Macomb County

Model Environmental Ordinances

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II. STORMWATER MANAGEMENT

Introduction

Stormwater management has moved into the forefront for many communities since the inception of the Federal Clean Water Act’s Phase II requirements regulating stormwater runoff. (See the discussion about Phase II in the introduction to this booklet.) This new perspective on stormwater is guiding communities away from trying to capture and discharge stormwater off site as quickly as possible. Now, they are working to reduce runoff through infiltration on site, and then treat any runoff that does occur before it is discharged into streams or wetlands for improved watershed quality. Many communities have engineering guidelines that describe the minimum standards for dealing with stormwater such as calculating runoff, or sizing detention basins, but there is little discussion about the philosophy the community holds about stormwater and its role in land planning.

As mentioned in previous model ordinances, it is important to explain through the Master Plan the approach a community wants developers to take in designing stormwater systems. Results such as protection of wetlands, riparian corridors, and hydrologic patterns should be discussed in general terms to clearly communicate the connection between stormwater and the community’s vision for its future water quality.

Regulatory Considerations

The community’s philosophy about stormwater is translated into specific standards in the Zoning Ordinance through a stormwater management regulation. Including stormwater requirements in the Zoning Ordinance could also be supplemented by creating an Engineering Design Manual or Construction Standards that describes the technical aspects of stormwater BMPs.
The authority to regulate stormwater comes from the City and Village Zoning Act (Act 207 of 1921 as amended), and the Township Zoning Act (Act 184 of 1943 as amended). Both acts allow governmental entities to provide zoning ordinances for the regulation of land development and to facilitate efficient provision for public services and facilities.

The main emphasis of stormwater management regulations should be to minimize runoff, and then treat the runoff that does occur before it reaches a natural water body. Minimizing runoff generally equates to reducing the amount of impervious surfaces, such as roads, parking lots, and buildings, preserving existing natural features, or by applying designs that allow for greater sheet flow, or pervious surfaces. Impervious surfaces add to the amount and rate of stormwater entering surface waters. Uncontrolled runoff carries a variety of pollutants such as fertilizers, pesticides, oil, and bacteria from animal waste, degrading water quality. Uncontrolled runoff also increases the flow into the system, which increases in the magnitude and frequency of flood events, reduces fish and other aquatic species diversity, increases stream bank erosion, and decreases infiltration into the groundwater.

Example Ordinance Language

The following stormwater ordinance text incorporates approaches to stormwater management and impervious surface reduction into the same ordinance. It provides site development standards that guide developers and individuals to finding opportunities for stormwater reduction and treatment as they go through the site planning process.

STORMWATER MANAGEMENT/ IMPERVIOUS SURFACE MITIGATION

(COMMUNITY NAME), MICHIGAN

Ordinance No. __________

SECTION 1: GENERAL

1.1 Intent

It is the intent of this Ordinance to encourage the use of structural, vegetative, or managerial practices, commonly referred to as Best Management Practices (BMP's), designed to treat, prevent, or reduce degradation of water quality due to stormwater runoff. All development projects subject to review under the requirements of this Ordinance shall be designed, constructed, and maintained using BMP's to prevent flooding, protect water quality, reduce soil erosion, maintain and improve wildlife habitat, and contribute to the aesthetic values of the project. The particular facilities and measures required on-site shall reflect and incorporate existing grade, natural features, wetlands, and watercourses on the site to the maximum extent feasible.
SIDEBAR TEXT

- Best Management Practices (BMPs) include a broad range of physical structures, plantings, or management practices. The common denominator that makes them BMPs is that they either reduce stormwater runoff, reduce pollutants that could reach surface waters, or treat stormwater before it enters a natural water body. Examples of structural BMPs include sedimentation basins and wet ponds (or manufactured wetlands). Vegetated BMPs could include vegetated swales or rain gardens. Management practice BMPs include washing vehicles in commercial car washes (versus in an area where the soapy water could wash into a storm drain), and soil testing before applying fertilizers.

1.2 Stormwater Drainage/Erosion Control

All stormwater drainage and erosion control plans shall meet the standards adopted by the (Community Name) or other jurisdiction for design and construction and shall, to the maximum extent feasible, utilize nonstructural control techniques, including but not limited to:

A. Limitation of land disturbance and grading;
B. Maintenance of vegetated buffers and natural vegetation;
C. Minimization of impervious surfaces;
D. Use of terraces, contoured landscapes, runoff spreaders, grass or rock-lined swales;
E. Use of infiltration devices;

SIDEBAR TEXT

- Engineering and construction standards are often provided for BMPs identified in stormwater regulations. The engineering information, usually provided in a separate document, ensures that the BMPs are designed and constructed properly.
1.3 General Standards

A. Stormwater management systems shall be designed to prevent flooding and the degradation of water quality related to stormwater runoff and soil erosion from proposed development.

B. All properties which are subject to this ordinance shall provide for on-site storage of stormwater. Facilities shall be designed to provide a volume of storage and discharge rate which meets the standards of the (Community Name) Engineering and Design Standards.

C. Priority shall be placed on site design which maintains natural drainage patterns and watercourses. Alterations to natural drainage patterns shall not create flooding or degradation in water quality for adjacent or downstream property owners. Site designs must be approved by the Macomb County Public Works Department if it is a watercourse under their jurisdiction.

D. The use of swales and vegetated buffer strips (containing desirable native plant materials) or other infiltration practices is encouraged as a method of stormwater conveyance so as to decrease runoff velocity, allow for biofiltration, allow suspended sediment particles to settle, and to remove pollutants. Tolerance for water saturation, sunlight, pesticides, metals, and salts, shall be required in determining appropriate plantings in these areas.

SIDEBAR TEXT

• A balance between the benefits and potential issues needs to be considered in designing any stormwater system. There are many positive benefits to managing and storing stormwater above ground rather than in underground pipes. It allows the runoff to infiltrate into the ground (filtering it of pollutants and sediments) or evaporate over time. The stormwater recharges ground water or returns to the atmosphere, and does not contribute to high stream flows which scour stream banks, adding to sedimentation. However, above-ground methods raise some issues to keep in mind, such as the safety of potential standing water on a site, or allowing certain pollutants such as motor fluids to infiltrate into the ground.

E. Drainage systems shall be designed to be visually attractive. The integration of stormwater conveyance systems and retention and detention ponds in the overall landscape concept is recommended. Ponds with a naturally contoured, rather than square or rectangular, design and appearance shall be encouraged.
Integrating stormwater systems into a site design is one of the major concepts in a new approach to stormwater management called Low Impact Development (or LID). This approach looks at stormwater runoff as a resource, not a waste product. It calls for managing rainfall at its source through uniformly distributed, micro-scale controls, rather than directing all stormwater to one large detention/retention basin. LID’s goal is to mimic a site’s pre-development hydrology through design techniques that infiltrate, filter, store, evaporate and detain runoff close to its source. For more information on these cutting-edge design ideas, go to the Low Impact Development Center’s web site at www.lid-stormwater.net

F. Where large amounts of grease and oil may accumulate, as in the case of commercial/industrial developments and large areas of pervious surfaces for parking, oil separators shall be required.

G. For sites that store or use chemicals, a spill response plan shall be submitted and approved by the (Community Name).

SECTION 2: DEFINITIONS

Section 2.1 - Definition of Terms

Terms not specifically defined shall have the meaning customarily assigned to them.

BEST MANAGEMENT PRACTICE (BMP) means a structural, vegetative, or managerial practice that is designed to treat, prevent, or reduce degradation of water quality due to stormwater runoff, and to reduce the amount of stormwater runoff.

BUFFER STRIP means a vegetated area that treats sheet flow and/or interflow by removing sediment and other pollutants. The area may be grass-covered, forested or of mixed vegetative cover, depending on the amount of pollutants to be removed and the size of the buffer strip.

FLOODPLAIN means the area which is inundated by the base flood (or a flood having a 1 percent chance of being equaled or exceeded in any given year) and carries and discharges the floodwaters of the base flood as determined by the Federal Emergency Management Agency (FEMA) and as indicated in the flood boundary and floodway map.
**IMPERVIOUS SURFACE** means surfaces that do not allow water to infiltrate into the ground. Examples include buildings, pavement, and compacted soils within grassed or landscaped areas.

**NATIVE PLANT** means a plant species that has naturally evolved in a certain area over thousands of years under certain soil, hydrologic, and other site conditions. Where “native plant” is used in the text, this means a straight species, not a cultivar of a species.

**NATURAL FEATURE** means a wetland, as defined in the (Community Name) Wetland’s Ordinance, and shall mean a watercourse, including a lake, pond, river, stream, or creek.

**SWALE** means an open drainage channel or depression, explicitly designed to detain and promote the filtration of stormwater runoff into an underlying soil media.

**WATERCOURSE** means any natural or artificial watercourse, stream, channel, creek, ditch, canal, conduit, culvert, drain, waterway, gully, ravine or wash in which water flows in a definite direction or course, either continuously or intermittently, and which has a definite channel, bed and banks, and shall include any area adjacent tracts subject to inundation by reason of overflow of floodwater.

**WETLAND** means land characterized by the presence of water at a frequency and duration sufficient to support and that under normal circumstances does support, wetland vegetation or aquatic life, and is commonly referred to as a bog, swamp, or marsh.

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**SECTION 3: USE OF WETLANDS**

### 3.1 Stormwater Management and Wetlands

Wetlands may be used for stormwater management if all the following conditions are met:

A. Wetlands and their current functions shall be protected from impairment due to the discharges of stormwater. Measures shall be taken to reduce erosive velocities of stormwater and remove sediment and other pollutants prior to discharge to a wetland.

B. Wildlife, fish or other beneficial aquatic organisms and their habitat within the wetland will not be impaired

C. The wetland has sufficient holding capacity for stormwater, based upon calculations prepared by the proprietor and reviewed and approved by the (Community Name), and that the additional stormwater will not impair the wetland’s current functions.

D. On-site erosion control shall be provided to protect the natural functioning of the wetland.
E. Provisions approved by the (Community Name) shall be established so as to insure that the wetland is not disturbed or impaired in the future relative to the needed storage capacity.

F. Applicable permits from the local government and the Michigan Department of Environmental Quality are obtained.

**SIDEBAR TEXT**

- Information provided by the Michigan Natural Features Inventory (MNFI) for Macomb County could also be used to evaluate whether it is appropriate to use a particular wetland as part of a stormwater system. Refer to the introduction of this booklet for more information on Macomb County’s General MNFI.

**SECTION 4: IMPERVIOUS SURFACE REDUCTION/INFILTRATION ENHANCEMENT**

4.1 General

The (Community Name) recognizes that, due to the specific requirements of any given development, inflexible application of the design standards may result in development with excessive paving, stormwater runoff, and a waste of space which could be left as an open space.

The (Community Name) may permit deviations from Ordinance requirements during the site plan review process to reduce impervious surfaces. These deviations can be either prescribed by Ordinance or proposed through creative land development techniques that are permitted by the Ordinance. The (Community Name) may permit deviations whenever it finds that such deviations are more likely to meet the intent and standards of this Ordinance and accommodate the specific characteristics of the use in question.

4.2 Site Plan Standards

The (Community Name) may attach conditions to the approval of a deviation that bind such approval to the specific use in question. Measures that reduce impervious surface and increase infiltration may include, but are not limited to, the following:

A. Streets and Access.

1. Design residential streets with the minimum required pavement width needed to support travel lanes, on-street parking, and emergency (as
defined by applicable emergency response agencies), maintenance, and service vehicle access and function based on traffic volumes.

2. Reduce the total length of residential streets by examining alternative street layouts to determine the best option for increasing the number of homes per unit length.

3. Design street right-of-way widths/private road easements to reflect the minimum required to accommodate the travel-way, the sidewalk, and vegetated open channels.

4. Minimize the number of street cul-de-sacs and reduce the radius of cul-de-sacs to the minimum required to accommodate emergency and maintenance vehicles. Alternative turnarounds shall be considered, including the use of mountable curbing and grass shoulders for the occasional event of access by fire trucks and other large commercial trucks. Provide landscape center islands wherever cul-de-sacs exist.

**SIDEBAR TEXT**

- Some of these standards may be developed in part, or in coordination with, the mandatory “cluster” options that are required by the State of Michigan for most Macomb County communities.

5. Where density, topography, soils, and slope permit, use vegetated open channels in the street right-of-way/private road easements to convey and treat stormwater runoff.

6. Use alternative driveway surfaces and shared driveways that connect two or more sites. (Use agreements should accompany any such application.)

7. Promote more flexible design standards for residential subdivision sidewalks. Where practical, consider locating sidewalks on only one side of the street and providing common walkways linking pedestrian areas.

**B. Parking**

1. Base parking requirements on the specific characteristics of the use, landbanking in open space parking required to satisfy Ordinance requirements.

2. Reduce the overall imperviousness associated with parking lots by providing compact car spaces, minimizing stall dimensions, incorporating
efficient parking lanes, depressed center islands with curb cuts, and using pervious materials in the spillover parking areas where possible.

3. Encourage shared parking between compatible users.

C. Site Design

1. Direct rooftop runoff to pervious areas such as yards, open channels, or vegetated areas and avoid routing rooftop runoff to the roadway and the stormwater conveyance system.

2. Create naturally vegetated buffer systems, which may vary in width as determined by the (Community Name) along all drainageways. Critical environmental features such as the 100-year floodplain, steep slopes, and wetlands shall be considered.

3. Minimize clearing and grading of woodlands and native vegetation to the least amount needed to build lots, allow access, and provide fire protection.

4. Conserve trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native plants.

SIDEBAR TEXT

Other standards include:

- Encourage open space design subdivisions that use smaller lot sizes. This minimizes impervious surfaces by clustering development in one area of the site. The open space allows stormwater to infiltrate into the ground.

- Link open spaces to existing wetlands, river systems, and other open spaces. This provides a buffer to the sensitive water features, allows scenic recreational opportunities, provides a wildlife movement corridor, and could provide an opportunity for non-motorized transportation/recreation such as biking and walking.

- Require that disturbed areas, to be used for infiltration, be aerated/decompacted after construction activities are complete. Heavy construction equipment compacts soils and can make them almost as impervious as asphalt. Could also require that infiltration areas be marked on site plans and roped off in the field to avoid compaction.
SECTION 5: MAINTENANCE

5.1 Stormwater Facility Maintenance

Whenever a landowner is required to provide on-site stormwater retention and/or surface drainage to wetlands, or whenever other protective environmental measures including monitoring devices are required, such measures or facilities shall be provided and maintained at the landowner's expense. The landowner shall provide assurance to the (Community Name) that the landowner will bear the responsibility of providing and maintaining such methods or facilities, by written agreement, suitable for recording at the office of the Macomb County Register of Deeds, that will act as a perpetual restriction on the land, the form and content of which shall be approved by the (Community Name) Attorney. A maintenance plan shall be provided including notation and description of maintenance requirements and timelines.

Additional Resources


VII. NATIVE VEGETATION

Introduction

Integral components of any natural system are the plants that live within them. The native plants that grow in a community are very important because they uniquely perform environmental functions that keep our natural environment working.

What are native plants? Native plants are the trees, shrubs, flowers, grasses and ferns that have evolved in a particular area, such as Southeast Michigan, over thousands of years, and existed in the area before European settlement. Over this long period of time, these plants have adapted to the particular growing conditions present here, including temperature, rainfall, winds, soils, slopes and fauna. Benefits of using native plants include the following:

- Native plants are well-adapted to local conditions, therefore requiring little maintenance once established. They eliminate or significantly reduce the need for fertilizers, pesticides, water and lawn maintenance equipment. They also often attract beneficial insects, which prey upon pests, decreasing the need for pesticides.

- Native plants are less expensive to maintain. U.S. EPA reports that a prairie or wetland costs approximately $150 a year per acre to maintain, while the same amount of lawn costs $1,000 per year per acre to maintain.

- Native plants reduce air pollution, improve water quality and reduce soil erosion. Using native vegetation, unlike cultivated landscapes, does not require the use of lawn maintenance equipment, a major contributor to air pollution. They improve water quality by filtering contaminated storm water, and reduce soil erosion by stabilizing soils with their deep root systems.

- Most native species are perennial, or self-seeding biennial plants.

- Native plants attract our native songbirds and butterflies. Just as the plants have evolved and adapted to our area over time, the local wildlife has evolved along side them, depending on these plants for food and shelter.
• Using native plants promotes biodiversity. Planting a small meadow that once was lawn replaces one plant species with many, increasing the opportunities for beneficial wildlife and insects to live.

• Native plants maintain our natural heritage and our community’s character.

Regulatory Considerations

State and Federal laws do not support the use of native vegetation in exclusion of all non-native plant material. However, prohibitions on using non-native, invasive plants may be established based on the interest of the health, safety, and general welfare of the residents within a particular community in keeping with Article IV, Section 52 of the Michigan Constitution of 1963. The intent of the Michigan Natural Resources and Environmental Protection Act, PA 451 of 1994 can also be cited as a purpose for establishing prohibitions on using non-native invasive plants. The remainder of the ordinance language includes guidelines that direct the use of native vegetation for those who choose to do so.

Protection of existing native plants can also be affected by the Federal Endangered Species Act of 1973. If a threatened or endangered species is located within a specific area, this could result in limited disturbance and additional protection. Also, native vegetation could also be protected if it is located within a state- or locally-regulated wetland area.

Native plant guidelines integrate quite easily into most landscaping ordinances because they cover new ideas in landscaping, and often do not conflict with existing provisions. The most common conflict is most likely with any “noxious weed” ordinance language a community may currently have. These rules often limit the height of plants in a yard, and do not specifically define what species of plants are “noxious weeds.” This can be addressed by using the State’s definition of noxious weeds, which include plants that are either introduced from other countries, or are toxic to people (such as poison ivy) and that cause serious problems for farmers. The height issue can be addressed by requiring that all plants be cut to a height of no more than 18” at least once a year (see Section 4.2 below).

Example Ordinance Language

Most native plant ordinances include some regulations, and a considerable number of guidelines for the use of native plants. Because this is a relatively new field, the guidelines help to educate development professionals about the possibilities of using native plants.

The main regulation within the native plant ordinance is the prohibition on using non-native (or exotic), invasive plants. These plants are not native to the area, have no natural controls and are able to out-compete and gradually displace native plants. By reducing or
eradicating the native species, the functions they perform are no longer accomplished. Because exotic invasive plant species could potentially harm the environment, there is justification to regulate the use of these plants.

The provisions in the following ordinance language cover a wide range of topics and circumstances. However, many of these provisions can be individually incorporated into a landscaping ordinance if the community is not ready or interested in a full range of native plant provisions. For instance, prohibiting “invasive” plants would be a basic provision to start with. If a community wanted to go further, it could encourage the use of natives, and if they are not available, the use of non-native, non-invasive plants. While some introduced plants are harmful, or invasive, not all non-natives behave this way. An important rule of thumb is to “do no harm.” Therefore, if native species are not available, then non-invasive non-native species are the second best choice. Also, a community could allow cultivars of native species. Again, it is important that a community choose provisions that will advance their goals and fit in with their existing ordinances.

The remainder of most native plant ordinances is guidelines, or suggestions as to ways native plants can be used.

NATIVE VEGETATION

(COMMUNITY NAME), MICHIGAN

Ordinance No. __________

SECTION I. GENERAL

1.1 Intent:

Native plant provisions are generally part of the landscaping section of the Zoning Ordinance.
The “Intent” section of the landscaping ordinance should outline the benefits of preserving and using native vegetation in landscaping.
As for any ordinance, support for the use of native vegetation should be included in the community’s Master Plan.

It is the intent of this section to encourage the use of desirable native species of plants for all landscaping and to maximize the use of native plant species in landscaping all areas of a site, including but not limited to, foundation plantings, lawn areas, screening and greenbelt areas, and surface storm water conveyance features.

Encouraging the use of native plants in this ordinance is based on the following:
A. Native plants are a necessary part of the proper functioning of natural ecosystems within (Community Name) and perform tasks including, but not limited to, storm water attenuation, uptake and purification, air purification, wildlife food and habitat, and community character and aesthetics; and

B. Landscaping with native plants encourages environmentally-sound maintenance practices by requiring little or no pesticide or fertilizer use, and minimal watering once plants are established, which, in turn, reduces the threat of environmental degradation; and

C. The (Community Name) has stated in its Master Plan the goal to preserve the natural features and character of (Community Name) lands and protect the quality of vital (Community Name) air, land and water resources; and to encourage the uses of desirable native species of vegetation.

SECTION 2 – DEFINITIONS

2.1 Definition of Terms:

CULTIVAR means a certain variant of a species that is propagated for ornamental use. The cultivar name is always enclosed in single quotation marks or designated “cv.”; it is not italicized. Example: Acer rubrum ‘Sunset’.

ENVIRONMENTALLY-SOUND LANDSCAPE MANAGEMENT PRACTICES means landscape management practices that use appropriate native plant species for the site conditions, reduces the need for irrigation, eliminates the use of chemical pesticides and fertilizers, and significantly reduces or eliminates the use of gasoline-powered landscaping equipment.

EXOTIC PLANT SPECIES means a plant species that has evolved in a country or region other than Macomb County and has been introduced by human activity.

EXOTIC INVASIVE PLANT SPECIES means an exotic plant species that has no natural controls and is able to out-compete and gradually displace native plants. A list of prohibited exotic invasive plant species is included in this ordinance.

FLORISTIC QUALITY ASSESSMENT is a method for evaluating the relative significance of tracts of land in terms of their native floristic composition. This method was developed by the Michigan Department of Natural Resources. The plant list that results from this process provides information about the ecosystems on the site, the condition of those systems, and gives guidance as to what native plant species would be appropriate to use in landscaping the site after development has occurred.
NATIVE PLANT SPECIES means a plant species that has naturally evolved in a certain area over thousands of years under certain soil, hydrologic, and other site conditions. Where “native plant species” is used in the text, this means a straight species, not a cultivar of a species.

SIDEBAR TEXT

Common native plant species that are readily available in the landscaping trade include:

- **Trees** – Red Maple (*Acer rubrum*), Sugar Maple (*Acer saccharum*), Basswood (*Tilia americana*), Red Oak (*Quercus rubra*), Swamp White Oak (*Quercus bicolor*), Bur Oak (*Quercus macrocarpa*), Redbud (*Cercis Canadensis*), Flowering Dogwood (*Cornus florida*).
- **Shrubs** – Chokeberry (*Aronia melanocarpa*), Alternate-leaf Dogwood (*Cornus alternifolia*), Red-osier Dogwood (*Cornus stolonifera*), American Hazelnut (*Corylus americana*), Michigan Holly (*Ilex verticillata*), Serviceberry (*Ameranchier laevis or arborea*), Spicebush (*Lindera benzoin*), American Cranberry Viburnum (*Viburnum trilobum*).

NATIVE PLANT COMMUNITY is a collection of plant species native to Macomb County that have evolved together under similar site conditions.

NATURAL LANDSCAPING refers to a property that is landscaped so as to exhibit the deliberate and conscious decision to plant, cultivate and maintain those native species identified as wildflower, grass, shrub, or tree in commonly accepted publications, including “Michigan Flora” by Edward Voss, all volumes. This landscaping tries to capture the character and spirit of nature in a designed landscape by arranging plants in a community context, similar to their arrangement in nature.

