feet placed on a standard sheet and containing the following information:
 - i. A description of the land use activities proposed to be located on the site upon completion of extraction operations;
 - ii. A description of the zoning district classification required for use of the site for the uses intended;
 - iii. A description and location of the street (*D2-18*), drainage on-site and downstream, water and sanitary sewer facilities required to serve the uses intended; and
 - iv. A soil removal permit fee may be required.
 - v. The Township Planning Commission may submit the engineering, designs, and site plans (*D2-18*) to the Michigan Department of Natural Resources, County Drain, Health or Road Commissions, or other state or federal agencies to determine that the designs meet all applicable requirements.
 - vi. If county, state, or federal permits are necessary, the approvals must be submitted to the Township by the applicant prior to the approval of a building permit.
 - vii. Six copies of a site plan containing all of the information required in Section 11.03.
 - viii. A completed application on an appropriate form.

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- ix. Payment of an application fee, which shall be non-refundable, and be established by resolution of the Township Board (*D2-19*).
 - x. Payment of a review fee established by the Township Board to cover the cost of a review by a professional engineer, architect, or planner of submitted plans. Any portion of the fee not expended shall be returned to the developer.
 - xi. The developer will be required to pay 100% of all review costs and will be provided copies of bills upon request.
3. Site Development Regulations and Standards
- a. No extraction, stockpiling of material, or processing shall take place closer than 100 feet to any property line.
 - b. If the circumstances of the site indicate that the 100-foot setback requirement would not be adequate to protect abutting property, the Township Planning Commission shall require the greater distance to adjacent property.
 - c. If deemed necessary to protect adjacent property, the Township Planning Commission may require a fence along the property.
 - d. No extraction shall be carried on closer than 100 feet from the right-of-way (*D2-14*) of a dedicated street (*D2-18*), road, or highway, or the edge of the traveled portion of an existing and non-dedicated street, road, or highway, except that extraction or soil additions may be conducted within the setback area in order to reduce or raise the final elevation thereof to be in substantial conformity to the existing elevation of the street, road, or highway.
 - e. Any area raised or lowered along a street, road, or highway within the 100-foot setback area to result in an elevation in substantial conformity to the adjoining street, road, or highway. Shall be completed, including any landscaping, seed planting, and gravel areas required, shall be completed within 3 months following the completion of the extraction or soil addition.
 - f. Site barriers or fences shall be provided along all boundaries of the site that lack natural screening conditions through existing contours, tree, or shrub growth or distance from the roads. Barriers shall consist of 1 of the following:
 - i. Earth berms constructed to a height of 6 feet above the mean elevation of the centerline of the adjacent public highway or 6 feet above the general level of terrain along interior property lines, as the case may be. The berms shall have slopes that

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- are not in excess of 1 foot vertical to 4 feet horizontal, and shall be planted with grass, trees, or shrubs; or
- ii. Planting of evergreen trees or shrubs in rows parallel to the boundaries of the property, not less than 4 feet in height at the time of planting and which grow to not less than 6 feet in height at maturity and sufficiently spaced to provide effective site barriers when 6 feet in height.
- g. Both permanent and/or temporary processing plants and their accessory structures shall not be located closer than 250 feet from the interior property lines and adjoining public rights-of-way and shall, where practicable, be located at a lower elevation than the surrounding terrain to lessen visual and noise impact. The foregoing shall not apply to the digging or excavating apparatus nor to the stockpiling or loading and transportation equipment.
 - h. All equipment and facilities used in the land filling, processing, or transporting of sand, gravel, or stone shall be constructed, maintained, and operated in a manner so as to eliminate, insofar as practicable, noises, vibrations, or dust which are injurious or unduly annoying. Dust and noise emitted from any operations shall be controlled according to the performance standards in this chapter.
 - i. The Township Planning Commission shall require other performance standards where because of unique conditions they deem it necessary for the protection of health, safety, and well being of the citizens of the township.
 - j. Temporary stockpiling of topsoil or overburden near road intersections and similar operational problems shall be subject to approval of the Township Planning Commission.
 - k. If pumping or draining of water from a quarry operation is anticipated, the applicant shall provide adequate data and research to indicate:
 - i. That water wells and the water supply of surrounding properties are not adversely affected;
 - ii. That drainage of water will not adversely affect nor create damage to adjacent or downstream properties; and
 - iii. That the drainage ways are adequate in design and construction to handle the excess water from this operation without damage to any other properties.

