

**ARTICLE XXII
ENVIRONMENTAL PROVISIONS**

(Revised 08-25-21 Effective 09-10-2021)

Section 22.1 PURPOSE

Revised 08-25-2021

It is the intent of these regulations to identify and protect those areas of the Township that are considered to be environmentally sensitive to development, improvement, or any alteration of land use, including removal of vegetative cover, due to soil types, drainage, vegetation, wildlife habitats, floodplain, slope erosion or other factors, and that are subject to being seriously endangered, damaged, or destroyed if allowed to be developed, improved or altered in any way, including removal of vegetative cover in a manner inconsistent with their conservation and preservation. Since the welfare and well-being of the citizens of the Township are directly linked and related to the natural environment of the area, it is recognized by this Article that in order to maintain sensitive areas in their natural condition for the benefit of mankind, it is necessary to protect such areas from degradation.

Section 22.2 REGULATION OF ENVIRONMENTALLY SENSITIVE AREAS

Revised 08-25-21

All uses allowable in zoning districts of this Ordinance shall comply with the standards set forth in this section regulating the development, improvement, or any alteration of land use, including removal of vegetative cover of environmentally sensitive areas. These requirements shall be considered in addition to use restrictions or other applicable regulations for each zoning district, including all overlay districts, and shall be considered as a separate portion of the zoning application.

Section 22.3 ENVIRONMENTALLY SENSITIVE AREAS

Revised 08-25-2021

The protection of areas of environmental concern, such as wetlands, high risk erosion, dunelands, floodplains, or steep slope areas, and lands lying in the Betsie River Natural River District must be considered in conjunction with development, improvement and any alteration of land use, including removal of vegetative cover, and must conform with the following regulations of state, county and township agencies as applicable:

A. Dune Formations and High Risk Erosion Areas are sensitive sandy and clay areas under protection of the Michigan Natural Resources & Environmental Protection Act, PA 451 of 1994, Parts 353 and 323 respectively (formerly, the Sand Dunes Protection Act, PA 222 of 1976, as amended by Public Act 146 and 147 of 1989, and the Shorelands Protection and Management Act, Public Act 245 of 1970, as amended).

B. Wetlands are defined by degree of soil wetness, generally including those soils classified by the Michigan Natural Resources & Environmental Protection Act, PA 451 of 1994, Part 303, Section 324.30301 et seq (formerly, the Goemere-Anderson

Wetlands Act , PA 203 of 1979) as being able to support aquatic vegetation regardless of whether it has standing water or not. No activity shall be permitted on a site with regulated wetlands, unless a wetlands permit has been obtained by the applicant from the Michigan Department of Environmental Quality.

C. Sensitive Riverine Areas are defined as areas on each side of streams that could be subject to flooding or erosion and alterations of land may require a soil erosion and sedimentation control permit under Part 91, Section 324.9101 et seq of the Michigan Natural Resources & Environmental Protection Act, Public Act 451 of 1994, (formerly, PA 346 of 1972).

D. Inland Lakes An inland lake includes a body of water and its entire watershed, consisting of sensitive shorelines, forests, streams and headlands, which could be subject to flooding, erosion, or pollution per Part 301, Section 324.30101 et seq of the Michigan Natural Resources & Environmental Protection Act, Public Act 451 of 1994, (formerly, PA 345 of 1966.

E. Flood Plain Areas are low areas adjacent to inland lakes and streams subject to flooding according to the one hundred (100) year flood hazard boundary map as administered by the Federal Emergency Management Agency (FEMA) or an Intermediate Regional Flood map prepared by the Army Corps of Engineers (see Section 22.9). A structure proposed within a floodplain is not permitted to be erected until a permit from the Michigan Dept. of Environmental Quality is obtained pursuant to Part 31 of the Michigan Natural Resource & Environmental Protection Act, Public Act 451 of 1994 and Section 22.9 of this Article.

F. Steep Slopes
When the proposed building site has slopes in excess of fifteen (15) percent, questionable soils stability or evidence of erosion, the Zoning Administrator shall require the applicant to obtain a site analysis and conform with the applicable requirements of Overlay Districts and this Article.