NOXIOUS WEED refers to any plant species listed by the State of Michigan under Regulation 715, Seed Law Implementation, and under Act 359 of 1941 – Noxious Weeds.
SECTION 3 – PROHIBITED PLANT SPECIES

Section 3.1 Prohibited Plant Species

The following plants are prohibited for use in landscaping activities. Most of these plants are not native to the area, reproduce profusely and have potentially harmful effects on natural ecosystems. They are known as “exotic invasive species.”

<table>
<thead>
<tr>
<th>Common Name (Botanic Name):</th>
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<tbody>
<tr>
<td><strong>Trees:</strong></td>
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<tr>
<td>Norway Maple (Acer platanoides)</td>
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<td>Amur Maple (Acer ginnala)</td>
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<td>Tree of Heaven (Ailanthus altissima)</td>
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<td>European Alder (Alnus glutinosa)</td>
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<td>Goldenraintree (Koelruteria paniculata)</td>
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<td>Amur Cork Tree (Phellodendron amurense)</td>
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<td>White Poplar (Populus alba)</td>
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<td>Siberian Elm (Ulmus pumila)</td>
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<td><strong>Shrubs and Vines:</strong></td>
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<tr>
<td>Porcelainberry (Ampelopsis brevipedunculata)</td>
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<tr>
<td>Japanese barberry (Berberis thunbergii)</td>
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<td>Common barberry (Berberis vulgaris)</td>
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<td>Butterfly Bush (Budlia davidii)</td>
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<td>Oriental Bittersweet (Celastrus orbiculatus)</td>
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<td>Cotoneaster (Cononeaster microphyllus)</td>
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<td>Cotoneaster (Cotoneaster pannosus)</td>
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<td>Cotoneaster (Cotoneaster lacteus)</td>
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<td>Autumn Olive (Eleagnus umbellata)</td>
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<td>Russian Olive (Eleagnus angustifolia)</td>
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<td>Burningbush (Euonymus alatus)</td>
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<td>Wintercreeper (Euonymus fortunei)</td>
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<td>English Ivy (Hedra helix)</td>
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<td>Privet (Ligustrum vulgare)</td>
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<td>Japanese Honeysuckle (Lonicera japonica)</td>
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<td>Amur Honeysuckle (Lonicera maackii)</td>
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<td>Morrow Honeysuckle (Lonicera morrowi)</td>
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<td>Tartarian Honeysuckle (Lonicera tatarica)</td>
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White Mulberry (Morus alba)
Common Buckthorn (Rhamnus cathartica)
Glossy Buckthorn (Rhamnus frangula)
Multiflora Rose (Rosa multiflora)
Japanese Spiraea (Spiraea japonica)
Japanese Yew (Taxus cuspidata)
Guelder Rose (Viburnum opulus var. opulus)

**Grasses and Grass-Like Plants:**
Pampas Grass (Cortaderia selloana, C. jubata)
Chinese Silver Grass (Miscanthus sinensis)
Giant Reed (Phragmites communis)
Reed Canary Grass (Phalaris arundinacea)
Ribbon Grass (Phalaris picata)

**Flowers and Groundcovers:**
Creeping Bugleweed (Ajuga reptans)
Garlic Mustard (Alliaria officinalis)
Spotted Knapweed (Centaurea maculosa)
Crown Vetch (Coronilla varia)
Foxglove (Digitalis purpurea)
Japanese Knotweed (Fallopia japonica)
Dame’s Rocket (Hesperis matronalis)
Purple Loosestrife (Lythrum salicaria)
Pachysandra (Pachysandra terminalis)
Myrtle, or Periwinkle (Vinca minor)

SECTION 4 – NATIVE VEGETATION GUIDELINES

**SIDEBAR TEXT**

- Many landscape ordinances have weed laws that prohibit the growth of plants or grasses taller than a certain height (usually 18” – 24”). However, this same ordinance could be interpreted to prohibit growing native wildflowers and the like. Therefore, existing regulations may need to be modified to permit native landscaping. (See the Introduction to this section for a discussion of this topic.)

**Section 4.1 Noxious Weeds.**

Noxious weeds are those defined per the Michigan Seed Law, P.A. 329 of 1965, as amended, Regulation No. 715, Rule 7. The noxious weeds are not native plants.
They are introduced species. These plants are also prohibited from being used in any natural landscaping.

It shall be the responsibility of the owners of all subdivided lots to adequately control the growth of noxious weeds on their lot. The control of such weeds shall be by cutting said weed on a regular basis during the growing season so as to limit the height of said weeds to no more than six (6) inches. In the event the lot owner does not comply with this section of the ordinance, the (Community Name) shall, after written notice to the owner of record on the latest assessment roll, have the right to enter upon said lot or lots and cut said weeds in compliance with this ordinance. The cost of such action by the (Community Name) shall only apply to lots in subdivision and not to any other land within the (Community Name).

**Section 4.2 Private Naturally Landscaped Lots**

A private, “naturally landscaped” lot is a privately-owned lot where the landscaping exhibits the deliberate and conscious decision to plant, cultivate and maintain native plant species. A naturally landscaped lot often has a significantly different character than a traditionally landscaped lot, as it generally does not include much mown lawn, but is made up of relatively tall plants, often in an arrangement that emulates nature.

Naturally landscaped lots must be maintained so that herbaceous plants are mown or cut to 18” or less at least once prior to June 1 of each calendar year.

Natural landscaping on private lots shall not be located within two (2) feet of the front property line or at corner side property lines of lots having a public sidewalk, or within four (4) feet of any other property line; provided, however, no rear or side yard setback shall be required where the natural landscaping material is separated from adjacent lots by fencing or bushes, or where the natural landscaping material abuts permitted natural landscaping material on an adjacent lot. An intervening path or sidewalk shall not be deemed to prevent natural landscape materials from “abutting” for purposes of this section.

**Section 4.3 Plant Rescue and Transplantation**

In the development of many sites, there are appropriate native plant species that exist on the site that will be destroyed by development, but could be transplanted to other areas on the site. If this is the case, the following suggested guidelines should be followed:
Standards:

A. Where native plant species are being displaced by development, herbaceous and woody plants should be rescued to the extent possible before all land clearing operations begin. Plants that can be successfully transplanted should be designated by a qualified botanist during the site plan review process. These plants should be protected from construction activity and maintained in a healthy condition on site until they can be transplanted to other areas of the site.

B. Woody native plant species that are rescued from developed areas of a site may be used to fulfill landscaping requirements. Plants of a size smaller than the sizes outlined in this landscape ordinance are allowed as long as the plants are no less than one-half the required size, and that the total number of plants used adds up to the size requirements for a single species. For example, two, rescued 1-1/4” caliper Oaks can be used instead of one, 2-1/2” caliper Oak.

C. Native plant species should not be removed for transplanting or for other purposes from undisturbed areas of the site, or areas designated as preservation or conservation areas. Federal and state laws protecting native plant species designated as endangered, threatened or of special concern must be adhered to and under no circumstances shall these plants be damaged, destroyed or removed from the site.

D. Plants that will otherwise be destroyed through construction activities can be rescued from one site for transplanting to another site as long as permission for removing the plants is granted, in writing, by the land owner, and that the plants are inspected by the Michigan Department of Agriculture Pesticide and Plant Pest Division. Inspection is also necessary if the plants are moved across a public road, even if the road is on the same property as the plant’s original location.

SIDEBAR TEXT

• Communities can encourage the use of native plants through preservation and/or restoration of native plant communities, or by landscaping with native plants.
• “Restoration” of native plant communities differs from landscaping in that the plants are chosen to mimic the plant community being restored, and they are arranged as they would be in nature, rather than in a “garden” arrangement.
Section 4.4 Exotic Invasive Species Removal
Recommended standards for removing exotic invasive species are described below:

Standards:

A. Where possible, exotic invasive plant species should be removed where they exist within native plant communities to remain after development is complete. Tested methods for removal of specific species should be employed to ensure that the invasive species do not return in the same or increased numbers.

Section 4.5 Native Plants in Landscaping
If native species are to be used in landscaping and plantings, the following guidelines should be considered:

Standards:

A. Native plant species chosen for a site should be based on the existing vegetation and site conditions. The woodland, wetland or meadow species that currently grow on a site indicate the native species to be used in landscaping the site.

B. For traditional (or “garden”) landscaping arrangements, it is recommended that native plant species rated a 0 through 7 in the Michigan Floristic Quality Assessment Plant Database be used. Rational for this recommendation is that the rarest plants (rated 8 – 10) are not readily available from local genetic stock and that common species (rated 0 – 2) are readily available through local nurseries. Endangered, threatened or special concern plants should be avoided altogether. Listing of these plants are available from the (Community Name).

C. For natural landscaping arrangements, such as open spaces or storm water systems, it is recommended that native plant species rated 3 through 7 in the Michigan Floristic Quality Assessment Plant Database be used. Rationale for this recommendation is that the rarest plants (rated 8 – 10) are not readily available from local genetic stock, and the most common plants (rated 0 – 2) will most likely be in the seed bank in existing topsoil or come in on their own. Endangered, threatened or special concern plants should be avoided altogether. Listings of these plants are available from the (Community Name).

D. In entryways or other areas where aesthetics is of primary importance, cultivars of native plant species may be considered to ensure, to a certain degree, the plant’s appearance.
E. Plantings installed in areas of storm water conveyance, infiltration, or retention/detention should be planted with native species that specifically perform the necessary runoff attenuation, filtration, water uptake and purification functions needed in such areas. Both herbaceous and woody species should be incorporated into the plant mix, where the desired function dictates.

**SIDEBAR TEXT**

- Preserving native vegetation along undeveloped reaches of stream or river banks is an easy and cost effective way of protecting water quality from polluted runoff. A natural feature or riparian buffer ordinance could be included in the Best Management Practices (BMPs) to meet Phase II storm water permit requirements.
- Another way to meet Phase II requirements is using native vegetation in storm water BMPs, such as vegetated swales and wet ponds. The plants will help to filter the water of pollutants before it is outlet to a natural system.

F. The arrangement of native species can be designed in both conventional arrangements, or more “natural” arrangements. Natural arrangements emulate the arrangements found in nature within the particular plant community being used for landscaping purposes. Natural arrangements should be used for landscaping open space, such as surface storm water systems, street tree plantings, and/or parks. If natural arrangements are used, plant spacing requirements can be relaxed as long as the function that the plants are to serve is accomplished.

G. The number of native species used in a natural arrangement should be more complex, and somewhat representative of the plant community being emulated, than would be used in a conventional planting arrangement.

**Section 4.6 Maintenance**

One purpose of using native vegetation is to reduce the amount of maintenance and watering required, eliminate the use of chemical fertilizers and pesticides, and reduce emissions from gasoline-powered landscaping equipment. These guidelines provide suggestions about how this can be accomplished.

**Standards:**

A. All ecosystem types should be maintained using environmentally-sound practices that will keep the plants in a healthy and thriving condition.
without the use of toxic chemicals. Maintenance programs should be based on the ecosystem type. For instance, prairie plantings require annual or biannual mowing or burning to encourage new, vigorous growth.

B. If a native planting is installed in a landscape bed that would otherwise require irrigation, the governmental body responsible for site plan approval may waive this requirement if the plants selected are drought-tolerant species, and that the planting will be regularly watered for the first full growing season so that the plants can become well established.

C. Residential landscapes that use native plants in a natural arrangement must be maintained to keep a mown edge three (3) feet wide and not higher than six (6) inches along all public sidewalks, and a strip not less than three (3) feet wide adjacent to neighboring property lines unless waived by the abutting property owner on the side affected. Vegetation must not interfere with site distances from driveways and roads.

Additional Resources

1) **Springfield Township Native Vegetative Enhancement Project.** This project includes printed information sheets for the homeowner and development professionals, and an interactive native plants CD that lists more than 230 plants native to southeastern Michigan. Contact the Township at 248-846-6510.

2) **Wild Ones Natural Landscapers.** National, non-profit organization dedicated to educating the public about native plants. [www.for-wild.org](http://www.for-wild.org).

3) **Environmental Protection Agency (EPA).** [www.epa.gov/glnpo/](http://www.epa.gov/glnpo/) Under “Other Topics of Interest” at the bottom of the page, hit the “Landscaping with Native Plants (Greenacres) button.

4) **Michigan Native Plant Producers Association.** Professional association in south Michigan. Plant and seed guide available at the following link: [www.nohlc.org/MNPPA.htm](http://www.nohlc.org/MNPPA.htm).

5) **Macomb Land Conservancy.** [www.savingplaces.org](http://www.savingplaces.org).

6) **Books:**


VI. NATURAL FEATURE SETBACK

Introduction

A natural feature setback is land that separates a certain natural feature from the land uses adjacent to it. The setback is measured from the edge of the natural feature, and is usually a specified width. In general, the purpose of a setback is to minimize potential impacts of adjacent land uses on the natural feature and maximize the long-term viability of the natural feature. The setback area is often vegetated and in many cases left in its natural state. Setbacks are commonly used to protect a community’s water resources such as rivers, lakes, streams, marshes, etc. but can be used for any type of natural feature.

Setbacks perform a number of significant functions including reducing water temperature; filtering sediments and other contaminants from stormwater; reducing nutrient loads to lakes; stabilizing stream banks with vegetation; providing riparian wildlife habitat; maintaining and protecting fish habitats; forming aquatic food webs; and providing a visually appealing greenbelt and recreational opportunities.

Often times, the terms “setback” and “buffer” are used interchangeably. This is appropriate in most instances because they essentially are referring to the same thing. Both describe a strip of vegetated land next to a natural feature whose purpose is to protect that feature. The different terminology occurred simply because the environmental community adopted the term “buffer,” while the community planning profession adopted the term “setback.” We use the term setback in this model ordinance because it has a direct link to planning enabling legislation in Michigan, and has proven to be a defensible term and concept.
Establishing the width of a setback so it is effective depends on the type and sensitivity of the natural feature and the expected impacts of surrounding land uses. In general, the wider the setback, the more protection it provides. Scientific data suggests a wide range of setback widths, some up to 100 feet or more. However, for most communities a 100 foot setback could eliminate a considerable amount of land that may otherwise be developed, and could be considered a significant hardship for property owners. These concerns can be alleviated if a community incorporates simple measures to ensure fairness and flexibility in designing its setback ordinance. These measures include maintaining setbacks in private ownership, setback averaging, density compensation, conservation easements, and variances.

The twenty-five (25) foot setback established by this model ordinance represents a compromise between scientific evidence, experience, and practicality. As a result, the ordinance is less restrictive on property owners, yet provides some measure of environmental protection. To protect natural features, a community may develop a schedule of setback requirements for various natural features and/or require minimum standards and a review process as part of the community’s normal development review.

Setback requirements (width, composition, permitted use, etc.) typically appear as standards integrated into various chapters of a community’s zoning ordinance (e.g. landscaping, woodlands, floodplains, overlay, or stormwater ordinance). As provided in the model example below, they can also be codified as a separate ordinance. Setback standards can also be incorporated as a requirement in a community’s site plan review process. However, communities may not incorporate setback requirements into a wetland ordinance. Part 303, Wetlands Protection, of Public Act 451 of 1994 (Natural Resources and Environmental Protection Act), as amended is very specific about the authority granted to local government regarding wetland regulations. Part 303 allows local units of government to regulate wetlands but only within the specific boundaries of a wetland(s) as defined by the Act.

Regulatory Considerations

There is no specific language in Public Act 451 of 1994 (Natural Resources and Environmental Protection Act) as amended, granting authority to establish setbacks. However, the intent of the Act, “to protect the environment and natural resources of the state,” can be cited as a purpose in a setback ordinance. Authority to regulate natural features also comes from the City and Village Zoning Act (Act 207 of 1921 as amended), and the Township Zoning Act (Act 184 of 1943 as amended). Authority to protect natural features is also given in the Michigan Constitution. The following three (3) points indicate that zoning ordinances may include requirements for a setback to protect natural features:

1. The Michigan Constitution, Article 7, Section 34, has a directive that the provisions of law concerning counties, townships, cities and villages shall be liberally construed in their favor;
2. In Article 4, Section 52, of the Michigan Constitution, public policy states that the conservation of natural resources of the state are of "paramount public concern," and the Constitution directs the Legislature to enact laws to provide for their protection; and

3. The Michigan Supreme Court in Hess v Charter Township of West Bloomfield 439 Mich 550, has held that the zoning enabling acts represent legislation intended to carry out the constitutional directive of Article 4, Section 52, of the Michigan Constitution to conserve natural resources.

**Example Ordinance Language**

The following provides example language for the protection of natural features using a setback. This particular example is from a rapidly growing community in Southeast Michigan that wishes to protect and preserve its water resources. Like any example, this language should only be used as a guide. Each community has a unique set of natural features and existing ordinances that this regulation needs to complement. Therefore, each ordinance section is accompanied by general considerations for individualizing the ordinance.
NATURAL FEATURE SETBACK

(COMMUNITY NAME), MICHIGAN
Ordinance No. ___________

SECTION 1 - GENERAL

Section 1.1 - Intent
It is the intent of this section to require a minimum setback from natural features, and to regulate property within such setback in order to prevent physical harm, impairment and/or destruction of or to a natural feature. It has been determined that, in the absence of such a minimum setback, intrusions in or onto natural features would occur, resulting in harm, impairment and/or destruction of natural features contrary to the public health, safety and general welfare. This regulation is based on the police power, for the protection of the public health, safety and welfare, including the authority granted in the Zoning Enabling Act.

Section 1.2 – Purpose

The purpose of this section is to establish and preserve a minimum setback from natural features to recognize and make provision for the special relationship, interrelationship and interdependency between the natural feature and the setback area. This section acknowledges the unique spatial relationship between the setback and natural feature. It also acknowledges the interdependency of these areas in terms of physical location, plant and animal species diversity, over land and subsurface hydrology, water table, water quality, and erosion of sediment deposition.

If a greater setback or prohibition is required by other ordinance, or other provision of this ordinance, such greater setback or prohibition shall apply.

Section 1.3 – Regulation

A natural feature setback shall be maintained in relation to all areas defined in this Ordinance as being a "natural feature," unless, and to the extent, it is determined to be in the public interest not to maintain such setback.
SECTION 2 – DEFINITIONS

**NATURAL FEATURE** means a wetland, as defined by the Michigan Department of Environmental Quality (MDEQ), or watercourse, including a lake, pond, river, stream, or creek.

**SIDEBAR TEXT**

- The definition of a natural feature in this ordinance is fairly specific. However, natural features can be more broadly defined to include, but not limited to, endangered species habitat, 100-year floodplain, landmark trees, steep slopes, and woodlands.
- The MDEQ defines “wetlands” as “land characterized by the presence of water at a frequency and duration sufficient to support and that under normal circumstances does support, wetland vegetation or aquatic life, and is commonly referred to as a bog, swamp, or marsh.”
- “Watercourse” could be defined as follows: “Any waterway including a river, stream, creek, lake, vernal pool, pond, or any body of surface water having definite banks, a bed and visible evidence of a continued flow or continued occurrence of water.”

SECTION 3 – AUTHORIZATION AND PROHIBITION

**Section 3.1 – Authorization**

The natural feature setback shall be an area or feature with boundaries and limitations determined in accordance with the standards and provisions in this section in relation to respective types of natural features.

**Section 3.2 – Prohibition**

A. In conjunction with the review of plans submitted for authorization to develop property or otherwise undertake an operation in, on, or adjacent to a natural feature applicable natural feature setbacks shall be determined. This will allow authorizations and prohibitions established by the body of officials undertaking the plan review. In the event an activity is proposed within a setback area as designated under Section 7, below, but such activity is not proposed in conjunction with an activity within the natural feature itself, review under this section shall be conducted by the (Community Name) body or official reviewing the proposed activity, or, if no other review is required, review shall be undertaken by the planning department. The body or official undertaking the review shall, if determined necessary or appropriate by such body or official, utilize the services of a wetland consultant, and, in such case, the applicant shall establish an escrow and shall be responsible for the fees of such consultant.
B. Within an established natural feature setback, unless and only to the extent determined to be in the public interest by the body undertaking plan review, there shall be no construction, removal or deposit of any structures or soils, including dredging, filling or land balancing. This prohibition shall not apply with regard to those activities exempted from this prohibition, below. In addition, no vegetation cutting or removal within the natural feature setback shall occur before all site plan approvals from the appropriate governmental body have been obtained.

SIDEBAR TEXT

- The activities permitted within a natural feature setback should be carefully considered by each community adopting a setback ordinance. This is the part of the ordinance where the community’s goals for an ordinance are most clearly conveyed. The permitted activities described here can become more or less restrictive based on what the community is trying to achieve.

C. In determining whether proposed construction or operations are in the public interest, the benefit which would reasonably be expected to accrue from the proposal shall be balanced against the reasonably foreseeable detriments of the construction or other operation, taking into consideration the local, state and national concern for the protection and preservation of the natural feature in question. If, as a result of such a balancing, there remains a debatable question whether the proposed project and/or operation is clearly in the public interest, authorization for the construction and/or operation within the natural feature setback shall not be granted. The following general criteria shall be applied in undertaking this balancing test:

1. The relative extent of the public and private need for the proposed activity;

2. The availability of feasible and prudent alternative locations and methods to accomplish the expected benefits from the activity;

3. The extent and permanence of the beneficial or detrimental effects which the proposed activity may have on the public and private use to which the area is suited, including the benefits the natural feature and/or natural feature setback provides;

4. The probable impact of the proposed construction and/or operation in relation to the cumulative effect created by other existing and anticipated activities on the natural feature to be protected;

5. The probable impact on recognized historic, cultural, scenic, ecological, or recreational values, and on fish, wildlife and the public health;
6. The size and quantity of the natural feature setback being considered;

7. The amount and quantity of the remaining natural feature setback;

8. Proximity of the proposed construction and/or operation in relation to the general natural feature, taking into consideration the degree of slope, general topography in the area, soil type and the nature of the natural feature to be protected;

9. Economic value, both public and private, of the proposed construction and/or operation, and economic value, both public and private, if the proposed construction and/or operation were not permitted; and

10. The necessity for the proposed construction and/or operation.

SECTION 4 – EXEMPTIONS

Section 4.1

If and to the extent the (Community Name) is prohibited by its ordinances and/or law from regulating the proposed activity in or on the respective natural feature, regulation under this section shall be exempted. In addition, the following activities shall be exempted, provided, it is not the intent of this provision to exempt regulation by other ordinance provisions relative to the natural feature itself:

A. Installation of a fence within a setback area;

B. Maintenance of previously established lawn areas;

C. Grading and filling necessary in order to conform with express requirements imposed by the (Community Name) Engineer;

D. Installation of seasonal recreational structures for watercourse use; and

E. Planting of non-invasive trees and other vegetation, but not the use of fertilization.
SECTION 5 – APPLICATION FORM

Section 5.1

Application shall be made under this section on the form approved by the (Community Name) board and provided by the building and/or planning department.

