

Article 11 ENVIRONMENTAL PROTECTION

Section 11.1 Purpose

The purpose of this Article is to promote a healthy environment as it relates to the Township's natural resources and sensitive ecosystems, the provision of adequate sewage disposal and potable water, and the management of land uses regarding other environmental impacts such as exterior lighting, glare, and vibrations.

Section 11.2 Natural Resources – General

A. Compliance with Local, County, State, and Federal Regulations: All land uses and construction shall conform to this Ordinance and all local, county, state and federal rules and regulations including:

1. Michigan Department of Environmental, Great Lake and Energy: Land uses shall comply with the requirements of the Michigan Department of Environment, Great Lakes, and Energy including those applying to:
 - a. airborne emissions.
 - b. Water quality protection including discharges to surface and ground water.
 - c. The use of and disturbances to wetlands including dredging and filling.
 - d. The use of and disturbances to flood plains.
 - e. Waste disposal.
 - f. The loading, unloading, transport, storage, use and/or disposal of hazardous substances including fuels and other flammable liquids.
 - g. Construction in a floodplain.
2. County Health Department and Drain Commissioner: Land uses shall comply with the requirements of the County Health Department including those applying to potable water and sewage disposal.
3. County Drain Commissioner: Land uses shall comply with the requirements of the County Drain Commissioner including those applying to the provision and design of retention ponds and detention ponds.

B. Hazardous Substances:

1. General:
 - a. It is prohibited to pollute, impair or destroy air, water, soils or other natural resources through the use, storage or handling of hazardous substances and/or wastes or the storage and disposal of solid, liquid, gaseous and/or sanitary wastes.
 - b. Any person conducting an activity which uses, stores or generates hazardous substances shall obtain the appropriate permits and approval from the Michigan Department of Environment, Great Lakes, and Energy, Michigan Fire Marshal Division, Livingston County, Iosco Township and/or other agencies having jurisdiction.
 - c. Any person that uses, stores or generates hazardous substances shall complete and file a Hazardous Chemicals Survey on a form supplied by the Township in conjunction with the following:
 - 1) The submission of a site plan.
 - 2) Any change of use or occupancy of a structure or lot.
 - 3) Any change in the manner in which such substances are handled, and/or in the event of a change in the type of substances to be handled.
2. Above-Ground Storage and Use Areas for Hazardous Substances: All business and facilities which use, store, or generate hazardous substances in quantities greater than one hundred (100) kilograms per month (equal to or greater than 25 gallons or 220 pounds) shall comply with the following standards:
 - a. Secondary containment of hazardous substances and polluting materials shall be provided. Secondary containment shall be sufficiently impervious to contain the substance for the maximum anticipated period of time necessary for the recovery of any released substance.
 - b. Outdoor storage of hazardous substances and polluting materials shall be prohibited except in product-tight containers that are protected from weather, leakage, accidental damage and vandalism.
 - c. Secondary containment structures such as out buildings, storage rooms, sheds and pole barns shall not have floor drains.
 - d. Areas and facilities for loading/unloading of hazardous substances and polluting materials, as well as areas where such materials are handled and used, shall be designed and constructed to prevent discharge or runoff.

2. Underground Storage Tanks: All business and facilities which use, store, or generate hazardous substances in quantities greater than one hundred (100) kilograms per month (equal to or greater than 25 gallons or 220 pounds) shall comply with the following standards:
 - a. Existing and new underground storage tanks shall be registered with the authorized state agency in accordance with requirements of the U.S. Environmental Protection Agency, the State Police Fire Marshal Division, and/or any other Federal, State or local authority having jurisdiction.
 - b. Installation, operation, maintenance, closure, and removal of underground storage tanks shall be in accordance with requirements of the State Police, Fire Marshal Division and Iosco Township. Leak detection, corrosion protection, spill prevention and overfill protection requirements shall be met. Records of monthly monitoring or inventory control must be retained and available for review by state or local officials.
 - c. Out-of-service abandoned underground tanks shall be emptied and removed from the ground in accordance with the requirements of the State Police Fire Marshal Division, the Michigan Department of Environment, Great Lakes, and Energy, Iosco Township, and/or any other Federal, State or local authority having jurisdiction.
3. Loading and Unloading Areas: Areas used for the loading and unloading of hazardous substances shall be designed and constructed to prevent the harmful release to the environment of hazardous materials which may be spilled or leaked.

