

determined as provided in this ordinance. Required Setbacks shall be provided in accordance with the Schedule of Area, Height and Placement regulations in this ordinance, with the exception that if the distance between the Front Lot Line and the Public Right-of-Way or private street is more than the Required Front Setback for the zoning district in which the Lot is located, no Required Front Setback Area shall be required.

4. For Lots zoned solely for Single-Family Dwelling use:

A permanent recorded unobstructed access and utility easement that is a minimum of 30 feet in width may serve as the only means of access to a Public Right-of-Way or private street for a maximum of two Lots or parcels subject to the following:

- a. Driveways within the easement shall meet all applicable ordinances, including but not limited to Section 5.19 .
- b. The easement shall include provisions for the maintenance of the Driveway and any other improvements and utilities.
- c. For Lots where the easement is the only means of access, either the Lot Line most parallel with the Public Right-of-Way or private street, or most perpendicular with the Public Right-of-Way or private street, shall be designated by an Applicant as the Front Lot Line, and the minimum Required Front Setback Area shall be provided for the entire length of that Front Lot Line.

5.22 Storm Water Management and Soil Erosion

No Person shall conduct activity for which a permit under this Section 5.22 or related Section 5.29.3 is required without first having obtained the required permit. After the permit has been obtained, no Person shall conduct any activity in violation of any condition of that permit, or without having the permit and plans on Site. Throughout this Section, the Washtenaw County Water Resources Commissioner, and the Commissioner's office, are referred to as "WCWRC".

5.22.1 Purpose

- A. The City Council recognizes and is concerned that excessive quantities of soil are eroding from certain areas that are undergoing Development for non-agricultural uses such as housing developments, industrial areas, recreational uses, and roads. This Erosion makes necessary costly repairs to gullies, washed out Fills, roads, and embankments. The resulting Sediment clogs storm sewers and road ditches, muddies Watercourses and silts-in lakes and reservoirs, and is considered a major water pollutant, which degrades the natural environment within its jurisdiction and is costly to remedy.
- B. Water quality and quantity within the water resources of the City is a public concern. As the City is developed, natural vegetation is removed and replaced with Impervious Surfaces. As a result the hydrology of Watercourses, ponds and Wetlands is changed. These changes in quantity, speed, and timing of water runoff transform Ann Arbor's Watercourses. As the volume and speed of water increases, so does the erosive action of runoff on hillsides, stream banks and

bottoms. As more soils are transported down waterways and as more damage occurs to stream banks and bottoms, natural systems are destroyed or diminished throughout the watershed. Urban activity also contaminates the land's surface. Contaminants are carried with runoff into all aquatic habitats, where they poison wildlife and contribute to the decline of aquatic resources. For people, the combination of these effects diminishes the quality of drinking water, inhibits healthy fisheries, reduces recreation and lessens scenic beauty. The City recognizes the relationship between land use and water quality; and by doing so, desires to control non-point source water pollution. Strategies to control storm water quantity are different from the strategies to improve water quality. This section intends to improve the effectiveness of Storm Water Management Systems, bring greater effort to control the sources of runoff, and to improve water quality.

- C. The purpose of this Section 5.22 is to control soil Erosion and the resulting Sediment; and to control the impact on water quality and quantity resulting from Development and Impervious Surfaces within the City by requiring proper provisions for water disposal and the protection of soil surfaces during and after construction, in order to promote the safety, public health, convenience and general welfare of the community. Compliance with Part 91 of Act No. 451 of the Public Acts of 1994, as amended, (MCL 324.9101 to 324.9123) and the rules promulgated under this part of the Michigan Compiled Laws, is fully intended.

5.22.2 Single or Two-Family Residential Storm Water Management

A Site with one Single or Two-Family residential dwelling, with or without Accessory Structure(s), that adds 200 square feet or more of Impervious Surface, on-site Storm Water Management Systems shall be required and shall meet the following requirements:

- A. Retention/infiltration of the first flush storm events for the net increase in Impervious Surface, in compliance with the Rules of the WCWRC.
- B. Redirection of all downspouts to vegetated areas or other approved point, but not to Impervious Surfaces, as is required by the "Drainage Nuisances and Complaints" Section of Chapter 100 of City Code.
- C. On-site storm water control is not required for new homes in a site planned Development for which a development-wide system that complies with the storm water management requirements of this chapter has been installed and accepted.