SECTION 6 – SETBACK STANDARDS

Section 6.1

Unless otherwise determined by the body undertaking the plan review, the following setbacks shall apply:

A. A twenty-five (25) foot setback from the boundary or edge of a wetland, as defined by the Michigan Department of Environmental Quality (MDEQ) or other relevant ordinance or binding authority; and

B. A twenty-five-foot (25) setback from the ordinary high water mark of a watercourse.

SECTION 7 – APPEALS

Section 7.1 - An interested person who is aggrieved by the determination under this section may request an appeal to the (Community Name) board.

Section 7.2 - A request for appeal must be filed within ten (10) days following decision. If an appeal is requested during such ten day period, the effectiveness of the permit shall be suspended pending the outcome of the appeal.

Section 7.3 - The (Community Name) board shall determine whether to consider the appeal based upon the minutes of the body making the initial decision (if minutes are kept), or based upon an entirely new hearing. If a new hearing shall be conducted, notice of the time, date and place of the hearing shall be mailed to the owners of property, based upon (Community Name) records, within three hundred (300) feet of the property and also mailed to all persons, subdivision associations and lake associations registered with the (Community Name) to receive such notices.
Section 7.4 - If the (Community Name) board determines to consider the appeal based upon the minutes of the person or body being reviewed, the applicant and other interested parties as allowed by the (Community Name) board shall be entitled to be heard by way of argument and citation of authorities prior to the board's determination:

Section 7.5 - The (Community Name) board, based upon its appellate review, may reverse, affirm or modify the determination and/or permit issued.

Additional Resources


6. State NRCS and FSA Buffer Initiative Contacts:

   Steven V. Law, DC
   USDA-NRCS
   2343 N. US 27 HWY
   St. Johns MI 48879
   517-224-8769 x116
   fax: 517-224-1033

   Chris Coulon, PAS
   USDA-NRCS
   3001 Coolidge Rd., Suite 250
   East Lansing MI 48823-5243
   517-324-5244
   fax: 517-324-5171
Bob Payne, Program Specialist  
USDA-FSA  
3001 Coolidge, Suite 100  
East Lansing MI 48823  
517-337-6660 x1215  
fax: 517-337-6898

7. Fish and Wildlife Agency Buffer Initiative Contact in Michigan

Mark Sargent  
Private Lands Wildlife Biologist  
Wildlife Division Private Lands Office  
8903 East Stoll Road  
East Lansing, MI 48823  
Phone: (517) 641-6667  
Fax: (517) 641-6525  
widdnr@voyager.net

V. OVERLAY DISTRICT

Introduction

Many communities take pride in their natural features and wish to preserve them because of their ecological significance and the benefits they provide. These areas may be small pristine woodlands or an entire ecosystem that encompass several species and habitats. In most cases natural features are irregularly shaped crossing property lines, zoning districts, land use, or municipal boundaries. As a result, these areas are subject to various regulations that may or may not provide some degree of protection against disturbance and/or development.

An overlay zone is an effective method communities can use to provide further protection to natural areas by augmenting single topic ordinances that regulate particular natural features such as wetlands or woodlands. Overlay zones are essentially an additional zoning district placed on top of the underlying zoning district(s). The overlay district does not replace existing regulations; rather, the overlay supplements them with language designed to protect significant ecosystems. (See the Introduction to this booklet for a discussion about ecosystems.) Boundaries of the overlay district usually follow the limits of the ecosystem to be protected and must be shown on a map in the community’s zoning documents. The overlay district is enforced through an ordinance. Coordination between communities would be necessary if an ecosystem spans municipal boundaries.

Overlay districts can be particularly effective when they include provisions that:

1. Protect trees and other vegetation;
2. Enforce setbacks from sensitive natural areas;
3. Require open space preservation; and
4. Protect identified mating, nesting, and other critical habitat areas.

The boundary of an overlay district could be identified using the data recently compiled for Macomb County by the Michigan Natural Features Inventory (MNFI). This data locates potential conservation areas and gives a good indication of what natural areas should be protected. These areas are ranked and categorized under three (3) priority categories for additional study and preservation. The Macomb County Department of Planning and Economic Development maintain this data.

A 100-year floodplain provides many benefits to a community including flood water storage and habitat for plants animals, and is a good example of where an overlay district could be implemented. A floodplain may encompass many natural features such as wetlands and woodlands, or entire ecosystems, providing additional protection beyond other local ordinances and/or state and federal statutes that may otherwise provide a minimal level of protection to these important ecological systems.
Typically, development within an overlay district can occur, but only if the requirements for the overlay and underlying districts are satisfied. A community should take extra care when crafting an overlay district ordinance to avoid regulations that conflict with existing regulations in the underlying district. When properly implemented, an overlay district ordinance can accomplish three important objectives for a community concerned with protecting natural features:

1. An inventory, more detailed than the MNFI database, can be required if development of a site is proposed. Some communities may wish to perform a detailed inventory of the entire district independent of any development proposals. Or an inventory may be done by the developer one parcel at a time as properties come up for development;

2. Alerts a developer of a site’s potentially significant resources and that it is subject to special restrictions; and

3. Allows the community to identify those priority protection areas on a site that a developer must refrain from developing or develop with minimal site disturbance.

**Regulatory Considerations**

The most common approach taken by communities is perhaps adoption of an overlay district ordinance to protect a specific natural feature or area. This ordinance would be separate from and in addition to other ordinance(s) that protect certain natural features (woodlands, buffers). Floodplains or riverine systems are common natural features protected by overlay districts. Overlay district(s) could also be established within a floodplain ordinance accompanied by a map showing the extent of the floodplain/overlay district.
Overlay districts are not specifically identified as a permitted regulatory technique for communities. However, natural features can be regulated through the Natural Resources and Environmental Protection Act, Act 451 of 1994, as amended (MCL §§ 324.101 et seq.). Under the Act, the State of Michigan and, in some cases, local communities, have the power to regulate land uses in environmentally sensitive areas. Authority to regulate natural features also comes from the City and Village Zoning Act (Act 207 of 1921 as amended), and the Township Zoning Act (Act 184 of 1943 as amended).

**Example Ordinance Language**

The text included here provides example language of an overlay district ordinance. Like any example, this language should only be used as a guide. Each community has a unique set of natural features and existing ordinances that this regulation needs to compliment. Therefore, ordinance sections are accompanied by general considerations for individualizing the ordinance.

**RESOURCE PROTECTION OVERLAY DISTRICT**

**(COMMUNITY NAME), MICHIGAN**

Ordinance No. __________

**SECTION 1 - GENERAL**

**Section 1.1 - Intent**

The purpose of this ordinance is to ensure that property is developed in a manner consistent with its zoning designation, and the proposed physical elements are designed and arranged to protect the priority resource protection areas both on the site, and in the vicinity of the site, as identified by the (Community Name) on (map(s) as shown in the (Community Name) Master Plan. The Resource Protection Overlay District establishes procedures to enable the applicant and the (Community Name) to achieve the mutually compatible objectives of reasonable use of land and protection of vital natural resources.

**SIDEBAR TEXT**

- Maps that show areas intended for resource protection should be a component of this ordinance. Data obtained from the Michigan Natural Features Inventory (MNFI) can be helpful for the creation of these maps.
- Data from Michigan land conservancies such as the Macomb Land Conservancy, Southeast Michigan Land Conservancy, and the Nature Conservancy, may also be helpful when creating the maps.
SECTION 2 – APPLICABILITY

Section 2.1 - Minimizing Disturbance

To the maximum extent feasible, any development plan (i.e. site plan, subdivision plat and site condominium plan) shall be designed and arranged to ensure that disturbance to any portion of a priority resource protection area as a result of the development, and that impacts and disturbance to such areas and the plants and wildlife inhabiting those areas, shall be minimized through the use of creative land development techniques, natural area buffers, and conservation easements.

SIDEBAR TEXT

- The underlying zoning within an overlay district may or may not allow development patterns that help to protect natural features, such as cluster developments or PUDs. A community may want to consider adding language to the overlay district ordinance stating that it encourages and would consider these development patterns within the overlay district.
- Cluster developments and PUD’s can increase density in a particular area of a site but decrease overall imperviousness of a site, protect watersheds, conserve natural areas, and provide green space.

SECTION 3 - ECOLOGICAL CHARACTERIZATION

Section 3.1 - Resource Inventory

It is intended that these Ordinance requirements be applied based upon reliable and factual data and be included on the appropriate map(s).

If a development site is determined by the (Community Name), based on additional information or from inspection, that the site likely includes areas with wildlife, plant life and/or other natural characteristics in need of protection, and if the (Community Name) does not then possess the information required to apply review standards, then the developer shall provide to the (Community Name) a report prepared by a professional qualified in the areas of ecology, botany, wildlife biology or other relevant discipline that describes, without limitation, the following:

A. The wildlife use and habitat showing the species of wildlife using the area, the times or seasons that the area is used by those species and the "value" (meaning feeding, watering, cover, nesting, roosting, perching) that the area provides for such wildlife species;
B. The boundary of wetlands in the area and a description of the ecological functions and characteristics provided by those wetlands;

C. Any prominent views from or across the site;

D. The pattern, species and location of any significant native trees and other native site vegetation;

E. The bank, shoreline and high water mark of any stream or body of water on the site;

F. Wildlife movement corridors; and

G. The general ecological functions provided by the site and its features.

The [Community Name] may employ their own consultants with the relevant expertise to review materials submitted by the applicant. The applicant shall be required to provide and present the credentials for all qualified professionals. The credentials and qualifications of these individuals shall be sufficient, in the opinion of the [Community Name], to demonstrate competence in the area in which the expertise will be provided.

SECTION 4 - ESTABLISHMENT OF PRIORITY PROTECTION

Section 4.1 – Areas of Priority Protection

For every development subject to this Ordinance, the applicant shall propose areas of priority protection. The [Community Name] shall review these areas for appropriateness. If acceptable, the [Community Name] shall accept and establish on the project development plan, areas of priority protection. The development plan shall establish the development capability of the site and indicate the specific area(s) of a site within which the developed project may be constructed and within which the development activity shall be contained. In establishing the development capability of a site, the [Community Name] shall consider and apply the following criteria:

A. The actual boundary of development capability designation to be shown on a development plan shall be proposed by the applicant, and established by the [Community Name] through site evaluations and reconnaissance, and shall be based on the ecological characterization of the area.

B. In establishing the development capability of the site, the following shall be taken into account, as evaluated by qualified professional(s) and/or certified consultant(s):
1. Visual impacts, including but not limited to ridgeline protection areas and protection of scenic views;

2. Erosion prevention and control, including but not limited to protection of natural drainage channels and compliance with an approved stormwater drainage management plan;

3. Preservation of significant native trees and other native site vegetation, including protection of natural area buffers zones;

4. Conservation of water, including but not limited to preservation of existing native vegetation, reduction in amounts of irrigated areas and similar considerations;

5. Stream corridor and wetland protection and buffering;

6. Site topography, including but not limited to such characteristics as steepness of slopes, existing drainage features, rock outcroppings, river and stream terraces, valley walls, ridgelines and scenic topographic features;

7. Floodplains and floodways;

8. Wildlife movement corridors;

9. Natural area buffer zones;

10. The practical needs of approved construction activity in terms of ingress and egress to the developed project and necessary staging and operational areas; and

11. Hydrology and groundwater flow.

SECTION 5 - DEVELOPMENT STANDARDS AND GUIDELINES

Section 5.1 - Permitted Activities

To the maximum extent feasible, no construction activity, including, without limitation, grading, excavation or stockpiling of fill material, shall be permitted within priority protection areas whether to provide for a building site, on-site utilities or services, or for any roads or driveways except as provided for below.
A. Mitigation of development activities;

B. Restoration of previously disturbed or degraded areas to their natural state;

C. Emergency public safety activities and utility installations, installed with the utmost sensitivity to natural features, when such activities and installations cannot reasonably be contained to areas outside of those identified as significant;

D. Construction of trails or pedestrian walkways that will provide access in an environmentally appropriate manner; and

E. The enhancement of the habitat values and/or other natural resource values of a natural area.

Section 5.2 - Establishment of Buffer-Zones

Buffer zones shall be established adjacent to areas of priority protection. The (Community Name) may reduce the perimeter setback and buffer zones in cases where the density of the proposed use is compatible with adjacent uses and/or natural features, such as woodlands and topographical features. In establishing the buffer zone(s), the (Community Name) shall consider and apply the following criteria:

A. The foreseeable impacts of development on the wildlife usage or ecological character or function of the natural area;

B. The ecological and wildlife use characterization of the natural area;

C. The existence of wildlife movement corridors;

D. The extent of floodplains and floodways;

E. The type, amount and extent of existing vegetation on the site;

F. The existence of special wildlife habitat features;

G. The character of the proposed development in terms of use, density, traffic generation, quality of runoff water, noise, lighting and similar potential development impacts; and

H. Site topography, including but not limited to such characteristics as steepness of slopes, existing drainage features, ridgelines and scenic topographic features.
SIDEBAR TEXT

- Vegetated areas known as buffers have long been recognized as important for maintaining water quality, but they also provide many other benefits.
- Buffer zones perform a number of significant functions including reducing water temperature; filter sediments and other contaminants; reduce nutrient loads to lakes; stabilize stream banks with vegetation; provide riparian wildlife habitat; maintain and protect fish habitats; form aquatic food webs; and provide a visually appealing greenbelt and recreational opportunities.
- See Chapter 6, *Natural Feature Setback/Buffer*, for a detailed discussion on natural feature setbacks and buffers.

Section 5.3 - Mitigation of Disturbance

While development is anticipated outside of priority protection areas, the applicant shall avoid disturbance to priority protection areas and undertake mitigation measures to restore any damaged or lost natural resource. Any such mitigation or restoration shall be roughly equivalent to the loss suffered by the community because of the disturbance, and shall be based on such mitigation and restoration plans and reports as have been requested, reviewed and approved by the (Community Name). The mitigation plan shall include a timeline for restoration and mitigation of disturbed areas, which must be acceptable to the (Community Name). The (Community Name) may require performance guarantees pursuant insuring fulfillment of, and compliance with, the mitigation plan. In addition, the (Community Name) may issue a cease and desist order of the site development activities if determined to be in violation of the approved mitigation plan.

Section 5.4 – Connections

If the development site contains priority protection areas that connect to other off-site areas of a similar nature, to the maximum extent feasible, the development plan shall preserve such connections. If priority protection areas lie adjacent to the development site, but such areas are not presently connected across the development site, then the development plan shall, to the extent reasonably feasible, provide such connection. Such connections shall be designed and constructed to allow for the continuance of existing wildlife movement between natural areas and to enhance the opportunity for the establishment of new connections between areas for the movement of wildlife.
Section 5.5 - Lakes, Reservoirs and Ponds

If the development site contains a lake, reservoir or pond, the development plan shall include such enhancements and restoration as are necessary to provide reasonable wildlife habitat and improve aesthetic quality in areas of shoreline transition and areas subject to wave erosion. The development plan shall also include a design that requires uniform and ecologically and aesthetically compatible treatment among the lots or tracts surrounding a lake, reservoir or pond with regard to the establishment of erosion control protection and shoreline landscaping on or adjacent to such lots or tracts.

Section 5.6 - Design and Aesthetics

Projects located within a Resource Protection Overlay District, shall be designed to complement the visual context of the natural area. Techniques such as architectural design, site design, the use of native landscaping and choice of colors and building materials shall be utilized in such manner that scenic views across or through the site are protected, and manmade facilities are screened from off-site observers and blend with the natural visual character of the area.

SIDEBAR TEXT

- “Natural materials” such as wood and stone are considered appropriate architectural materials that could be used in an overlay district. Neutral colors are also recommended.

Section 5.7 – Storm Water Drainage/Erosion Control

All storm water drainage and erosion control plans shall meet the soil erosion and sedimentation control standards adopted by the Macomb County Department of Public Works for design and construction and shall, to the maximum extent feasible, utilize nonstructural control techniques, including but not limited to:

A. Limitation of land disturbance and grading;
B. Maintenance of vegetated buffers and natural vegetation;
C. Minimization of impervious surfaces;
D. Use of terraces, contoured landscapes, runoff spreaders, grass or rock-lined swales;
E. Use of infiltration devices; and
F. Prohibit the discharge of stormwater into undeveloped areas.
Additional Resources

IV. WETLANDS

Introduction

The importance of wetlands to water quality and the protection of our lakes and rivers can’t be overstated. Wetlands large and small play a critical role in:

- Flood and storm water storage;
- Reducing the velocity of storm water, which protects shorelines and stream banks from erosive forces of waves and high water flows, and allows sediments to settle out of the water before entering lakes and streams;
- Protecting water quality by removing and breaking down sediments, nutrients, and toxins;
- Providing floral diversity and wildlife habitat protection;
- Creating fishery habitat, and habitat for reptiles and amphibians; and
- Offering aesthetics and recreational opportunities.

Regulatory Considerations

Through the Natural Resources and Environmental Protection Act of 1994 (Act 451), state and federally protected wetland areas include those that are more than five acres, and wetlands of any size that are contiguous with other water bodies, such as streams, rivers, and lakes. However, this law also provides the legal authority for local governments to adopt more restrictive regulations for wetlands than is contained in the act.
While other natural features can be adequately protected through a number of mechanisms, adopting a wetlands ordinance is the only real way to regulate wetlands. This is because the ordinance applies local knowledge and resources to preservation of a local natural feature. It also helps the community to become more aware of the wetland resources within its boundaries, thus assisting in their protection. Local wetlands regulations can protect wetlands that are less than five acres, but are at least two acres in size. These ordinances can also protect wetlands that are less than two acres, but much more stringent standards must be met. It must be determined that these smallest wetlands are essential to the preservation of natural resources in the community, and this process requires a much greater degree of responsibility on the part of the community to do this. Therefore, the extent of the wetlands ordinance must be balanced with the community’s desire and resources to provide such extensive evaluations.

The benefits wetlands provide listed above are often referred to as wetland “functions.” If physical changes are made around a wetland that change the hydrological cycle, then the wetland may become incapable of performing the functions it had in the past. For example, certain wetland plants only grow in a limited range of water depth. If the wetland is used for storm water storage, and the water level is increased beyond this range, the plant mix will change, thus changing the wetland’s ability to support certain kinds of wildlife. Therefore, in addition to a wetland protection ordinance, it is also important to have engineering standards that compliment the ordinance. These standards could require engineering approaches that preserve the existing functions of the wetland, such as maintaining the same water level, preserving water flow patterns through the wetland, and maintaining the same type of habitat.

**Example Ordinance Language**

The following provides example language of all the components of a wetlands ordinance. Like any example, this language should only be used as a guide. Each community has a unique set of natural features and existing ordinances that this regulation needs to compliment. Therefore, each ordinance section is accompanied by general considerations for individualizing the ordinance.

**WETLAND AND WATERCOURSE PROTECTION AND RESTORATION**

(COMMUNITY NAME), MICHIGAN

Ordinance No. __________

An Ordinance for the control and preservation of wetlands and watercourses within (Community Name) and to protect the wetlands of the (Community Name) from sedimentation, destruction, and misuse; to prescribe the powers, duties and functions of the (Community Name) enforcing agency; to provide for the promulgation of rules; to establish permits and a fee schedule; to establish design standards, specifications, and bond requirements; to provide for variance and exceptions; to provide for inspections and enforcement; to provide for violations, remedies and penalties thereof; and to provide for severability and effective date of the Ordinance.
(COMMUNITY NAME) HEREBY ORDAINS:

SECTION I. GENERAL

Section 1.1 - Findings

The (Community Name) Board/Council of (Community Name) finds that wetlands and watercourses of the (River Name(s)) watershed(s) and its tributaries are indispensable and fragile resources that provide many public benefits including maintenance of surface and groundwater quality through nutrient cycling and sediment trapping as well as flood and storm water runoff control through temporary water storage, slow release, and groundwater recharge. In addition, wetlands provide open space; passive outdoor recreation opportunities, fish and wildlife habitat for many forms of wildlife including migratory waterfowl; and rare, threatened or endangered wildlife and plant species; and pollution treatment by serving as biological and chemical oxidation basins.

Preservation of the remaining (Community Name) wetlands in a natural condition shall be and is necessary to maintain hydrological, economic, recreational, and aesthetic natural resource values for existing and future residents of (Community Name), and therefore the (Community Name) Board/Council declares a policy of no net loss of wetlands. Furthermore, the (Community Name) Board/Council declares a long term goal of net gain of wetlands to be accomplished through review of degraded or destroyed wetlands in the (Community Name), and through cooperative work with landowners, using incentives and voluntary agreements to restore wetlands.

SIDEBAR TEXT

- Goals should validate wetland regulations as a way to carry out mandated state statutes, such as controlling water pollution or reducing flooding.
- Tie wetland protection to protecting citizen’s health, safety, and welfare
- Strengthen goals by using information specific to wetlands in the community, such as threatened or endangered plants or wildlife.

To achieve these goals, and with authority from Section 30307(4) of the Natural Resources and Environmental Protection Act (Act 451 Of 1994 [previously Section 8 (4) of the Goemaere-Anderson Wetland Protection Act, Act 203, Public Acts of 1979, as amended]), the (Community Name) Board/Council finds that it is desirable to regulate wetlands in (Community Name). Pursuant to Article 4, Section 52 of the Constitution of the State of Michigan, the conservation and development of natural resources of the state is a matter of paramount public concern in the interest of the health, safety, and general welfare of the people. The (Community Name) Board/Council therefore finds that this Ordinance is essential to the long term health, safety, and general welfare of the people of the (Community Name), and to the furtherance of the policies set forth in Section 1701 et. seq. of the Natural Resources and Environmental Protection Act.

Section 1.2 - Purposes

The purposes of this Ordinance are to provide for:

A. The protection, preservation, replacement, proper maintenance, restoration, and use in accordance with the character, adaptability, and stability of the (Community Name)'s wetlands, in order to prevent their pollution or contamination; minimize their disturbance and disturbance to the natural habitat therein; and prevent damage from erosion, siltation, and flooding.

B. The coordination of and support for the enforcement of applicable federal, state, and county statutes, ordinances and regulations including, but not limited to, the:

1. **Wetland Protection Act**, enforced by the Michigan Department of Environmental Quality which is hereinafter referred to as the MDEQ;

2. **Inland Lakes and Streams Act**, Section 30101 et seq. of the Natural Resources and Environmental Protection Act (Act 451 of 1994 [previously Act 346, Public Acts of 1972, as amended]) enforced by the MDEQ;

3. **Soil Erosion and Sedimentation Control Act**, Section 9101 et seq. of the Natural Resources and Environmental Protection Act (Act 451 of 1994 [previously Act 347, Public Acts of 1972, as amended]), enforced by the County of Macomb Public Works Office;

4. **Floodplain Regulatory Authority**, incorporated into the Natural Resources and Environmental Protection Act (Act 451 of 1994 [previously Act 245, Public Acts of 1929, as amended]), enforced by the MDEQ.

C. Compliance with the Michigan Environmental Protection Act which imposes a duty on government agencies and private individuals and organizations to prevent or minimize degradation of the environment which is likely to be caused by their activities.

D. The establishment of standards and procedures for the review and regulation of the use of wetlands and watercourses.
E. The establishment of penalties for violation of this Ordinance.