C. Sensitive Lands:

1. Avoidance of Sensitive Resources: Where a portion of a parcel is characterized by sensitive or fragile environmental features, including wetlands, hydric soils, or flood plains, new development on the lot shall only occur on those portions of the parcel void of such features where reasonably feasible. Where not reasonably feasible, new development shall comply with all county, state and federal laws, rules and permit and approval requirements.
2. Evidence of Permits: Except where required to do so by state or federal law, the Township shall not approve any land use that requires a county, state, or federal permit until such permit has been obtained and satisfactory evidence has been submitted verifying the acquisition of the necessary permit.
3. Mitigation: The Township may require mitigation measures be taken to replace those resources disturbed or destroyed by a land use, or to otherwise lessen the impact of a new land use upon natural resources and sensitive areas.

D. Clearing of Top Soil, Grading, and Drainage:

1. Removal of Topsoil: Stripping and removal of topsoil from a site is prohibited prior to the completion of all approved site improvements and the seeding, sodding, and landscaping of all disturbed areas, except where expressly authorized as part of an approved site plan. "Disturbed areas" shall be interpreted to mean any area of a lot that is altered by grading or other construction activities and which area is not proposed to be paved or otherwise built upon. This subsection (1) shall not apply in the case of a single-family or two-family dwelling for which a zoning permit and building permit has been issued, provided the topsoil to be removed is limited to the immediate area of the proposed site improvements according to such permits.
2. Drainage/Flow Restrictions:
 - a. Temporary and permanent ground elevations surrounding a building or structure shall be designed and landscaped such that surface waters flow away from the building or structure.
 - b. It shall be prohibited to increase the rate or quantity of runoff upon adjacent properties or public roads, to cause erosion or filling of a roadside ditch, stream or other water body, to block a public watercourse, or create standing water over a sewage disposal drainage field.
 - c. See Section 11.3 regarding buffer areas for natural resources and Section 11.4 regarding storm water management.

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Section 11.3 Natural Resources – Buffer Areas

A. Definitions: For the purpose of this Section, the following words and phrases shall have the following meanings:

1. **Impervious Cover:** Any manmade paved, hardened or structural surface regardless of material including but not limited to rooftops, buildings, streets, roads, decks, patios including those of a brick or stone material, swimming pools, and any concrete or asphalt.
2. **Natural Feature:** A wetland or watercourse.
3. **Natural Feature Edge:** The ordinary high water mark, except that in the case where there exists a bank along the natural feature such as a stream or creek bank, where the bank exceeds a slope of ten percent (10%), the natural feature edge shall be considered the top of the bank or a line thirty (30) feet from the ordinary high water mark, whichever is less.
4. **Ordinary High Water Mark:** The line between upland and bottomland which persists through successive changes in water levels below which the presence and action of the water is so common or recurrent that the character of the land is marked distinctly from the upland and is apparent in the soil.
5. **Watercourse:** Any waterway including a river, stream, creek, lake, vernal pool, pond, or any body of surface water having definite banks, a bed and visible evidence of a continued flow or continued occurrence of water.
6. **Wetlands:** Land characterized by the presence of water at a frequency and duration sufficient to support and that under normal circumstances does support, wetland vegetation or aquatic life, and is commonly referred to as a bog, swamp, or marsh.

