

ARTICLE XIV. - ENVIRONMENTAL STANDARDS

Sec. 1400. - Performance standards:

No parcel, lot, building, or structure in any district shall be used or occupied in any manner so as to create any dangerous, injurious, noxious or otherwise objectionable element or condition so as to adversely affect the surrounding area or adjoining premises provided that any use permitted by this Ordinance may be undertaken and maintained if acceptable measures and safeguards are employed to limit dangerous and objectionable elements to acceptable limits as established by the following performance requirements:

1. *Airborne emissions:*

- A. Smoke and air contaminants. It shall be unlawful for any person to permit the emission of any smoke or air contaminant from any source whatsoever to a density greater than that permitted by applicable Federal and State Clean Air Standards. There shall not be discharged from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, or nuisance to the public or which endanger comfort, repose, health, or safety of persons or which cause injury or damage to business or property.
- B. Odors. Any condition or operation which results in the creation of odors of such intensity and character as to be detrimental to the health and welfare of the public or which interferes unreasonably with the comfort of the public shall be removed, stopped, or so modified as to remove the odor
- C. Gases. The escape or emission of any gas that is injurious, destructive, or harmful to persons or property or explosive shall be unlawful and shall be abated

2. *Dust, dirt, and fly ash:*

- A. No person, firm or corporation shall operate or cause to be operated, maintain or cause to be maintained, any process for any purpose, or furnace or combustion device for the burning of coal or other natural or synthetic fuels, without maintaining and operating while using said process or furnace or combustion device, recognized and approved equipment, means, method, device or contrivance to reduce the quantity of gas borne, or airborne solids of fumes emitted into the open air, which is operated in conjunction with said process, furnace, or combustion device so that the quantity of gas borne, or airborne solids shall not exceed 0.20 grains per cubic foot of the carrying medium at a temperature of five hundred (500) degrees Fahrenheit.
- B. Method of measurement: For the purpose of determining the adequacy of such devices these conditions are to be conformed to when the percentage of excess air in the stack does not exceed fifty percent (50%) at full load. The foregoing requirement shall be measured by the A.S.M.E. Test Code of dust-separating apparatus. All other forms of dust, dirt and fly ash shall be completely eliminated insofar as escape or emission into the open air is concerned. The building inspector may require such additional data as is deemed necessary to show that adequate and approved provisions for the prevention and elimination of dust, dirt and fly ash have been made.

3. *Glare, radioactivity, and electrical disturbance:*

- A. Glare from any process (such as or similar to arc welding, or acetylene torch cutting) which emits harmful ultraviolet rays shall be performed in such a manner as not be seen from any point beyond the property line, and as not to create a public point beyond the property line, and as not to create a public nuisance or hazard along lot lines. Radioactive materials and wastes, and including electromagnetic radiation such as X-ray machine operation, shall not be emitted to exceed quantities established as safe by the U.S. Bureau of Standards, when measured at the property line.
- B. No direct or reflected glare shall be permitted which is visible from any property or from any public street, road, or highway.
- C. Radioactivity or Electrical Disturbance. No activity shall emit dangerous radioactivity at any point, or unreasonable electrical disturbance adversely affecting the operation at any point of any equipment other than that of the creator of such disturbance.

4. *Fire and explosive hazards:*

- A. Any activity involving the use or storage of flammable or explosive materials shall be protected by adequate firefighting and fire suppression equipment in compliance with the applicable local, state, and federal code and by such safety devices as are normally used in the handling of any such material. Such hazards shall be kept removed from adjacent activities to a distance which is compatible with the potential danger involved.

5. *Waste disposal:* All solid, liquid, and sanitary wastes shall be treated and disposed of in accordance with the standards of local, state, and any federal requirements. Treatment or disposal of waste shall not create a hazard or nuisance to neighboring uses.

6. *Noise:*

- A. General Requirements. No use, operation or activity shall be carried on that causes or creates measurable noise levels that are unreasonably loud or that unreasonably interfere with the peace and comfort of others, or that exceed the maximum noise level limits prescribed in the Table of Maximum Noise Levels in subsection C below, as measured at any point on property adjacent or in close proximity to the lot, parcel, or other property on which the operation or activity is located.
- B. Methods and Units of Measurement. The measuring equipment and measurement procedures shall conform to the latest American National Standards Institute (ANSI) specifications. The sound measuring equipment shall be properly calibrated before and after the measurements. Because sound waves having the same decibel (Db) level “sound” louder or softer to the human ear depending upon the frequency of the sound wave in cycles-per-second (that is, depending on whether the pitch of the sound is high or low) an A-weighted filter constructed in accordance with ANSI specifications shall be used on any sound level meter used to take measurements required in this Section. All measurements below are expressed in Db(A) to reflect the use of the A-weighted filter.
- C. Table of Maximum Noise Levels. Except as otherwise provided in this Section, noise levels shall not exceed the limits set forth in the following table:

Maximum Noise Level Standards Table

Use	Time	Maximum Sound Level (A-Weighted) Decibels – Db(A)
Residential	7:00 a.m. to 7:00 p.m.	60
	7:00 p.m. to 10:00 a.m.	55
	10:00 a.m. to 7:00 a.m.	50
Commercial, Business, Office, and Mixed Uses	7:00 a.m. to 7:00 p.m.	65
	7:00 p.m. to 7:00 a.m.	50
Industrial Office and Research Office	Anytime	65

- D. Background Noise. Where existing background noise exceeds the maximum permitted levels specified in the Table of Maximum Noise Levels in subsection C above, the noise caused or created by a specific operation or activity may exceed the levels specified in the Table, provided that the sound level on property adjacent or in close proximity to the lot or parcel on which the operation or activity is located does not exceed the background noise level. For purposes of this subsection, background noise shall mean noise being produced by permitted uses conducted in a legally accepted manner from all sources other than those occurring on the lot or parcel on which the operation or activity is located. Background noise levels shall be determined by measurement at substantially the same time and location as the noise levels caused or created by the complained-of operation or activity.

- E. Intermittent or Other Unreasonable Sounds. Intermittent sounds or sounds characterized by pure tones might be a source of complaints, even though the measured sound level does not exceed the permitted level the in Table of Maximum Noise Level in subsection C above. Such sounds shall be prohibited when found to be unreasonably loud or to unreasonably interfere with the peace and comfort of others. In making such determination, the following shall be considered:
 - (1) The proximity of the sound to sleeping facilities;
 - (2) The nature of the use from which the sound emanates and the area where it is received or perceived;
 - (3) The time (day or night) the sound occurs; and
 - (4) The duration of the sound.

- F. Exemptions. Noise resulting from the following activities shall be exempt from the maximum permitted sound levels provided such activity occurs in a legally accepted manner:
 - (1) Construction activity between the hours of 8:00 am and 7:00 pm;
 - (2) Performance of emergency work, including snow removal;
 - (3) Warning devices necessary for public safety, such as police, fire, and ambulance sirens, tornado and civil defense warning devices, and train horns;
 - (4) Lawn care and yard maintenance that occurs between 8:00 am and 9:00 pm;

- (5) Outdoor school and playground activities when conducted in accordance with the manner in which such spaces are generally used, including, but not limited to, school athletic and school entertainment events;
 - (6) The operation or use of any organ, bell, chimes, or other similar means of announcing religious services at a place of religious worship between the hours of 8:00 am and 9:00 pm, no more than five (5) times per day, and for a duration of no more than two (2) minutes each time; provided, however, the sound level does not exceed eighty (80) Db(A) at the property line of the religious facility;
 - (7) An un-amplified human voice; and
 - (8) Public works maintenance, repair, or improvement projects being conducted by or on behalf of public agencies.
- G. I-94 Noise Provisions. Where a parcel that is within five hundred (500) feet of the I-94 right-of-way is proposed to be developed for residential purposes by means of a multiple-family development, condominium, subdivision plat or planned development, such site plan or plat shall delineate that area of the site with sound levels of sixty-one (61) dBA or greater. No dwelling units shall be located within this sixty-one (61) dBA or greater area unless one (1) of the following measures is taken:
- (1) Sound walls or earth berming are installed to attenuate the noise level to less than sixty-one (61) dBA at the location of all dwellings and all yard areas within thirty-five (35) feet of all single-family dwellings.
 - (2) Sound attenuation measures incorporated into the design and construction of the dwellings, such as masonry construction and insulation resulting in interior noise levels less than fifty-two (52) dBA.
7. *Use, Storage, and handling of hazardous substance; storage and disposal of solid, liquid, and sanitary wastes.*
- A. It shall be unlawful for any person, firm, corporation, or other legal entity to pollute, impair or destroy the air, water, soils, or other natural resources within the Township through the use, storage, and handling of hazardous substances and/or wastes or the storage and disposal of solid, liquid, gaseous and/or sanitary wastes.
 - B. Any person, firm, corporation, or other legal entity operating a business or conducting an activity which uses, stores, or generates hazardous substances or sanitary wastes shall obtain the appropriate permits or approval from the Michigan Department of Environment, Great Lakes, and Energy or its successor; state fire marshal division, or other designated enforcing agencies.
 - C. Any person, firm, corporation, or other legal entity operating a business or conducting an activity which 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) Upon submission of a site plan;
 - (2) Upon any change of use or occupancy of a structure or premises; and
 - (3) Upon any change of the manner in which such substances are handled, and/or in the event of a change in the type of substances to be handled.