F. A procedure for appealing decisions.

G. The establishment of enforcement procedures and penalties for the violation of this Ordinance.

H. Assurance that the right to reasonable use of private property is maintained.

Section 1.3 - Construction and Application

The following rules of construction apply in the interpretation and application of this Ordinance:

A. In the case of a difference of meaning or implication between the text of this Ordinance and any caption or illustration, the text shall control.

B. Particulars provided by way of illustration or enumeration shall not control general language.

Section 1.4 - Applicability to Private and Public Agency Activities and Operations

The provisions of this Ordinance, including wetland use permit requirements and criteria for wetland use permit approval, shall apply to activities and operations proposed by federal, state, local and other public agencies as well as private organizations and individuals.

SECTION 2 - DEFINITIONS

SIDEBAR TEXT

- Michigan’s wetland protection laws require that local governments define wetlands in the same way as they are defined under state statute. Note the definition of “Protected Wetlands,” and how different types of wetlands are protected by different jurisdictions.

Section 2.1 - Definition of Terms

Terms not specifically defined shall have the meaning customarily assigned to them.
CONTIGUOUS means any of the following:

A. A permanent surface water connection or any other direct physical contact with an inland lake or pond, a river or stream.

B. A seasonal or intermittent direct surface water connection to an inland lake or pond, a river or stream.

C. Partially or entirely located within five hundred (500) feet of the ordinary high water mark of an inland lake or pond or a river or stream, unless it is determined by the (Community Name) or the MDEQ in accordance with Rule 281.924 of the Wetland Administrative Rules, adopted in connection with the Wetland Protection Act, that there is no surface or groundwater connection to these waters.

D. Two (2) or more areas of wetland shall be considered contiguous where separated only by barriers, such as dikes, roads, berms, or other similar features, but with any of the wetland areas contiguous under the criteria described in Subsections (1), (2), or (3) of this definition.

DEPOSIT means to fill, place or dump.

LOT means a designated parcel, tract, building site or other interest in land established by plat, subdivision, conveyance, condominium master deed, or as otherwise permitted by law, to be used, developed or built upon as a unit.

MATERIAL means soil, sand, gravel, clay, peat moss and other organic material.

MITIGATION means: (1) methods for eliminating or reducing potential impact to regulated wetlands; or (2) creation of new wetlands to offset unavoidable loss of existing wetlands.

PERSON means an individual, sole proprietorship, partnership, corporation, association, municipality, this state, any instrumentality or agency of this state, the federal government, or any instrumentality or agency of the federal government, or other legal entity.

PROTECTED WETLANDS means any of the following:

A. All wetlands subject to regulation by the MDEQ including:

1. Wetlands, regardless of size, which are contiguous to any lake, stream, river, or pond whether partially or entirely contained within the project site.

2. Wetlands, regardless of size, which are partially or entirely within five hundred (500) feet of the ordinary high water mark of any lake, stream, river or pond unless it is determined by the MDEQ that there is no surface water or groundwater connection between the wetland and the water body.
3. Wetlands which are larger than five (5) acres, whether partially or entirely contained within the project site, and which are not contiguous to any lake, stream, river, or pond.

4. Wetlands, regardless of size, which are not contiguous to any lake, stream, river, or pond, if the MDEQ determines the protection of the wetland is essential to the preservation of the natural resources of the state from pollution, impairment or destruction.

B. All wetlands subject to regulation by the (Community Name) including:

1. Wetlands two (2) to five (5) acres in size, whether partially or entirely contained within the project site, which are not contiguous to any lake stream, river or pond.

2. Wetlands smaller than two (2) acres in size which are not contiguous to any lake, stream, river or pond and are determined to be essential to the preservation of the natural resources of the (Community Name) as provided for in Section 7.6 of this Ordinance.

**RUNOFF** means the surface discharge of precipitation to a watercourse, drainage way, swale, or depression.

**REMOVE** means to dig, dredge, suck, pump, bulldoze, drag line, or blast.

**RESTORATION** means to return from a disturbed or totally altered condition to a previously-existing natural or unaltered condition by some action of man.

**SEASONAL** means any intermittent or temporary activity which occurs annually and is subject to interruption from changes in weather, water level, or time of year, and may involve annual removal and replacement of any operation, obstruction, or structure.

**STRUCTURE** means any assembly of materials above or below the surface of the land or water, including but not limited to, buildings, bulkheads, boardwalks, piers, docks, landings, dams, waterway obstructions, paving, gravel, and roadways, poles, towers, cables, pipelines, drainage tiles, and other underground installations.

**(Community Name Board or Council)** means the legislative body of (Community Name), Macomb County, Michigan.

**(Community Name) WETLAND MAP** means the (Community Name) Wetland Map, based on the Macomb County Wetland Indicator map (which is based on the National Wetland Inventory Map of the U.S. Fish and Wildlife Service); the Michigan Resource Information System Mapping (MIRIS) of the Michigan Department of Environmental Quality; the soils maps of the Soil Conservation Service; SEMCOG information, aerial photography; and on-site inspections.
Macomb County has developed a wetlands map called the “Wetland Indicator Map” that is more accurate than the maps generated by the Federal government. Rather than developing an individual map, the wetlands ordinance could simply refer to the Macomb County Planning and Economic Development wetlands map. Note that this map is accessible through the County’s website at http://macombcountymi.gov/gis/maps.htm

WATERCOURSE means any waterway including a river, stream, 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.

WETLAND means land characterized by the presence of water at a frequency and duration sufficient to support and that under normal circumstances does support wetland vegetation or aquatic life and is commonly referred to as a bog, swamp or marsh.

WETLAND ADMINISTRATOR means a person(s) knowledgeable in wetland protection, appointed to administer this Ordinance and to carry out certain duties hereunder. Any firm or individual appointed on a contract basis.

WETLAND USE PERMIT means the (Community Name) approval required for activities in wetlands and watercourses described in Section 7 of this Ordinance.

WETLAND VEGETATION means plants, including but not limited to, trees, shrubs, and herbaceous plants, that exhibit adaptations to allow, under normal conditions, germination or propagation and to allow growth with at least their root systems in water or saturated soil.

SECTION 3 - RELATIONSHIP TO STATE AND FEDERAL PERMIT REQUIREMENTS

The following shall apply if an applicant requesting a wetland use permit is also subject to state and/or federal permit requirements:

A. The (Community Name) shall have jurisdiction for the regulation of wetlands under this Ordinance concurrent with the jurisdiction of the Michigan Department of Environmental Quality.

B. Approvals under this Ordinance shall not relieve a person of the need to obtain a permit from the MDEQ and/or the U.S. Army Corps of Engineers, if required.
C. Issuance of a permit by the MDEQ and/or the U.S. Army Corps of Engineers shall not relieve a person of the need to obtain approval under this Ordinance, if applicable.

SECTION 4. ADMINISTRATION

Section 4.1 - (Community Name) Wetland Map

SIDEBAR TEXT

- A wetlands map is a requirement of a local wetlands ordinance. This map, in conjunction with aerial photographs and field inventories done on a case-by-case basis, are used to administer the wetland ordinance.
- The wetland map does not need to be absolutely precise. However, a disclaimer regarding its accuracy should be included on the map. As discussed above, Macomb County has a wetlands map that could be used instead of a community creating its own. The County’s map also has appropriate disclaimers.
- See the sidebar regarding wetland maps in the “Definitions” section above.

The (Community Name) Wetland Map is a guide to the location of wetlands in (Community Name). The Map shall be used in the administration of this Ordinance.

The (Community Name) Wetland Map, together with all explanatory matter thereon and attached thereto, as may be amended through the Wetland Verification and Delineation process, is hereby adopted by reference and declared to be a part of this Ordinance. The (Community Name) Wetland Map shall be on file in the office of the (Community Name) Clerk.

The (Community Name) Wetland Map shall serve as a general guide for the location of protected wetlands. The (Community Name) Wetland Map does not create any legally enforceable presumptions regarding whether property that is or is not included on the inventory map is or is not in fact a wetland.

The Wetland Verification Process, as set forth herein, shall be used to verify wetland on properties where wetland is shown on the Wetland Map or on properties where wetland exist as defined in Section 2.1 herein. The Wetland Delineation Process, as set forth herein, shall be used to establish the actual boundaries of wetlands in the (Community Name). The identification of the precise boundaries of wetlands on a project site shall be the responsibility of the applicant and verified by the Wetland Administrator.

A. Wetland Verification Process

1. The (Community Name) or property owners of wetland may initiate a verification of the areas shown on the (Community Name) Wetland Map as wetland or on properties where wetland exists as defined in Section 2.1
2. In the event that there is a finding of no wetland on the property, then no further determination would be required and the finding shall be included in the Map Amendment Process (found later in this Section).

3. In the event that there is a finding of wetland, then the establishment of the exact boundary through a wetland delineation shall be required to alter the (Community Name) Wetland Map through the Map Amendment Process.

4. The applicant shall pay fees for the Wetland Verification Process as established in Section 9.1.

B. Wetland Delineation Process

Prior to the issuance of any permit or land development approval for a lot which is shown to include a wetland on the (Community Name) Wetland Map, the applicant may be required to provide a wetland delineation to the (Community Name). The Wetland Administrator shall determine whether a delineation is required, based on the proximity and relationship of the project to the wetland.

1. To establish actual wetland boundaries on a property, the applicant shall provide a survey or dimensional site plan, drawn at an appropriate scale, showing property lines, buildings and any points of reference along with the wetland boundaries, according to one of the following:

   (a) Wetland delineation by the Michigan Department of Environmental Quality (MDEQ).
   (b) Wetland delineation by the applicant's wetland consultant subject to review and approval by the (Community Name)'s Wetland Consultant.

2. Where a wetland delineation is required by this Section, the (Community Name) Wetland Consultant shall establish wetland boundaries following receipt of the above required information and after conducting a field investigation.

3. The applicant shall pay fees for the Wetland Delineation Process as established in Section 9.1.

C. Map Amendment
1. The (Community Name) Wetland Map shall be updated when new data is available or when corrections are needed in order to maintain the integrity of the map.

2. The (Community Name) shall ensure that each record owner of property on the property tax roll shall be notified of any amendment to the (Community Name) Wetland Inventory Map on an annual basis. The notice shall include the following information:

(a) the (Community Name) wetland map has been amended;

(b) the location to review the map;

(c) the owner's property may or may not be designated as a wetland on the map;

(d) the (Community Name) has an ordinance regulating wetlands;

(e) the map does not necessarily include all of the wetlands within the (Community Name) that may be subject to the wetland ordinance.

SIDEBAR TEXT

- Frequently, the information shown in the wetland map can be verified in an aerial photo. Contact Macomb County Department of Planning & Economic Development at (586) 469-5285 to inquire.

- As a confirmation of the wetlands shown on the community maps, an administrative procedure should be set up so that a wetland field survey is conducted by a wetland scientist each time a site plan that includes wetlands comes up for review. As the actual boundaries of the wetland are identified through this process, this information could be used to update the community’s wetland map.

SECTION 5 - ACTIVITIES IN A PROTECTED WETLAND OR WATERCOURSE

Section 5.1 - Activities Prohibited Without First Obtaining A Wetland Use Permit

Except for those activities expressly permitted by Section 5.2, it shall be unlawful for any person to do any of the following in a protected wetland or watercourse unless and until a wetland use permit is obtained from the (Community Name) pursuant to this Ordinance.

A. Deposit or permit to be deposited any material or structures into any watercourse or within or upon any protected wetlands.
B. Remove or permit to be removed any material from any watercourse or from any protected wetland.

C. Dredge, fill or land balance watercourses or protected wetlands.

D. Create, enlarge, diminish or alter a lake, pond, creek, stream, river, drain or protected wetland.

E. Construct, operate or maintain any development in or upon protected wetlands or watercourses.

F. Erect or build any structure, including but not limited to, buildings, roadways, bridges, tennis courts, paving, utilities, or private poles or towers in or upon protected wetlands or watercourses.

G. Construct, extend or enlarge any pipe, culvert, or open or closed drainage facility which discharges silt, sediment, organic or inorganic materials, chemicals, fertilizers, flammable liquids or any other pollutants to any lake, stream, pond, creek, river, protected wetland, or watercourse, except through a retention area, settling basin, or treatment facility designed to control and eliminate the pollutant. This Subsection shall apply to all land uses except single family uses.

H. Construct, enlarge, extend or connect any private or public sewage or waste treatment plant discharge to any lake, stream, river, pond, watercourse, or protected wetland except in accordance with the requirements of Macomb County, State of Michigan and/or the United States, to the extent that such entities have jurisdiction.

I. Drain, or cause to be drained, any water from a protected wetland or watercourse.

J. Fill or enclose any ditch which would result in a significant reduction of storm water absorption and filtration into the ground or would otherwise have an adverse impact on receiving watercourses or wetlands.
Section 5.2 - Permitted Activities

SIDEBAR TEXT

- The local ordinance may not require a permit for uses that are otherwise authorized under Act 451.
- Amendments to Act 451 were added in 2003 to address low lake levels in the Great Lakes and Lake St. Clair. Property owners along Lake St. Clair may conduct limited “beach maintenance” activities between the ordinary high water mark and the current water’s edge (that is, on exposed bottomlands which are public trust lands belonging to the State of Michigan) without obtaining a permit. However, a permit may be required from the Army Corps of Engineers. Communities with Lake St. Clair shoreline may want to consider adding language to address this new topic.

1) Notwithstanding the prohibitions of Section 5.1, the following activities are permitted within watercourses or protected wetlands without a wetland use permit, unless otherwise prohibited by statute, ordinance or regulation:

A. Fishing, trapping, or hunting.

B. Swimming or boating.

C. Hiking.

D. Grazing of animals.

E. Farming, horticulture, silviculture, lumbering, and ranching activities, including plowing, irrigation, irrigation ditching, seeding, cultivating, minor drainage, harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices. Wetland altered under this subdivision shall not be used for a purpose other than a purpose described in this subsection without a permit from the department.

SIDEBAR TEXT

- Note that if a wetland is disturbed by a permitted agricultural use, this disturbance may not later be the basis for developing the property for another use that is prohibited without a permit.

F. Maintenance or operation of serviceable structures in existence by October 1, 1980 or constructed pursuant to this part of former Act No. 203 of the Public Act of 1979.
G. Construction or maintenance of farm or stock ponds.

H. Maintenance, operation, or improvement which includes straightening, widening, or deepening of the following which is necessary for the production or harvesting of agricultural products:

1. An existing private agricultural drain.

2. That portion of a drain legally established pursuant to the drain code of 1956, Act No. 203 of the Public Acts of 1956, being sections 280.1 to 280.630 of the Michigan Compiled Laws, which has been constructed or improved for drainage purposes.

3. A drain constructed pursuant to other provisions of this part or former Act No. 203 of the Public Acts of 1979.

I. Construction or maintenance of farm roads, forest roads, or temporary roads for moving mining or forestry equipment, if the roads are constructed and maintained in a manner to assure that any adverse effect on the wetland will be otherwise minimized.

J. Drainage necessary for the production and harvesting of agricultural products if the wetland is owned by a person who is engaged in commercial farming and the land is to be used for the production and harvesting of agricultural products. Except as otherwise provided in this part, wetland improved under this subdivision after October 1, 1980 shall not be used for non-farming purposes without a permit from the department. This subdivision shall not apply to a wetland which is contiguous to a lake or stream, or to a tributary of a lake or stream, or to a wetland that the department has determined by clear and convincing evidence to be a wetland that is necessary to be preserved for the public interest, in which case a permit is required.

K. Maintenance or improvement of public streets, highways, or roads, within the right-of-way and in which in such a manner as to assure that any adverse effect on the wetland will be otherwise minimized. Maintenance or improvement does not include adding extra lanes, increasing the right-of-way, or deviating from the existing location of the street, highway, or road.

L. Maintenance, repair, or operation of gas or oil pipelines and construction of gas or oil pipelines having a diameter of 6 inches or less, if the pipelines are constructed, maintained, or repaired in a manner to assure that any adverse effect on the wetland will be otherwise minimized.
M. Maintenance, repair, or operation of electric transmission and distribution power lines and construction of distribution power lines, if the distribution power lines are constructed, maintained, or repaired in a manner to assure that any adverse effect on the wetland will be otherwise minimized.

N. Operation or maintenance, including reconstruction of recently damaged parts, of serviceable dikes and levees in existence on October 1, 1980 or construction pursuant to this part or former Act No. 203 of the Public Acts of 1979.

O. Construction of iron and copper mining tailings basins and water storage areas.

2) An activity in a wetland that was effectively drained for farming before October 1, 1980 and that on and after October 1, 1980 has been continued to be effectively drained as part of an ongoing farming operation is not subject to regulation under his part.

3) A wetland that is incidentally created as a result of 1 or more of the following activities is not subject to regulation under his part:

A. Excavation for material or sand mining, if the area was not a wetland before excavation. This exemption does not include a wetland on a lot adjacent to a water body of 1 acre or more in size.

B. Construction and operation of a water treatment pond or lagoon in compliance with the requirements of state or federal water pollution control regulations.

C. A dike area associated with a landfill if the landfill complies with the terms of the landfill construction permit and if the dike area was not a wetland before diking.

Section 5.3 - Existing Non-conforming Lots, Uses and Structures

Lots, uses and structures lawfully existing at the effective date of this Ordinance shall be subject to the requirements of this Ordinance, except as follows:

A. Plats that have received tentative preliminary or later approval and site plans and condominium plans approved prior to the effective date of this Ordinance shall be entitled by right to all uses authorized by those approvals according to the zoning district in which the property is located, and provided that said lots have buildable sites outside of the wetland. Lots which do not have a buildable site outside of the wetland shall require a wetland use permit prior to any construction on said lot.

B. Any activity, structure, or use lawfully existing prior to the effective date of this Ordinance, but not in conformity with the provisions of this Ordinance, may be continued, maintained and operated.
C. Any structure lawfully existing prior to the effective date of this Ordinance damaged by fire, explosion, act of God, or other causes beyond the control of the owner, may be restored, rebuilt, or repaired without obtaining a wetland use permit.

**SECTION 6 - APPLICATION**

Application for approval, appeal, and issuance of wetland use permits shall be concurrent with the application for approval, appeal, and issuance of other necessary (Community Name) approvals. This is the procedure except that:
1) In the case of any such application for another approval which is pending on the effective date of this Ordinance; and
2) Which has not been approved, and
3) Which, by the terms of this Ordinance, would require a wetland use permit application,
4) The applicant shall be notified by the Wetland Administrator that an application for a wetland use permit is required, and processing of the other application shall not proceed until the wetland use permit application has been filed.

The applicant for a wetland use permit shall submit four copies of the following to the (Community Name):

   A. An application completed in full, on a form supplied by the Michigan Department of Environmental Quality.

   B. A wetland delineation including, but not limited to the following information: dominant tree, sapling, shrub and herb vegetation; presence or lack of accepted wetland hydrology indicators; analysis of soil including a description of the soil profile to at least 20 inches and comparison to Macomb County Soil Survey and maps of the wetland(s) mapped. Mapped data shall be represented in a manner that allows comparison to the (Community Name) Wetland Map.

   C. Soil drainage and storm water management plans.

   D. A mitigation plan, if the proposed activity will result in the loss of wetland resources.

   E. A cover letter signed by the applicant including the following information:

      1. Name of project and brief description.
      2. Date upon which the activity is proposed to commence.
      3. Explanation of why the project meets the wetland use permit standards and criteria contained in this Ordinance.
4. List of all federal, state, county or other local government permits or approvals required for the proposed project including permit approvals or denials already received. In the event of denials, the reasons for denials shall be given. Attach copies of all permits which have been issued.

5. Identification of any present litigation involving the property.

F. The wetland use permit application shall be reviewed, either prior to or concurrent with the review of the site plan, plat or other proposed land use submitted by the applicant, with the understanding that the land use review may not be completed at the time the decision is rendered on the wetland use permit application. Election of this alternative may require a reopening of the wetland use permit application if the land use approval is inconsistent with the wetland use permit approval; or,

G. Copies of wetland permit applications filed with the MDEQ and forwarded to the (Community Name) in accordance with Section 30307(6) of Wetland Protection Act shall become part of the application for a (Community Name) wetland use permit.

SECTION 7 - REVIEW

Section 7.1 - Method of Review of Wetland Permit Application

<table>
<thead>
<tr>
<th>SIDEBAR TEXT</th>
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<tbody>
<tr>
<td>• Communities with wetland ordinances become responsible for reviewing and issuing permits for wetlands covered by the ordinance.</td>
</tr>
<tr>
<td>• The local unit of government must keep MDEQ informed of wetland permit applications and the results of these applications.</td>
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<tr>
<td>• A wetland application must be made on a form provided by MDEQ.</td>
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A. Before a wetland use permit application is submitted, the necessity of the wetland use permit shall be determined by the Wetland Administrator or designee by reference to the "(Community Name) Wetland Map".

B. Whenever a wetland use permit is required, the applicant may request an administrative meeting with the Wetland Administrator to review the proposed activity in light of the purposes of this Ordinance.
C. Upon receipt of an application, the (Community Name) shall ensure that all required information including a wetland determination has been submitted. The receipt of the application shall constitute permission from the owner to complete an on-site investigation. Applicant will pay fees as established in Section 9.1.

D. The (Community Name) Clerk shall transmit one copy of the application and supporting materials to the (Community Name) Wetland Consultant to confirm the boundaries of the wetland and to review the proposal in light of the purpose and review standards of Section 7 and other applicable sections of this Ordinance. If an application is not complete, the applicant may be granted additional time to complete the application provided that the applicant agrees that the additional time shall not be charged against the (Community Name)'s 90-day time limit for making a decision. The receipt of the application shall constitute permission from the owner to conduct an on-site investigation of wetlands.

SIDEBAR TEXT

• It is important that a qualified professional, such as a wetland scientist or consultant, complete a wetland delineation on the wetland in question.
• A community can make this step the applicant’s responsibility, or they can hire a wetland consultant to provide a professional review for each site plan. If the community hires its own consultant, the associated fees can be part of the wetland permit fee schedule and charged to the applicant.
• The review process the wetland consultant uses should be spelled out in the ordinance.

E. The (Community Name) Wetland Consultant shall prepare and transmit a report and recommendation to the Wetland Administrator documenting the review required by Section 7.1 D.

F. Upon receipt of an application, the (Community Name) Clerk shall:

1. Transmit one copy of the application to the Michigan Department of Environmental Quality.

2. Advise the applicant of his/her obligation to post the subject property with a sign that shall be no less than two (2) square feet in size. The sign shall be clearly visible from the abutting street(s) and shall state that an application has been filed for a wetland use permit on the property.

Section 7.2 - Wetland Use Permit Decisions by the Wetland Administrator

The following process shall apply to wetland use permit decisions by the Wetland Administrator:
A. For wetland use permit applications submitted in conjunction with activities that do not require approval by the Planning Commission and/or (Community Name) Board/Council, the Wetland Administrator shall approve, approve with conditions or deny the application within 90 days after receipt of an application.

