

## Section 7.01 INTENT

The intent of the Environmental Provisions is to preserve the quality and character of the Township's environment by regulating man-made development and by preserving existing environmental amenities. The requirements of this Section are designed to achieve the following objectives:

1. Uphold the Township's right and duty to protect its natural resources and amenities, as established within the State Constitution and the enabling legislature.
2. To enhance the visual quality of the Township, while preserving and/or enhancing each individual property's economic value.
3. To protect adjacent property owners, persons passing by, and the Township from activities and/or negative impacts created by development.
  - a. Reduce or eliminate glare into and from adjacent sites and activities.
  - b. Reduce or eliminate debris, dust and other pollutants from the air.
  - c. Control noise and provide acoustical modification into and from adjacent sites.
  - d. Control the direction and velocity of surface water runoff and minimize soil erosion.
  - e. Minimize visibility of undesirable elements contained within the site.
4. Recognizing the above-cited benefits of the natural environment, it is important to integrate these features into development to improve the community's environmental qualities and to enhance the visual character of the built environment.

## Section 7.02 LANDSCAPE

### A. General Landscape Requirements.

1. Whenever any yard (front, side or rear) is not designated for building, off-street parking, loading and unloading, storage or other purpose within the terms and requirements of a given zoning district, it shall be landscaped with either approved natural materials or living plant materials which shall be maintained in an aesthetically pleasing condition.
2. All landscaping shall consist either of natural materials or living plant materials unless approved by the Planning Commission. All landscaped areas shall be protected from the encroachment of vehicles by curbing or other suitable device approved by the Planning Commission. The installation of sprinklers shall be required to ensure the maintenance of all landscaped areas.

3. Existing significant trees, tree stands, natural vegetation and wildlife habitat shall be integrated into the site landscape plan to the maximum extent possible and shall meet the standards of this Section.
4. Undeveloped portions and subsequent phases of the site shall be seeded, mowed and maintained.
5. The Planning Commission may approve constructed features of other materials such as masonry walls or brick, stone and cobblestone pavement as a supplement or substitute, upon a showing by the applicant that general plantings will not prosper at the intended location.
6. Landscaping shall be planted, landscape elements shall be installed, and earth moving or grading performed in a sound workmanlike manner and according to accepted good planting and grading procedures, with the quality of plant materials and grading as hereinafter described. Copy of current acceptable standards is available from the Township Building Department.
7. The owner of property required to be landscaped by this Section shall maintain such landscaping in good condition so as to present a healthy, neat and orderly appearance, free from refuse and debris. All plant materials shall be continuously maintained in a sound, weed-free, healthy and vigorous growing condition and shall be kept free of plant diseases and insect pests. All unhealthy and dead material shall be replaced within one (1) year or the next appropriate planting period, whichever comes first.
8. Plant and grass materials shall be of acceptable varieties and species, free of pests and diseases, hardy in Macomb County, and shall conform to standards of the American Association of Nurserymen and the Charter Township of Harrison, and shall have passed any inspections required under State Regulations. Standards shall be in written form and made available by the Building Department.
9. Approved ground cover used in lieu of grass, in whole or in part, shall be planted in such a manner as to present a finished appearance and reasonably complete coverage after one (1) complete growing season, with at least three (3) plants per square foot.
10. Grass areas shall be planted in species normally grown as permanent lawns in Macomb County. Grass may be plugged, sprigged, hydroseeded, seeded or sodded, except that rolled sod, erosion reducing net or suitable mulch shall be used in swales or other areas subject to erosion. Grass, sod and seed shall be clean and free of weeds and noxious pests or diseases.

## **B. Design Objectives.**

The following design objectives and criteria shall be considered in the evaluation of landscape plans:

1. Ample variety and quantity of ornamental plants, trees and shrubs should be provided. A few dominant types are usually chosen with subordinate types interspersed for accent. Repeating some types creates unity, but no types should be overused. Variety should be achieved with respect to seasonal changes, species selected, texture, color and size at maturity.

2. Landscaping should be encouraged that will serve the functions of enhancing the visual environment, ensuring public safety, moderating the microclimate and minimizing nuisances.
3. Landscaping should serve to integrate the project with the site, with a particular sensitivity to the natural topography, drainage and existing native vegetation. It should enhance the architecture of surrounding structures, when possible, by being of similar scale.
4. Preservation of the existing landscape material and landforms is mandatory, particularly where mature trees are a part of the site to the standards of this Ordinance.
5. Landscaping should be used to break up large expanses of pavement and provide visual variety.
6. Local soil, water, and other climatic conditions should be considered when choosing landscape materials to create optimum conditions for their survival and to ensure that they will thrive with a minimum amount of maintenance.
7. Landscaping should be protected from vehicular and pedestrian encroachment. Raised planting surfaces and the use of curbs are ways of achieving this objective.
8. Species that are a public nuisance or that cause litter should be avoided. When landscaping is to be installed in areas that children will frequent, trees and bushes with sharp needles shall be prohibited.
9. The aesthetic and functional aspects of the proposed landscaping, both at installation and at maturity, shall be a paramount consideration in review and approval by the Planning Commission.