G. Natural River District The rules and regulations adopted under Part 305, Section 324.30501, et seq, of the Michigan Natural Resources & Environmental Protection Act, PA 451 of 1994 (formerly PA 231 of 1970) the State of Michigan shall apply to the strip of land four hundred (400) feet wide on each side of and parallel to the Betsie River, Dair Creek, and the Little Betsie River.

Section 22.4 RETAINING WALL PERMIT

Revised 08-25-21

No shoreline retaining wall shall be erected without first having obtained a permit from the Crystal Lake Township Zoning Administrator and the Michigan Department of Environment, Great Lakes and Energy (EGLE).

Except where land owners are engaged in an active program of forest management pursuant to a written forest management plan prepared by a professional forester, as defined in Section 2.2, and recognized as such by the Benzie County Conservation District Forester; or the land is enrolled in the state commercial forest management program or other state or federal sanctioned tax program for lands in active forest management, or the land is within a more restrictive District such as the Crystal Lake Watershed Overlay District, or the Waterbodies Overlay District; or is within those portions of the Betsie River, Dair Creek, and the Little Betsie River designated under the State Natural Rivers Program, the applicant shall provide evidence that the cutting and removing of trees and other native vegetation will be, wherever practical, performed according to the following standards:

- A. The removal of more than thirty percent (30%) of trees that are six (6) inches or more in diameter measured at a height of 4.5 (DB) shall not be permitted.
- B. Cutting shall be done in such a manner as to avoid erosion, to preserve rare species of trees and native vegetation, to maintain biodiversity, to preserve scenic qualities, and to preserve desirable screening.
- C. All residual trees (trees remaining) shall be clearly marked on the proposed plan to protect them from damage.
- D. In order to protect the trees and the roots of the trees, wherever practical, all structures and roads shall be set back at least 10 (ten) feet from the trees identified on the site plan to be left standing or undamaged.
- E. Wherever feasible, groups or clumps of trees shall be preserved to encourage survival of the root zone.
- F. Exceptions to the requirements of this subsection are as follows:
 - 1. Tree removal or transplanting occurring during use of land for agriculture or the operation of a commercial nursery or tree farm.
 - 2. Actions made necessary by an emergency, such as a tornado, windstorm, flood, freeze, dangerous and infectious insect infestation or disease, or other disaster, in order to prevent injury or damage to persons or property or to restore order.
 - 3. Repair or maintenance work performed by public utilities necessitating the trimming or cutting of trees.
 - 4. Removal or trimming of dead, diseased, or damaged trees where the damage resulted from an accident or nonhuman cause.

**Section 22.6 GRADING AND FILLING OF PROPERTY AND STORMWATER
DETENTION**

Revised 08-25-21

A. When any land in the Township is developed, improved, or altered in any way, including removal of vegetative cover, and this action affects stormwater runoff, the owner shall detain such stormwater from runoff onto adjacent properties, including roads and other rights-of-way, in such a manner which shall result in the maximum amount of stormwater runoff not exceeding that which existed prior to the development or improvement or alteration of the property, and in accord with the requirements of the Michigan Natural Resources & Environmental Protection Act, PA 451 of 1994, Part 91, Section 324.9101 et.seq. formerly the Soil Erosion/Sedimentation Control Act, PA 347 of 1972, as amended. In addition, all development, improvement or alteration of the property shall conform to the Benzie County Soil Erosion, Sedimentation and Stormwater Control Ordinance and any general rules or administrative guidelines.

B. Special attention shall be given to proper site drainage so that runoff of stormwater will not adversely affect neighboring properties or the water quality of the township's lakes, streams and wetlands. Stormwater control mechanisms, such as retention/detention basins, vegetative buffers, swales, infiltration trenches, rain gardens or constructed wetlands shall be required to ensure that the peak rate of stormwater runoff after development does not exceed the rate prior to development. (For a storm with a twenty-five (25) year frequency of three (3) and one-half (1/2) inches and twenty-four (24) hour duration).