5.22.3 Storm Water Management Systems

Compliance with the Storm Water Management System criteria of this Section 5.22 is required for any form of construction or removal or disturbance of any Natural Features that requires approval for any site plan, final preliminary plat, or PUD site plan, but is not required for issuance of Grading Permits that do not require site plan, final preliminary plat, or PUD site plan approval.

Site plans for administrative approval that do not increase the total impervious area of the Site and are not within the jurisdiction of the WCWRC shall be exempt from the Storm Water Management System requirements of this Section 5.22 .

- A. For Sites within the jurisdiction of the WCWRC; or Sites with Storm Water Management Systems under multiple ownership or for multiple parcels, including but not limited to site condominiums; or residential developments containing greater than four Dwelling Units within two or more detached Structures; or Sites with Storm Water Management Systems serving more than one parcel; the Storm Water Management System shall be reviewed and receive preliminary plan approval from the WCWRC prior to site plan, final preliminary plat, or PUD site plan approval by the City. For Sites that require review by the WCWRC, a permit or letter of final plan approval from the WCWRC Office shall be obtained prior to issuance of a Grading Permit by the City. Any exceptions to the Rules of the WCWRC listed in this Section 5.22 are not applicable to reviews performed by the WCWRC.
- B. For Sites other than described in Section 5.22.3A that contain or are proposed to contain more than 5,000 square feet of Impervious Surface, on-site Storm Water Management Systems shall be required for any Site that is the subject of a site plan, final preliminary plat, or PUD site plan. The Storm Water Management System shall be reviewed and receive approval from the PSA Administrator and meet the design criteria stated in the Rules of the WCWRC, with the following exceptions:
 1. For Sites that contain existing Impervious Surfaces, adding or removing and replacing Impervious Surfaces solely for the purpose of compliance with the Americans with Disabilities Act, or compliance with the State of Michigan Barrier Free Design Rules (Public Act 1 of 1966, as amended) shall be exempt from the Storm Water Management System requirements of this chapter.
 2. Sites proposed to contain:
 - a. Impervious Surfaces greater than 5,000 square feet and less than 10,000 square feet require retention/infiltration only of the first flush storm events.
 - b. Impervious Surfaces equal to or greater than 10,000 square feet and less than 15,000 square feet require retention/infiltration only of the first flush and detention only of bankfull storm events.
 - c. Impervious Surfaces equal to or greater than 15,000 square feet require retention/infiltration of the first flush, and detention of bankfull, and 100-year storm event. Detention facilities designed for the 100-year storm event shall include a Sediment forebay.
 3. Public Sidewalks are not required to be included in the storm water management calculations.
 4. If the Site is located in an historic district designated by the City, then the Roof area of the historic Building(s) is not required to be included in

the storm water management calculations. This exemption does not apply to noncontributing Structures within the historic district.

