

ORDINANCE NO. ORD-10-36

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STORM WATER MANAGEMENT AND SOIL  
EROSION AND SEDIMENTATION CONTROL

AN ORDINANCE TO AMEND SECTION 5:652, TO ADD A NEW SECTION 2:653, TO RENUMBER SECTIONS 6:653 THROUGH 5:671 AS SECTIONS 6:654 THROUGH 5:672 AND TO AMEND RENUMBERED SECTIONS 5:654, 5:655, 5:660, 5:663, 5:664, 5:667, 5:668 AND 5:671 OF CHAPTER 63, TITLE V OF THE CODE OF THE CITY OF ANN ARBOR (Storm Water Management and Soil Erosion and Sedimentation Control)

The City of Ann Arbor ordains:

Section 1. That Section 5:652 of Chapter 63 of Title V of the Code of the City of Ann Arbor be amended to read as follows:

**5:652. Definitions.**

In addition to the definitions below, the definitions from the following documents shall apply to this Chapter: (1) Part 91 of 1994 PA 451 (Michigan Compiled Laws) as amended; (2) Ann Arbor City Code Chapter 57 (Subdivision and Land Use Control); (3) Rules of the Washtenaw County [Drain-Water Resources](#) Commissioner; (4) Ann Arbor City Code Chapter 60 (Wetland Preservation); (5) Ann Arbor City Code Chapter 103 (Historical Preservation). In the case of a conflict among the definitions in the documents listed above, the document listed first shall prevail over any conflicting definition of a document listed later.

- (1) *Accelerated soil erosion.* The increased loss of the land surface that occurs as a result of human activities.
- (2) *Architect.* A person licensed by the State of Michigan to engage in the practice of architecture or landscape architecture, as defined by Act 299 of the Public Acts of 1980 (as amended), being Section 2001 or 2201 of the Michigan Compiled Laws of 1979.
- (3) *Canopy.* The area within the outermost spreading vegetative layer of any woody plant(s) delineated by the critical root zone.
- (4) *Certification.* A signed, written statement by the code official that specific constructions, inspections or tests, where required, have been performed

and that such comply with the applicable requirements of this Chapter or regulations adopted pursuant thereto.

- (5) *Clearing.* The severing of woody plants (herein defined) above ground level, leaving root system and stumps intact.
- (6) *Code official.* For the purposes of Chapter 63, the planning and development services manager, or his/her designated representative.
- (7) *Debris.* A term applied to loose refuse or earth material not suitable for use as presently situated or constituted, as determined by the code official.
- (8) *Earth change.* Any excavation or cut, fill or grading as herein defined.
- (9) *Erosion.* The process by which the ground surface is worn and carried away by the action of wind, water, gravity or a combination thereof.
- (10) *Excavation or cut.* Any act, by which soil or rock is cut into, dug, quarried, uncovered, removed, displaced or relocated, and shall include the conditions resulting therefrom.
- (11) *Fill.* A deposit of soil or rock placed or replaced by people or machine.
- (12) *Grade or grading.* Any stripping, excavating, filling, stockpiling or any combination thereof, and shall include the land in its excavated or filled condition.
- (13) *Grading permit.* A soil erosion and sedimentation control permit issued to authorize work to be performed under this Chapter. The City of Ann Arbor has been granted authority, by the State of Michigan, as a Municipal Enforcement Agency to issue soil erosion and sedimentation control permits under Part 91 of 1994 PA 451 (Michigan Compiled Laws) as amended.
- (14) *Grubbing.* To clear ground of roots and stumps by digging them up.
- (15) *Haul road.* An on-site roadway constructed to prevent the spread of debris onto the public right-of-way.
- (16) *Hazard.* Any danger to public health, welfare and safety including exposure to risk of damage to property or liability for personal injury; or risk of harm to land, air or water resulting in environmental degradation. Hazards can include flooding and ponding, compaction and settling, landslides, earthquakes, toxic chemicals, radiation, fire and disease.