## **C. Plants and Materials.**

1. All plant materials used shall be placed in fertile soil with good surface drainage and shall be given reasonable maintenance necessary to ensure their healthy existence and survival. All natural materials shall be maintained, refurbished or replaced, as necessary, to ensure a positive aesthetic quality.
2. Portions of the site not used for parking, driveways and buildings shall be provided with landscaping and lawn or acceptable ground cover, approved by the Planning Commission, and so maintained in attractive condition.



**D. Prohibited Materials.**

Where a landscape plan is required, the following plant materials are specifically prohibited:

Plant Material		Plant Material	
1.	Bittersweet	20.	Horse Chestnut
2.	Black Walnut.	21.	Japanese or Common Barberry
3.	Boxelder.	22.	Japanese or Tatrian Honeysuckle
4.	Catalpa.	23.	Leafy Spurge
5.	Chinese or Siberian Elm	24.	Maiden Grass
6.	Chokecherry.	25.	Mulberry
7.	Common Buckthorn	26.	Norway Maple
8.	Common Periwinkle	27.	Oxeye Daisy
9.	Common Privet	28.	Porcelain Berry
10.	Cottonwood.	29.	Purple Loosestrife
11.	Creeping Bellflower	30.	Ribes (Gooseberry)
12.	Creeping Charlie	31.	Siberan Pearshrub
13.	Crown Vetch	32.	Soapwort
14.	Dame's Rocket	33.	Soft maple (silver)
15.	European Mountain Ash	34.	Tree of Heaven
16.	Flowering Rush	35.	Willow
17.	Goutweed	36.	Winter Creeper, European or Winged Euonymus
18.	Green and White Ash	37.	Yellow Flag
19.	Hawkweed	38.	All thorned trees and shrubs



**E. Plant Material Species and Size Requirements.**

- All proposed landscaped plantings shall meet the minimum size requirements specified in the Plant Material Size table listed below:

	Minimum Allowable Size						
	Height				Caliper		
	6'-8'	3'-4'	2'-3'	18"-2'	2"	2.5"	18"-2' Spread
<b>Evergreens:</b>							
Pine							
Spruce							
Fir							
Hemlock							
<b>Narrow Evergreen Trees:</b>							
Red Cedar							
Arborvitae							
<b>Street Trees:</b>							
Ginko Biloba (male only)							
Sweet, Sour or Black Gum							
Pin Oak							
Hackberry							
<b>Large Deciduous Trees:</b>							
American Beech							
Red or Sugar Maple							
Linden (Basswood)							
Red, White or Burr Oak							
Tulip Tree							
Kentucky Coffee Tree							
Hackberry							
Shagbark Hickory							
Tamarack							
<b>Small Deciduous Trees:</b>							
Redbud							
Flowering Dogwood							
Witch Hazel							
Red Mulberry							
American Hazelnut							



	Minimum Allowable Size						
	Height				Caliper		
	6'-8'	3'-4'	2'-3'	18"-2'	2"	2.5"	18"-2' Spread
<b>Large Evergreen Shrubs:</b>							
Hicks or Upright Yew							
Spreading Yew							
Pfitzer or Savin Juniper							
Mugho Pine							
<b>Small Evergreen Shrubs:</b>							
Brown's, Ward's Sebio Yews							
Dwarf Spreading Juniper							
Dwarf Mugho Pine							
Euonymous Varieties							
<b>Large Deciduous Shrubs:</b>							
Honeysuckle							
Lilac							
Sumac							
Buckthorn							
Pyracantha							
Weigela							
Flowering Quince							
Barberry							
Cotoneaster							
Sargent Crabapple							
Dogwood (Red Osier & Grey)							
Euonymous Varieties							
Viburnum Varieties							
Boxwood							
<b>Small Deciduous Shrubs:</b>							
Dwarf Winged							
Regal Privet							
Fragrant Sumac							
Lavender							
Cotoneaster (Rockspray)							

## Section 7.03 PARKING LOT AND FRONTAGE LANDSCAPING

The intent of these requirements is to enhance the aesthetic appeal of the Township; to promote public safety; to moderate heat, wind and other local climatic effects produced by parking lots; and to minimize nuisances, particularly noise and glare.