C. The final grade surface of ground areas remaining after the construction of a building or structure, and any earth changes made in connection with use of land shall be designed and landscaped such that surface water flows away from the building or structure and is collected or managed in a manner which avoids any increase in surface water discharge onto adjacent properties or public roads, the erosion of or filling of any road ditch, the blockage of any natural or public watercourse, the creation of standing water over a private sewage disposal drainage field, and any unnecessary impoundment of surface water. The provisions of this section shall be administered and enforced pursuant to the site plan review provisions of Article XIV, when applicable. In all other cases, the Zoning Administrator shall determine after consultation with the Soil Erosion, Sedimentation, and Stormwater Control administrator whether the provisions of this section are met. When it is determined that inadequate surface water control exists, no Certificate of Zoning Compliance shall be issued until the situation is corrected and approved by the Zoning Administrator.

D. Creation of Ponds: A manmade excavation or impoundment of surface water designed to retain or detain water with a surface area of at least one thousand (1000) square feet is subject to the following regulations:

1. A pond is an accessory or conditional use in all zoning districts.
2. No person shall commence the excavation, dredging, or construction of a dam, that is designed, intended or results in the creation or enlargement of a pond without first making application for and receiving a Zoning Permit

- approving the specific plans for a pond.
3. An application for a zoning permit for a pond shall be made pursuant to Sections 14.7 and 14.8 of this Ordinance.
 4. Proposed ponds of less than **one (1)** acre in size shall be considered under Section 14.23.4 minor site plan.
 5. Applications for ponds larger than **one (1)** acre and/or ponds which are located within five-hundred (500) feet of a lake, river, stream, or open county drain shall be required to be submitted to the Michigan Department of Environmental Quality to determine the extent to which the Natural Resources and Environmental Protection Act, Public Act 451 of 1994, apply to the proposal.
 6. Ponds (or man made lakes) in excess of 5 acres shall be considered major site plans under Part IV of Article XIV.
 7. Plans for ponds shall indicate the size, depth, and proposed finished grade of the land both above and below water level, any proposed fencing location and specifications. In addition, the applicant shall indicate sources of water being used to supply the pond (such as stream impoundment, surface water runoff, springs, and wells).
 8. No pond shall be closer than fifty (50) feet from any property line, easements for egress, dwelling units, septic drainage fields and domestic wells.
 9. Ponds on parcels of less than 20 acres in size that are not enclosed by a four feet high fence shall be required to provide and maintain one or more safety stations in compliance with the following:
 - a. U.S. Coast Guard approved ring buoys securely connected to forty feet of rope mounted on posts located at 500 feet intervals around the perimeter of the pond.
 - b. A twelve feet long pole shall be attached to one safety station.
 10. Ponds under five (5) acres are permitted without regard to the nine (9) previous subsections if:
 - a. On a bonafide commercial agriculture or horticulture operation in an Agriculture Production (AP) District;
 - b. The pond is approved by the National Resources Conservation Service as being in conformance with their existing pond design standards.

**Section 22.7 GENERAL ENVIRONMENTAL PROTECTION & NUISANCE
PREVENTION PROVISIONS**

- A. Every use shall be so conducted and operated so that it is not detrimental to the health, safety, or welfare of persons or property, or obnoxious by reason of heat, glare, fumes, odors, dust, noise, smoke, water runoff, light, ground vibration or other nuisance beyond the lot on which the use is located. It shall be unlawful to carry on or permit to be carried on any activity or operation of use of any land, building, or equipment that produces irritants to the sensory perceptions greater than the measures herein established which are hereby determined to be the maximum permissible hazards to humans or to human activity.