B. Natural Features, Required Setback:

1. **Structures Five (5) Feet or Greater in Height:** Unless otherwise specified in this Ordinance, a natural features setback of fifty (50) feet shall be maintained from a natural feature edge for all buildings, and any structures of five (5) feet or more in height above the ground below, except that where there exists one (1) or more dwellings located along such natural feature and where such one (1) or more dwelling is within one hundred fifty (150) feet of a side lot line of the lot on which construction of a dwelling is proposed, the required setback shall be the average setback of such existing dwellings measured from the natural feature edge. However, in no case shall such natural feature setback be less than twenty-five (25) feet nor shall such setback be required to be greater than fifty (50) feet.
 - a. Steps, and those portions of unroofed decks and porches with a floor surface two (2) feet or less above the ground, shall not be considered in determining such average setback.
 - b. Where only a portion of a dwelling is located within the one hundred fifty (150) foot measured distance, the setback of the entire dwelling shall be used for determining such average setback.
2. **Structures Less Than Five (5) Feet in Height:** Unless otherwise specified in this Ordinance, a natural features setback of twenty-five (25) feet shall be maintained from the natural feature edge for all structures of less than five (5) feet in height above the ground below.

C. Use Restrictions within a Natural Feature Setback: Within a natural feature setback, there shall be no clearing, grubbing or stripping; no removal of vegetation; no application of fertilizers or pesticides; no dredging, grading, excavation, removal or addition of soil or filling of land; no erection or addition of structures, buildings or any other construction including concrete or asphalt paving; and no installation of any impervious cover. In addition, no vegetation cutting or removal within the natural features setback shall occur prior to all approvals from the designated approving body(s) have been obtained.

D. Exemptions: The following are exempted from regulation under this Section.

1. **Prohibited by Law:** If and to the extent the Township is prohibited from regulating the proposed activity in or on the respective natural feature by its ordinances or the laws of county, state or federal government or the rules of county, state or federal agencies, regulation under this Section shall be exempted.
2. **Other:** In addition to the exemptions of subsection (1), the following activities shall be exempted from regulation under this Section provided such activities shall comply with all county, state or federal laws and the rules of county, state or federal agencies, and all necessary approvals and permits have been granted. It is not the intent of this subsection (D) to exempt regulation by other ordinances and laws applicable to the natural feature.
 - a. Installation of a fence.
 - b. Maintenance of previously established lawn areas.
 - c. Grading and filling necessary in order to conform to express requirements imposed by the Township.

- d. Installation of one (1) deck not to exceed twenty (20) feet in dimension as measured parallel to the natural feature edge.
- e. Planting of non-invasive trees and other vegetation, but not the use of fertilizers.
- f. Work consisting of the repair or maintenance of any lawful use of land approved for such use.
- g. Agriculture, landscaping, gardening and lawn maintenance, including the removal of dead and diseased trees.
- h. The clearing of up to thirty percent (30%) of the vegetation in the natural features setback to afford views and/or access to the natural feature, provided adequate measures are taken to prohibit the exposure of bare soil and soil erosion, such as the establishment of grasses or other vegetative ground cover.
- i. Any lawful activity that is under construction and for which all necessary permits have been granted.