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- I. Reclamation and rehabilitation.
 - i. Reclamation and rehabilitation of excavated areas in accordance with the Reuse Plan shall be accomplished as soon as practicable following the excavation of an area.
 - ii. Where possible, the rehabilitation and reclamation shall be accomplished concurrently with the excavation operations.
 - iii. The Planning Commission may require a performance bond to assure that the Reuse Plan is implemented.
 - iv. Substantial completion of reclamation or rehabilitation shall be effected within 2 years after termination of excavation activity.
 - v. Inactivity for a 12-month consecutive period shall constitute, for this purpose, termination of extraction activity.
 - Finished slopes of the excavation shall not exceed a ratio of 4 feet horizontal to 1 foot vertical.
 - Finished slopes for any pond or water body left at an excavation site shall not exceed a ratio of 4 feet horizontal to 1 foot vertical.
- n. No internal roadway shall be closer than 100 feet from any residential property line.
- o. All excavation sites shall not be open or operated between the hours of 6:00 p.m. and 6:00 a.m.
- p. Further, the excavation sites and sanitary landfills shall not be open or operated during any hours on Sundays or holidays being New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas.

G. Commercial Freestanding Towers, Communication Towers, and related wireless communications equipment (D2-21)

Reference: MZEA 125.3514

1. Permitting

- a. A commercial freestanding tower, communication tower, and related wireless communications equipment is a permitted use of property and is not subject to conditional use permit approval if all of the following requirements are met:
 - i. The communication tower will be co-located (D2-4) on an existing wireless communications support structure (D2-21) or in an existing equipment compound (D2-7).

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- ii. The existing wireless communications support structure or existing equipment compound is in compliance with the zoning ordinance or received prior approval by Tuscola Township.
 - iii. The proposed co-location will not do any of the following:
 - Increase the overall height of the wireless communications support structure by more than 20 feet or 10% of its original height, whichever is greater.
 - Increase the width of the wireless communications support structure by more than the minimum necessary to permit co-location.
 - Increase the area of the existing equipment compound (*D2-7*) to greater than 2,500 square feet.
 - iv. The proposed co-location complies with the terms and conditions of any previous final approval of the wireless communications support structure (*D2-21*) or equipment compound by Tuscola Township.
- b. A commercial freestanding tower, communication tower, and related wireless communications equipment (*D2-21*) that meets the requirements of subsection (a)(i) and (a)(ii) but does not meet the requirements of subsection (a)(iii) or (a)(iv) is a permitted use of property if it receives conditional use approval under subsections (c) to (f).
 - c. An application for conditional use approval of a communication tower described in subsection (b) shall include all of the following:
 - i. A site plan (*D2-18*) as required in Chapter 10, including a map of the property and existing and proposed buildings and other facilities.
 - ii. Any additional relevant information that is required by this zoning ordinance.
 - d. After an application for a conditional use is filed with the Planning Commission, or other responsible official as described in Chapter 4, the Planning Commission or official shall determine whether the application is administratively complete. Unless the Planning Commission or official proceeds as provided under subsection (e), the application shall be considered to be administratively complete when the Planning Commission makes that determination or 14 business days after the Planning Commission receives the application, whichever is first.
 - e. If, before the expiration of the 14-day period under subsection (d), the Planning Commission or official notifies the applicant that the application is not administratively complete, specifying the information necessary to make the application administratively complete, or notifies the applicant

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that a fee required to accompany the application has not been paid, specifying the amount due, the running of the 14-day period under subsection (d) is tolled until the applicant submits to the Planning Commission the specified information or fee amount due. The notice shall be given in writing or by electronic notification. A fee required to accompany any application shall not exceed Tuscola Township's actual, reasonable costs to review and process the application or \$1,000.00, whichever is less.

- f. The Planning Commission shall approve or deny the application not more than 60 days after the application is considered to be administratively complete. If the Planning Commission fails to timely approve or deny the application, the application shall be considered approved and the Planning Commission shall be considered to have made any determination required for approval.
- g. Conditional Use Permit approval of a communication tower described in subsection (b) may be made expressly conditional only on the communication tower's meeting the requirements of other Tuscola Township ordinances and of federal and state laws before the communication tower and related wireless communications equipment (D2-21) begins operation.