### A. **Parking Lot Greenbelt Requirement.**

All parking areas in non-residential zoning districts shall be setback a minimum of ten (10) feet from the right-of-way or road easement of all abutting roadways. The ten (10) foot setback area shall be landscaped in a manner consistent with the intent of this Article.

### B. **Interior Parking Lot Landscaping.**

1. All unpaved areas between a commercial or office building and a facing street shall be landscaped and maintained to include grass and/or placement of shrubbery.
2. All off-street parking areas shall incorporate and provide curbed tree planting spaces to be laid out square and constructed to provide not less than one hundred and twenty-six (126) square feet of land area for each tree planting.
  - a. Curbed, landscaped islands shall be placed at the ends of all parking space groupings to separate the parking spaces from the maneuvering lanes and to provide for safe traffic flow. These planting areas shall not be less than seven (7') feet in width.
3. Trees shall be planted throughout the parking area. Trees shall be a minimum of two and one-half (2.5") inch caliper at the time of planting and shall be provided at a ratio of one (1) tree for each ten (10) parking spaces, or fraction thereof. These trees shall not be counted towards street frontage tree requirements. Trees identified as large or small deciduous trees in the "Plant Material Species" section of this Ordinance shall be utilized to satisfy the requirements of this section.

### C. **Frontage Landscaping.**

1. Large Deciduous street trees shall be provided within every zoning district. The trees shall be spaced evenly in a linear fashion along all road rights-of-way.
2. One (1) tree shall be planted for each thirty-five (35') feet of road frontage and shall be planted five (5') feet outside of the road right-of-way.
3. The Planning Commission may approve plantings within the road right-of-way in instances where setbacks or other similar circumstances prevent the applicant from planting said trees outside of the public right-of-way.

4. The trees shall be a minimum of two and one-half (2.5") inch caliper at the time of planting. These trees may not be counted towards parking lot tree requirements.
5. In the case of single-family residential development one (1) street tree shall be required per lot or for every thirty (35') feet of road frontage, whichever is greater.

## Section 7.04 PRESERVATION OF WOODED AND SHRUBBED AREAS

- A. No more than sixty (60) percent of the total number of trees may be cleared or destroyed on any one site. The remaining forty (40) percent of the treed area should be maintained as permanent open space or otherwise incorporated into the development. The developer shall prepare a tree inventory, which indicates the size and species of all trees five (5") inches in caliper or greater, measured at a height of five (5') feet from the established grade. From the tree inventory, a tree preservation plan shall be developed which indicates the following:
  1. Which trees will remain and which will be removed.
  2. Specifications on the method of protection for the trees which will remain during construction phases. The owner or person developing the site shall erect and maintain suitable barriers (snow fencing or cyclone fencing) during the entire development process.
  3. Grade changes or other work adjacent to remaining trees which would affect it adversely, with specifications on how the grade, drainage, and aeration will be maintained around the tree.
  4. If over sixty (60%) percent of the trees will be removed, the plan must state how many trees in excess of sixty (60%) percent are to be removed. This number, multiplied by two (2), shall be the total number of trees which shall be provided/replaced on the site plan. Trees which are required by this Ordinance for the purposes of screening, parking lot landscaping or other required landscaping shall not be counted as replacement trees.
  5. Replacement trees shall be a minimum of three (3") inches in caliper for deciduous trees, or eight (8') feet in height for evergreen trees.

## Section 7.05 NATURAL RESOURCE PROTECTION

- A. **Natural Resource Greenbelt.** The Township recognizes the fragility and benefits of certain natural features within the Township such as wetlands, marshes, bogs, streams, inland lakes, ponds, and drains. These features help regulate storm water drainage, water quality, help control erosion and sediment disposition, as well as provide for wildlife and plant habitat. In an effort to help preserve these environmental features and the benefits in which they provide, the Township shall require natural resource buffers or greenbelts around natural features located on site. These buffers will help ensure that no damage, impairment, or other intrusion occurs to the natural habitat and that contaminants or pollutants from daily operations do not degrade or destroy these sensitive areas.
1. A twenty five (25') foot undisturbed greenbelt shall be preserved around the boundary of any state regulated wetland and all other flagged wetlands which are intended to remain on site, and from the ordinary high water mark of any inland lake or pond, streams, creeks or drains (improved or unimproved). These areas shall be conspicuously noted on the site plan and before any land clearing activities are commenced, the developer shall erect and maintain a suitable barrier between such environmental feature greenbelt and lands which are intended to be cleared. In residential development, the required greenbelt shall not be part of a lot.
    - a. There shall be no construction, removal, or deposit of any structures or soils, including dredging, filling, or land balancing within a required natural resource greenbelt. unless approval from the MDEQ has been granted.
    - b. These requirements may be modified by the regulating State or County agency.