- (4) The transportation of any hazardous substance in trucks, trailers, tankers, or rail cars shall be exempt from the provisions of this Ordinance provided the hazardous substances are fueling the transporting vehicle, or the transporting vehicle is in continuous transit, making a delivery, or is stopped for a period of time not to exceed twenty-four (24) hours.
 - (5) Sites at which hazardous substances are stored, used, or generated shall be designed to prevent spills and unpermitted discharges to air, surface of the ground, groundwater, lakes, streams, rivers, or wetlands.
 - (6) State and federal agency requirements for storage, spill prevention, record keeping, emergency response, transport, and disposal of hazardous substances and polluting materials shall be met. No discharges to groundwater, including direct and indirect discharges, shall be allowed without applicable permits and approvals.
 - (7) Bulk storage of pesticides shall be in accordance with Regulation No. 640, Commercial Pesticide Bulk Storage, of Act 171 of the Public Acts of 1976, as amended, being Section 286.569 of the Michigan Compiled Laws.
- D. All businesses and facilities, private and public, which use, store, or generate hazardous substances that require a manufacturer's material safety data sheet shall familiarize themselves with the sheet, and shall be familiar with procedures required to contain and clean up any releases of the hazardous substance. If hazardous substances are used, stored, or generated in quantities greater than one hundred (100) kilograms per month (equal to about twenty-five (25) gallons or two hundred and twenty (220) pounds) shall comply with the standards established in items "(1)" through "(6)" herein.
- (1) Aboveground storage and use areas for hazardous substances.
 - a. Primary containment of hazardous substances shall be product tight.
 - b. Secondary containment of hazardous substances shall be provided for all facilities. Secondary containment shall be sufficient to store the substance for the maximum anticipated period of time necessary for the recovery of any released substance. Products held in containers of ten (10) gallons or less packaged for retail use shall be exempt from this requirement.
 - c. Outdoor storage of hazardous substances is prohibited except in product tight containers that are protected from weather, leakage, accidental damage, and vandalism. Secondary containment shall be sufficient to store the substance for the maximum anticipated period of time necessary for the recovery of any released substance, including an allowance for the expected accumulation of precipitation.
 - d. At a minimum, state and federal agency requirements for storage, leak detection, recordkeeping, spill prevention, emergency response, transport, and disposal shall be met.
 - e. Out buildings, storage rooms, sheds, and pole barns which are utilized as secondary containment shall not have floor drains which outlet to soil, public sewer systems, groundwater, or nearby drains or natural water bodies unless a surface or groundwater discharge permit has been obtained pursuant to applicable requirements of the Michigan Natural Resource and Environmental Protection Act, Public Act 451 of 1994, as amended.

- f. Areas and facilities for loading and unloading of hazardous substances, as well as areas where such materials are handled and stored, shall be designed, and constructed to prevent unpermitted discharges to floor drains, rivers, lakes, wetlands, groundwater, or soils.
- (2) Underground storage.
- a. Existing and new underground storage tanks shall be registered with the State of Michigan in accordance with applicable requirements of the U.S. Environmental Protection Agency.
 - b. Installation, operation, maintenance, closure, and removal of underground tanks shall be in accordance with applicable requirements of the Township fire department and the State of Michigan.
 - c. Out-of-service abandoned underground tanks shall be emptied and removed from the ground in accordance with the requirements of the Township fire department and the State of Michigan.
 - d. At a minimum, state, and federal agency requirements for corrosion protection, overfill protection, storage, leak detection, recordkeeping, spill prevention, emergency response, transport, and disposal shall be met. Records of monthly monitoring or inventory control must be retained and available for review by Township officials for five (5) years.
- (3) Well abandonment. Out of service water wells shall be sealed and abandoned in accordance with applicable requirements of the Township, Washtenaw County, and the State of Michigan.
- (4) Site with contaminated soils and/or groundwater. Site plans shall take into consideration the location and extent of any contaminated soils and/or groundwater on the site, and the need to protect public health and the environment.
- (5) Construction standards.
- a. Storage of hazardous substances at a construction site during the construction process shall be prohibited unless the provisions for storage and handling outlined in this Ordinance have been met.
 - b. If the contractor will be storing or handling hazardous substances that require a manufacturer's material safety data sheet, the contractor shall be familiar with the sheet, and shall be familiar with procedures required to contain and clear up any releases of the hazardous substance.
 - c. Upon completion of construction, all hazardous substances and containment systems no longer used, or not needed in the operation of the facility, shall be removed from the construction site by the responsible contractor, and shall be disposed of, recycled, or reused in a proper manner as prescribed by applicable State and Federal regulations.
- (6) Maintenance. In areas where hazardous substances are handled, structural integrity of the building must be maintained to avoid inadvertent discharge of chemicals to soil, groundwater, and surface waters. Cracks and holes in floors, foundations, and walls must be repaired in areas where chemicals are handled or stored.