B. Dangerous Explosive and Flammable Materials:

1. No use of a building or premises shall in any way represent a fire or explosion hazard to a use on adjacent property or to the public on a public street. All buildings, above or below ground storage and handling areas where dangerous chemicals, salts, flammable materials, or hazardous substances are regularly used, moved or stored shall conform to all applicable local, County, State and Federal regulations and requirements; including the maintenance of any clear zone and/or containment structures required by government authorities. Failure to disclose such materials to fire, emergency services agencies and the Michigan Department of Environmental Quality as may be required by State or Federal laws, is also a violation of this Ordinance.
2. All outdoor above or below ground handling area and storage facilities for dangerous chemicals, explosive or flammable materials, fuels and other hazardous substances in excess of 50 gallons or 150 pounds per month, shall:
 - a. Be constructed and maintained in compliance with:
 1. All applicable Michigan Department of Environmental Quality, Michigan Department of Agriculture, State Fire Marshal and U.S. EPA Standards;
 2. The State Construction Code Act, Public Act 230 of 1972; and
 3. All applicable County, local Fire Code and "Right-to-Know" laws.
 4. A Pollution Incidence Prevention Plan (PIPP) if required under state law.
 - b. Be located on a lot at least one-half (½) acre in size.
 - c. Not store fuel in above or below ground tanks closer than seventy-five (75) feet to a building unless it is liquefied petroleum gas or heating fuel in an approved tank, in which case it shall not be closer to a building than the distance allowed by the State Mechanical Code.
 - d. Secondary containment structures shall be required to protect the environment from accidental spills of all hazardous liquids. Hazardous liquids shall include all "hazardous wastes" as defined by Act 64 of 1979, that are in liquid form. Secondary containment structures shall include structures such as but not limited to dikes and berms surrounding transfer and storage areas, enclosed structures, and interior storage rooms with sills and no floor drains. All secondary containment structures shall be at least large enough to hold the capacity of the largest drum or tank in the transfer or storage area. Secondary containment structures shall be covered, but if flammable, not fully enclosed, with a satisfactory dewatering plan to prevent leaks and spills from entering drains, sewers, surface or groundwater.
 - e. No floor drains shall be permitted in any areas involving the transfer or disposal of hazardous liquids unless all hazardous liquids are collected and properly treated or disposed of off site.

3. If the quantity of material in Section 22.7.B.2 above is less than the regulatory threshold of the Michigan Department of Environmental Quality, the Michigan Department of Agriculture, State Fire Marshal or U.S. EPA Standards then the secondary containment structures required in subsection 2.d. above shall conform with standards prepared by the Zoning Administrator and adopted by the Planning Commission.
4. The owner shall supply the Zoning Administrator, Sheriff's Department and Emergency Services Coordinator with the name and phone number of persons responsible for materials on the site and who is available 24 hours in case of a leak or spill.

C. Junk:

1. No person shall store, place, abandon, or permit to be stored, placed, abandoned, or allow to remain in any district a dismantled, partially dismantled, unlicensed, or inoperable motor vehicle, junk, rubbish, or litter upon any premises, except as provided for in Article XVI, or in the case of motor vehicles, unless confined in a wholly enclosed structure.
2. No person shall store, place, abandon, or permit to be stored, placed, abandoned, or allow to remain in any district junked, wrecked, or inoperable farm machinery unless hidden from the view of the general public.

D. All proceedings of the Planning Commission, Zoning Board of Appeals, and Township Board of Trustees shall be conducted, and all decisions shall be made with due consideration given to the maintenance of reasonable circumstances regarding: emission and transmission of injurious or obnoxious noise, fire or explosive hazard, liquid or solid waste disposal, vibration, gas fumes, smoke, dust, dirt, litter, odor, light, glare, traffic congestion, ingress and egress, ease of police and fire protection, drainage, lateral land support, blighting influence, effect on property values, adequate light and air, overcrowding of persons, sanitation, general appearance of the area, surface and groundwater quality, and other similar considerations having an effect on public health, safety and general welfare of the people of the surrounding area.

Section 22.8 WATER SUPPLY AND SANITARY SEWERAGE FACILITIES

No structure for human occupancy shall be erected, altered, or moved upon any lot or premises and used in whole or in part for dwelling, business, industrial, or recreational purposes unless it shall be provided with a safe potable water supply and with a safe and effective means of collection, treatment, and disposal of human excreta and domestic, commercial and industrial wastes. All such installations and facilities shall conform with the minimum requirements of the Benzie-Leelanau District Health Department, and the Michigan Department of Environmental Quality.