B. Persons wishing to comment on the application must submit their comments in writing to the Wetland Administrator prior to the date and time set in the notice. Persons wishing to receive notice of the Wetland Administrator's decision must submit a written request to the Wetland Administrator.

C. After completing the review and reviewing the written comments, the Wetland Administrator shall approve, approve with modifications or conditions, or deny the wetland use permit application in accordance with the standards of this Ordinance.

D. When a wetland use permit is approved, approved with modifications or conditions, or denied, written notice shall be sent to the applicant and to all persons who have requested notice of the Wetland Administrator's decision. A permit approved by the Wetland Administrator shall not be issued or effective until ten (10) calendar days following the date of approval.

Section 7.3 - Wetland Use Permit Decisions by Planning Commission or the Governing Body

The following process shall apply to wetland use permit decisions by the (Community Name) Planning Commission or governing body:

A. Wetland use permit applications submitted in conjunction with a related land development activity shall be decided by the same entity that decides the related land development activity consistent with the Wetland Protection Act. The Planning Commission or governing body shall decide any wetland use permits in conjunction with special use permit applications or site plan applications and shall require that the delineation and wetland use permit application requests be submitted prior to the special use permit hearing. The Wetland Administrator shall transmit application materials and the report and recommendation prepared by the (Community Name) Wetland Consultant to the Planning Commission or governing body as applicable.
• The same entity (such as the Planning Commission) that makes decisions on site plans, plats and related matters must also make decisions on wetland applications. The applicant cannot be required to submit to a hearing on the application by more than one decision-making body. However, the local government may have a preliminary review completed by a planning department, planning consultant or Planning Commission before submittal to the decision-making body. Also, an appeals process may be developed for appeal to the body designated to hear appeals.

B. After review and study of the application materials and the (Community Name) Wetland Consultant's report and recommendation, the (Community Name) Planning Commission or governing body, as applicable, may hold one public hearing after publication in a newspaper of general circulation in the (Community Name) not less than five (5) days nor more than fifteen (15) days prior to the date of the hearing. Such notice shall indicate the place, time and subject of the hearing and the place and time the proposed wetland use permit may be examined. The wetland use permit hearing may be held in conjunction with a review of the related land use request(s).

C. In the event of a public hearing, notice shall be sent by mail or personal delivery to the owners of property for which approval is being considered, and to all owners of property, as listed on the most recent tax roll, within three hundred (300) feet of the boundary of the property in question. Notification need not be given to more than one (1) occupant of a structure, except that if a structure contains more than one (1) dwelling unit or spatial area owned or leased by different persons, one (1) occupant of each unit shall receive notice. In the case of a single structure containing more than four (4) dwelling units, notice may be given to the manager or owner of the structure who shall be requested to post the notice at the primary entrance to the structure. A notice containing the time, date, place and purpose of the hearing shall be posted on the subject property by the applicant at least eight (8) days prior to the hearing. The posting sign shall be no less than two (2) square feet in size, shall be clearly visible from the abutting street(s), and shall state that an application has been filed for a wetland use permit.

D. After completing the review and holding one public hearing, if so required, the Planning Commission or governing body as applicable shall approve, approve with conditions or deny the application within ninety (90) days after receipt of an application, in accordance with this Ordinance.
In conjunction with site plan review, the community must review the application within a 90-day time frame. However, the land use review may not be complete at the same time. This may require the re-opening of the wetland application if the land use review results in a conflicting decision.

Written notice shall be sent to the applicant upon approval, approval with conditions or denial of a wetland use permit by the (Community Name). The denial of a permit shall be accompanied by a written reason for denial.

If the applicant does not submit all the information required by the permit application, this is a valid reason for either delay or denial of the permit.

A landowner has a right to seek a revaluation of the affected property for assessment purposes to determine its fair market value if a permit has been denied for a proposed wetland use.

A permit approval by the Planning Commission or governing body, as applicable, shall not be issued or effective until ten (10) calendar days following the date of the approval and compliance with Section 7.5 of this Ordinance.

Section 7.4 - Appeals Of Decisions Of The Wetland Administrator, Planning Commission or Governing Body

The following process shall apply to appeals of decisions made by the Wetland Administrator, the Planning Commission, or governing body, as applicable:

A. A person who is aggrieved by the determination of the body who reviewed the wetland permit application may request an appeal of their decision to the (governing body or appellate body).

If the governing body, such as the City/Village Council or Township Board, makes decisions on wetland permits, then the appellate body should be the community’s board of appeals.
B. A request for appeal must be filed within ten (10) days following the Wetland Administrator’s or governing body’s decision. If an appeal is requested during such ten-day period, the effectiveness of the permit shall be suspended pending the outcome of the appeal.

C. The (governing body or appellate body) shall determine whether to consider the appeal based upon the minutes of the governing body’s meeting(s), or based upon an entirely new hearing.

D. If the (governing body or appellate body) determines to consider the appeal based upon the minutes of the governing body’s meeting(s), the applicant, and other interested parties shall be entitled to be heard prior to the (governing body or appellate body)’s determination.

E. If a new hearing shall be conducted, notice shall be sent by mail or personal delivery to the owners of property for which appeal is being considered, and to all owners of property, as listed on the most recent tax roll, within three hundred (300) feet of the boundary of the property in question. Notification need not be given to more than one (1) occupant of a structure, except that if a structure contains more than one (1) dwelling unit or spatial area owned or leased by different persons, one (1) occupant of each unit shall receive notice. In the case of a single structure containing more than four (4) dwelling units, notice may be given to the manager or owner of the structure who shall be requested to post the notice at the primary entrance to the structure. A notice containing the time, date, place and purpose of the hearing shall be posted on the subject property by the applicant at least eight (8) days prior to the hearing. The procedure for the hearing shall be the same as set forth in Section 7.1 above, governing the procedure before the (governing body or appellate body).

F. The (governing body or appellate body), based upon its appellate review, may reverse, affirm or modify the determination and/or permit issued by the governing body.

Section 7.5 - Wetland Use Permit Conditions

A. The Wetland Administrator, the Planning Commission or the (Community Name) Board/Council, as applicable, shall attach any reasonable conditions considered necessary to ensure that the intent of this Section will be fulfilled, to minimize or mitigate damage or impairment to, encroachment in or interference with natural resources and processes within the protected wetlands or watercourses, or to otherwise improve or maintain the water quality. Any conditions related to wetland mitigation shall follow the provisions of Section 8 of this Ordinance.
B. The Wetland Administrator, the Planning Commission or the (Community Name) Board/Council, as applicable, shall fix a reasonable time to complete the proposed activities.

C. The Wetland Administrator, the Planning Commission or the (Community Name) Board/Council, as applicable, may require the applicant to file with the (Community Name) a cash or corporate surety bond or irrevocable bank letter of credit in an amount, if any, determined necessary to ensure compliance with the wetland use permit approval conditions and this Section.

D. The Wetland Administrator, the Planning Commission or the (Community Name) Board/Council, as applicable, shall require that final approval of a wetland use permit application shall be contingent upon receipt of evidence by the (Community Name) that required state and federal permits, if any, have been obtained by the applicant.

E. At no time shall the Wetland Administrator, the Planning Commission or the (Community Name) Board/Council, as applicable, issue a wetland use permit that allows a more extensive alteration of the wetland than permitted by state or federal law. In cases where a state permit allows activities not permitted by the wetland approval granted under this article, the restrictions of the approval granted under this article shall govern.

F. Wetland use permits for seasonal operations need not be renewed annually unless otherwise stated in the permit.

G. Any change that increases the size or scope of the operation and that affects the criteria considered in approving the permit as determined by the Wetland Administrator, the Planning Commission or the (Community Name) Board/Council, as applicable, may require the filing of a new wetland use permit application.

H. Any temporary, seasonal, or permanent operation that is discontinued for two (2) years or two (2) seasons shall be presumed to have been abandoned and the wetland use permit automatically voided.

I. Any permit granted under this Ordinance may be revoked or suspended by the Wetland Administrator, Planning Commission or (Community Name) Board/Council, as applicable, after notice and an opportunity for a hearing, for any of the following causes:

1. A violation of a condition of the permit.

2. Misrepresentation or failure to fully disclose relevant facts in the application.
3. A change in a condition that requires a temporary or permanent change in the activity.

J. An applicant who has received a wetland use permit under this Ordinance shall comply with the following in connection with any construction or other activity on the property for which the wetland use permit has been issued:

1. Maintain soil erosion control structures and measures, including but not limited to, silt fences, straw bale berms, and sediment traps. The permittee shall permit periodic inspections throughout the duration of the project by the (Community Name) or its representatives.

2. Maintain clear delineation of the protected wetlands and wetland setbacks (so marked by the Wetland Administrator or (Community Name) Wetland Consultant during the on-site inspection) so that such locations are visible to all construction workers.

3. Post on the site, prior to commencement of work on the site and continuing throughout the duration of the project, a copy of the approved wetland use permit containing the conditions of issuance, in a conspicuous manner such that the wording of said permit is available for public inspection.

K. The wetland use permit shall remain effective for a time period coincidental with any other land use permit reviewed and approved concurrent with the wetland use permit. If applied for prior to the expiration date and concurrent with the expiring land use permit, the applicant may be granted an extension that corresponds to additional time granted for the underlying land use permit. Extensions shall be approved by the same person or body that made the original decision. The maximum number of extensions shall coincide with the maximum number allowed for the underlying land use permit.

L. When there is no other activity or permit involved, the wetland use permit shall remain effective for one (1) year. A maximum of a one (1) year extension may be approved by the granting authority upon request of the applicant.

Section 7.6 - Review Standards And Criteria For Non-Contiguous Wetlands Less Than Two (2) Acres In Area.
SIDEBAR TEXT

- Standards for wetlands less than two acres in size are provided by state statute. The purpose of these standards is to determine if the wetland is essential to the preservation of the natural resources of the community.
- If the wetland is found to be essential, then the permit request is evaluated using the standards in Section 7.7.

A. A wetland use permit shall be approved with respect to a non-contiguous wetland less than two (2) acres in area unless the Planning Commission or (Community Name) Board/Council determines that the wetland is essential to the preservation of the natural resources of the (Community Name). It shall not be the burden of the property owner to prove that the wetland is not essential to the preservation of the natural resources of the (Community Name).

B. All non-contiguous wetland areas of less than two (2) acres which appear on the wetlands map, or which are otherwise identified during a field inspection by the (Community Name), shall be analyzed for the purpose of determining whether such areas are essential to the preservation of the natural resources of the (Community Name). If there is to be a denial of a wetland use permit in a non-contiguous wetland area of less than two (2) acres, then, on the basis of data gathered by or on behalf of the (Community Name), findings shall be made in writing and given to the applicant stating the basis for the determination that such wetland is essential to preservation of the natural resources of the (Community Name). In order to make such a determination, there shall be a finding that one (1) or more of the following exists within such wetland:

1. The site supports state or federal endangered or threatened plants, fish, or wildlife appearing on a list specified in Section 36505 of the Natural Resources and Environmental Protection Act (Act 451 of 1994 [previously Section 6 of the Endangered Species Act of 1974, Act No. 203 of the Public Acts of 1974, being Section 299.226 of the Michigan Compiled Laws]).

2. The site represents what is identified as a locally rare or unique ecosystem.

3. The site supports plants or animals of an identified local importance.

4. The site provides groundwater recharge documented by a public agency.

5. The site provides flood and storm control by the hydrologic absorption and storage capacity of the wetland.
6. The site provides wildlife habitat by providing breeding, nesting, feeding grounds or cover for forms of wildlife, waterfowl, including migratory waterfowl, and rare, threatened, or endangered wildlife species.

7. The site provides protection of subsurface water resources and provision of valuable watersheds and recharging groundwater supplies.

8. The site provides pollution treatment by serving as a biological and chemical oxidation basin.

9. The site provides erosion control by serving as a sedimentation area and filtering basin, absorbing silt and organic matter.

10. The site provides sources of nutrients in water food cycles and nursery grounds and sanctuaries for fish.

C. In connection with the determination whether the wetland is essential to the preservation of the natural resources of the (Community Name), the property owner shall make an election and response under Subsection 1 or 2 below, relative to each non-contiguous wetland area less than two (2) acres.

1. In lieu of having the (Community Name) or its consultant proceed with the analysis and determination, the property owner may acknowledge that one (1) or more of the criteria in Subsections B1) through (B-10) above, exist on the wetland in question, including a specification of the one or more criteria which do exist; or

2. An election to have the (Community Name) or its consultant proceed with the analysis of whether each of the criteria in Subsections (B-1) through (B-10) exist or do not exist in the wetland in question, including specific reasons for the conclusion in respect to each criteria.

D. If the (Community Name) determines that the wetland is not essential to the preservation of the natural resources of the (Community Name), the (Community Name)’s decision shall be so noted on the (Community Name) Wetland Map, at the time it is amended. The requested activity shall be approved subject to all other applicable laws and regulations.

When a wetland under two (2) acres in size has been determined to be essential to the natural resources of the (Community Name) and the (Community Name) has found that one or more of the criteria set forth exist at the site, the (Community Name) shall notify the applicant in writing stating the reasons for determining the wetland to be essential to the preservation of the natural resources.
After determining that a wetland less than two (2) acres in size is essential to the preservation of the natural resources of the (Community Name), the wetland use permit application shall be reviewed according to the standards in Section 7.7.

Section 7.7 - Review Standards for Wetland Use Permits

SIDEBAR TEXT

- Standards used to determine whether a use requiring a permit is approved or not are provided by state statute.

The criteria to evaluate wetland use permits under this Ordinance and to determine whether a permit is granted are as follows:

A. A permit for any activity listed in Section 5.1 shall not be approved unless the proposed activity is in the public interest and is otherwise lawful in all respects. Public input shall be evaluated in approving, approving with conditions, or denying the application. The reasonable use of the property involved in accordance with applicable local ordinances and state law shall also be considered.

In determining whether the activity is in the public interest, the benefit which reasonably may be expected to accrue from the proposal shall be balanced against the reasonably foreseeable detriments of the activity. The decision shall reflect the national, state, and local concern for the protection of natural resources from pollution, impairment, and destruction. The following general criteria shall be considered:

1. The relative extent of the public and private need for the proposed activity.

2. The availability of feasible and prudent alternative locations and methods to accomplish the expected benefits from the activity.

3. The extent and permanence of the beneficial or detrimental effects which the proposed activity may have on the public and private uses to which the area is suited, including the benefits the wetlands provide.

4. The probable impact of each proposal in relation to the cumulative effect created by other existing and anticipated activities in the watershed.

5. The probable impact on recognized historic, cultural, scenic, ecological, or recreational values and on the public health or fish or wildlife.
6. The size and quality of the protected wetland being considered.

7. The amount and quality of remaining wetland in the area.

8. Proximity to any waterway.

9. Extent to which upland soil erosion adjacent to protected wetlands or drainage ways is controlled.

10. Economic value, both public and private, of the proposed land change to the general area.

11. Findings of necessity for the proposed project which have been made by federal, state or local agencies.

B. A wetland use permit shall not be granted unless it is shown that:

1. An unreasonable disruption of aquatic resources will be avoided; and

2. The proposed activity is primarily dependent upon being located in the protected wetland; and

3. A feasible and prudent alternative does not exist; and

4. The manner in which the activity is proposed to be undertaken will result in the minimum negative impact upon protected wetlands, watercourses, and attendant natural resources under all of the circumstances.

C. Following approval of the application, a wetland use permit shall be issued upon determination that all other requirements of ordinance and law have been met, including site plan, plat or land use approval as applicable, and including issuance of a permit by the MDEQ, if required under the Wetland Protection Act. In cases where a MDEQ permit allows activities not permitted by the wetland use permit approval granted under this Section, the restrictions of the approval granted under this Section shall govern.

SECTION 8 - WETLAND MITIGATION AND RESTORATION

Section 8.1 - Findings That Wetland And Watercourse Loss Is Unavoidable

Mitigation shall not be considered a substitute for making all prudent attempts to avoid wetland impacts.
Prior to considering a proposal for wetland mitigation, the Wetland Administrator, the Planning Commission or the (Community Name) Board/Council, as applicable, shall make all of the following findings:

1. That all feasible and prudent efforts have been made to avoid the loss of protected wetland.

2. That all practical means have been considered to minimize protected wetland impacts.

3. That it is practical to replace the protected wetland which will be unavoidably eliminated.

4. That all alternatives for preserving protected wetlands and water courses have been evaluated and found to be impractical, inappropriate, or ineffective.

To ensure no net loss of wetlands in the (Community Name), mitigation shall be required in instances where there are losses of wetland resources and where the Wetland Administrator, the Planning Commission or the (Community Name) Board/Council, as applicable have made the findings required in Section 8.1.A.

Section 8.2 - Criteria For Approving Proposals For Wetland Mitigation

If the Wetland Administrator, Planning Commission or the (Community Name) Board/Council, as applicable determines that it is practical to replace the protected wetlands which will be impacted, mitigation plans shall be approved only if all of the following criteria are met:

Additional guidelines for wetland mitigation include:

- The location of the mitigated wetland should be constructed nearby within the immediate area, and provide the same benefits as the lost wetland in the immediate area.
- A new wetland should be the same size or larger than the existing wetland.
- The new wetland should be constructed to have specific soil, elevation and hydrologic characteristics that will allow it, over time, to replicate the natural wetland.
• The plant mix in the new wetland should be of the same or better quality, and in the same proportions and density as the existing wetland.

• Replacement standards should include “success” standards that the newly constructed wetland must meet by a certain time. Maintenance of the new wetland, such as removing undesirable exotic invasive plants, should also be included.

A. That the mitigation plan provides for the substantial replacement of the predominant functional values of the protected wetland to be lost.

B. That the mitigation plan provides for no net loss of protected wetland resources and watercourses unless the Wetland Administrator, the Planning Commission or the (Community Name) Board/Council, as applicable determines that the net loss will result in a minimum negative impact upon protected wetlands, watercourses, and attendant natural resources under all of the circumstances.

C. Mitigation shall be provided on-site where practical and beneficial to the wetland resources. If mitigation on-site is not practical and beneficial, then mitigation in the immediate vicinity, within the same watershed, of the permitted activity may be considered. Only if all of these options are impractical shall mitigation be considered elsewhere.

D. The mitigation plan will comply with all applicable federal, state, and local laws.

E. A plan to monitor preserved and replacement wetlands over a minimum of five years has been specified.

Section 8.3 - Other Mitigation Requirements

A. Wetland mitigation and monitoring plans shall become conditions to the wetland use permit and shall be the responsibility of the applicant.

B. Financial assurances that mitigation is accomplished as specified by the permit condition may be required by the Wetland Administrator, Planning Commission or (Community Name) Board/Council, as applicable.

C. Any mitigation activity shall be completed before initiation of other permitted activities, unless a phased concurrent schedule can be agreed upon between the Wetland Administrator, Planning Commission or (Community Name) Board/Council, as applicable, and the applicant.

D. Wetland mitigation plans that create less than two (2) acre wetlands shall meet one of the conditions listed in Section 7.6 B. 1-10.
SECTION 9 - FEES, PENALTIES AND ENFORCEMENT

Section 9.1 - Fees

Applications for a wetland use permit under this Section shall be accompanied by a non-refundable administrative application fee in an amount specified from time to time by resolution of the (Community Name) Board/Council. In addition an applicant shall pay an additional escrow fee in an amount determined by resolution of the (Community Name) Board/Council for the estimated cost of outside consultant(s) who may be retained by the (Community Name) in connection with the review of the application. In the event the cost of the services of the consultant(s) is less than the escrow fee, the applicant shall be refunded the balance. In the event the cost of the services of the consultant(s) exceeds the amount of the escrow fee, the applicant shall pay the deficiency to the (Community Name) prior to the issuance of a wetland use permit. A denial of an application for a wetland use permit shall not affect the applicant's obligation to pay the escrow fee provided for in this Section.

Section 9.2 - Penalties And Enforcement

**SIDEBAR TEXT**

- Penalties can include fines and/or a requirement that the affected wetland area be restored or mitigated in some way. A mitigation penalty becomes a much bigger consideration for a contractor.
- A significant minimum fine will help deter contractors from damaging a protected wetland.
- Money collected from fines can be used to restore the impacted area to its previous condition if the contractor is not required to do so.

A. Restoration Requirements for Illegal Wetland Alteration. In the event of a violation involving illegal alteration of a watercourse or protected wetland under this Section, the (Community Name) shall have the power to order complete restoration of the watercourse or protected wetland area by the person or agent responsible for the violation. If such responsible person or agent does not complete such restoration within a reasonable time following the order, the (Community Name) shall have the authority to restore the affected watercourse or protected wetland to their prior condition wherever possible, and the person or agent responsible for the original violation shall be held liable to the (Community Name) for the cost of restoration. Requirements and watercourse or protected wetland restorations order by the (Community Name) shall be coordinated with state and/or federal agency requirements and specifications for watercourse or wetland restoration.
B. Penalties. In addition to the rights and remedies herein provided to the (Community Name) any person violating any of the provisions of this Ordinance shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined in an amount not exceeding Five Hundred Dollars ($500.00), or be imprisoned in the county jail for a period not exceeding ninety (90) days, or be both so fined and imprisoned. Each day such violation is continued or permitted to continue shall constitute a separate offense and shall be punishable as such hereunder.

C. Injunction. Any activity conducted in violation of this Section is declared to be a nuisance per se, and the (Community Name) may commence a civil suit in any court of competent jurisdiction for an order abating or enjoining the violation, and/or requiring restoration of the protected wetland or watercourse as nearly as possible to its condition before the violation.

D. Stop-Work Order. The (Community Name) may also issue a stop-work order or withhold issuance of a Certificate of Occupancy, permits or inspection until the provisions of this Ordinance, including any conditions attached to a wetland use permit, have been fully met. Failure to obey a stop-work order shall constitute a violation of this Ordinance.

E. Appearance Tickets. In all arrests and prosecutions for violation of this Ordinance, appearance tickets and the appropriate procedures set forth in Act 147, Michigan Public Acts of 1968, as amended, may be used.

**SIDEBAR TEXT**

- Enforcement is the key to wetland protection. Periodic field inspections need to be made during construction activities to ensure that wetlands are properly protected, or if a mitigation project, that the new wetland is functioning properly.
- Field visits to confirm that required actions have been taken will also provide the community with an updated evaluation of the condition of its wetlands.

F. Enforcement. The Wetlands Administrator or his/her agent, officer or employee shall have authority under this Ordinance to enter upon privately-owned land for the purpose of performing the (Community Name)'s duties under this ordinance and may take or cause to be made such examinations, surveys or samplings as are deemed necessary.

**SECTION 10 - STATE NOTIFICATION**

Section 10.1 - Notice to the Michigan Department of Environmental Quality
The (Community Name) shall notify the MDEQ of the adoption of this Ordinance. The (Community Name) shall cooperate with the MDEQ in the enforcement of the Wetland Protection Act as to wetlands under the MDEQ's jurisdiction as defined under this Ordinance.