## Section 7.06 PERFORMANCE STANDARDS

It is the intent of this subsection to regulate all uses except research and manufacturing and require that each permitted use shall be a good neighbor to adjoining properties by control of noise, odor, glare, vibration, smoke, dust, liquid wastes, radiation, radioactivity, etc. The performance standards set forth in the following subsection shall be complied with, and any use which fails to comply with the standards shall be in violation of this Ordinance and be subject to penalties as accorded by law. The sum of the effects of concurrent operations on two or more lots measured at any property line shall not be greater or more offensive to the senses than the standards contained herein. Compliance with the provisions of this subsection by single or mutual changes in operational levels, scheduling of operations and other adjustments is permitted. In case of conflict among these standards and Federal and State regulations, the most restrictive standard or regulation shall apply.

1. **Noise.** Noise shall not exceed sixty-five (65) decibels [db(A)] equivalent daytime and sixty (60) decibels [db(A)] equivalent nighttime, as measured at any site line. In no case shall the maximum noise level exceed 60 db(A).

2. **Odors.** Odors from any use shall not be discernible at the property line to a greater degree than odors from plants for the manufacture of electronic equipment. The values given in Table III (Odor Thresholds) in the latest revision of Chapter 5, "Physiological Effects," in the "Air Pollution Abatement Manual," by the Manufacturing Chemists' Association, Inc., Washington, D.C., copyright 1951, shall be used as standard in case of doubt concerning the character of odors emitted. In such case, the smallest value given in Table III shall be the maximum odor permitted.
3. **Glare.** Glare, whether direct or reflected, such as from floodlights or high temperature processes, and as differentiated from general illumination, shall not be visible at any property line.
4. **Vibration.** Vibration shall not be discernible at any property line to the human sense of feeling.
5. **Smoke.** Emission of smoke on the site shall be controlled so that a nuisance will not result. Emission of smoke shall not exceed the number 1 standard as established by the Ringlemann Chart.
6. **Gases.** Fumes or gases shall not be emitted at any point in concentrations or amounts that are noxious, toxic, or corrosive.
7. **Electrical Radiation.** Electrical radiation shall not adversely affect at any point any operations or any equipment other than those of the creator of the radiation.
8. **Utilities Underground.** All lines for telephone, electric, television and other similar services distributed by wire or cable shall be placed underground entirely throughout the development area, except for major thoroughfare right-of-way, and such conduits or cables shall be placed within private easements provided to such service companies by the developer or within dedicated public ways. Overhead lines may be permitted by not less than six (6) affirmative votes of the Township Planning Commission at the time of final approval where it is determined that overhead lines will not constitute a detriment to the health, safety, general welfare or area design. All such facilities placed in dedicated public ways shall be planned so as not to conflict with other underground utilities. All such facilities shall be constructed in accordance with standards of construction approved by the Michigan Public Service Commission. All underground utility installations which traverse privately owned property shall be protected by easements granted to the appropriate authority by the applicant.
9. **Air-Borne Matter General.** There shall not be discharged from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment or nuisance to the public, or which endanger the comfort, repose, health or safety of persons, or which cause injury or damage to business or property.

## 10. **Storage of Hazardous Substances.**

a. **Applicability.** These provisions apply to all business, manufacturing and marina facilities which use, store or generate hazardous substances in quantities greater than 100 kilograms per month (equal to about 25 gallons or 220 pounds).

### b. **Above-Ground Storage.**

- (1) Primary containment of hazardous substances shall be product-tight.
- (2) Secondary containment of hazardous substances shall be provided for all facilities, subject to site plan review. Secondary containment shall be sufficient to store the substance for the maximum anticipated period of time necessary for the recovery of any released substance.
- (3) Outdoor storage of hazardous substances is prohibited except in product-tight containers which 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.
- (4) At a minimum, State and Federal agency requirements for storage, leak detection, record-keeping, spill prevention, emergency response, transport and disposal shall be met.

### c. **Below-Ground Storage.**

- (1) At a minimum, State and Township regulations for the installation, inspection, maintenance of a leak detection system, inventory and record-keeping, emergency response and closure shall be met.
- (2) All underground storage tanks which have been out-of-service for nine (9) months or longer shall be removed from the site before a building permit is issued. This requirement may be adjusted by the Fire Chief in situations where a clear timetable for the safe use of the underground tank is established.

## 11. **Plan Review and Approval.**

Site plans for facilities with hazardous substances shall be reviewed by the Fire Chief or his/her designee prior to the approval by the Planning Commission.