Section 22.9 FLOOD PLAIN REGULATIONS

A. Intent and Purpose: The purpose of these regulations is to protect those areas of the Township which are subject to predictable flooding in the flood plain areas along Lake Michigan and along the major rivers, their branches, and tributaries within the Township so that the reservoir capacity shall not be reduced thereby creating danger to areas previously not so endangered in time of high water or to impede, retard, accelerate, or change the direction of the flow or carrying capacity of the river valley or to otherwise increase the possibility of flood. All land included in the flood plain area shall be subject to the requirements specified herein in addition to the normal zoning district requirements in which said land shall be located.

B. Flood Plain Delineation: Land subject to these floodplain regulations shall consist of all land which would be inundated during an Intermediate Regional Flood as established by the U.S. Army Corps of Engineers along any watercourse within the jurisdiction of this Ordinance, and all lands depicted on a NFIP Flood Hazard Boundary Map or Flood Insurance Rate Map prepared by the Federal Emergency Management Agency. A copy of the maps showing land subject to these provisions shall be kept on file in the Office of the Clerk of Crystal Lake Township and the Office of the Zoning Administrator.

C. Permitted Principal Uses: Notwithstanding any other provisions of this Ordinance, no building or structure shall be erected, converted, or structurally altered and no land and/or structure shall be used within a flood plain except for one or more of the following uses:

1. Open space uses such as farms, truck gardens, nurseries, parks, playgrounds, golf courses, nature preserves, bridle trails, nature paths, private or commercial recreations, and other similar open uses.
2. Off-street parking uses, provided that all parking shall be at grade level and in conformance with the provisions of Article XX of this Ordinance.
3. Public utility facilities, provided utilities are constructed or elevated to withstand flood damages and are constructed as further regulated by this Ordinance.
4. Yard and setback areas required for any district within the flood plain areas may be included within the flood plain areas. However, the elevation of the lowest floor designed or intended for human habitation shall be above the established flood plain.

D. Flood Plain Lands - Site Development Requirements: No building or structure shall be erected, converted, or structurally altered or placed within the boundaries of the lands listed in Section 22.9. B. except as permitted below:

1. The lowest floor designated or intended for human habitation shall be above the established flood plain. Land may be filled to meet the minimum requirements of the established flood plain and grade level only under the following conditions:
2. A permit pursuant to the Natural Resources and Environmental Protection Act, Public Act 451 of 1994, Part 31, Section 324.3108 et.seq., as amended,

and Rule R 323.1311 - 323.1329, Michigan Administrative Code is obtained from the Michigan Department of Environmental Quality.

3. A permit pursuant to the Natural Resources and Environmental Protection Act, Public Act 451 of 1994, Part 91, Section 324.9101, et.seq., as amended, is obtained from the Michigan Department of Environmental Quality.

E. Uses Permitted by the Site Plan Review Committee: Certain uses may be authorized in any flood plain by approval of the Site Plan Review Committee. All lands included in the flood plain shall be subject to the provisions herein and to the district requirements in which said land shall be located.

1. The construction or location of outdoor play equipment, bleachers, and similar outdoor equipment and appurtenances, storage of materials or equipment, provided such elements shall not cause any significant obstruction to the flow or reduction in the water impoundment capacity of the flood plain.

F. Data Submission: Prior to the issuance of a zoning permit for structures adjacent to flood plain area, the Zoning Administrator shall require the applicant for such permit to submit topographic data, engineering studies, proposed site plan, or other similar data needed to determine the exact elevation and location of the one hundred (100) year flood plain and the possible effects of flooding on a proposed structure and/or the effect of the structure on the flow of water. All such required data shall be prepared by technically qualified persons. The opinion of hydrologic engineers within the DEQ shall be sought before a decision is made by the Zoning Administrator.

G. Existing Uses in the Flood Plain: It is the intent of this Ordinance to permit existing uses to continue in the flood plain until they are removed, but not to encourage their survival.