- (17) *Impervious surfaces.* All paved or hard surfaced areas, such as areas covered by buildings and structures; roads and drives; parking lots; formed curb and gutters; vehicular use areas; brick or gravel surfaces; sidewalks; bike paths; patios; and any areas of concrete or asphalt or non-absorbent material.
- (18) *Non-erosive velocity.* A speed of water movement that is not conducive to the development of accelerated soil erosion.
- (19) *Permanent soil erosion and sedimentation control measures.* Control measures which are installed or constructed to control soil erosion and sedimentation and which are maintained after project completion.
- (20) *Professional engineer.* A person licensed by the State of Michigan to engage in the practice of professional engineering as defined by Act 299 of the Public Acts of 1980 (as amended), being Section 2001 of the Michigan Compiled Laws of 1979.
- (21) *Rules of the [WGDGWCWRC](#).* The Rules of the Washtenaw County [Drain Water Resources](#) Commissioner, Procedures and Design Criteria for Stormwater Management Systems, dated May 15, 2000.
- (22) *Sediment.* Any solid particulate matter, mineral or organic, that has been deposited in water, is in suspension in water, is being transported, or has been moved from its site of origin by the process of soil erosion.
- (23) *Site.* Any lot or parcel of land or combination of contiguous lots or parcels of land where grading is performed or permitted.
- (24) *Soil erosion control measure.* A facility or measure placed or constructed as necessary for the successful control or abatement of accelerated soil erosion.
- (25) *Stabilization.* The establishment of vegetation or the proper placement, grading, or covering of soil to insure its resistance to soil erosion, sliding or other earth movement.
- (26) *Stockpiling.* The depositing of earth materials or rock for temporary periods of time for the purpose of facilitating construction operations.
- (27) *Stripping.* Any activity which removes or significantly disturbs the vegetative surface cover, including clearing and grubbing operations.
- (28) *Storm water management system.* A system that is designed and constructed or implemented to control runoff, incorporating methods to collect, convey, store, absorb, inhibit, treat, use or reuse water to prevent

or reduce flooding, overland flow, environmental degradation, and water pollution or otherwise affect the quality and quantity of the discharges. The storm water management system includes but is not limited to, any of the following: conduits and appurtenance features, canals, channels, ditches, streams, culverts, streets, storm sewers, detention basins, infiltration devices, swales and pumping stations.

- (29) *Temporary soil erosion and sedimentation control measures.* Interim control measures which are installed or constructed to control soil erosion and sedimentation and which are not maintained after project completion.
- (30) *Woody plants.* Trees 2 inches or greater in diameter measured 4 feet above the existing grade, shrubs 2 inches or greater in diameter measured at the existing grade (ground level), or trees and shrubs 10 feet or greater in height.

Section 2. That Chapter 63 of Title V of the Code of the City of Ann Arbor be amended by adding a new Section 5:653 to read as follows:

**5:653. Single or Two-Family Residential Stormwater Management**

Effective ~~October 1, 2010~~ March 1, 2011, 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:

- (1) Retention/infiltration of the first flush storm events for the net increase in impervious surface, in compliance with the Rules of the WCWRC.
- (2) 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.

Exception: On-site stormwater control will not have to be provided for initial construction of new homes in a site planned development that complies with the stormwater management requirements of this chapter during the period of time that the site plan is effective (i.e. not expired).

Section 3. That Sections 5:653, 5:654, 5:659, 5:662, 5:663, 5:666, 5:667 and 5:670 of Chapter 63 of Title V of the Code of the City of Ann Arbor be renumbered as Sections 5:654, 5:655, 5:660, 5:663, 5:664, 5:667, 5:668 and 5:671 and be amended to read as follows:

**5:653654. Compliance with chapter required for site plan, final preliminary plat, or PUD site plan approval.**

No site plan, final preliminary plat, or PUD site plan shall be approved under Chapter 57 of this Code unless the site plan, final preliminary plat, or PUD site plan includes soil erosion, sediment control, and storm water management systems in compliance with the requirements of this chapter, related Land Development Regulations, and the Rules of the [WCDCWCWRC](#).

**5:654655. Storm water management systems.**

Compliance with the storm water management system criteria of this Chapter is required for any form of construction or removal or disturbance of any natural features that requires approval under Chapter 57 of this Code 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. Administrative amendments to approved site plans or administrative amendments to approved PUD site plans, as described in Chapter 57, that do not increase the total impervious area of the site and are not within the jurisdiction of the Washtenaw County [Drain-Water Resources](#) Commissioner shall be exempt from the storm water management system requirements of this Chapter.