2. Qualifying Conditions:

- a. The following site and development requirements shall apply:
 - i. The tower must be set back from all property lines a distance equal to its height, unless engineering plans and specifications have been verified by the Township Engineer that the structural integrity of the tower will withstand high winds and impacts, and the likelihood of a tower failure is minimal. The applicant shall incur all costs associated with the Township engineering review.
 - ii. The base of the tower and wire cable supports shall be fenced with a minimum eight (8) foot high fence.

3. Special Performance Standards:

- a. Accessory structures are limited to uses associated with the operation of the tower and may not be located any closer to any property line than the allowed setbacks for the district in which the structure is being built. Refer to district setbacks.

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- b. Accessory structures shall not exceed six hundred (600) square feet or gross building area.
- c. All bufferyard requirements within the zoning ordinance shall be met. For the purpose of this ordinance a commercial communication property adjacent to a residential district will be treated the same as any other commercial property with respect to bufferyard or berm areas.
- d. All tower properties shall be equipped with a gate to prevent unauthorized access.
- e. The plans of the tower construction shall be certified by a registered structural engineer. The applicant shall provide verification that the antenna mount and structure have been reviewed and approved by a professional engineer and that the installation is in compliance with all applicable codes. All towers must meet the standards of the Federal Aviation Administration and the Federal Communications Commission.
- f. No part of any tower or antenna shall be constructed, located, or maintained at any time, permanently or temporarily, on or upon any required setback area for the district in which the antenna or tower is located.
- g. Towers with antennae shall be designed to withstand a uniform wind loading as prescribed in the building code.
- h. All signals and remote control conductors of low energy extending substantially horizontally above the ground between a tower or antenna and a structure, or between towers, shall be at least eight (8) feet above ground at all points, unless buried underground.
- i. Towers shall be located and operated so that they do not interfere with reception in nearby residential areas.
- j. Towers shall be located so there is room for vehicles doing maintenance to maneuver on the property owned and or leased and/or leased by the applicant.
- k. The base of the tower shall occupy no more than five hundred (500) square feet.
- l. Minimum spacing between tower locations shall be 1 mile in order to prevent a concentration of towers in one area.

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- m. Towers shall not be artificially lighted unless required by code.
- n. There shall not be displayed advertising or identification of any kind intended to be visible from the ground or other structures (D2-20), except as required for emergency purposes.
- o. Structures shall be subject to any state and federal regulations concerning non-ionizing electromagnetic radiation. If more restrictive state or federal standards are adopted in the future, the antenna shall be made to conform to the extent required by such standard or approval will be subject to revocation by the Township Board (D2-19). Cost for testing and verification of compliance shall be borne by the operator of the antenna.
- p. There shall be no employees located on the site on a permanent basis to service or maintain the antenna. Occasional or temporary repair and service activities are excluded from this restriction.
- q. The tower shall be removed by the property owner or lessee within 6 months of being abandoned.

H. Swimming Pools

- 1. Swimming pools shall be in compliance of the requirements of the Tuscola County building codes.

I. Fences, Walls, Screens

- 1. No fence, wall, or structural screen, other than plant materials, shall exceed 6 feet in height in any residential zoning district.
- 2. If fencing is located less than 2 feet from a lot line, it shall be installed with the finished (“good”) side facing toward adjacent properties.
- 3. A fence, wall, or structural screen exceeding 6 feet in height requires site plan review and approval by the Planning Commission.

J. Regulations for General Solar Energy Systems

- 1. Intent and Purpose. General solar energy systems come in a variety of sizes and designs. General solar energy systems are typically designed as a single solar panel, or a set of solar panels, which can be either freestanding structures (D2-20) or structurally attached panels. Such panels contain an interconnected assembly of

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photovoltaic cells, including associated inverters, batteries, and interconnection wiring. This technology harnesses sunlight and converts it into energy which can be used directly on-site. Because of the variety of available solar energy system designs, the purpose of this section is to establish minimum siting requirements for general solar energy systems in the Township. These requirements balance the development of a clean renewable energy resource while minimizing potential adverse impacts between land uses. The overall intent of this section is to ensure that general solar energy systems are compatible for private use in agricultural, residential, and business settings.