1. It is recognized there exists within the flood plain, as defined by this Ordinance, lots and structures which were lawful before this Ordinance was passed or amended which would be prohibited, regulated, or restricted under terms of this Ordinance or future amendments.
2. Such uses are declared by this Ordinance to be incompatible with permitted uses in the flood plain. It is further the intent of this Ordinance that such uses shall not be enlarged upon, expanded, or extended nor be used as grounds for adding other structures or uses prohibited in the flood plain.
3. Should a structure located in the flood plain, as defined by this Ordinance, be damaged by any means to an extent of more than fifty (50%) percent of the structure's pre-catastrophe market value as recorded by the assessing officer, it shall not be reconstructed. The damage to the structure based on its condition before destruction shall be determined by the Zoning Administrator after:
 - a. Receiving an estimate of the structural damage from the fire chief.
 - b. Receiving a figure representing the difference between the pre-catastrophe market value of the structure and the post-catastrophe value as determined by the assessing officer.
 - c. Dividing the sum of the figure derived:

1. From the fire chief, and
 2. From the assessing officer, by two (2).
4. Any building damaged by any means to an extent of less than fifty (50%) percent of the structure's pre-catastrophe market value as recorded by the assessing officer may be modified, repaired, or replaced, but any alterations must incorporate floodproofing of utility and sanitary facilities up to the level of the 100 year floodplain or the level to be inundated during an Intermediate Regional Flood as determined by the U.S. Army Corps of Engineers. The costs of said improvements for floodproofing shall not be included in determining the damage costs.
5. The Board of Appeals may permit reconstruction of a use if the following conditions are met:
- a. The structure is adequately protected against flood damage.
 - b. Not allowing reconstruction would create an unnecessary hardship on the appellant.

H. Liability: Under no circumstances shall the Township of Crystal Lake incur any liability whatsoever for the granting of any use of a building or structure in flood plain or other environmentally sensitive areas.

Section 22.10 ENVIRONMENTAL, SOCIO-ECONOMIC & TRAFFIC IMPACT ASSESSMENTS

A. The Planning Commission may require a socio-economic, traffic and/or environmental impact assessment (EIA), at the expense of the applicant, for any residential, office, commercial or industrial development, which includes a land area of five acres or more or a building over 50,000 square feet, before approving a required site plan or making a decision upon a request for Planned Unit Development approval. At their discretion, the Planning Commission may accept a socio-economic, traffic and/or EIA prepared for another public agency.

B. A socio-economic or environmental impact assessment should analyze the impact of the proposed development on municipal utility systems, fire, police and school services, solid waste disposal, soils, air, groundwater, drainage, floodplain, wetland and similar water courses, and noise levels which might affect existing land uses or neighborhoods negatively, and other similar factors which may be unique to a specific proposal. The Planning Commission shall review the impact assessment to determine if any proposed impacts would result in pollution, impairment or destruction of the environment over the threshold established in the Michigan Natural Resources and Environmental Protection Act, Public Act 451 of 1994, Part 17, or greater than existing level of service standards applicable to services and facilities provided in the Township.

C. Traffic Impact Assessment

1. The Planning Commission may require a Traffic Impact Assessment (TIA), at the expense of the applicant, for any residential, office, commercial, industrial or mixed use development, which includes a land area of five acres or more

- or a building over 50,000 square feet, or when permitted uses could generate either a thirty percent (30%) increase in average daily traffic, or at least one hundred (100) directional trips during the peak hour of the traffic generator or the peak hour on the adjacent streets, or over seven hundred fifty (750) trips in an average day, before approving a required site plan or making a decision upon a request for Planned Unit Development approval. At their discretion, the Planning Commission may accept a TIA prepared for another public agency.
2. The Site Plan Review Committee shall establish standards for conducting a TIA and shall maintain a copy of such standards in the office of the Zoning Administrator. TIA standards shall either be the current model distributed by the Michigan Department of Transportation, or an alternative model with similar credibility and technical competence.