SECTION 11 - ORDINANCE CONFLICT

Section 11.1 - Abrogation and Conflict of Authority

Nothing in this Ordinance shall be interpreted to conflict with present or future state statutes in the same subject matter; conflicting provisions of this Ordinance shall be abrogated to, but only to, the extent of the conflict. Moreover, the provisions of this Ordinance shall be construed, if possible, to be consistent with relevant state regulations and statutes. If any part of this Ordinance is found to be invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision. Such holding shall not affect the validity of the remaining portions thereof, and the remainder of the Ordinance shall remain in force. Rights and duties which have matured, penalties which have been incurred, proceedings which have begun (except as set forth in Section 5.3 and Section 6 herein) and prosecutions for violations of law occurring before the effective date of this Ordinance are not affected or abated by this Ordinance.

SECTION 12 - PROPERTY TAX ASSESSMENT

If a wetland use permit is denied by the (Community Name), a landowner may appear at the annual (appellate body) for the purpose of seeking a reevaluation of the affected property for assessment purposes to determine its fair market value under the use restriction.

SECTION 13 - EFFECTIVE DATE

This Ordinance shall take full force and effect upon ________________, 20__, following final publication of said ordinance.

SECTION 14- CERTIFICATION

I, (Clerk’s Name), Clerk of (Community Name, do hereby certify that the foregoing is a true and correct copy of an ordinance adopted by the (Community Name) Board/Council at a regular meeting on ________________, 20__.

Published ________________, 20__
Macomb County Communities with a Wetlands Ordinance

The following communities in Macomb County are considering or have adopted a wetlands ordinance:

1) Ray Township. Contact: Clerk, (586) 749-5171.

Additional Resources

1) U.S. Environmental Protection Agency, Office of Wetlands, Oceans, and Watersheds. [www.epa.gov/owow/wetlands](http://www.epa.gov/owow/wetlands).

2) Michigan Department of Environmental Quality. Wetlands protection information can be found at [www.michigan.gov/deq](http://www.michigan.gov/deq) and pressing the “Wetlands Protection” button.

3) Clinton River Watershed Council.

4) Books:


III. FLOODPLAINS

Introduction

A floodplain is an area adjacent to a stream or river that is subject to flooding or inundation during severe storm events. Often called the 100-year floodplain, this area encompasses the extent of land where flooding occurs on average, once every 100 years. The boundaries of floodplains are irregularly shaped and often meander through a community unnoticed. Although unseen, floodplains are integral assets of communities because of the many benefits they provide, which include flood water storage, protecting water quality, habitat for wildlife, and enhancing community character.

By storing flood waters, floodplains reduce the velocity of flood waters and peak flows downstream thereby decreasing property damage and other potential hazards to people residing or working in the floodplain. A floodplain can also improve water quality by filtering out pollutants and sediment and recharging groundwater. Vegetated floodplains can stabilize soils during floods, thus reducing the amount of sediment carried downstream. Floodplains provide habitat for plants and animals and are particularly important as breeding and feeding areas. Floodplains are also excellent areas for open space, parks, greenways, and recreation areas, all of which protect the natural functions of the floodplain.

Unfortunately, as floodplains are developed, their beneficial functions are diminished, which can increase property damage, endanger lives, reduce water quality and wildlife habitat, and impact the local economy. The heavy rains of May 2004 are a poignant example of how destructive floods can be, which led to Macomb County and twenty-two other Michigan counties being declared federal disaster areas. Macomb County was one
of the hardest hit and received $1.6 million in disaster relief. (Source: The Macomb Daily) The damage, however, was probably not due to the volume of rain alone but likely exacerbated by the cumulative effect of development (i.e., buildings) located within floodplains. During a flood, buildings and parking lots can’t absorb flood waters thereby increasing flood heights and velocities. Development pressure within floodplains will likely continue, so it is important for communities to adopt regulatory programs and standards that protect and enhance the natural functions of a floodplain and protect people and property during floods. To gain public support, floodplain management should promote public involvement and the coordination of floodplain management with other community concerns, such as economic development, housing, water quality, habitat protection, and recreation.

Floodplains can be regulated at the local, state, and federal level. There are several planning and regulatory techniques that local communities can use to protect floodplains. They include: 1) incorporating floodplain protection into the Master Plan, 2) establishing a natural features setback or buffer ordinance, 3) implementing a resource protection overlay district, and/or 4) protecting floodplains through regulations and site plan review. The introduction to this series discusses Master Plan elements in general terms. Chapters 5 and 6 discuss resource protection overlay districts and natural features setback or buffer ordinances, respectively. This Chapter illustrates how a community can regulate development within a floodplain through an ordinance. The model ordinance used is from a community in Macomb County.

**Regulatory Considerations**

In addition to local regulations, state and federal statutes also play a role in protecting floodplains. The State of Michigan’s Floodplain Regulatory Authority (found in Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended), requires that a permit be obtained prior to any alteration or occupation of the 100 year floodplain of a river, stream, or drain. The purpose of Part 31 is to assure that the flow-carrying capacity of a watercourse is not harmfully obstructed, and that the floodway is not used for residential construction.

The State also regulates inland lakes and streams through Part 301 of NREPA, 1994 PA 451, as amended.

A municipality must also satisfy other regulatory requirements in relation to water resources, which include:

- Soil Erosion and Sedimentation Control Act (Act No. 347 of the Public Acts of Michigan of 1972 MCL 282.101 et seq., MSA 13.1820(1) et seq., as amended);
- Inland Lakes and Streams Act (Act No. 346 of the Public Acts of Michigan of 1972 (MCL 281.951 et seq., MSA 11.475(1) et seq., as amended);
In 1968, Congress created the National Flood Insurance Program (NFIP) to provide federally backed flood insurance to encourage communities to enact and enforce floodplain regulations. To be covered by a flood insurance policy, a property must be in a community that participates in the NFIP. Community participation in the NFIP is voluntary. Currently, twenty-two of Macomb County’s twenty-seven communities participate in the NFIP.

To qualify for the program, a community must adopt and enforce a floodplain management ordinance to regulate development in flood hazard areas. The ordinance must meet or exceed the minimum criteria established by the NFIP. These floodplain management criteria are contained in 44 Code of Federal Regulations (CFR) Part 60, Criteria for Land Management and Use. Under the NFIP, the minimum floodplain management requirements that a community must adopt depends on the type of flood risk for that particular community. Flood risk data is provided by the Federal Emergency Management Agency (FEMA). The emphasis of the NFIP floodplain management requirements is to regulate all development in special flood hazard areas (100-year floodplain), and reduce threats to lives and the potential for damages to property in flood prone areas.

The NFIP also administers the Community Rating System (CRS), which provides discounts on flood insurance premiums in those communities that establish floodplain management programs that go beyond the minimum NFIP requirements. Under the CRS, communities receive credit towards premium reductions for more restrictive regulations, plans, and/or programs that reduce flood damages or protect the natural resources and functions of floodplains. The CRS recognizes eighteen creditable activities, organized under four categories: Public Information, Mapping and Regulations, Flood Damage Reduction, and Flood Preparedness. Although premium discounts are one of the benefits of participation in the CRS, these communities are carrying out important activities that save lives, reduce property damage, and protect the natural and beneficial functions of floodplains.

**Example Ordinance Language**

The following provides example language of a floodplain ordinance. This ordinance meets the minimum requirements for floodplain management established by the NFIP and the State of Michigan. Like any example, this language should only be used as a guide. Each community has a unique set of circumstances, features, and existing ordinances that this regulation needs to compliment. Therefore, each ordinance section is
accompanied by general considerations for individualizing the ordinance. A qualified attorney should review a floodplain ordinance before it is enacted.
SECTION 1 - GENERAL

Section 1.1 - Findings

The flood hazard areas of the (Community Name) are subject to periodic inundation which results in loss or impairment of life, property, health and safety, disruption of commerce and governmental services, extraordinary expenditures of public funds for flood protection and relief and impairment of the tax base, all of which adversely affect public health, safety and general welfare. These flood losses are caused by the cumulative effect of obstructions in floodplains causing increased heights and velocities of floodwaters by the occupation of the flood-hazard areas of uses vulnerable to floods or hazards to other lands which are inadequately elevated, flood-proofed or otherwise protected from flood damage.

Section 1.2 - Purposes

It is the purpose of the Flood Prevention District to protect the natural, human, structures, and economic resources of the (Community Name); and to promote the public health, safety and general welfare by application of special regulations for the use of land which is, or may be, subject to periodic inundation by floods and floodwaters at predictable intervals. Said regulations, while permitting reasonable economic use and considering the physical limitations of such land, will help to protect public health, public safety and general welfare, and will reduce the financial burdens imposed upon the community which may result from the improper use of such land. Said regulations are designed to:

A. Restrict or prohibit uses which are dangerous to health, safety and welfare, and property due to water or erosion or in flood heights or velocities;
B. Require that uses vulnerable to floods, including facilities which serve such uses, to be protected against flood damage at the time of initial construction;
C. Control, filling, grading, dredging, obstructions and other developments which may increase erosion or flood damage; and
D. Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters, or impede or obstruct the flow thereof, or which may increase flood hazards to other lands.
SECTION 2 - DEFINITIONS

Section 2.1 – Definitions

The words used in this article which are not expressly defined in this section shall be given their usual customary meaning with consideration to the context in which they are used. The following terms are expressly defined herein and shall mean:

AREA OF SHALLOW FLOODING means a designated AO or VO Zone (defined below) on the flood insurance rate map for the (Community Name) with base flood depths from one to three (3) feet where a clearly defined channel or watercourse does not exist, where the path of flooding is unpredictable and indeterminate, and where floodwater velocity flow may be evident.

 BASE FLOOD means the flood having a one percent chance of being equaled or exceeded in any given year and shall be based upon a flood which is representative of large floods known to have occurred generally in the area and is reasonably characteristic of what can be expected to occur in a particular stream, channel or watercourse.

DEVELOPMENT means any man-made change to improved or unimproved real estate, including but not limited to the erection of buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations.

SIDEBAR TEXT

- An AO zone is a special flood hazard area with sheet flow, ponding, or shallow flooding. Base flood depths are provided on the community’s Flood Insurance Rate Map (FIRM).
- The VO zone is a Special Flood Hazard Area subject to coastal high hazard flooding.

SIDEBAR TEXT

- According to 44CFR59.1 Definitions, areas of special flood hazard is the land in the floodplain within a community subject to a one (1) percent or greater chance of flooding in any given year. Special flood hazard area is synonymous in meaning with the phrase, “area of special flood hazard.”
- The Flood Prevention District described in this section is commonly called an overlay district, which is an approach to applying special restrictions to areas with unique characteristics. Properties within these districts retain their underlying zoning classification but are subject to additional requirements specified in the overlay district ordinance.
FLOOD OR FLOODING means a general and temporary condition of partial or complete inundation of land which is, in its normal state, dry and unsubmerged, from the overflow of inland waters or the unusual and rapid accumulation or runoff of surface waters from any surface.

FLOOD BOUNDARY AND FLOODWAY MAP means that map (or maps) prepared by the United States Department of Housing and Urban Development which indicates the location of the floodway and the floodway fringe areas within the (Community Name), a copy of which is available for examination in the office of the Clerk of the (Community Name).

FLOOD FRINGE means the portion of the floodplain lying on either side of the floodway.

FLOOD INSURANCE RATE MAP means that map (or maps) prepared by the Federal Emergency Management Agency which classifies the floodplain into various zones for purposes of determining flood insurance premium rates within the (Community Name), a copy of which is available for examination at the office of the Clerk of the (Community Name).

FLOOD INSURANCE STUDY means that study (or studies) prepared by the Federal Emergency Management Agency which examines, evaluates and determines flood hazards, and if appropriate, corresponding water surface elevations for the (Community Name), and contains flood profile studies as well as a flood hazard boundary and floodway map and the water surface elevation of the base flood.

FLOODPLAINS ASSOCIATED WITH THE BASE FLOOD means that area which is inundated by the base flood. This is the floodplain area which shall be regulated by the standards and criteria of this article and shall be determined with reference to the flood boundary and floodway and the flood insurance study.

FLOODPROOFING means any combination of structural and nonstructural additions, changes or adjustments to structures which reduce or eliminate flood damage to real estate or improves real property, water and sanitary facilities, structures and their contents.

FLOODWAY means the channel of the watercourse and those portions of the adjoining floodplains which carry and discharge the floodwaters of the base flood, as determined by the Federal Emergency Management Agency (FEMA) and as indicated in the flood boundary and floodway map.

NEW CONSTRUCTION means all structures, including the placement of mobile homes, for which construction is started or commenced on or after the effective date of this article.
**OBSTRUCTION** means any dam, dike, wall, wharf, embankment, levee, pile abutment, projection, excavation, bridge, conduit, culvert, building, wire, fence, rock, gravel, refuse, file, structure, or other matter, in, along, across or projecting into any channel, watercourse or flood-hazard area which may impede, retain or change the direction of the flow of water or that is placed where the flow of water might carry the same downstream to damage life or property.

**SUBSTANTIAL IMPROVEMENT** means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds fifty (50) percent of the market value of the structure either (a) before the improvement or repair is started, or (b) if the structure has been damaged, and is being restored, before the damage occurred. For purposes of this definition "substantial improvement" shall be considered to occur when the first alteration of any structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not include any project for improvement to comply with existing state or city health, sanitary or safety code requirements which are solely necessary to assure safe living conditions or to any alteration of a structure listed on the National Register of Historic Places or the State of Michigan Register of Historic Places.

**WATERCOURSE** means any natural or artificial watercourse, stream, channel, creek, ditch, canal, conduit, culvert, drain, waterway, gully, ravine or wash in which water flows in a definite direction or course, either continuously or intermittently, and which has a definite channel, bed and banks, and shall include any area adjacent tracts subject to inundation by reason of overflow of floodwater.

**SECTION 3 – APPLICATION OF ORDINANCE**

**Section 3.1 - Lands to Which Floodplains District Applies**

This article shall apply to all areas of special flood hazards within the jurisdiction of the (Community Name). The flood district shall be considered to overlay existing zoning districts and shall constitute additional terms to those impaired by the underlying zoning district and shall be known as the Flood Prevention District. This District is hereby divided into two (2) areas, which areas shall be known as the "floodway" area and “flood fringe” area as defined in Section 2.1 (Definitions) of this article. The location and boundaries of the floodway and floodway fringe areas shall coincide with the location and boundaries of floodways and floodway fringe areas as shown on the (Name and Date of Flood Insurance Study) as published by the Federal Emergency Management Agency, with accompanying flood insurance rate maps and floodway maps, and any revisions thereto all of which are hereby adopted by reference and declared to be a part of this article.
Section 3.2 - Development Permit Required

From and after the effective date of this article, it shall be unlawful for any person to undertake any development, including the placement of mobile homes, within the Flood Protection District, without having first procured a development permit as hereinafter provided, said permit being required for all development as defined in Section 2.1 (Definitions), and irrespective of whether or not said development involves the actual construction for building or structure.

SIDEBAR TEXT

- In all cases the minimum requirements governing the adequacy of the floodplain management regulations for flood-prone areas depend on the level of flood risk for that community.

Section 3.3 – Compliance

No structure shall hereafter be located, extended, converted or altered, nor shall any land be used, except in full compliance with the terms of this article and other applicable regulations.

Section 3.4 - Abrogation and Greater Restrictions

This article is not intended to repeal, abrogate or impair any existing easement, covenant or deed restriction. When this article and any other ordinance, conflict or overlap, the ordinance, which imposes the most stringent standard shall be applicable.

Section 3.5 – Interpretation

In the interpretation and application of this article, all provisions shall be:

A. Considered as minimum requirements;

B. Liberally construed in favor of the governing body; and

C. Deemed neither to limit nor repeal any other powers granted under state statutes.
Section 3.6 - Warning and Disclaimer of Liability

The degree of flood protection required by this article is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This article does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This article shall not create liability on the part of the (Community Name) or by any officer or employee thereof for any flood damages that result from reliance on this article or any administrative decision lawfully made thereunder.

SECTION 4 – ADMINISTRATION

Section 4.1 - Administration

A. Designation of a (Community Name) authority. The (Community Name) authority is hereby appointed to administer and implement the provisions of this article.

B. Duties and responsibilities of the (Community Name) authority. Duties of the (Community Name) authority shall include, but not be limited to:

1. Review all development permits to assure that the permit requirements of this article have been satisfied.

2. Review permits for proposed development to assure that all necessary permits have been obtained from those federal, state or local governmental agencies from which prior approval is required.

3. Review all permits for proposed new development to determine whether such proposals will be reasonably safe from flooding, to assure that:

   (a) All such proposals are consistent with the need to minimize flood damage within flood-prone areas;

   (b) All public utilities, and facilities, such as sewer, gas, electrical and water systems are located and instructed to minimize or eliminate flood damage; and

   (c) Adequate drainage is provided to reduce expenses to flood damage.
4. Notify adjacent communities and the Michigan Department of Natural Resources prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration.

5. Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.

6. Verify and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures.

7. Verify and record the actual elevation (in relation to mean sea level) to which the new or substantially improved structures have been flood-proofed.

8. When flood-proofing is utilized for a particular structure, the (Community Name) authority shall obtain certification from a registered professional engineer or architect.

9. Where interpretation is needed as to the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), the (Community Name) authority shall make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this article.

10. When base flood elevation data has not been provided in accordance with Section 2.1 (Definitions) of this article, then the (Community Name) authority shall obtain, review, and reasonably utilize any base flood elevation data available from a federal, state or other source, in order to administer the provisions of Section 4.1 (Administration) of this article.

11. All records pertaining to the provisions of this article shall be maintained in the office of the (Community Name) authority and shall be open for public inspection.

Section 4.2 - Permit Procedures

Application for a development permit shall be made to the (Community Name) authority on forms furnished by him and may include, but not be limited to, the following plans in
duplicate drawn to scale showing the nature, location, dimensions and elevations of the area in question; existing or proposed structures, fill storage of materials; drainage facilities, and the location of the foregoing. Specifically, the following information is required:

A. Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures;

B. Elevation in relation to mean sea level to which any nonresidential structure has been flood-proofed;

C. Provide a certificate from a registered professional engineer or architect that the nonresidential flood-proofed structure meets the flood-proofing criteria in Section 5.1(B) (herein); and

D. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.

SIDEBAR TEXT

• All development proposed for a floodplain must secure a permit from the Michigan Department of Environmental Quality (MDEQ) before issuance of any local permits.

Section 4.3 - Variances Procedures; Standards for Determination Conditions

A. The zoning board of appeals, as established by the (Community Name), shall hear and decide appeals and requests for variances from the requirements of this article.

B. The zoning board of appeals shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the (Community Name) authority in the enforcement or administration of this article.

C. Any person aggrieved by the decision of the zoning board of appeals may appeal such decision to the Macomb County Circuit Court, as provided by statute.

D. Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places, without regard to the procedures set forth in the remainder of this section.
E. In passing upon such applications, the zoning board of appeals shall consider all technical evaluations, all relevant factors, standards specified in other sections of this article, and:

1. The danger that materials may be swept onto other lands to the injury of others;

2. The danger to life and property due to flooding or erosion damage;

3. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

4. The importance of the services provided by the proposed facility to the community;

5. The necessity to the facility of a waterfront location, where applicable;

6. The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;

7. The compatibility of the proposed use with existing and anticipated development;

8. The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;

9. The safety of access to the property in times of flood for ordinary and emergency vehicles;

10. The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site;

11. The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems and streets and bridges; and

12. Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half (1/2) acre or less in size contiguous to and surrounded by lots, existing structures constructed below the base flood level, providing items (1) through (11) have been fully considered. As the lot size increases beyond the one-half (1/2) acre, the technical justification required for issuing the variance increases.
F. Upon consideration of the factors listed above and the purpose of this article, the zoning board of appeals may attach such conditions to the granting of variances as it deems necessary to further the purposes of this article.

G. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

H. Conditions for variances:

1. Variances shall only be issued upon a determination that the variance would result in exceptional hardship to the applicant; and

2. Variances shall only be issued upon:

   (a) A showing of good and sufficient cause;

   (b) A determination that failure to grant the variance would result in exceptional hardship to the applicant; and

   (c) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.

3. Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with the lowest floor elevation below the base flood elevation, and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.

4. The (Community Name) authority shall maintain the records of all appeal actions and report any variances to the Federal Insurance Administration upon request.

5. An applicant for a variance to permit development in any floodway shall secure a permit from the Michigan Department of Natural Resources under the authority of 1929 PA 245, as amended by 1968 PA 167, and evidence thereof shall be submitted to the (Community Name) authority.
SIDEBAR TEXT

• If a community develops a pattern of inconsistent variances, FEMA can impose sanctions. Therefore, communities must carefully consider variance requests.

SECTION 5 – GENERAL STANDARDS

Section 5.1 - Provisions for Flood Hazard Reduction

A. General standards. In all areas of special flood hazards the following provisions are required:

1. All new construction and substantial improvements shall be designed and adequately anchored to prevent flotation, collapse or lateral movement of the structures;

2. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;

3. All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;

4. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;

5. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters; and

6. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

B. Specific standards. In all areas of special flood hazards the following provisions are required:

1. Residential construction: New construction or substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to one foot above base flood elevation.
2. **Nonresidential construction:** New construction or substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated to one foot above the base flood elevation or, together with attendant utility and sanitary facilities, be flood-proofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. A registered professional engineer or architect shall certify that the flood-proofing methods are adequate to withstand the flood depths, pressure, velocities, impact and uplift forces and other factors associated with the base-flood. Such certification shall be provided to the (Community Name).

3. **Mobile Homes:**

   (a) No mobile home shall be placed in a floodway area, except in an existing mobile home park or existing mobile home subdivision.

   (b) All mobile homes placed within the floodway and floodway fringe areas shall be anchored to resist flotation, collapse, or lateral movement by providing over-the-top ties to ground anchors. Specific requirements shall be that:

   i. Over-the-top ties be provided at each of the four (4) corners of the mobile home, with two (2) additional ties per side at intermediate locations and mobile homes less than fifty (50) feet long requiring one additional tie per side;

   ii. Frame ties be provided at each corner of the home with five (5) additional ties per side at intermediate points and mobile homes less than fifty (50) feet long requiring four (4) additional ties per side;

   iii. All components of the anchoring system be capable of carrying a force of four thousand eight hundred (4,800) pounds; and

   iv. Any additions to the mobile home be similarly anchored.
(c) For new mobile home parks and subdivisions, for expansions to existing mobile home parks and subdivisions, for existing mobile home parks and subdivisions where the repair, reconstruction or improvement has commenced, and for mobile homes not placed in a mobile home park or subdivision, it is required that:

i. Stands or lots are elevated on compacted fill or on pilings so that the lowest floor of the mobile home will be one foot above the base flood level;

ii. Adequate surface drainage and access for a hauler are provided; and

iii. In the instance of elevation on pilings:
- Lots are large enough to permit steps;
- Piling foundations are placed in stable soil no more than ten (10) feet apart; and
- Reinforcement is provided for pilings more that six (6) feet above the ground level.

4. **Floodways:** Located within the areas of special flood hazard established in Section 3.2 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles and erosion potential, the following provisions shall apply:

(a) Encroachments, including fill, new construction, substantial improvements and other developments are prohibited unless certification by a professional registered engineer or architect is provided demonstrating that encroachments shall not result in any increase in flood levels during occurrence of the base flood discharge.

