

ORDINANCE NO. 2014-816
UPPER MERION TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

AN ORDINANCE AMENDING THE CODE OF UPPER MERION TOWNSHIP BY ADDING NEW CHAPTER 140A ENTITLED "STORMWATER, GRADING AND EROSION CONTROL - RESIDENTIAL," IN COMPLIANCE WITH FEDERAL AND STATE REGULATIONS REQUIRING THE ENACTMENT, IMPLEMENTATION, AND ENFORCEMENT OF A PROHIBITION OF NON-STORMWATER DISCHARGES TO THE TOWNSHIP'S REGULATED SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS.

WHEREAS, the Board of Supervisors has met the procedural requirements of the Second Class Township Code, 53 P.S. § 65101, et seq., for the adoption of the proposed Ordinance pertaining to Small Municipal Separate Storm Sewer Systems (MS4s); and

WHEREAS, the Second Class Township Code authorizes the Board of Supervisors to make and adopt Ordinances that are consistent with the Constitution and the laws of the Commonwealth that it deems necessary for the proper management and control of the Township and welfare of the Township and its citizens.

NOW, THEREFORE, BE IT ORDAINED AND ENACTED by the Board of Supervisors for Upper Merion Township, and it is hereby ordained and enacted, by the authority of the same, to wit:

SECTION 1. CODE AMENDMENT. The Upper Merion Township code is hereby amended to add a new chapter 140A entitled "*Stormwater, Grading and Erosion Control – Residential*" as follows:

ARTICLE I - GENERAL PROVISIONS

§140A-1. Authority

This chapter is enacted and ordained by the authority of the Pennsylvania Stormwater Management Act (167 of 1978); the Pennsylvania Clean Streams Act of 1937 (P.L. 1987, No. 394); Pennsylvania Title 25, Chapter 102; and the Pennsylvania Second Class Township Code, Article XXVII.

§ 140A-2. Statutory Authority

The municipality also is empowered to regulate land use activities that affect runoff by the authority of the Act of July 31, 1968, P.L. 805, No. 247, The Pennsylvania Municipalities Planning Code, as amended.

§ 140A-3. Statement of Findings

The governing body of the municipality finds that:

- A. Inadequate maintenance of stormwater facilities contributes to erosion and sedimentation, overtaxes the carrying capacity of streams and storm sewers, increases the cost of public facilities to carry and control stormwater, undermines flood plain management and flood control efforts in downstream communities, reduces groundwater recharge, threatens public health and safety, and increases pollution of water resources.
- B. Reasonable regulation of connections and discharges to municipal separate storm sewer systems is fundamental to the public health, safety, and welfare and the protection of people of the Commonwealth, their resources, and the environment.
- C. Stormwater is an important water resource, which provides groundwater recharge for water supplies and base flow of streams, which also protects and maintains surface water quality.
- D. Federal and state regulations require certain municipalities to obtain a permit for stormwater discharges from their separate storm sewer systems under the National Pollutant Discharge Elimination System (NPDES). Permittees are required to enact, implement, and enforce a prohibition of non-stormwater discharges to the permittee's regulated small municipal separate storm sewer systems (MS4s).

§ 140A-4. Purpose

The purpose of this Ordinance is to promote health, safety, and welfare within the municipality and its watershed by minimizing the harms and maximizing the benefits described in Section 140A-3 of this Ordinance, through provisions designed to:

- Establish minimum requirements and procedures to control the adverse impacts associated with increased stormwater runoff, erosion and sedimentation.
- B. Address flooding and erosion problems identified in all the watersheds in Upper Merion Township.
- C. Utilize, preserve and enhance the desirable existing natural drainage systems within the township.
- D. Improve quality of streams and watercourses in the township.
- E. Provide proper operation and maintenance of all stormwater management facilities and BMPs that are implemented within the municipality.
- F. Maintain groundwater recharge (where it will not adversely impact the geology of the area)

to prevent degradation of surface and groundwater quality and to otherwise protect water resources.