- (1) For sites within the jurisdiction of the Washtenaw County [Drain-Water Resources](#) Commissioner; 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 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 Washtenaw County [Drain-Water Resources](#) Commissioner's Office prior to site plan, final preliminary plat, or PUD site plan approval by the city. For sites that require review by the Washtenaw County [Drain-Water Resources](#) Commissioner's Office, a permit or letter of final plan approval from the Washtenaw County [Drain-Water Resources](#) Commissioner's Office shall be obtained prior to issuance of a grading permit by the city code official. Any exceptions to the Rules of the [WCDCWCWRC](#) listed in this Chapter are not applicable to reviews performed by the Washtenaw County [Drain-Water Resources](#) Commissioner's Office.
- (2) For sites other than described in sub-section (1) 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 which 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 public services area administrator and meet the design

criteria stated in the Rules of the [WCDGWCWRC](#), with the following exceptions:

- (a) 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.
  - (b) Sites proposed to contain:
    - (i) Impervious surfaces greater than 5,000 square feet and less than 10,000 square feet require ~~detention~~ [retention/infiltration](#) only of the first flush storm events.
    - (ii) Impervious surfaces equal to or greater than 10,000 square feet and less than 15,000 square feet require ~~detention~~ [retention/infiltration](#) only of the first flush and [detention only of](#) bankfull storm events.
    - (iii) Impervious surfaces equal to or greater than 15,000 square feet require ~~detention~~ [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.
  - (c) Public sidewalks are not required to be included in the storm water management calculations.
  - (d) If the site is located in an historic district designated by the City of Ann Arbor, 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.
- (3) Within the Downtown Development Authority District (DDA), or sites outside the DDA which 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:
- (a) Control of the first flush storm event has been provided.
  - (b) 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 such as, but not limited to, existing buildings, loss of existing parking below that required by Chapter 59, or protection of natural features.

- (c) The alternative method of storm water detention is consistent with the intent of this Chapter and the goals of the Rules of the [WCDGWCWRC](#), as determined by the code official.
- (d) 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.
- (e) 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.
- (f) The alternative method of storm water detention is provided through one or both of the following methods:
  - (i) It 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.
  - (ii) It 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 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. The appraisal will be submitted to the city assessor or an independent review appraiser for review and approval.

- (4) 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 public services area 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 code official 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 code official upon request.
- (5) 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 Chapter 60 of the City code. Where modifications to wetland areas are allowed, the existing storage shall be maintained and shall not count toward meeting the requirements of this section.
- (6) 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.
- (7) Storm water management 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 public services area administrator.
- (8) 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 code official 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 sixty (60) days, the city may assess those costs to the benefited properties as a single lot assessment under City Code section 1:292.

**5:659660. Review standards for the issuance of grading permits.**

- (1) All grading plans and specifications, including extensions of previously approved plans, shall include provisions for soil erosion and sedimentation control, and storm water management. The soil erosion and sedimentation controls and storm water management systems shall be designed to the criteria in this chapter to the satisfaction of the Code Official. The following



applicable resources may also be utilized by the Code Official as the standards and specifications for this chapter: the most recent versions of the [Low Impact Development Manual for Michigan](#), Michigan Department of Environmental Quality--Guidebook of Best Management Practices for Michigan Watersheds, the City of Ann Arbor Public Services Department Standard Specifications Manual, the Standards and Specifications of the Natural Resources and Conservation Service, Standard Specifications for Construction of the Michigan Department of Transportation; and the Rules of the [WCDGWCWRC](#), and the Oakland County Soil Erosion [and Sedimentation](#) Control Manual ~~dated January 1, 1990~~.

- (2) Grading permits shall be issued provided that the Code Official determines that all of the following standards are met:
- (a) The proposed grading will not cause hazard to public safety and/or welfare; and,
  - (b) The work, as proposed by the applicant, will not damage adjacent public or private property, or alter any existing drainage in such a manner as to damage adjacent or off-site property, or result in deposition of debris or sediment off-site, or result in deposition into any wetland, watercourse, storm water management system, or public right-of-way; and,
  - (c) The area for which grading is proposed is not subject to erosion, settlement, slope instability or any other hazard which cannot be protected against during the permitted grading activities; and,
  - (d) The land area for which the clearing and/or grading is proposed does not lie within a designated 100-year floodplain or unmapped flood prone area of any lake, pond, or watercourse unless the proposed clearing and/or grading is consistent with the current Floodplain Management Resolution of the City of Ann Arbor or subsequently adopted Floodplain Management Ordinance and is determined to have no detrimental influence on the public welfare or upon the overall function of the watershed; and,
  - (e) Disturbance to any natural feature is consistent with an approved site plan, final preliminary plat, or PUD site plan required by Chapter 57; and,
  - (f) A soil erosion and sedimentation control plan is provided which meets the provisions of this chapter.