- C. Within the D1 and D2 zoning districts, or Sites outside the D1 and D2 zoning districts that contain existing Impervious Surfaces, alternative methods of storm water detention may be allowed by the approving body if each of the following conditions are met:
1. Control of the first flush storm event has been provided.
 2. A determination is provided by an Architect or Professional Engineer that Storm Water Management Systems have been provided on-site to the maximum extent feasible and that it is not feasible to provide any additional detention volume due to Site constraints including but not limited to existing Buildings, loss of existing parking below that required Section 5.19 or protection of Natural Features.
 3. The alternative method of storm water detention is consistent with the intent of this Section 5.22 and the goals of the Rules of the WCWRC, as determined by the City Planning Manager.
 4. The alternative method of storm water detention is specifically approved on a site plan, final preliminary plat, or PUD site plan in a separate motion by the approving body. Where staff is the approving body, the alternative method of storm water detention shall be approved by the Planning Commission.
 5. The alternative method of storm water detention provides an equal or greater amount of resources, in the form of money or land or both, to the City that are at least as beneficial as the required volume of storm water detention that is not being provided on-site. The resources required shall be computed for residential sites at \$2.00 per square foot and commercial sites at \$2.50 per square foot of Impervious Surface not served by a detention facility meeting the design criteria of this section.
 6. The alternative method of storm water detention is provided through one or both of the following methods:
 - a. The Applicant donates money to the City for the express purpose of improving Storm Water Management Systems within the same watershed such as, but not limited to, regional detention, regional water quality improvements facilities, or increasing floodplain storage capacity. The money may not be used for maintenance of existing public facilities.
 - b. The Applicant donates land to the City for the express purpose of improving Storm Water Management Systems within the same watershed. The donation of land is subject to acceptance by City Council. The donated land shall be suitable to be effectively used for improvements of the storm water system within the same watershed and pass Phase I and II Environmental Site Assessments prior to acceptance by City Council. The value of the land shall be determined by an appraisal prepared by an

independent appraiser acceptable to the City Administrator. The appraisal will be submitted to the City Administrator who may use an independent review appraiser to assist with review.

- D. On a Site that requires the installation of a Storm Water Management System the detention facility shall be installed and stabilized prior to the issuance of building permits. The PSA Administrator may deem it necessary to modify the timing of installation of the detention facility when conditions, such as a detention facility that is integral to the Structure of a new Building, prevent installation prior to building permits. As-built verification from an Architect or Professional Engineer shall be submitted to the Planning Manager for approval prior to issuance of any certificate of occupancy. The as-built verification shall include: elevations and volumes, outlet sizes and elevations, Stabilization information, and signature and seal of an Architect or Professional Engineer. A sample form may be provided by the Planning Manager upon request.
- E. Existing Wetlands shall not be modified for the purposes of Storm Water Management Systems unless it is determined that the existing Wetland is not regulated by Sections 5.23 and 5.29.4. Where modifications to Wetland areas are allowed, the existing storage shall be maintained and shall not count toward meeting the requirements of this section.
- F. When residential Lots or units are proposed to be created, the runoff coefficients shall take into account the future Impervious Surfaces of these building Sites within the storm water management calculations.
- G. Storm Water Management System facilities shall be designed so that any discharge of storm water from the facility, which does not empty directly into a drain, shall be converted to sheet flow over the ground through the use of an energy dissipater, in a manner which will preclude Erosion, or other approved method as determined by the PSA Administrator.
- H. Prior to the issuance of a Grading Permit, the developer of the Storm Water Management System shall provide the City with an agreement, satisfactory to the City Attorney, that if maintenance is not performed to the reasonable satisfaction of the City Planning Manager the City may, after posting reasonable notice on the Site, perform the maintenance activities and charge all costs to the benefited properties. If the costs remain unpaid for 60 days, the City may assess those costs to the benefited properties as a single Lot assessment under City Code Section 1:292.

5.22.4 Grading Operation Responsibility

Any Person engaged in Grading operations and/or the permittee shall be responsible for:

- A. Installing Temporary Soil Erosion and Sedimentation Control Measures before any Earth Change activity, and maintaining the measures on a daily basis.
- B. Preventing damage to any public utilities or the interruption of utility services within the limits of Grading and along any routes of travel of the equipment.
- C. Preventing damage to adjacent property. No Person shall Grade land so close to the Lot Line as to endanger any adjoining public, Sidewalk, Alley or any public

or private property without supporting and protecting such property from settling, cracking or other damage which might result.