G. Provide standards to meet NPDES MS4 permit requirements.

H. Meet legal water quality requirements under state law, including regulations at 25 Pa. Code 93 to protect, maintain, reclaim, and restore the existing and designated uses of the waters of this Commonwealth.

I. Prevent scour and erosion of stream banks and streambeds.

§ 140A-5. Applicability

- A. This chapter shall apply to a Single Family Detached Dwelling, a Single Family semidetached dwelling, a Two Family detached dwelling, a Two Family Semidetached dwelling or 1 dwelling unit of a Row House. All other uses (including multifamily and multiplex dwellings) must comply with Chapter 140B. All subdivision and land developments must comply with Chapter 140B.
- B. Relationship with other restrictions. Permits and approvals issued pursuant to this chapter do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by another applicable code, rule, act or ordinance. If more stringent requirements concerning regulation of stormwater or erosion and sedimentation control are contained in the other code, rule, act or ordinance, the more stringent regulation shall apply.
- C. All activities related to proper operation and maintenance of approved stormwater management BMPs and/or all activities that may contribute non-stormwater discharges to a regulated small MS4 are subject to regulation by this Ordinance
- D. This chapter shall apply to new and/or relocated roof drains.

§ 140A-6. Repealer

Any other ordinance provision(s) or regulation of the municipality inconsistent with any of the provisions of this Ordinance is hereby repealed to the extent of the inconsistency only.

§ 140A-7. Severability

In the event that a court of competent jurisdiction declares any section or provision of this Ordinance invalid, such decision shall not affect the validity of any of the remaining provisions of this Ordinance.

§ 140A-8. Compatibility with Other Requirements

Actions taken under this Ordinance do not affect any responsibility, permit or approval for any activity regulated by any other code, law, regulation, or ordinance.

§ 140A-9. Erroneous Permit

Any permit or approval issued based on false, misleading or erroneous information provided by an applicant is void without the necessity of any proceedings for revocation. Any work undertaken or use established pursuant to such permit or other authorization is unlawful. No action may be taken by a board, agency or employee of the Township purporting to validate such a violation.

§ 140A-10. Definitions

The following words and phrases, when used in this chapter, shall have, unless the context clearly indicates otherwise, the meanings given to them in this section. All words and terms not defined herein shall be used with a meaning of standard usage.

For the purposes of this Ordinance, certain terms and words used herein shall be interpreted as follows:

- A. Words used in the present tense include the future tense; the singular number includes the plural, and the plural number includes the singular; words of masculine gender include feminine gender; and words of feminine gender include masculine gender.
- B. The word "includes" or "including" shall not limit the term to the specific example but is intended to extend its meaning to all other instances of like kind and character.
- C. The words "shall" and "must" are mandatory; the words "may" and "should" are permissive.

ALTERATIONS — As applied to land, a change in topography as a result of the moving of soil and/or rock from one location or position to another; also the changing of surface conditions by causing the surface to be more or less impervious; earth disturbance.

APPLICANT — A landowner or developer who has filed an application for a zoning permit or subdivision approval.

BEDROCK — The solid, undisturbed rock in place either at the ground surface or beneath surficial soil deposits.

BEST MANAGEMENT PRACTICE (BMP) — Activities, facilities, designs, measures, or procedures used to manage stormwater impacts from regulated activities, to meet state water quality requirements, to promote groundwater recharge, and to otherwise meet the purposes of this Ordinance. Stormwater BMPs are commonly grouped into one of two broad categories or measures: "structural" or "nonstructural." In this Ordinance, nonstructural BMPs or measures refer to operational and/or behavior-related practices that attempt to minimize the contact of pollutants with stormwater runoff whereas structural BMPs or measures are those that consist of a physical device or practice that is installed to capture and treat stormwater runoff. Structural BMPs include, but are not limited to, a wide variety of practices and devices, from large-scale retention ponds and constructed wetlands, to small-scale underground treatment systems, infiltration facilities, filter strips, low impact design, bioretention, wet ponds, permeable paving, grassed swales, riparian or forested buffers, sand filters, detention basins, and manufactured devices. Structural stormwater BMPs are permanent appurtenances to the project site.