- E. All site plans for businesses or facilities that use, store, or generate hazardous substances shall be reviewed by the Township fire department, the Township’s engineer and any other appropriate experts determined necessary by the Planning Commission prior to approval by the Planning Commission.
8. *Vibration*: No vibration shall be permitted which is discernible without instruments on any adjoining lot or property.
- A. No use shall generate any ground-transmitted vibration in excess of the limits set forth in the Maximum Vibration Standards Table in Section 1400.8.D. Vibration shall be measured at the nearest adjacent lot line.
 - B. The instrument used to measure vibrations shall be a three (3) compartment measuring system capable of simultaneous measurement of vibration in three (3) mutually perpendicular directions.
 - C. The vibration maximums set forth by the Maximum Vibration Standards Table are stated in terms of particle velocity, which may be measured directly with suitable instrumentation or computed on the basis of displacement and frequency. When computed, the following formula shall be used:
 - PV = 6.28 F x D
 - Where:
 - PV = Particle velocity, inches per second
 - F = Vibration frequency, cycles per second
 - D = Single amplitude displacement of the vibration, inches
 - D. The following is the table of maximum ground-transmitted vibration:

Maximum Vibration Standards Table

Particle Velocity (Inches per Second)	
Along Non-Residential District Boundaries	Along Residential District Boundaries
0.10	0.02
0.20	0.02

- E. The values stated in the Maximum Vibration Standards Table may be multiplied by two (2) for impact vibrations, i.e.; non-cyclic vibration pulsations not exceeding one (1) second in duration and having a pause of at least two (2) seconds between pulses.
 - F. Vibrations resulting from temporary construction activity shall be exempt from the requirements of this subsection.
9. *Odors*: Creation of offensive odors shall be prohibited. Any condition or operation which results in the creation of odors of such intensity and character as to be detrimental to the health and welfare of the public or which interferes unreasonably with the comfort of the public shall be removed, stopped, or so modified as to remove the odor

Sec. 1401. - Ford Lake waterfront access

1. *Purpose:* It is the intent of this Section to promote the integrity of Ford Lake within any zoning district in the Township while preserving the quality of recreational use of the lake; to protect the quality of Ford Lake by discouraging excessive use; to promote the ecological health of Ford Lake and its wetlands by limiting incompatible land use of the wetlands associated with Ford Lake; and to maintain the beauty of Ford Lake by minimizing man-made adjustments to the current shorelines.
2. *Regulations:* In any zoning district where a parcel of land is contiguous to Ford Lake, such parcel of land may be used as access property or as common open space held in common by a subdivision, association or any similar agency; or held in common by virtue of the terms of a plat of record; or provided for common use under deed restrictions of record; or owned by two (2) or more dwelling units located away from the waterfront only if the following conditions are met:
 - A. That said parcel of land shall contain at least seventy (70) lineal feet of property contiguous to Ford Lake and a lot depth of at least one hundred (100) feet for each dwelling unit or each single-family unit to which such privileges are extended or dedicated. Frontage shall be measured by a straight line which intersects each side lot line at the water's edge.
 - B. That in no event shall water frontage of such parcel of land consist of a wetland as shown on the most recent U.S. geological survey maps, or as shown on the Michigan Resources Information System map (MIRIS); as shown by the National Wetlands Inventory; as determined to be wetland by the Michigan Department of Environment, Great Lakes and Energy; or as shown on the Washtenaw County Wetlands Coverage Map; and that in no event shall a wetland be altered by the addition of earth or fill material or by the drainage of water for the purpose of increasing the water frontage required by this Ordinance.
 - C. That in no event shall such parcel of land abut a man-made canal or channel, and no canal or channel shall be excavated for the purpose of increasing the water frontage required by this Ordinance.
 - D. That access property, as provided for in and meeting the conditions of this Section, regardless of total area, shall not be used as a residential lot for the purpose of constructing a dwelling and/or accessory structure(s), or for any commercial or business use.