#### **5:662663. Inspection review.**

The requirements of this Chapter shall be enforced by the planning and development services unit of the community services area. The Soil Erosion and Sedimentation Control Plan shall be reviewed and approved by the code official. The code official shall approve, disapprove or require modification of an application for a grading permit within 30 calendar days following receipt of the application. The code official shall inspect the work and shall require adequate inspection of compaction by a professional engineer or by a soil testing agency approved by the code official, unless

the code official determines that such inspection requirements may be waived due to the non-hazardous nature of the grading. If the code official finds any existing conditions not as stated in any application, grading permit or approved plan, the code official may refuse to approve further work until approval of a revised grading plan which will conform to the existing conditions or take actions in accordance with the section [5:670671](#).

**5:663664. Grading Operation Responsibility of permittee.**

Any person engaged in ~~During~~ grading operations and/or the permittee shall be responsible for:

- (1) Installing temporary soil erosion and sedimentation control measures before any earth change activity, and maintaining the measures on a daily basis.
- (2) 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.
- (3) Preventing damage to adjacent property; no person shall grade on land so close to the property line as to endanger any adjoining public street, sidewalk, alley or any public or private property without supporting and protecting such property from settling, cracking or other damage which might result.
- (4) 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 chapter.
- (5) 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 Code Official to prevent the spread of debris.
- (6) 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.
- (7) 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.
- (8) 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.
- (9) Grading and stabilizing earth change areas with permanent soil erosion and sedimentation control measures, and removing temporary soil erosion and sedimentation control measures.

- (10) Installing permanent soil erosion and sedimentation control measures for all slopes, channels, ditches or any disturbed land area within 5 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.
- (11) Making the approved plans and permit available for inspection at all times at the site of the earth change.
- (12) Conducting earth changes in such a manner that will effectively reduce accelerated soil erosion and resulting sedimentation.

**5:666667. Compliance with chapter required for occupancy.**

No certificate of occupancy for any building will be issued under Chapter [98-100](#) of this Code unless the applicant for the certificate shall have complied with the requirements of this chapter and related land development regulations, stabilized all disturbed soils, and completed any soil erosion and sedimentation control measures and storm water management systems contained in any site plan, final preliminary plat, or PUD site plan approved for the applicant.

**5:667668. Variances.**

The Zoning Board of Appeals shall have the authority to interpret this chapter and may in specific cases grant variances to these requirements providing such variance is in harmony with the general purpose and intent of the requirements. The procedural requirements for appeals under Chapter 55 shall be applicable to appeals under this chapter. In addition to the procedures of Chapter 55, when variances are requested from the storm water management system section of this chapter, the applicant shall show that storm water management systems have been provided to the maximum extent feasible with the goals of meeting the rules of the [WCDC/WCWR](#).

**5:670671. Enforcement, violations and penalties.**

- (1) Whenever the performance of any act is required or prohibited by the provisions of this chapter, a failure to comply with such provisions shall constitute a violation of this chapter. The Code Official may issue a stop work order on the remaining portion of construction or may refuse the issuance of building permits or certificates of occupancy. The Code Official may also cause such work, as necessary for compliance with this chapter, to be performed and the expense of work performed shall become a debt to the City from the landowner and may be collected as a single lot assessment under Section 1:292 of the City Code, or in any other manner in which an indebtedness due the City may be collected.

Additional enforcement provisions are included in Chapter ~~98-100~~ of this Code and the Michigan Building Construction Code ~~and Michigan Residential Code~~.