(b) If section 5.1 (B) (4) (a) of this article is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this article.

(c) The placement of any mobile homes is prohibited except in an existing mobile home park or existing mobile subdivision.
SECTION 6 – PERMITTED USES AND SPECIFIC STANDARDS

Section 6.1 - Permitted Uses By Right in the Floodway Area of the Flood Prevention District

The following uses having a low flood damage potential and present either no, or minimal obstruction to flood flows, shall be permitted within the floodway district to the extent that they are not prohibited by any other ordinance and provided they do not require structures, fill, or storage of materials or equipment. No use shall in any manner, affect the capacity of the channels or floodways of any tributary to the main stream, drainage ditch, or any other drainage facility or system. Approval from the State of Michigan Department of Natural Resources is needed for construction activity (of the following,) taking place in the floodway and floodway fringe areas of the Flood Prevention District:

A. Recreation uses: Parks, playgrounds, playfields, bridle paths, nature trails, natural wildlife preserves, outdoor tennis courts, archery ranges, boat launching ramps, target ranges, trap and skeet ranges, game farms, fish hatcheries and similar uses.

B. Golf courses and driving ranges: In accordance with the requirements of the zoning ordinance of the (Community Name).

C. Agricultural uses: General farming, pasture, grazing, outdoor plant nurseries, horticulture, viticulture, truck farming, and wild crop farming.

D. Vegetated buffers: Existing and/or constructed vegetative buffers.

E. Uses incidental to single-family dwellings: Lawns, gardens, and play areas.

F. Parking areas: Provided said parking areas are unpaved and are incidental to those uses permitted in the subsections listed above.

G. Uses not permitted: Permitted uses in underlying zoning districts shall not be construed as being permitted uses in the floodway area of the Flood Prevention District unless those uses are indicated as being permitted in the subsections listed above.
• Permitted uses within a floodplain and floodway should generally have minimal or no adverse impact on the ability of the floodplain to store flood waters or on the safety of persons residing or working within the floodplain.

• In prescribing allowable and restricted uses a community must strike an important balance. The right of citizens to live and work where they please, and to reasonably use their lands, must be balanced with public costs and the need to protect those same citizens and the whole community, including its natural resources, cultural amenities, and economic vitality.

Section 6.2 - Uses Permitted by Special Use Permit in the Floodway Area of the Flood Prevention District

Provided such uses shall not, in the opinion of the planning commission, be adverse to the purpose of this section or damaging to the public health, safety or welfare, or impose a financial burden upon the community or shall in any manner affect the capacity of the channels or floodways of any tributary to the main stream, drainage ditch, or any other drainage facility or system, the following uses may be permitted by issuance of a special use permit in accordance with all other requirements of the zoning ordinance of the (Community Name) and section 6.1 of this article:

A. Railroads, streets, bridges, utility transmission lines and pipe lines;

B. Marinas, boat rentals, piers, wharves;

C. Extraction of sand, gravel and other minerals;

D. Structures for recreational uses such as shelter houses, outbuildings or wildlife sanctuaries;

E. Paved parking areas; and

F. Other uses similar in nature to uses described in section 6.1 which are consistent with the provisions of this article.
Section 6.3 - Requirements for Special Use Permit for Uses in the Floodway Area of the Flood Prevention District

In addition to all other requirements of the zoning ordinances of the (Community Name), the application for a special use permit in the floodway area of the Flood Prevention District shall submit the following:

A. A letter of approval from the State of Michigan Department of Natural Resources;

B. A location map including existing topographic data at two-foot interval contours at a scale of one inch representing one hundred (100) feet;

C. A map showing proposed grading and drainage plans including the location of all public drainage easements, the limits, extent, and elevation of the proposed fill, excavation and occupation;

D. A statement from the Macomb County Drain Commissioner indicating that he or she has reviewed and approved the proposal;

E. A statement from the (Community Name) engineer concerning feasibility of the proposal and his approval; and

F. Any other information requested by the planning commission.

Section 6.4 - Standards for Special Use Permits Within the Floodway

The planning commission shall review the particular circumstances and facts of each proposed use in terms of the following standards as well as those in Section 6.3:

A. Structures shall not be designed for human habitation and shall have a low flood damage potential;

B. Structures, if permitted, shall be constructed and placed on the building site so as to offer the minimum obstruction to the flow of the floodwaters and whenever possible, shall be constructed with the longer of the two (2) axes parallel to the direction of flood flow to minimize flow resistance;

C. No special use permit shall be issued for the development of new structures, substantial improvement or relocation of old structures, or development of any kind within the floodway when such development, construction, improvement or relocation would cause any increase in flood level associated with the base flood.
The State’s Floodplain Regulatory Authority, found in Part 31, Water Resources Protection of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended, prohibits the construction of a human habitation in the floodway.

However, the NFIP does not prohibit development or human habitation in the floodway although it is discouraged.

Section 6.5 - Standards for Areas of Shallow Flooding (AO Zones)

Located within the areas of the special flood hazard established in Section 2.1 of this article are areas designated as shallow flooding. These areas have special flood hazards, associated with base flood depths of one to three (3) feet, where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate; therefore, the following provisions apply:

A. All new construction and substantial improvements of residential structures have the lowest floor, including basement, elevated above the crown of the nearest street to or above the depth number specified on the flood insurance rate map for the (Community Name).

B. All new construction and substantial improvements of nonresidential structures shall:

1. Have the lowest floor, including basement, elevated aboveground of the nearest street to or above the depth number specified on the flood insurance rate map; or

2. Together with attendant utility and sanitary facilities be completely flood-proofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

Section 6.6 - Permitted Uses By Right in the Floodway Fringe Area of the Flood Prevention District

The following uses having a low flood damage potential and present either no, or minimal obstruction to flood flows, shall be permitted within the floodway fringe district to the extent that they are not prohibited by any other ordinance and provided they do not
require structures, fill or storage of materials or equipment. Approval from the State of Michigan Department of Natural Resources is needed for construction activity taking place in the floodway fringe.

A. Recreation uses: Parks, playgrounds, playfields, bridle paths, nature trails, natural wildlife preserves, outdoor tennis courts, archery ranges, boat launching ramps, target ranges, trap and skeet ranges, game farms, fish hatcheries and similar uses.

B. Golf courses and driving ranges: In accordance with the requirements of the zoning ordinance of the (Community Name).

C. Agricultural uses: General farming, pasture, grazing, outdoor plant nurseries, horticulture, viticulture, truck farming and wild crop farming.

D. Uses incidental to single-family dwellings: Lawns, gardens and play areas.

E. Uses not permitted: Permitted uses in underlying zoning districts shall not be construed as being permitted uses in the floodway area of the Flood Prevention District unless those uses are indicated as being permitted in the subsections listed above.

Section 6.7 - Uses Permitted by Special Use Permit in the Floodway Fringe Area of the Flood Prevention District

Provided such uses shall not, in the opinion of the planning commission, be adverse to the purpose of this section or damaging to the public health, safety or welfare, or impose a financial burden upon the community, the following uses may be permitted by issuance of a special use permit in accordance with the zoning ordinance of the (Community Name) and any other requirements contained herein:

A. Railroads, streets, bridges, utility transmission lines and pipe lines;

B. Marinas, boat rentals, piers, wharves;

C. Extraction of sand, gravel and other minerals;

D. Structures for recreational uses such as shelter houses, outbuildings or wildlife sanctuaries;

E. Those uses indicated as being permitted uses or as being permissible with a special use permit in those zoning districts which underlie the Flood Prevention District;
F. Dumping or backfilling with any material in any manner. In the case where floodway fringe areas have no groundwater recharge or impoundment potential, filling may occur through compensating excavation and shaping of the floodway fringe in such a way as to maintain or improve the flow or natural impoundment capacity of the floodway fringe. In no case shall the flow or impoundment capacity of the floodway fringe be reduced.

G. Other uses similar in nature to uses described in section 6.5 which are consistent with the provisions of this article.

Section 6.8 - Requirements for Special Use Permits for Uses in the Floodway Fringe Area of the Flood Prevention District

In addition to all other requirements of the zoning ordinance of the (Community Name), the applicant for a special use permit in the Flood Prevention District shall meet the following requirements:

A. The applicant for a special use permit shall be required to submit that information listed as necessary in Section 6.3 herein.

Section 6.9 - Standards for Special Use Permits Within the Floodway Fringe

The planning commission shall review the particular circumstances and facts of each proposed use in terms of the following standards as well as those in Section 6.3 herein:

A. All new residential structures and residential structures requiring substantial improvement shall have the lowest floor (including basement) elevated to one foot above the level of the base flood floodplain.

B. All new nonresidential structures and nonresidential structures requiring substantial improvement shall have the lowest floor (including basement) elevated to one foot above the level of the intermediate regional floodplain or shall be flood-proofed to one foot above the level of the intermediate regional floodplain.

Macomb County Area Communities with a Floodplain Ordinance

The following communities in Macomb County are considering or have adopted a floodplain ordinance:

1) **City of St. Clair.** Contact: Clerk 810-329-7121
Additional Resources


VIII. WOODLANDS AND TREES

Introduction

Trees are an important natural resource that offer both environmental and aesthetic benefits for people, animals, and plants. They produce oxygen, provide wildlife habitat, improve water quality, moderate temperature, reduce air and noise pollution, enhance aesthetics and property values, and are an important contributor to community image, pride, and quality of life. To protect and enhance valuable tree and woodland resources, a community can implement regulatory measures.

A tree protection ordinance is a common regulatory measure used by communities striving to attain healthy, vigorous, and well-managed trees. Ordinances can be used to protect individual trees, such as trees in an urban community, or tree-rows and woodlands in a more rural community. Tree protection ordinances can also be used to promote creative design and construction techniques that maximize preservation. To enhance its effectiveness, an ordinance should be supported by the goals and objectives of a community’s Master Plan, and other report(s) or inventories that identify tree resources to be protected. Inventories, maps, and other information of a community’s tree resources can be used to identify areas for priority protection and to measure the effectiveness of the ordinance based on the change in tree resources over time.

Regulatory Considerations

A woodland and/or tree protection ordinance is a common technique used by communities. To maintain a healthy woodland/tree resource a community should consider additional methods of protection beyond an ordinance. For example, protection efforts could be reinforced and enhanced by integrating woodland/tree standards and regulations into requirements for landscaping and/or site plan review. Once
implemented, this comprehensive, multi-layered approach should ensure a healthy and well-managed woodland/tree resource.

State and Federal laws protecting tree resources are limited, thus local planning and action are imperative. A tree protection ordinance may be established based on the paramount public concern for tree resources in the interest of the health, safety, and general welfare of the residents within a particular community in keeping with Article IV, Section 52 of the Michigan Constitution of 1963. The intent of the Michigan Natural Resources and Environmental Protection Act, PA 451 of 1994 can also be cited as a purpose for establishing a tree protection ordinance.

Oversight of woodlands can also be affected by the Federal Endangered Species Act of 1973. If a threatened or endangered species is located within a woodland area, this could result in limited disturbance and additional protection. Also, some area woodlands could also be protected if they are located within a state- or locally-regulated wetland area.

**Example Ordinance Language**

The following provides example language of the components of a broad-based tree and woodland protection ordinance. Like any example, this language should only be used as a guide. Each community has a unique set of natural features and existing ordinances that this regulation needs to compliment. Therefore, each ordinance section is accompanied by general considerations for individualizing the ordinance.
THESE AND WOODLANDS PROTECTION

(COMMUNITY NAME), MICHIGAN

Ordinance No. ___________

SECTION 1 - GENERAL

Section 1.1 – Intent

Development of the (Community Name) could result in an unregulated and, in many cases, unnecessary removal of trees and related resources, and other forms of vegetation and natural resources and processes. Regulation of the removal of tree resources will achieve a preservation of important physical, aesthetic, recreational and economic assets for both present and future generations. Specifically, it is found that:

A. Woodlands provide for public safety through the prevention of erosion, siltation, and flooding;

B. Woodland growth protects public health through the absorption of air pollutants and contamination, including the reduction of excessive noise and mental and physical damage related to noise pollution;

C. Trees, vegetation, and associated natural resources provide a material aspect of the character of the (Community Name); and

D. Trees and woodland growth serve as an essential component of the general welfare by maintaining natural beauty, recreation, and irreplaceable natural heritage.

E. Trees and woodlands increase the economic value of land for most uses.

SIDEBAR TEXT

- A municipality should establish short and long-term goals that address preservation of the physical, aesthetic, recreational, and economic benefits that trees/woodlands provide.

Section 1.2 - Purposes

The purposes of this Section are as follows, to be applied throughout the (Community Name):

A. To prohibit the unnecessary removal of trees on undeveloped land.
B. To discourage the unnecessary removal of trees and woodland resources in connection with the development of land.

C. To provide for the protection, preservation, proper maintenance, and use of trees and woodlands in order to minimize disturbance to them and to prevent damage from erosion and siltation, a loss of wildlife and vegetation, and/or from the destruction of the natural habitat;

D. To protect the woodlands (including woodland resources) for their economic support of local property values when allowed to remain uncleared and/or unharvested in whole or in significant part, and for their natural beauty, character, and geological, ecological, or historical significance;

E. To provide for the paramount public concern for these natural resources in the interest of the health, safety and general welfare of the residents of this (Community Name), in keeping with Article IV, Section 52 of the Michigan Constitution of 1963, and the intent of the Michigan Natural Resources and Environmental Protection Act, PA 451 of 1994.

SECTION 2 – DEFINITIONS

Section 2.1 – Definitions

The following definitions shall apply in the interpretation of this Section.

BUILDING ENVELOPE means the area enclosed or to be enclosed by the exterior walls of the proposed structure on the property, plus an area beyond such walls of fifteen (15) feet so long as the building or structure is not in any required setback. With the objective of preserving trees, and also allowing reasonable development, the fifteen (15) feet beyond each wall may be reallocated so that the total distance on both sides of the exterior walls is thirty (30) feet (e.g., ten (10) feet on one side and twenty (20) feet on the other). The same treatment shall be authorized for areas beyond the front and back walls.

CLEAR-CUTTING means the removal within any five (5) year period of more than twenty percent (20%) of the total number of protected trees located on a parcel of land without a tree removal permit.

COMMERCIAL NURSERY means a licensed plant or tree nursery in relation to those trees planted and growing on the premises of the licensee, which are planted and grown for sale to the general public in the ordinary course of the licensee's business.
DIAMETER BREAST HEIGHT (d.b.h.) means a tree's diameter in inches measured by diameter tape at four and one-half (4 1/2) feet above the ground. On multi-stem trees, the largest diameter stem shall be measured.

DRIP LINE means an imaginary vertical line extending downward from the outermost tips of the tree branch to the ground.

FARM means the land, plants, animals, buildings, structures, including ponds used for agricultural or aqua-cultural activities, machinery, equipment, and other appurtenances used in the commercial production of farm products.

FARM OPERATION means the operation and management of a farm or a condition or activity that occurs at any time as necessary on a farm in connection with the commercial production, harvesting, and storage of farm products, and includes, but is not limited to:

A. Marketing produce at roadside stands or farm markets;

B. The generation of noise, odors, dust, fumes, and other associated conditions;

C. The operation of machinery and equipment necessary for a farm including, but not limited to, irrigation and drainage systems and pumps and on-farm grain dryers, and the movement of vehicles, machinery, equipment, and farm products and associated inputs necessary for farm operations on the roadway as authorized by the Michigan vehicle code, Act No. 300 of the Public Acts of 1949, being sections 257.1 to 257.923 of the Michigan Compiled Laws;

D. Field preparation and ground and aerial seeding and spraying;

E. The application of chemical fertilizers or organic materials, conditioners, liming materials, or pesticides;

F. Use of alternative pest management techniques;

G. The fencing, feeding, watering, sheltering, transportation, treatment, use, handling and care of farm animals;

H. The management, storage, transport, utilization, and application of farm by-products, including manure or agricultural wastes;

I. The conversion from a farm operation activity to other farm operation activities; and

J. The employment and use of labor.
The management and harvesting of a woodlot is not an accepted farm operation under this Ordinance.

**LANDMARK TREE** means any tree which stands apart from neighboring trees due to the size, form, species or historic significance. Criteria pertaining to the size of landmark trees is listed in section L of these regulations.

**PARCEL** means all contiguous land situated in a lot or plot of land owned by a person.

**PERSON** means an individual, partnership, corporation, association, or other legal entity. For the purposes of this definition, an individual or entity shall mean and include all individuals in an immediate family, and all entities in which an individual has more than a ten percent (10%) interest.

**PROTECTED TREE** means any tree having a diameter breast height (d.b.h.) of four (4) inches or greater and subject to the regulations of this ordinance.

**REMOVE OR REMOVAL** means the act of removing or terminating the life of a tree by digging up or cutting down, or the effective removal through damage that would reasonably be expected to ultimately terminate the life of a tree.

**TRANSPLANT** means the relocation of a tree from one place to another on the same property.

**TREE** means any self-supporting, woody plant of a species which normally grows to an overall height of fifteen (15) feet or more.

**TREE SURVEY** means a scaled drawing (one (1) inch shall not exceed one hundred (100) feet) which provides the following information: location of all protected trees (i.e., trees having four (4) inches or greater d.b.h.) plotted by accurate techniques, and the common or botanical name of those trees and their d.b.h.

**UNDEVELOPED** means a parcel of land that has not been improved. With respect to land which, is partially improved by virtue of a building(s) or other improvement(s) located on a portion of the land, the portion of the land which does not contain the building(s) or other improvements(s) shall be considered undeveloped.

**WOODLAND** means a stand of trees identified on the (Community Name) Woodland Area Map.
SECTION 3 – TREE REMOVAL PERMIT

Section 3.1 – Permit Requirements

A person shall not remove, transplant, or destroy, or cause to be removed, transplanted, or destroyed, on any undeveloped land in the (Community Name), any protected tree (i.e., a tree having a d.b.h. of four (4) inches or greater) without first obtaining a Tree Removal Permit subject to the exceptions enumerated in Section 4, "Exceptions." A tree removal permit shall be required for any of the following activities:

A. Within a woodland area.
   1. The removal, transplanting or destruction of any tree within a woodland area; or
   2. Land clearing or grubbing within a woodland area.

B. Outside a woodland area. The removal, transplanting or destruction of any tree with a d.b.h. of four (4) inches or greater outside of a woodland area.

SIDEBAR TEXT

- Most uses would be permitted in a wooded area provided the development proposal meets all the requirements set forth in the woodland ordinance and other applicable ordinances, unless granted a variance.
- A community may want to place restrictions on certain types of land uses depending on the environmental sensitivity of a woodland.
- For example, more intensive land uses such as manufacturing have greater impact on the land and should be restricted in sensitive woodland areas.
- Less intensive uses such as residential (clustered), parkland, or greenways are more appropriate for environmentally sensitive woodlands.
- Data and map(s) of a community’s woodland/tree resources are particularly helpful when establishing permitted and prohibited uses.

Section 3.2 - Plat or Site Plan Approval

A final preliminary subdivision plat, and/ or a site condominium or site plan shall not be approved by the (Community Name) until it has been reviewed and approved based upon the requirements for a Tree Removal Permit.
Section 3.3 - Site Development Standards

In addition to other requirements of this Section, compliance with the following standards is required in all developments:

A. Structures. The applicant shall designate the location of all proposed structures or building sites and the area around them to be disturbed. Such designation shall be made with the objective of preserving protected trees, and the Planning Commission or Building Official, as the case may be, shall have discretion to require reasonable adjustments in this regard during the approval process.

B. Activities Within Building Envelope. A Tree Removal Permit shall not be required for construction of structures or improvements or other activities within a building envelope and for each building site in a development, the applicant shall designate the "building envelope."

C. Activities Outside Building Envelope. Subject to the exceptions enumerated in this provision, and in Section 4 below, a tree removal permit shall be required to remove or cut a protected tree outside of the area designated for structures and building envelopes. The Planning Commission or Building Official, as the case may be, may issue an advanced written waiver of the requirement for a tree removal permit or mitigation when it is shown that tree removal is necessary and there is no reasonable alternative in connection with building location road access, driveways, utilities, septic fields or other disturbances customarily required for the particular development. The Planning Commission or Building Official may confer with other (Community Name) personnel and/or consultants in making decisions under this section.

D. Minimum Preservation Requirement. For parcels five (5) acres or greater, the applicant shall preserve and leave standing and undamaged a minimum of eighty (80) percent of the total number of protected trees on the lot having a d.b.h. of 4" inches or greater. However, trees contained within the designated building envelope, streets, drives and parking areas, or within required drainage, or utility improvement areas, and/or driveway and sidewalk areas, as determined by the Building Official or designee, shall not be included in the calculation for determining the required minimum preservation percentage. If the minimum preservation requirement cannot be satisfied, the applicant shall be required to replace and/or relocate trees according to the requirements set forth in Section 8 (Tree Relocation or Replacement).
SECTION 4 – EXCEPTIONS

Notwithstanding the requirements of Section 3.3 above, the following activities shall be permitted without a Tree Removal Permit unless otherwise prohibited by statute or other ordinance provision.

Section 4.1 - Parcels Less Than Five Acres

No tree removal permit shall be required on a parcel containing five (5) acres or less. For the purpose of calculating the size of a parcel, all contiguous land owned in common by one owner, shall be included in determining total acreage. The term "one owner" in this provision shall include all persons in an immediate family, and all entities in which an individual has more than a ten percent (10%) interest. This provision shall not exempt residential parcels from regulations under the terms of this ordinance at the time of application for approval of plats, site plans, condominiums or other land divisions.

SIDEBAR TEXT

- The point at which a property is exempt from a tree removal permit may depend on a community’s character.
- For example, a rural community, which typically consists of primarily large parcels, may consider establishing a parcel size that is higher relative to a more urban community.
- This would provide greater flexibility for property owners/developers and also help maintain the rural character by protecting woodland/tree resources.
- The opposite is true for more urban communities. An urban community would establish a lower minimum parcel size to ensure that most development proposals are subject to the community’s tree/woodland protection ordinance.

Section 4.2 - Activities within Building Envelope or Building Site

No tree removal permit shall be required for construction of structures or other activities within a building envelope or building site. This shall include roads, road rights of way, driveways, essential utilities, retention / detention ponds or septic fields.

Section 4.3 - Bona Fide Farm Operation

Tree removal or transplanting occurring during use of land for bona fide farm operations as defined by the Michigan Right to Farm Act (Public Act 93, 1981); provided, however,
that the farm use (as defined in this Section) has previously been in operation for a continuous period of five (5) years.

Section 4.4 - Commercial Nursery

Tree removal or transplanting occurring during use of land for the operation of a commercial nursery that is licensed with the State of Michigan and has previously been in operation on the property for three years or more, or the property owner records an affidavit that the commercial nursery shall continue in active operation for a period of no less than five (5) years.

Section 4.5 – Emergencies

Actions made necessary by an emergency, such as 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 restore order, and where it would be contrary to the interest of the public, or to the health or safety of one or more persons, to defer cutting pending submission and processing of a permit application. Unless life and property would be threatened, this exception shall not apply unless and until the (Community Name) official, or designee, has approved the removal.