Sec. 1402. - Marina and public launch access:

1. *Purpose:* To promote the health, safety, and welfare of Township residents by regulating the development of marinas and public access launch sites on Ford Lake in Ypsilanti Township.
2. *Expansion of existing facilities:*
 - A. Approval of the Planning Commission shall be required for any increase in the number of watercrafts allowed to be docked or moored at an existing marina over and above that allowed by the Michigan Department of Environment, Great Lakes and Energy at the time of adoption of the Ordinance from which this Section is derived.
 - B. Approval of the Planning Commission shall be required for any increase in the size, capacity or utilization of an existing public access launch site, including the number of watercraft allowed to be launched from the site and the number of watercraft trailers allowed to be

parked at the facility over and above the size, capacity and utilization of any such site allowed by the Michigan Department of Environment, Great Lakes and Energy at the time of adoption of the Ordinance from which this Section is derived.

3. *Approval required for new facilities:* Approval of the Planning Commission shall be required for the development and construction of all new marinas and public access launch sites on Ford Lake. The Planning Commission in giving such approval shall specify the maximum number of watercrafts that can be docked or moored at and launched from such facility and the maximum number of watercraft trailers that can be parked or stored on the site. New marinas must be approved by the State of Michigan.
4. *Application for permits and standards:* An application for a permit to develop and construct a new marina or public access launch on Ford Lake shall be filed with the Planning Commission.

An application for a permit to expand an existing marina or public access launch site on Ford Lake shall be filed with the Planning Commission.

The Planning Commission shall consider the environmental impact and recreational carrying of the proposed new marina, public access launch site, expansion of a marina or expansion of a public access launch site. The Planning Commission may refer an application to the Michigan Water Use Advisory Council for its recommendation on the proposed development. A permit shall not be granted if it is determined that:

- A. The water quality of Ford Lake would be adversely impacted; or
 - B. The proposed addition or expansion of a marina or public access launch site would cause congested, unsafe conditions on the waters of Ford Lake due to the additional numbers of watercraft.
5. *Right of appeal:* Appeal may be taken as provided in Sections 1702 and 1704 to the Zoning Board of Appeals by any person, firm entity, or corporation or by any officer, department, board, or bureau affected by a decision of the Planning Commission with respect to the subject matter of this Section.
 6. *Enforcement:*
 - A. All persons who violate any of the provisions of this Section whether as owner, lessee, licensee, agent servant, or employee shall be liable as principals.
 - B. In addition to, or in lieu of, seeking to enforce this Section by issuance of municipal civil infraction(s), the Township may institute an appropriate action in a court of competent jurisdiction seeking equitable relief including, but not limited to, an order to remove the structure.
 - C. Any persons who shall violate any provision or provisions of this Section shall be responsible for a municipal civil infraction which shall be punishable by a fine of \$500.00 dollars and provided further that each day's violation of this Section shall constitute a separate offense.

Sec. 1403. - Preservation of Environmental Quality

The preservation and enhancement of natural features is essential to maintaining Ypsilanti Township's character, ecological diversity and stability, economic wellbeing, and quality of life. For purposes of this Section, "natural features" shall include wetlands, watercourses, floodplains, woodlands and trees, steep

slopes, threatened or endangered species habitats, and ground water recharge areas. When natural features exist on a site proposed to be developed, the applicant shall do the following:

1. *Federal, state, and local permits:* Development in or affecting natural features may be regulated by the Federal, State, County or Township governments, and require licenses, permits or approvals. Permits and approvals required by Ypsilanti Township shall not relieve a person from obtaining applicable permits or approvals from other relevant jurisdictions. Similarly, obtaining permits from the Federal, State, or County government does not relieve a person from obtaining the required permits from Ypsilanti Township.
2. *Site plan review required:* In any zoning district, none of the following natural features shall be obstructed, removed, altered, transformed, or otherwise impacted in any way at any time by any person except as provided in Article 9:
 - A. Area, water level, vegetation, edge, bank, shore or natural condition of a river, stream, watercourse, drainageway, lake, or pond, whether filled or partly filled with water or dry in certain seasons.
 - B. Area, water level, vegetation, or natural conditions of a marsh, swamp, or wetland.
 - C. Living tree(s) in any wooded lot, grove, bush, park, wooded area, or forested land.
 - D. Land having a slope of twelve percent (12%) or greater.
3. *Natural features impact statement:* Such person shall submit to the Township Planning Commission a site plan and a Natural Features Impact Statement, if required, with the information described in items A and B below. Any such alterations to natural features shall be made in conformance to applicable local, state, and federal requirements. As part of the Preliminary Site Plan Review process, as set forth in Section 905, the applicant is required to determine if natural features exist on the site, and in proximity to the site. If one (1) natural feature is determined to exist on a site, then the applicant shall submit a Natural Features Impact Statement containing the following information:
 - E. Site inventory map clearly showing locations and types of natural features both on-site and those within one hundred (100) feet beyond the property lines. The drawing shall delineate:
 - (1) Edges of woodlands, and description of plant community type.
 - (2) Heritage trees identified and labeled on the plans and in an accompanying table showing corresponding species, size, and condition data for individual trees.
 - (3) Edges of wetlands, watercourse stream banks, ordinary pond and high-water marks of water features, floodways, floodplains, areas of hydric soils, highly permeable soils, and groundwater recharge areas.
 - (4) Natural feature buffer areas.
 - (5) Steep slopes.
 - F. Written description that illustrates the quality, character, and health of the natural features.
4. *Natural features protection plan:* In addition to the Natural Features Impact Statement, when required, the applicant shall provide a Natural Features Protection Plan as part of the Preliminary Site Plan Review process, showing:
 - A. Natural features that are excluded from development.