- (2) No person shall conduct activity for which a permit under this chapter is required without first having obtained the required permit.
- (3) No person shall conduct activity for which a permit under this chapter is required without having the permit and plans on site.
- (4) No person shall conduct activity for which a permit under this chapter is required in violation of any condition of the permit governing the activity.
- (5) Except as set forth in subsection (6) and (7) below, a violation of this chapter is a municipal civil infraction subject to a civil fine of no more than \$2,500.00 plus costs plus equitable relief as may be ordered by the court, including but not necessarily limited to ordering the person to restore the area or areas affected by the violation to their condition as existing immediately prior to the violation. Each day and each violation is a separate violation.
- (6) A person who knowingly violates this chapter or knowingly makes a false statement in an application for a permit or in a soil erosion and sedimentation control plan is responsible for a civil infraction and is subject to the payment of a civil fine of not more than \$10,000.00 for each day of violation, plus costs plus equitable relief as may be ordered by the court, including but not necessarily limited to ordering the person to restore the area or areas affected by the violation to their condition as existing immediately prior to the violation.
- (7) A person who knowingly violates this chapter after receiving a notice of the violation is responsible for a civil infraction and is subject to the payment of a civil fine of not less than \$2,500.00 or more than \$25,000.00 for each day of violation, plus costs plus equitable relief as may be ordered by the court, including but not necessarily limited to ordering the person to restore the area or areas affected by the violation to their condition as existing immediately prior to the violation.

Section 4. That Sections 5:655, 5:656, 5:657, 5:658, 5:660, 5:661, 5:664, 5:665, 5:668, 5:669 and 5:671 of Chapter 63 of Title V of the Code of the City of Ann Arbor be renumbered as Sections 5:656, 5:657, 5:658, 5:659, 5:661, 5:662, 5:665, 5:666, 5:669, 5:670 and 5:672 as follows:

**5:655656. Scope of application and grading permit requirements.**

- (1) Except as exempted by this chapter, no person shall do any clearing which results in any disturbance of natural features or in a cumulative total loss of more than 10,000 square feet of canopy per calendar year, or any grading, stripping, excavating or filling, unless the person has a valid grading permit issued by the Code Official.
  - (a) Permits issued pursuant to this chapter do not relieve the owner of responsibility for securing required permits for work to be done which is regulated by any other applicable code, ordinance, or agency.
  - (b) Any permit issued shall become invalid if (a) the authorized work is not commenced within 6 months of the date issued, or (b) the authorized work is suspended or abandoned for a period of 6 months after termination of substantial operations as determined by the Code Official.
- (2) A grading permit shall not be issued prior to site plan, final preliminary plat, or PUD site plan approval, when such approval is required by Chapter 57.
- (3) A grading permit shall be applied for and issued prior to a building permit.
- (4) All public and private development shall comply with this chapter, except as exempted by the permit exceptions section of this chapter.
- (5) A grading permit is required prior to an earth change except as provided hereinafter.

**5:656657. Grading permit exceptions.**

Permit exceptions shall not be construed as exemptions from enforcement procedures, if excepted activities cause or result in a violation of this chapter. Notwithstanding any other provisions of this chapter, a grading permit will not be required under the following conditions if there will be no disturbance to natural features:

- (1) An earth change of a minor nature, such as an emergency utility repair, that is stabilized within 24 hours of the initial earth disturbance, and that will not contribute sediment to lakes, watercourses, or storm water management systems.
- (2) Earth change activities that disturb less than 225 square feet in an isolated, self-contained area provided that the Code Official determines that by reason of such isolation and self-containment, the earth change

will not contribute sediment to lakes, watercourses, or storm water management systems, and no danger or nuisance to private or public property will result from associated soil erosion and sediment. To assist the Code Official in making this determination, it may be necessary for plans and/or a signed affidavit from the land owner to be submitted.

- (3) City of Ann Arbor public projects or installations which involve less than 1 acre of earth disturbance and are located more than 500 feet from the water's edge of a lake, wetland or watercourse, as determined by the Code Official.
  - (i) All construction plans for City of Ann Arbor public projects shall include the information required by the application data required section of this chapter, regardless of the necessity for a grading permit.
  - (ii) City of Ann Arbor public projects are subject to the standards, responsibilities, and enforcement listed in this chapter, regardless of the necessity for a grading permit.