2. **Accessory Structures.** A general solar energy system shall be considered an accessory structure in all zoning districts and shall not be erected (*D2-7*), constructed, installed, or modified as provided in this ordinance, including conformance to Section 3.23, unless a zoning permit has been issued to the Owner(s) or Operator(s). A general solar energy system also requires approved mechanical, electrical, and building permits. An exception to the requirements of Section 3.23 may be granted when a yard (*D2-22*) has a privacy fence. Yards with a privacy fence may be allowed to install ground-mounted solar panels within the setback area, only when approved by the Zoning Administrator. When the solar panel is directly adjacent to the privacy fence, the height of the solar panel shall not exceed the height of the privacy fence. However, for every 3 feet the solar panel is separated from the privacy fence, the solar panel may have an additional foot of height. In no case shall the ground-mounted solar panel exceed eight 8 feet in height.
3. **Siting and Design Requirements.** All general solar energy systems are subject to the following minimum requirements:
 - a. A general solar energy system exceeding 2 square feet in area is not permitted in any front yard (*D2-22*), on any face of a building (*D2-2*) or structure (*D2-20*) facing a street (*D2-18*) unless integrated with the construction of said building or structure, or in view of any adjacent street, except roof-mounted solar panels as set forth below.
 - b. A general solar energy system is limited to a maximum generating capacity of up to 30 kilowatts (kW) in residential districts and up to 150 kilowatts (kW) in all other zoning districts. These limits do not apply to solar energy systems that are integrated into the design of a building or structure, such as, though not limited to, flexible photovoltaic solar cells packaged in the form of roofing shingles.
 - c. The reflection angles of solar energy systems should be oriented away from neighboring windows and, to the extent possible, away from public areas, to minimize glare on adjacent properties and roadways. As such,

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solar panels shall be finished with non-reflective coatings and exposed frames and components shall have a non-reflective surface.

- d. A ground-mounted general solar energy system shall:
 - i. Be located in a rear yard (*D2-22*) only,
 - ii. Not exceed the allowed maximum lot (*D2-10*) coverage for accessory structures,
 - iii. Not exceed eight 8 feet in height above the ground.

- e. Roof-mounted general solar energy systems:
 - i. Permitted roof-mounted solar panels shall include integrated solar panels as the surface layer of the roof structure with no additional apparent change in relief or projection (the preferred installation), or separate flush-mounted solar panels attached to the roof surface. A flush-mounted solar panel is anchored directly against the roof. It is parallel to the surface of the roof and does not stick up and away from the roof.
 - ii. Separate flush-mounted solar panels shall be located on a rear- or side-facing roof, as viewed from any adjacent street (*D2-18*), unless such installation is proven to be ineffective or impossible. The removal of potential obstructions such as interceding vegetation shall not be sufficient cause for permitting a front-facing roof installation.
 - iii. Separate flush-mounted solar panels installed on a building or structure (*D2-20*) with a sloped roof surface shall not project vertically above the peak of the roof to which it is attached, or project vertically more than 5 feet above a flat roof installation.

K. Open Space Preservation

- 1. Open Space Preservation Option: At the option of the developer, land zoned R-1 and R-2 may be developed for detached single-family residential subdivisions and condominiums in the fashion established MCLA 125.3506 (Section 506 of the Michigan Zoning Enabling Act, PA 110 of 2006, as amended). Land developed under this option must adhere to the following requirements:
 - a. In all developments proposed under the standards of this option, at least 50 percent of the gross buildable area of the subject property (*D2-18*) must be perpetually preserved as open space. Gross buildable area is defined as that portion of the gross site area not containing open bodies of water, streams, wetlands (as defined by the MDEQ), and areas within the 100-year flood plain.

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- b. The following land areas shall not be applied toward satisfaction of the minimum open space requirement stated under division (a) of this section:
 - i. Unbuildable land, including wetlands, open bodies of water and streams, and areas within the 100-year flood plain;
 - ii. The area of any public road right-of-way (D2-14) or private road easement (D2-7);
 - iii. Areas within lots (D2-11) or units;
 - iv. Public or private golf courses (D2-9).
 - c. The following land areas may be applied toward satisfaction of the minimum open space requirement stated under division (a) of this section:
 - i. Uncleared areas of the site left in their natural condition;
 - ii. Landscaped greenbelts;
 - iii. Public and private parks (D2-13) developed with recreation amenities including but not limited to: landscaping, gazebos, benches, play equipment, pathways (woodchip or paved), and wildlife enhancements;
 - iv. Storm water management facilities, including detention, retention and sedimentation basins, up to 25 percent of the total amount of open space required under division (a) of this section.
2. Open Space Standards: Open space intended to satisfy the minimum requirements stated under sub-section K.1(a) must adhere to the following standards:
- a. Open space shall be centrally located, located along the road frontage (D2-8) of the development, located to preserve significant natural features, or located to connect open spaces throughout the development.
 - b. Open space must be either left in its natural condition, provided with recreational amenities, or landscaped. Preserved open space shall not be left primarily as lawn. This shall not apply to storm water management basins.
 - c. Open space provided along exterior public roads shall generally have a depth of at least 50 feet, and be either landscaped or left in a natural wooded condition. In either case, open space along exterior public roads shall be provided with a minimum of one evergreen or canopy tree for