- B. Natural features that are to be retained as part of the development, and the measures taken to sustain the natural features.
- C. See Section 24 – 69. Tree protection during construction of the Ypsilanti Township Code of Ordinances, Woodlands Protection regarding security for trees to be retained.

Sec. 1404. - Natural Feature Setbacks

- 1. *Where required:* A natural feature setback shall be maintained in relation to all areas defined in this Section as being a natural feature, unless and to the extent it is determined to be in the public interest not to maintain such setback, in accordance with the standards set forth in subsection 4 below.
- 2. *Natural features for setback purposes:* The following are considered natural features for purposes of this Article: a wetland subject to regulation by the Michigan Department of Environment, Great Lakes, and Energy, or a watercourse, defined as any waterway including a river, stream, ditch, channel, canal, waterway, lake, pond, or any body of surface water having definite banks, a bed, and visible evidence of a continued flow or continued occurrence of water.
- 3. *Regulated activities:* Within an established natural feature setback there shall be no:
 - A. Construction.
 - B. Deposit of any material, including structures.
 - C. Removal of any soils or minerals.
 - D. Clearing of any native vegetation.
 - E. Dredging, filling, or land balancing.
 - F. Constructing or undertaking seasonal or permanent operations.
- 4. *Setback Standards:* The following setbacks shall apply:
 - A. A twenty-five (25) foot non-disturbance setback from the boundary or edge of a protected wetland or county drain.
 - B. A fifty (50) foot non-disturbance setback from the ordinary high-water mark of any lake, pond, river, or stream, including, but not limited to the Huron River, Paint Creek, and their tributaries.
 - C. No building or construction shall occur within the greater of:
 - (1) One hundred (100) feet from the high-water mark of any watercourse
 - (2) Within the one hundred (100) year floodplain, according to the provisions of Chapter 34 of the Ypsilanti Township Code of Ordinances, Flooding.
 - D. Such setbacks shall be measured from the top of the bank or other defined edge and shall not be subject to topography.
 - E. The Township may permit trails, boardwalks, observation platforms or similar structures that enhance passive enjoyment of a site's natural amenities within the setback as part of an approved site plan.

Sec. 1405. - Protection of Water Quality and Quantity

Efforts shall be made to preserve water features (including natural wetlands, watercourses, lakes, and ponds) in a natural state and to avoid stormwater and sedimentation discharge that may damage these features. The following standards are intended to protect existing water features from impacts of stormwater quality and quantity

1. *Existing features:* Existing water features shall be protected from damaging modifications and adverse changes in runoff quality and quantity associated with land development.
2. *Special significance:* Water features of special significance, such as forested wetlands, wetlands associated with watercourses, streams and rivers with intact native plant associations, and the like, shall be protected from development and/or the effects of development.
3. *Stormwater:* Stormwater discharge to existing water features must not modify the existing water levels or flows.
4. *Direct discharge:* Direct discharge of untreated stormwater into a wetland or watercourse is prohibited. All runoff from development will be pre-treated by sedimentation traps and/or basins, or other best management practices, to remove sedimentation and other pollutants prior to discharge.
5. *Construction:* Any proposed treatment facilities shall be constructed as early as possible.
6. *Impacts:* Any proposed impacts to water features must be permitted by and adhere to applicable regulations of the Michigan Department of Environment, Great Lakes, and Energy or the Washtenaw County Water Resources Commissioner.