Section 11.4 Storm Water Management

- A. Applicability:** Uses subject to this Section shall be limited to those uses subject to site plan approval according Article 14 of this Ordinance unless expressly provided otherwise by this Ordinance.
- B. General Standards:** Land use modifications shall be designed, constructed, and maintained to prevent flooding, protect water quality, reduce soil erosion, and maintain wildlife habitats. In meeting these requirements, the following standards shall apply to the greatest extent practical and feasible:
 - 1. All storm water drainage and erosion control plans shall meet the rules and regulations of the County Drain Commissioner and any additional regulations as this or other ordinance may provide, including standards pertaining to discharge volumes and the design of retention and detention areas. Compliance with such standards shall, to the maximum extent feasible, utilize nonstructural control techniques including, but not limited to: limitation of land disturbance and grading; maintenance of vegetated buffers and natural vegetation; minimization of impervious surfaces; use of terraces, contoured landscapes, runoff spreaders, and grass or rock-lined swales; and use of infiltration devices.
 - 2. The particular facilities and measures required on-site shall reflect and incorporate existing ground elevations, natural features, wetlands, and watercourses on the site.
 - 3. Storm water management systems shall be designed to prevent flooding and the degradation of water quality related to storm water runoff and soil erosion from proposed development for adjacent and downstream property owners.
 - 4. Site development and storm water management systems shall maintain natural drainage patterns and watercourses.
 - 5. The conveyance of storm water shall rely on swales and vegetated buffer strips to the greatest extent feasible and practical.
 - 6. Drainage systems shall be designed to be visually attractive including the integration of storm water conveyance systems and retention and detention ponds into the overall landscape concept. Ponds shall be designed to be naturally contoured, rather than a square or rectangular design.
 - 7. It shall be prohibited to increase the rate or quantity of runoff upon adjacent properties or public roads, to cause erosion or filling of a roadside ditch, stream or other water body, to block a public watercourse, or create standing water over a sewage disposal drainage field.
 - 8. Whenever a landowner is required to provide on-site storm water retention and/or surface drainage to wetlands, or whenever other protective environmental measures including monitoring devices are required, such measures or facilities shall be provided and maintained at the landowner's expense. The landowner shall provide satisfactory assurance to the Township whether by written agreement or otherwise, that the landowner will bear the responsibility for providing and maintaining such methods or facilities.
- C. Minimizing Storm Water Runoff**
 - 1. Roads constructed as part of a subdivision or similar unified development shall be designed to minimize storm water runoff such as limiting road paving to the minimum necessary width, including cul-de-sacs, while adequately addressing anticipated traffic levels, on-street parking, and emergency vehicle needs.
 - 2. Roof-top runoff shall be directed to pervious areas such as yards, open channels, or other vegetated areas.
 - 3. Clearing and grading shall be limited to only those locations approved for such landscape alterations as delineated on an approved site plan.

D. Use of Wetlands: Wetlands may be used for storm water management if all the following conditions are met:

1. All runoff from the development will be pre-treated to remove sediment and other pollutants prior to discharge to a wetland. Such treatment facilities shall be constructed before property grading begins. Storm water runoff discharged to wetlands must be diffused to non-erosive velocities before it reaches the wetland. Direct discharge of untreated storm water to a natural wetland is prohibited.
2. Wildlife, fish, or other beneficial aquatic organisms and their habitat within the wetland shall not be impaired.
3. The wetland has sufficient holding capacity for storm water, based upon calculations prepared by the applicant and reviewed and approved by the township after consultation with an engineer of applicable expertise.
4. Adequate on-site erosion control is provided to protect the natural functioning of the wetland.
5. Adequate private restrictions are established, such as a conservation easement over the wetlands, to insure that the wetland is not disturbed or impaired in the future relative to the needed storage capacity.
6. Applicable permits from the Michigan Department of Environment, Great Lakes, and Energy and any other agency of jurisdiction are obtained.

Section 11.5 Potable Water and Sewage Disposal

Any building intended for human occupancy and used for dwelling, businesses, industrial, recreational, or institutional purposes shall not be erected, altered, used or moved upon any premises unless said building shall be provided with a potable water supply and waste water disposal system that ensures a safe and effective means of collection, treatment, and disposal of generated wastes. All sewage disposal and potable water facilities shall be constructed and maintained in accordance with the requirements and standards of the County Health Department as well as those of other applicable local, county, state, or federal agencies.

Section 11.6 Vibration

The operation of any land use including equipment and devices associated therewith, that creates vibrations that are typically discernible by human senses at or beyond the lot line of the source, is prohibited. For the purposes of this Section, "typically discernible by human senses" means vibrational motion of such character to cause a normal person to be aware of the vibration by direct means such as sensation by touch or observation of moving objects.