**5:657658. Grading permit application.**

An application shall be submitted to the code official by the landowner or designated agent. A separate application shall be required for each grading permit. Plans, which include application data required by this Chapter, shall be submitted to the planning and development services unit of the community services area with each application for a grading permit in accordance with the minimum design standards specified in this Chapter. The soil erosion and sedimentation control plans shall be designed to effectively reduce accelerated soil erosion and sedimentation. The plans shall be prepared, signed and sealed by a professional engineer or by an architect. The code official may waive the preparation or signature and seal by the professional engineer or architect when the work entails little hazard to the adjacent property, does not disturb any natural features, does not include the construction of a fill upon which a structure may be erected, or is for construction of or addition to one single or two-family dwelling or accessory structure on a parcel zoned solely for residential purposes.

**5:658659. Application data required.**

The plans and specifications accompanying the site plan, final preliminary plat, PUD site plan, or grading permit application shall contain the following data:

- (1) Name, address and telephone number of the owner, developer, and petitioner.
- (2) A vicinity sketch at the scale of not more than 1" = 200', or as otherwise determined by the code official, indicating the site location as well as the

adjacent properties within 500 feet of the site boundaries, showing relationship to any watercourse.

- (3) A legal description or boundary line survey of the site on which the work is to be performed.
- (4) A soil investigation report, survey or profile which shall include but not be limited to data regarding the nature, soil type, distribution, erodibility, and supporting ability of existing soils or rock on the site in accordance with United States Department of Agriculture soil survey standards.
- (5) A plan of the site at a maximum scale of 1" = 50' or as otherwise determined by the code official, showing:
  - (a) Existing and proposed topography at a maximum of two (2) foot contour intervals, elevations or similar slope descriptions, extending at least fifty (50) feet beyond the site boundary lines.
  - (b) Location and description of any structure or natural feature on the site, and on the land adjacent to the site, extending at least fifty (50) feet beyond the site boundary lines.
  - (c) Location and description of any proposed structures or development on the site, including the physical limits of each proposed earth change and all proposed temporary and permanent soil erosion and sedimentation control measures.
- (6) Plans, section and construction-quality details of all soil erosion and sedimentation control measures, existing and proposed on-site drainage and dewatering facilities, retaining walls, cribbing, planting, anti-erosion devices or other protective devices to be constructed in connection with, or as part of, the proposed work.
- (7) The estimated total cost of the required controls during construction, including dust emission control.
- (8) The estimated total cost of protecting all exposed soil surfaces from erosion should construction discontinue.
- (9) An estimate of the quantity of excavation and fill involved.
- (10) The amount of impervious area existing and proposed. Additionally, identify the square footage of impervious area reconfigured to accommodate new improvements. If a storm water management system is required, computations and design of the storm water management systems, including, but not limited to:



- (a) Calculations used to derive the runoff coefficient(s),
  - (b) A map showing the drainage area and land tributary to the site and estimated runoff of the area served by any drain,
  - (c) Required storage volume calculations, including first flush, bankfull, and 100-year storm events,
  - (d) Calculations for the provided/proposed storage facility,
  - (e) Required and proposed release rate calculations,
  - (f) A plan for the continued maintenance of the permanent storm water management system,
  - (g) Any other pertinent calculations, as determined necessary by the public services area administrator.
  - (h) If utilizing an alternative method of storm water detention, provide a written description of the alternative method of storm water detention and a written explanation as to why the proposed alternative conforms to the criteria of the "Storm Water Management Systems" section of this Chapter.
- (11) A timing and construction sequence of each proposed earth change. The sequence of construction for the site shall include installation of temporary and permanent soil erosion and sediment control measures, stripping and clearing, rough grading, installation and stabilization of storm water management systems, construction of utilities, roads, infrastructure, and buildings, final grading and landscaping, and removal of temporary soil erosion and sediment control measures. The sequence of construction shall identify all proposed phasing consistent with the approved site plan, final preliminary plat, or PUD site plan. A sample sequence of construction may be provided by the code official upon request.
- (12) A program proposal for the continued maintenance of all permanent soil erosion and sedimentation control measures that remain after project completion, including the designation of the person or party responsible for the maintenance. Maintenance responsibilities shall become a part of any sales or exchange agreement for the land on which the permanent soil erosion and sedimentation control measures are located.
- (13) Other information or data as may be required by the code official, such as a soil erosion impact statement to include:

- (a) Consideration of alternative actions with evaluation of each,
  - (b) A description of probable adverse environmental effects that cannot be avoided,
  - (c) Identification of any negative impact to natural features, including woody plants, and
  - (d) An analysis of primary and secondary consequences of short-term uses of the environment in relation to the maintenance and enhancement of long-term productivity. Remedial, protective and mitigative measures are to be developed for any environmentally detrimental aspect.
- (14) If deemed necessary by the code official, a hydrological study may be required where the clearing, grading, or addition of impervious surface is proposed within a floodplain not regulated by the Michigan Department of Environmental Quality or unmapped flood prone areas of any lake, pond, watercourse, or wetlands. The study shall follow the format used by the Michigan Department of Environmental Quality for hydraulic reports, and shall demonstrate that the proposed activity complies with the review standards of this Chapter.

**5:660661. Fees.**

Fees shall be paid to the City of Ann Arbor in accordance with the following provisions:

- (1) The fee for a grading permit and inspections shall be established by resolution of the City Council upon the recommendation of the City Administrator. Inspection fees are to be paid prior to the issuance of a certificate of occupancy and release of the cash bond associated with the grading permit. Should construction activities begin prior to the issuance of a grading permit, the permittee is subject to double the plan checking and inspection fees, as determined by the Code Official.
- (2) A monthly inspection fee shall be assessed for land not stabilized or subject to accelerated soil erosion, except for the construction of or addition to one single or two-family dwelling or accessory structure on a parcel zoned solely for residential purposes.
- (3) An additional inspection fee shall be assessed for each inspection following the issuance of a correction notice for corrections to be performed in less than one month.

- (4) Unpaid fees assessed in accordance with this chapter shall become a debt to the City from the land owner and may be collected as a single lot assessment under section 1:292 of the City Code, or collected from the cash bond for the project, or in any other manner in which an indebtedness due the City may be collected.

**5:~~664~~662. Bond requirement.**

A grading permit shall not be issued unless the permittee shall first post, with the Code Official, a cash bond, except for the construction of or addition to one single or two-family dwelling or accessory structure on a parcel zoned solely for residential purpose. The cash bond shall be posted with the City of Ann Arbor in accordance with the following provisions:

- (1) The cash bond shall be in the amount of the estimated total cost of the work to protect all exposed soil surfaces from erosion should development discontinue and implement and maintain all other soil erosion and sedimentation controls authorized by the permit. The Code Official may waive all or part of the amount to the extent that the Official determines that the hazard or danger created by the work does not justify the full amount, or to the extent that other provisions for securing the improvements are made.
- (2) The total cost shall be estimated by the Code Official. The refund of cash bonds shall be made to the permittee on the basis of work completed, as determined by the Code Official.
- (3) Every cash deposit shall be made on the conditions that the permittee shall comply with all of the provisions of this chapter, with all of the terms and conditions of the grading permit to the satisfaction of the Code Official, and shall complete all of the work contemplated under the grading permit within the time limit specified in the grading permit.

**5:~~664~~665. Extension of time.**

If the permittee is unable to complete the work within the specified time, the permittee may, prior to the expiration of the permit, present in writing to the Code Official a request for an extension of time, setting forth the reasons for the requested extension. If, in the opinion of the Code Official, such an extension is warranted, the official may grant additional time for the completion of the work.

**5:~~665~~666. Modifications of approved plans.**

All modifications of the approved grading plans shall be submitted to and approved by the Code Official. All necessary reports shall be submitted with any

proposal to modify the approved grading plan. No grading work in connection with any proposed modification shall be permitted without the approval of the Code Official.

| **5:668669. Maintenance requirements.**

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.

| **5:669670. Failure to complete work.**

If the work is not completed or all the requirements, conditions and terms of the permit are not complied with, the Code Official may order such work as is necessary to eliminate any dangerous conditions and to leave the site in a safe condition, or the Code Official may order the work authorized by permit to be completed in a safe condition as determined by the Code Official. The permittee making the cash deposit shall continue to be firmly bound under a continuing obligation for the payment of all necessary costs and expenses that may be incurred or expended by the City in causing any and all such work to be done.

| **5:671672. Liability.**

Neither the issuance of permits, under the provisions of this chapter, nor the compliance with the provisions hereto, or with any condition imposed by the Code Official hereunder, 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 of Ann Arbor for damages to persons or property.

Section 5. That this ordinance shall take effect on the tenth day following legal publication.