Section 4.6 - Governmental Agencies

Tree trimming, removal, or transplanting performed by, or on behalf of, governmental entities, Road Commission or agencies to the limited extent necessary to achieve authorized objectives of the entities or agencies.

Section 4.7 - Public Utilities

Repair or maintenance work performed by public utilities necessitating the trimming or cutting of trees to the limited extent necessary to achieve authorized objectives of the utility.

Section 4.8 - Dead or Damaged Trees

Removal or trimming of dead or damaged trees provided the (Community Name) has first confirmed in writing the dead or damaged condition upon request of the property owner.
Section 4.9 - Nominal Activity

Where the activity involves the removal or transplanting of three (3) or fewer trees having six (6) inches or greater d.b.h. within a one year period, and is not related to the development of a parcel or construction of a building or structure.

Section 4.10 - Tree Management

Where a tree management plan prepared by a State of Michigan registered forester or other natural resource professional who is qualified to prepare such a plan is submitted to and approved by the Building Official or designee who may confer with the (Community Name) expert at his or her discretion, tree cutting may occur in accordance with the plan without a permit. To qualify under this exception, tree management activity shall be for the purpose of reducing the density of trees so as to promote and maintain the health and viability of the remaining trees and/or for forest or woodland improvements generally; for promotion of wildlife habitat; for facilitation of appropriate forest-related or woodland related recreational activities, including but not limited to hunting; and for other similarly acceptable silvicultural practices. The management plan shall include the means by which cut trees shall be removed from the property with the least possible damage to remaining trees. The person seeking approval and exemption under this provision may be required to establish an escrow with the Building Official for the purpose of covering the costs of the (Community Name) expert.

SIDEBAR TEXT

- To provide greater flexibility, a community may consider providing an exemption for the following:
  - An existing residential site development proposal that are under two (2) acres upon which there is an occupied residential structure.
  - An existing residential site over two (2) acres where specific improvements are proposed upon which there is an occupied residential structure. Examples of improvements may include a fence, deck, pool, or accessory building.

SECTION 5 - APPLICATION FOR TREE REMOVAL PERMIT

Section 5.1 - Application and Fee

A person seeking a Tree Removal Permit must submit a written application to the (Community Name) Clerk and pay the application permit fee as established by resolution of the (Community Name) Board.
A community could use the following fee schedule for tree removal permits.

<table>
<thead>
<tr>
<th>Trees Removed</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>$75.00</td>
</tr>
<tr>
<td>4-6</td>
<td>$125.00</td>
</tr>
<tr>
<td>7-25</td>
<td>$250.00</td>
</tr>
<tr>
<td>25 or more</td>
<td>$250.00 plus $5.00 per tree in excess of 25</td>
</tr>
</tbody>
</table>

However, the community should allow modification of these standard fees on a project by project basis where unique circumstances justify a change.

Reasons to modify the fees could include but are not limited to, the number of trees to be removed or destroyed, unavailability of area to replace trees on the project site, lack of benefit to the community, exceptional or undue hardship on applicant, or public purpose of the project.

Section 5.2 - Time of Application

Application for a Tree Removal Permit shall be made before removing, cutting, or transplanting trees. Where the site is proposed for development necessitating site plan, site condominium or plat review, application for a Tree Removal Permit shall be made prior to or concurrent with site plan or final preliminary plat submittal. Where development of one single-family home is proposed on a parcel of five (5) acres or more, application for tree removal permit shall be made prior to or concurrent with the building permit application.

Section 5.3 - One (1) Single-Family Building Site

For one single-family building site on parcels of five (5) acres or more, the permit application shall include copies of a plan drawn to scale containing the following information:
A. **Property Dimensions.** The boundaries and dimensions of the property, and the location of any existing and proposed structure or improvement, and a statement identifying the type of structure or improvement.

B. **Inventory of Trees.** Location of all existing protected trees identified by common or botanical name. Trees proposed to remain, to be transplanted, or to be removed shall be so designated. The Building Official or designee may waive detailed tree inventory requirements for those areas of the site where proposed development will not impact regulated trees.

C. **Tree Protection.** A statement describing how trees intended to remain will be protected during development.

D. **Easements and Setbacks.** Location and dimension of existing and proposed easements, as well as all setbacks required by the Zoning Ordinance.

E. **Grade Changes.** Designation and description of grade changes proposed for the property.

F. **Intended Tree Replacement.** A cost estimate for any proposed tree replacement program with a detailed explanation including the number, size, and species.

G. **Tree Identification.** A statement that all trees being retained will be identified by some method such as painting, flagging, etc., and, where protective barriers are necessary, that they will be erected before work starts.

H. **Structures, Building Envelope, Utilities, and Driveway.** The plan shall show the structures, building envelope, utilities, and driveway as existing and/or proposed on the property.

**Section 5.4 - Developments Other than Single-Family Home Sites**

For other developments, including site plans, site condominiums or subdivisions, the permit applicant shall provide copies of a plan containing the same information required for one (1) single-family building site, and the following additional information:

A. **Plan.** A topographical survey sealed by a registered engineer or registered surveyor shall be shown on the plat.
B. *Tree Survey.* A tree survey prepared by a State of Michigan registered forester, arborist, or landscape architect for all areas for which a Tree Removal Permit is required.

C. For larger sites over ten acres (10) in size containing more than one hundred (100) regulated trees, the Planning Commission may waive the detailed tree inventory requirements where it can be demonstrated that the proposed development will not impact woodland areas.

**Section 5.5 - For All Developments**

For all developments, any proposed tree relocation or replacement, consistent with Section 8, below shall be specified in the application, including a drawing and detailed explanation of the proposal.

**SECTION 6 - APPLICATION REVIEW PROCEDURE**

**Section 6.1 - Staff Review**

The Building Official or designee shall review the submitted Tree Removal Permit application to verify the applicant has provided all required information. Completed applications shall be referred to the appropriate consultants. Upon request of either the applicant or the (Community Name), the (Community Name) may conduct a field inspection or review meeting. The (Community Name) personnel involved in the review shall submit their report and recommendations to the Building Official, who shall forward them to the Planning Commission or (Community Name) Board, as appropriate, for further review.

**Section 6.2 - Reviewing Authority**

Where the site is proposed for development necessitating site plan review site condominium, or plat approval by the (Community Name) Planning Commission, the Planning Commission shall be responsible for granting or denying the application for a Tree Removal Permit (subject to affirmation, reversal, or modification by the (Community Name) Board with respect to plat approvals). Where site plan review or plat approval by the Planning Commission is not required by ordinance, the grant or denial of the Tree Removal Permit application shall be the responsibility of the Building Official or designee, following the right and opportunity of the Building Official or designee to confer with consultants. Where the use of a consultant is reasonably required, the property owner shall establish an escrow in an amount determined by (Community Name) Board resolution establishing fees, out of which the consultants’ fee shall be paid.
The decision to grant or deny a permit shall be governed by the review standards enumerated in Section 7, below.

Section 6.3 - Denial of Tree Removal Permit

Whenever an application for a Tree Removal Permit is denied, the permit applicant shall be notified, in writing, of the reasons for denial. If such decision is made by the Planning Commission or (Community Name) Board, it shall be a part of the minutes of the meeting at which action on a site plan, site condominium or plat review. Denial of a tree removal permit may be appealed to the Zoning Board of Appeals in accordance with the provisions of this Ordinance.

Section 6.4 - Tree Removal Permit

Whenever an application for a Tree Removal Permit is granted, the reviewing authority shall:

A. **Conditions.** Attach to the granting of the permit any reasonable conditions considered necessary by the reviewing authority to ensure the intent of this Ordinance will be fulfilled and to minimize damage to, encroachment in, or interference with natural resources and processes within wooded areas, including, without any limitation, the trees to be preserved.

B. **Completion of Operations.** Fix a reasonable time, up to a maximum of eighteen months, to complete tree removal, transplanting, and replacement operations, ensuring that plantings occur at correct times of the year. Such time may be extended, upon written request submitted 30 days before expiration of the original permit, by the body or entity that approved the original permit.

C. **Security.** Require the permit grantee to file with the (Community Name) a cash or corporate surety bond or irrevocable bank letter of credit in an amount reasonably determined necessary by the (Community Name) to ensure compliance with the Tree Removal Permit conditions and this Ordinance in regard to transplanting and replacement of trees; provided, however, that security shall only be required if the developer is to perform the transplanting and/or replacement after six (6) months following grant of a permit, or to perform the transplanting and/or replacement after issuance of a Certificate of Occupancy. The security requirement may also be waived at the direction of the Planning Commission or Building Official.
D. **Term of Permit.** A tree removal permit issued under this paragraph shall be null and void if commencement of work permitted under the permit has not been commenced within a reasonable time, not to exceed twelve (12) months. In addition, a permit shall be void after the expiration of eighteen (18) months from the date of issuance. A six (6) month extension may be granted upon written request to the body or entity that approved the original permit. The request must be received 45 days before expiration of the original permit.

**Section 6.5 - Time for Decision**

Where a single one-family home on a parcel of five (5) acres or more is proposed, or where a site plan, site condominium or plat review is required, the (Community Name) decision on the application shall be issued within 60 days of the date of the (Community Name) receipt of a complete application for a Tree Removal Permit or from the time that the application is considered administratively complete, or if the application under Section is being considered in conjunction with a companion application for development approval involving the same property, the (Community Name) decision on the application under this Section shall be made concurrent with the decision on the other development proposal.

**SECTION 7 - APPLICATION REVIEW STANDARDS**

The following standards shall govern the granting or denial of an application for Tree Removal Permit:

**Section 7.1 - Limitation**

Removal or transplanting of protected trees shall be subject to the Minimum Preservation Requirement set forth in Section 3.3(E) above for site development, and removal or transplanting of protected trees shall otherwise be limited to instances where:

A. **Necessary for Construction.** Removal or transplanting is necessary for the construction of a building, structure, or other site improvement, and the permit applicant has shown there is no feasible and prudent location alternative on site for improvement; or

B. **Disease, Damage, Etc.** The tree(s) is demonstrated to the (Community Name) Building Official to: be diseased, damaged, or in danger of falling; be located too close to existing or proposed buildings or structures; interfere with existing utility service or drainage; create unsafe vision clearance; or be in violation of other ordinances or regulations.
Section 7.2 - Minimum Preservation Requirements

Unless otherwise exempt from the regulations of this ordinance, all sites shall maintain a minimum preservation as required in Section 3.3(E) above.

Section 7.3 - Preservation and Conservation

Tree preservation and conservation shall be of paramount concern and importance; provided, however, that an application shall not be denied solely because of the presence of trees on the site.

Section 7.4 - Developmental Alternatives

Preservation and conservation of wooded areas, trees, woody vegetation, wildlife, and related natural resources and processes shall have priority over development when there are feasible and prudent location alternatives on site for proposed buildings, structures, or other site improvements.

SIDEBAR TEXT

• A community may require the applicant to submit with the permit application, alternative developments that were considered in optimizing the development for tree/woodland preservation.

Section 7.5 - Diversity of Species

A diversity of tree species shall be maintained where feasible.

Section 7.6 - Clear Cutting

Where the proposed activity consists of land clearing, or clear cutting, it shall be limited to areas to be improved for roadways, sidewalks, drainage, and utilities and areas necessary for the construction of buildings, structures, or other site improvements as shown on an approved site plan, site condominium or subdivision plat. Clear cutting of more than twenty percent of a site (excluding areas essential for development such as roads, drainage utilities, buildings etc.) shall be prohibited.
Section 7.7 - Relocation or Replacement

The proposed activity shall include necessary provisions for tree relocation or replacement, in accordance with Section 8, and tree protection, in accordance with Section 9.

SECTION 8 – TREE RELOCATION OR REPLACEMENT

Section 8.1 - Requirement Established

For each protected tree required to be preserved under the terms and standards set forth above, and which is permitted to be removed by permit granted under this section, the applicant shall replace or relocate trees according to the replacement tree requirements set forth below.

Section 8.2 - Replacement Tree Requirements

A. Replacement trees shall have shade potential and/or other characteristics comparable to the removed trees, shall be State Department of Agriculture Nursery Grade No. 1 or better, and must be approved by the (Community Name) prior to planting. Replacement trees must be staked, fertilized, and mulched, and watered, and shall be guaranteed by the applicant for two (2) years. An agreement together with appropriate security (cash or letter of credit) in a form approved by the (Community Name) shall be provided in connection with such guaranty.

B. Trees usable for replacement trees may be transplanted on site using appropriate and accepted procedures and precautions.

C. For deciduous trees, replacement shall be on a one for one basis. For example, for each tree removed, a replacement tree shall be planted. All replacement trees shall have a d.b.h. of at least two (2) inches. All evergreen replacement trees shall be at least six (6) feet tall.

D. One (1) landmark tree shall be replaced at a rate of one (1) inch of replacement tree for each d.b.h. inch of landmark tree removed.

E. The Planning Commission shall be authorized to waive a portion or all of the tree replacement requirements when site factors, tree conditions or development requirements preclude reasonable actions to conform with this Section, and the applicant proposes a contribution to the Tree Fund, created in Section 13 below, in an amount reasonably related to the cost of the tree replacement being waived.
Section 8.3 - Replacement Tree Location

A. *(Community Name) Approval Required.* The *(Community Name)* shall approve tree relocation or replacement locations. To the extent feasible and desirable, trees shall be relocated or replaced on site and within the same general area as trees removed, provided that survival shall not be jeopardized by improvements or activities.

B. *Relocation or Replacement Off-site.* Where it is not feasible and desirable to relocate or replace trees on site, as determined by the *(Community Name)* decision-maker under this Section, relocation or replacement may be made at another location in the *(Community Name)* approved as part of the permit. This shall not preclude reasonable actions to conform with this Section or contributions to the Tree Fund, created in Section 13 below in an amount reasonably related to the cost of the tree replacement being waived.

SIDEBAR TEXT

- Efforts to minimize the loss of trees must be explored because newly-planted tree(s) (replaced and/or relocated) does not have the same habitat value or ecological diversity found in a mature stand of trees.
- Replacement of trees should be promoted for long-term resource conservation.
- A community may consider targeting certain critical areas for acquisition as permanent forest/woodland reserves.
SECTION 9 - TREE PROTECTION DURING CONSTRUCTION

Section 9.1 - Placing Materials Near Tree

No person may conduct any activity within the drip line of any protected tree designated to remain, including, but not limited to, placing solvents, building material, construction equipment, or soil deposits within the drip line.

SIDE BAR TEXT

- Protection of the drip line is important because that is the area which contains the majority of a tree’s root system.
- Damage to the root system, or compacting the soil above the roots, can lead to stunted tree growth or even loss of the tree.
- Ideally, there should be no disturbance within the drip line such as grading, digging, trenching, paving, or operation/parking heavy equipment and vehicles on the area.

Section 9.2 - Attachments to Trees

During construction, no person shall attach any device to any remaining protected tree except for the protection of a tree in accordance with forestry procedures.

Section 9.3 - Protective Barrier

Before development, land clearing, filling, or any land alteration for which a Tree Removal Permit is required, the applicant shall erect and maintain suitable barriers to protect remaining trees. Protective barriers shall remain in place until the (Community Name) authorizes their removal or issues a final certificate of occupancy, whichever occurs first. Wood, metal or other substantial material shall be utilized in the construction of barriers. Barriers are required for all trees designated to remain, except in the following cases:

A. Rights-of-Way and Easements. Street right-of-way and utility easements may be cordoned by placing stakes a minimum of fifty (50) feet apart and tying ribbon, plastic tape, rope, etc., from stake to stake along the outside perimeters of areas to be cleared.

B. Large, Separate Areas. Large property areas separate from the construction or land clearing area, onto which no equipment will travel or be stored, may also be cordoned off as described in subparagraph (A) above.
SECTION 10 - DISPLAY OF PERMIT: STOP WORK. CERTIFICATE OF OCCUPANCY

Section 10.1 - Display of Permit

The tree removal permit grantee shall conspicuously display the permit on site. The permit grantee shall display the permit continuously while trees are being removed or replaced or while activities authorized under the permit are performed. The permit grantee shall allow (Community Name) representatives to enter and inspect the premises at any reasonable time, and failure to allow inspection shall constitute a violation of this Section.

Section 10.2 - Stop Work: Withholding Certificate of Occupancy

The Building Official may issue a stop work order if this Section is being violated, or if the Permittee is failing to conform with any conditions attached to a Tree Removal Permit. In addition, the Building Official may withhold issuance of a Certificate of Occupancy until a violation or conformance with a condition has been cured, provided however the Building Official may in his or her discretion issue a temporary certificate of occupancy conditioned upon the posting of reasonable security coupled with an agreement in a form approved by the (Community Name) guaranteeing the cure of a violation or condition.

Section 10.3 - Pursuit of Court Relief

In addition to all other remedies available, the (Community Name) may issue a citation or initiate Circuit Court litigation to achieve compliance with this Section.

SECTION 11 - HISTORIC OR LANDMARK TREES

A nomination for designation shall be brought up for consideration by the Planning Commission.

Section 11.1 Tree Nominations

Any (Community Name) property owner may nominate a tree within their own property boundaries for designation as a landmark tree or historic tree. If nominated, the Planning Commission shall review the nomination request and if determined to meet the criteria listed below, shall be placed on the (Community Name) Landmark Tree inventory.
Section 11.2 Tree Designations by Planning Commission

The Planning Commission may designate a tree, upon nomination, as a historic tree upon a finding that, one or more of the following unique characteristics exist:

A. The tree is the predominant tree within a distinct scenic or aesthetically valued setting.

B. The tree is of unusual age or size for that species in this climatic and geographic location. (Examples include trees listed on the Register of Big Trees or the Michigan Botanical Club as large trees.)

C. The tree has gained prominence due to unusual form or botanical characteristics.

D. The tree has some historical significance to the (Community Name).

Section 11.3 Inventory of Nominated/Designated Trees

The Building Department shall maintain an inventory of all nominated and designated Historic Landmark Trees.

Section 11.4 Historic Trees

A permit shall be required to remove any landmark or historic tree. Any historic tree shall be replaced on a 1 to 1 caliper inch basis. For example, a 48" landmark tree shall be replaced by 24 two inch trees. This replacement requirement may be waived if in the opinion of the Planning Commission, and after review by the (Community Name) consultant, the health/condition of the tree is such that it should not be counted.

SECTION 12 - LANDMARK TREES

Section 12.1 Landmark Trees

The following landmark trees with a specified D.B.H. or greater shall be protected under this Section.

<table>
<thead>
<tr>
<th>Common name</th>
<th>Species</th>
<th>D.B.H. (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>American basswood (Linden)</td>
<td>Tilia americana</td>
<td>24</td>
</tr>
</tbody>
</table>

Woodlands and Tree Ordinance 8.22
<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Scientific Name</th>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>American beech</td>
<td>Fagus grandifolia</td>
<td>18</td>
</tr>
<tr>
<td>American chestnut</td>
<td>Castanea dentate</td>
<td>8</td>
</tr>
<tr>
<td>American elm</td>
<td>Ulmus americana</td>
<td>18</td>
</tr>
<tr>
<td>Arborvitae</td>
<td>Thuja occidentalis</td>
<td>18</td>
</tr>
<tr>
<td>Ash</td>
<td>Fraxinus spp.</td>
<td>18</td>
</tr>
<tr>
<td>Birch</td>
<td>Betula spp.</td>
<td>18</td>
</tr>
<tr>
<td>Black alder</td>
<td>Alnus glutinosa</td>
<td>12</td>
</tr>
<tr>
<td>Black tupelo</td>
<td>Nyssa sylvatica</td>
<td>12</td>
</tr>
<tr>
<td>Black walnut</td>
<td>Juglans nigra</td>
<td>20</td>
</tr>
<tr>
<td>Buckeye (Horse chestnut)</td>
<td>Aesculus spp.</td>
<td>18</td>
</tr>
<tr>
<td>Cedar, red</td>
<td>Juniperus spp.</td>
<td>12</td>
</tr>
<tr>
<td>Crabapple (cultivar)</td>
<td>Malus spp.</td>
<td>12</td>
</tr>
<tr>
<td>Douglas fir</td>
<td>Pseudotsuga menziesii</td>
<td>18</td>
</tr>
<tr>
<td>Eastern hemlock</td>
<td>Tsuga canadensis</td>
<td>12</td>
</tr>
<tr>
<td>Flowering dogwood</td>
<td>Cornus florida</td>
<td>8</td>
</tr>
<tr>
<td>Ginkgo</td>
<td>Ginkgo biloba</td>
<td>18</td>
</tr>
<tr>
<td>Hickory</td>
<td>Carya spp.</td>
<td>18</td>
</tr>
<tr>
<td>Kentucky coffeetree</td>
<td>Gymnocladus dioicus</td>
<td>18</td>
</tr>
<tr>
<td>Larch/tamarack</td>
<td>Larix laricina (eastern)</td>
<td>12</td>
</tr>
<tr>
<td>Locust</td>
<td>Gleditsia triacanthos</td>
<td>24</td>
</tr>
<tr>
<td>Maple</td>
<td>Acer spp. (except negundo)</td>
<td>18</td>
</tr>
<tr>
<td>Oak</td>
<td>Quercus spp.</td>
<td>20</td>
</tr>
<tr>
<td>Pine</td>
<td>Pinus spp.</td>
<td>15</td>
</tr>
<tr>
<td>Spruce</td>
<td>Picea spp.</td>
<td>18</td>
</tr>
<tr>
<td>Sycamore (London plane tree)</td>
<td>Platanus spp.</td>
<td>18</td>
</tr>
<tr>
<td>Tuliptree</td>
<td>Liriodendron tulipifera</td>
<td>18</td>
</tr>
<tr>
<td>White walnut</td>
<td>Juglans cinerea</td>
<td>20</td>
</tr>
<tr>
<td>Wild cherry</td>
<td>Prunus spp.</td>
<td>18</td>
</tr>
</tbody>
</table>
SECTION 13 - TREE FUND

Section 13.1 Tree Fund

A Tree Fund is hereby created as the depository for all monies proposed to be paid by applicants in lieu of tree replacement or relocation, as provided in this Section. On site replacement and/or relocation shall be required for permitted activities. If lot coverage or site characteristics prohibit on-site mitigation, contribution to the (Community Name) Tree Fund may be permitted. In lieu of replacing regulated trees, the applicant has the option to contribute money to the (Community Name) Tree Fund. Payment to the Tree Fund per removed tree(s) shall be in accordance with replacement fee schedules as established by the (Community Name) Board.

Section 13.2 Tree Fund Administration

The (Community Name) Board/Council shall administer the Tree Fund with the objective of pursuing the planting of trees within the (Community Name). In the administration of the Tree Fund, the (Community Name) Board/Council shall, if reasonably feasible, attempt to purchase and install trees within a reasonable proximity of the development in connection with which funds have been paid to the Tree Fund.

Macomb County Communities with a Tree/Woodlands Ordinance

The following communities in Macomb County are considering or have adopted a tree/woodlands ordinance:

1) Shelby Township. Contact: Clerk, (586) 731-5100.

Additional Resources


2) U.S. Forest Service. www.fs.fed.us/.