Section 11.7 Glare and Heat

Any operation which produces glare or heat shall be conducted within an enclosed building or other enclosure so as to be completely imperceptible from any point beyond the lot lines of the lot upon which the source of glare or heat is located, including as a result of the opening of doors to such building or enclosure. See Sec. 11.8 regarding the screening of vehicle headlight glare.

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Section 11.8 Exterior Lighting

A. General:

1. No Exterior lighting shall in any way impair the safe movement of traffic.
2. No exterior lighting including any reflected light or resulting glare shall create a nuisance or safety hazard to operators of motor vehicles, pedestrians, and neighboring land uses. This provision shall not apply to Township approved street lighting.
3. No exterior lighting shall be used to attract attention to a building or other facility. This restriction shall not prohibit the use of ground-mounted lighting that enhances the architectural or landscape features of the facility.
4. Exterior lighting of signs shall comply with Article 8.

B. Non-Residential Uses: Lighting associated with a commercial, industrial, or other non-residential uses shall comply with the following:

1. A wall, fence, vegetative and/or berm, at least four (4) feet in height, shall be erected to prevent headlight glare from shining onto adjacent residential property. Such headlight screening shall in no way impair safe vertical or horizontal sight distance for moving vehicles.
2. Exterior lighting shall be designed and installed so that the surface of the source of light shall be hooded or louvered to the greatest extent practical to ensure the following:
 - a. Emitted light shall be directed downward onto the lot upon which the light source is located.
 - b. Light sources shall not be visible from beyond the lot lines and shall be so arranged to reflect light away from adjacent properties. Recessed lighting shall be utilized as may be necessary to ensure compliance.
 - c. No more than 0.3 foot candle power of light shall cross a lot line at ground level, except that in the case where the adjacent use is in an Agricultural or Residential District, or is under residential use, no more than 0.1 foot candle power of light shall cross the respective lot line at ground level.
3. Subsections (1) and (2) above shall not apply to outdoor recreation and amusement areas, and similar outdoor use of light, provided the lighting is designed with baffling and glare guards to ensure that no more than 0.5 foot candle power of light shall cross a lot line at the ground surface in an Agricultural or Residential District, and such lighting is turned off during hours the facility is closed to the public.
4. Exterior lighting shall not exceed a maximum light levels twenty-five (25) foot candles directly beneath a light fixture and three (3) foot-candles between any two (2) fixtures, except upon adequate demonstration to the satisfaction of the site plan approving body that higher light levels are necessary for safety and security purposes.
5. For parking lots of less than one hundred (100) parking spaces, lighting fixtures shall not exceed a height of sixteen (16) feet measured from the ground level to the horizontal centerline of the light source. For parking lots of more than one hundred (100) spaces, lighting fixtures shall not exceed a height of eighteen (18) feet measured from the ground level to the horizontal centerline of the light source.

C. Residential Uses: Lighting designed to illuminate residences and residential yards, driveways and walkways shall comply with the following:

1. Exterior lighting in excess of five (5) feet above the ground below shall be designed and installed so that the surface of the source of light shall be hooded or louvered to the greatest extent practical to ensure that all emitted light is directed downward onto the lot upon which the light source is located, and that the light source shall not be visible from beyond the lot lines and shall be so arranged to reflect light away from adjacent properties. This subsection (C)(1) shall not apply to light fixtures that rely on incandescent bulbs of no greater than 60 watt power or light emitting diode (LED) bulbs of not greater than 15 watt power.
2. No more than 0.1 foot candle power of light shall cross a lot line at ground level, excluding light emitted from an approved neighborhood street lighting system, except that in the case where the adjacent use is of a non-residential character, no more than 0.3 foot candle power of light shall cross the respective lot line at ground level.

End of Article 11