Sec. 1406. - Flood Hazard Regulations

1. *Purpose:* The Federal Emergency Management Agency has identified flood hazard areas in Ypsilanti Charter Township. It is the purpose of this Section to reduce hazards to persons and damage to property in such areas and to comply with the National Flood Insurance Act of 1968, the Flood Disaster Protection Act of 1973, and subsequent regulations enacted by the Federal Emergency Management Agency.

This Section is designed to achieve the following purposes:

- A. Protect human life, prevent, or minimize property losses, and reduce public costs of rescue and relief efforts from the effects of flood conditions.
- B. Restrict or prohibit uses which, when located in designated flood hazard areas, are dangerous to health, safety, and property in times of flooding, or causes excessive increases in flood heights or velocities.
- C. Require that uses and structures which are vulnerable to floods including public facilities, in designated flood hazard areas be protected against flood damage at the time of construction.
- D. Alert the public to lands which are unsuitable for certain uses and structures because of potential flood hazards.
- E. Permit reasonable use of property located within designated flood hazard areas.

2. *Application of regulations:*

- A. All designated flood hazard areas shall be subject to the provisions of this Section. The Flood Boundary and Floodway Map and the Flood Profiles which are contained in the Flood Insurance Study and the Flood Insurance Rate Maps, dated May 15, 1991, or any updated flood insurance rate map, are hereby made part of this Ordinance.
- B. The general location of the designated flood hazard areas shall be shown on the official zoning map but shall be shown only for the purpose of providing information. The precise location of Floodway and flood hazard areas shall be determined from information as particularly specified on the Flood Boundary and Floodway Map, together with the Flood Profiles contained in the Flood Insurance Study, and by site surveys, and other base flood elevation data available from a federal, state, or other source, where applicable.
- C. The requirements of this Section overlay existing zoning districts. Compliance with the provisions of this Section shall be in addition to compliance with the provisions of this Ordinance. Conflicts among provisions of this Ordinance or with provision of any other Ordinance shall be resolved in favor of the more stringent requirement.
- D. No certificate of zoning compliance and no building permit shall be issued for any lot, use or structure subject, in whole or in part, to the provisions of this Section until all provisions of this Section, the underlying zoning district, and other applicable provision of the Zoning Ordinance have been met. The Zoning Administrator shall have the authority to determine whether a lot, use, or structure is subject to this Section.

3. *Information Required:* The following information shall be provided with an application for a certificate of zoning compliance for any lot, use, or structure located in whole or in part in a designated flood hazard area.

- A. Elevation of the lowest habitable floor, including basement, of all structures. The elevation shall be referenced to USGS data.
- B. If a structure is to be flood-proofed, the elevation to which flood proofing will be utilized shall be indicated. The elevation shall be referenced to USGS data. In such as a certificate of a professional engineer or architect registered in the State of Michigan shall be submitted indicating therein that the flood-proofing criteria of this Section will be met.
- C. A description of alteration or relocation of any watercourse.
- D. Proof of floodplain permit approval or letter of no authority from the Michigan Department of Environment, Great Lakes, and Energy, under the provisions of Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, Public Act 451 of 1994, as amended (formerly Public Act 245 of 1929, as amended, MCL 324.3101...324.3134 et. seq.).
- E. Base flood elevation data for any lot subject to the Land Division Act, Public Act 288 of 1967, as amended Act (MCL 560.101 et seq).
- F. Additional information reasonably necessary to determine compliance with this Section.

4. *General standards for flood hazard areas:* The following standards, and all applicable provision of the currently adopted version of the BOCA code as amended, shall apply to all land within a designated flood hazard area:

- A. All new construction and substantial improvements including the placement of, or addition to or expansion of, prefabricated structures and mobile homes, shall be designed and anchored to prevent flotation, collapse, or lateral movement of the structure; shall be constructed with materials and utility equipment resistant to flood damage; and shall be constructed by methods and practices that minimize flood damage to the smallest reasonable extents.
 - B. New and replacement water supply systems shall reduce to the smallest reasonable extent infiltration of flood waters into the systems.
 - C. New and replacement sanitary sewage systems shall reduce to the smallest reasonable extent infiltration of flood waters into the systems, and discharges from the system into flood waters. On-site disposal systems shall be located to avoid impairment to the system or contamination from the system during flooding.
 - D. Public utilities and facilities shall be designed, constructed, and located to reduce flood damage to such utilities and facilities to the smallest reasonable extent.
 - E. Adequate drainage shall be provided to reduce exposure to flood hazards. Positive drainage away from all structures shall be provided.
 - F. A watercourse within a designated flood hazard area shall not be relocated until approval has been obtained from the Michigan Department of Environment, Great Lakes, and Energy, the Washtenaw County Water Resources Commissioner, and Ypsilanti Township, whichever has jurisdiction. Evidence of the approval shall be submitted by the person relocating the watercourse to the Federal Emergency Management Agency.
5. *Specific standards for flood hazard areas, excluding floodways:* The following standards shall apply to all land located within a designated flood hazard area but outside a floodway:
- A. All buildings or structures shall be elevated so that the lowest floor is located at or above the base flood elevation. All basement floor surfaces shall be located at or above the base flood elevation.
 - B. Exceptions shall be permitted in accordance with applicable provisions of the currently adopted version of the BOCA code, as amended.
6. *Specific standards for floodways:* The following standards shall apply to land located within the floodway portion of a designated flood hazard area:
- A. Encroachments, including fill, new construction, substantial improvements, and other development, shall be prohibited in a floodway. Exceptions to this standard shall be made only upon certification by a professional engineer registered in the State of Michigan, or by the Michigan Department of Environment, Great Lakes, and Energy in cases in which the Department has jurisdiction, that the encroachment or other development will not result in any increase in flood levels during the discharge of base flood, and that the encroachment or other discharge complies with Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, Public Act 451 of 1994, as amended (MCL 324.3101...324.3134 et. seq.).
 - B. The uses and structures permitted in an underlying district shall not be permitted within a floodway unless an exception is obtained as provided in this Section.

- C. Construction within a floodway shall be done with the least amount of disturbance to the existing vegetation.

Sec. 1407. - Steep Slope Protection

1. *Purpose:* The purpose of this Section is to establish a means of protecting existing landforms constituting steep slopes, protecting beneficial vegetation on steep slopes, and minimizing erosion by limiting disturbance on such landforms. The primary objective is preservation of natural contours rather than alteration by mass grading.
2. *Where required:* The following areas of the Township shall be considered steep slopes and shall be protected to the extent of the standards outlined in this Section.
3. *Steep slopes:* A naturally occurring landform with a vertical change in elevation of six (6) feet or more, and a slope of twelve percent (12%) or greater, and a length of fifty (50) feet or more, measured parallel to the contour lines.
 - A. Prohibitive Steep Slopes. Any naturally occurring landform with slopes of forty percent (40%) or greater.
 - B. Precautionary Steep Slopes. Any naturally occurring landform with slopes between twenty and thirty-nine percent (20% - 39%).
 - C. Moderate Steep Slopes. Any naturally occurring landform with slopes between twelve and nineteen percent (12% - 19%).
4. *Steep slope protection standards:*
 - A. Prohibitive Steep Slopes. Slopes of forty percent (40%) or greater shall be protected as key scenic assets. No disturbance is allowed unless the Township determines it is in the public interest to do so. In that case, the standards of item B below, Precautionary Steep Slopes, shall apply.
 - B. Precautionary Steep Slopes. Slopes of twenty to thirty-nine percent (20% - 39%) shall be disturbed to the least extent possible. The following standards will be used to evaluate alteration to Precautionary Steep Slopes:
 - (1) Development permitted on steep slopes shall maintain or enhance the natural contours.
 - (2) If any portion of a Precautionary Steep Slope must be disturbed as part of an approved project, the balance of the slope area must be protected from disturbance during construction, and it must be managed/restored as a natural area thereafter.
 - (3) Native vegetation, as defined by this Ordinance, growing on the steep slope shall not be disturbed to the greatest extent possible.
 - (4) All areas disturbed as part of an approved project must be re-vegetated to ensure slope stability by native vegetation of similar caliper on a 1:1 basis.
 - (5) The built environment is to be of the lowest impact possible, minimizing the area of impervious surfaces. Underground utilities shall not be located in steep slopes.
 - (6) If additional stormwater is generated by the built environment or landscape, such additional stormwater is to be managed on-site in such a way that erosion does not occur.

Drainage shall be directed to inlet structures and not be permitted to flow down slopes during and after construction.

- (7) Protection measures must be in place before landform or vegetation disturbance takes place. Any damage to waterways or off-site locations from erosion must be promptly repaired to the fullest extent practicable, using best management techniques.
- C. Moderate Steep Slopes. Slopes of twelve to nineteen percent (12% - 19%) shall require special techniques to prevent soil erosion. The following standards will be used to evaluate alteration to Moderate Steep Slopes:
- (1) Landscape work on these sites shall be conducted to restore native ecologies and promote slope stability.
 - (2) Stormwater runoff shall be reduced, and infiltration of stormwater enhanced through best management practices. Drainage shall be directed to inlet structures and not be permitted to flow down slopes during and after construction.
 - (3) Natural linkages of native vegetation/habitat shall be maintained with native vegetation/habitat on contiguous properties.