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each 30 feet of road frontage. Such plantings shall be planted in staggered rows or clustered into natural groupings to provide a natural appearance. Preservation of existing trees may be credited towards meeting this frontage landscaping requirement.

- d. Open space must be accessible. Access can be provided via sidewalks and pathways throughout the development or where open space abuts road rights-of-way within the development.
 - e. Connections with adjacent open space, public land or existing or planned pedestrian/bike paths may be required by the Planning Commission.
 - f. Views of open spaces from lots (or units) and roads within the development are encouraged.
3. Means of Open Space Preservation: Open space shall be set aside by the developer through an irrevocable recorded document that is found acceptable to the Planning Commission, such as:
- a. Recorded deed restrictions;
 - b. Covenants that run perpetually with the land;
 - c. Dedication to a land conservancy approved by the Planning Commission; or,
 - d. A conservation easement established per the State of Michigan Conservation and Historic Preservation Act, Public Act 197 of 1980, as amended (M.C.L.A. 324.2140).
4. Protection of Open Space: Preservation of open space as described in sub-section K.3 of this section shall assure that open space will be protected from all forms of development, except as shown on an approved site plan (D2-18), and shall never be changed to another use. The recorded document utilized shall indicate the proposed allowable use(s) of the preserved open space. The Planning Commission may require the inclusion of open space restrictions that prohibit the following:
- a. Dumping or storing of any material or refuse;
 - b. Activity that may cause risk of soil erosion or threaten any living plant material;
 - c. Cutting or removal of live plant material except for removal of dying or diseased vegetation;

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- d. Use of motorized off-road vehicles;
 - e. Cutting, filling or removal of vegetation from wetland areas;
 - f. Use of pesticides, herbicides or fertilizers within or adjacent to wetlands;
 - g. Require that the preserved open space be maintained by parties who have an ownership interest in the open space;
 - h. Provide standards for scheduled maintenance of the open space;
 - i. Provide for maintenance to be undertaken by Tuscola Township, at the Township's option, in the event that the preserved open space is inadequately maintained, or is determined by the Township to be a public nuisance, with the assessment of costs upon the property owners.
5. Continuing Obligation: The preserved open space shall forever remain open space, subject only to uses approved by the Township on the approved site plan (D2-18) or plat. Further subdivision of open space land or its use for other than recreation, conservation or agricultural purposes, except for easements (D2-7) for utilities and septic systems, shall be strictly prohibited.
6. Allowable Structures: Any structure(s) or building(s) accessory to a recreation, conservation or agriculture use may be erected (D2-7) within the preserved open space, subject to the approved site plan. These accessory structure(s) or building(s) shall not exceed, in the aggregate, one percent of the required open space area. Accessory structures may include:
- a. Maintenance buildings;
 - b. Clubhouse;
 - c. Recreation structures (gazebos, boardwalks, docks, play equipment, etc.);
 - d. Other structures as approved by the Planning Commission.
7. Lot Size Reduction
- a. The minimum lot width and lot area for lots or units in single-family detached residential developments, as stated in the Schedule of Regulations, may be reduced by up to 20 percent when developed using the option provided under this division.

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- b. Notwithstanding division (a) of this section, no lot area shall be reduced below 6,600 square feet, nor shall the lot width be reduced below 66 feet. Larger lot area may be required to the requirements of P.A. 288 of 1967, the Subdivision Control Act.
- c. Every square foot of lot area reduction proposed below the minimum lot area normally permitted for the district must be preserved as open space, and may be counted toward the minimum required open space described above under sub-section K.01 of this section.
- d. Required yard (*D2-22*) setbacks shall not be reduced.

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