- D. Carrying out the proposed work in accordance with the approved plans, and sequence of construction, and in compliance with all the requirements of the permit and this Section 5.22 .
- E. Immediately removing all soil, miscellaneous Debris or other material applied, dumped, tracked, or otherwise deposited on streets, Highways, Sidewalks, Storm Water Management Systems, or public thoroughfares during transit to and from the construction, when such spillage constitutes a public nuisance or Hazard. The construction of a Haul Road or other approved vehicle cleaning method may be required by the City Planning Manager to prevent the spread of Debris.
- F. Designing, constructing, and completing Earth Changes in such a manner which shall limit the exposed area of any disturbed land for the shortest possible period of time, within the approved construction sequence.
- G. Designing, installing and maintaining soil Erosion and Sedimentation Control Measures to remove Sediment caused by Accelerated Soil Erosion from runoff water before it leaves the Site of the Earth Change.
- H. Designing and constructing temporary or permanent measures for the conveyance of water around, through or from the Earth Change area to limit the water flow to a Non-Erosive Velocity.
- I. Grading and stabilizing Earth Change areas with Permanent Soil Erosion and Sedimentation Control Measures, and removing Temporary Soil Erosion and Sedimentation Control Measures.
- J. Installing Permanent Soil Erosion and Sedimentation Control Measures for all slopes, channels, ditches or any disturbed land area within five calendar days after final Grading or the final Earth Change has been completed. All Temporary Soil Erosion and Sedimentation Control Measures shall be maintained until Permanent Soil Erosion and Sedimentation Control Measures are implemented and the disturbed land areas are stabilized and approved.
- K. Making the approved plans and permit available for inspection at all times at the Site of the Earth Change.
- L. Conducting Earth Changes in such a manner that will effectively reduce Accelerated Soil Erosion and resulting sedimentation.

5.22.5 Maintenance Standards

Persons carrying out soil Erosion and Sediment control measures under this chapter, and all subsequent owners of property upon which such measures have been taken, shall maintain all permanent anti-Erosion devices, retaining walls, Structures, plantings and other protective devices.

5.22.6 Liability

Neither the issuance of permits, under the provisions of this chapter, nor the compliance with the provisions of this chapter, or with any condition imposed by the Planning Manager under

this chapter, shall relieve any Person from the responsibility for damage to any Persons or property otherwise imposed by law, nor impose any liability upon the City for damages to Persons or property.

5.23 Natural Features

5.23.1 Purpose and Intent

It is the intent of this section to establish how Natural Features shall be identified, evaluated, protected, and mitigated, and to require minimum buffers adjacent to Natural Features, as defined herein, and to regulate property within such buffer in order to prevent physical harm, impairment or destruction of or to a Natural Feature. It has been determined that, in the absence of such minimum buffers, intrusions in or on to 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 City's general police power, for the protection of the public health, safety and welfare, including the authority granted in the City and Village Zoning Enabling Act (Act 207, Public Acts of 1921, as amended) and the Michigan Zoning Enabling Act (Act 110 of 2006, as amended).

5.23.2 Protected Natural Features

Seven Natural Features are protected and regulated in the City: Endangered Species Habitats, Floodplains, Woodlands, Landmark Trees, Steep Slopes, Watercourses and Wetlands. Each protected, regulated Natural Feature is discussed in substantial detail particularly with respect to:

- A. A summary of key facets including a perspective on the importance of the Natural Feature to the people of the City.
- B. Means to identify, differentiate and evaluate the Natural Feature.
- C. The general Natural Feature protection priorities of the City, and some perspective on how to measure each Natural Feature's relative importance to others in the City or on the Site.
- D. Measures for protecting Natural Features during construction.
- E. Guidelines and requirements for mitigating important Natural Features which cannot be excluded from Development.

5.23.3 Endangered Species Habitats

Endangered species are most likely to be found in the midst of natural areas described in this section as "highest concern." When a rare, threatened or endangered species is found, careful assessment should be made of the species and the area in which it is found. These organisms and their habitat may be intolerant of change caused by a Development, such as change in hydrological conditions, even if the habitat itself is outside the Limits of Soil Disturbance for a project. These species and their habitats are important to the City for the richness and diversity of species they offer.

A. Identification

Within Ann Arbor, the areas most likely to contain endangered species are sandy, wet bottom lands and Wetlands along the Huron River, along its tributaries, and in the