BORROW PIT — An open pit from which soil is excavated as a single incident for use at a single construction site.

CONSERVATION DISTRICT — The Montgomery County Conservation District. A conservation district, as defined in Section 3(c) of the Conservation District Law (3 P. S. § 851(c)) that has the authority under a delegation agreement executed with DEP to administer and enforce all or a portion of the regulations promulgated under 25 Pa. Code 102

DEP — The Pennsylvania Department of Environmental Protection

DESIGN STORM — The magnitude of precipitation from a storm event against which stormwater management facilities shall be designed as protection; measured in probability of occurrence/frequency (e.g., ten-year storm) and duration (e.g. twenty-four-hour).

DETENTION BASIN — A structure formed from soil or other material which is designed to temporarily detain a certain amount of stormwater runoff from a designated watershed area.

DEVELOPMENT — Any man-made change to improved or unimproved real estate, including but not limited to land development; the construction of buildings or other structures; and the placement of mobile homes, streets and other paving, utilities, mining, dredging, filling, grading, excavation or drilling operations.

DEVELOPER — Any record owner of land or authorized agent of such landowner who files application to make or cause or makes or causes to be made a subdivision of land or a land development. Written evidence of authority to act for the record owner shall be filed with the application or plan when signed by a person other than the record owner.

EARTH DISTURBANCE — Changes in the contour of the land, grading, excavating, removal or destruction of the topsoil or removal of trees or other vegetative cover of the land.

EARTH DISTURBANCE ACTIVITY — A construction or other human activity which disturbs the surface of the land, including, but not limited to: clearing and grubbing; grading; excavations; embankments; road maintenance; building construction; and the moving, depositing, stockpiling, or storing of soil, rock, or earth materials. Earth disturbance activity is subject to regulation under 25 Pa. Code 92, 25 Pa. Code 102, or the Clean Streams Law

EARTH MOVING — Any act by which soil or bedrock is cut into, quarried, displaced or relocated.

EROSION — The removal of surface materials by the action of natural elements.

EXCAVATION — An act by which earth, sand, gravel, rock or any other material is removed, dug out, grubbed, hollowed out or moved from an existing location.

EXISTING GRADE — The vertical elevation of the ground surface prior to earth moving or filling.

FILL — Any act by which earth, sand, gravel, rock or any other material is deposited, placed, pushed, dumped, pulled, transported or moved to a new location and shall include the conditions resulting therefrom.

FINISHED GRADE — The final vertical elevation of the ground after development.

FLOODPLAIN — That area defined in Article XXXII of the Township Zoning Ordinance Editor's Note: See Ch. 165, Zoning, as the Floodplain Conservation District; the "floodplain" definition contained therein is made part of the chapter by reference.

GRADING — The changing of the grade of the existing ground surface of the site by excavation or filling or a combination of both.

GROUNDWATER RECHARGE — Replenishment of geologic structures and rock or soil interstices which have the capacity to store water.

IMPERVIOUS SURFACE — Material which is impenetrable to or unable to absorb water, including but not limited to buildings, structures and paved areas (driveways, parking lots, etc.).

INFILTRATION STRUCTURE — A structure designed to direct the flow of rain into storage in geologic structures, e.g., french drains, seepage pits.

LAND DEVELOPMENT — Any of the following activities:

- A. The improvement of one lot or two or more contiguous lots, tracts or parcels of land for any purpose involving:
 - (1) A group of two or more residential or nonresidential buildings, whether proposed initially or cumulatively, or a single nonresidential building on a lot or lots regardless of the number of occupants or tenure.
 - (2) The division or allocation of land or space, whether initially or cumulatively, between or among two or more existing or prospective occupants by means of or for the purpose of streets, common areas, leaseholds, condominiums, building groups or other features.
 - (3) The addition of any impervious or semipervious material to a nonresidential lot or residential lot, except a single-family detached residential lot.
- B. A subdivision of land.

MUNICIPALITIES PLANNING CODE — The Act of July 31, 1968, P.L. 805, No. 247, as amended (53 P.S. § 10101 et seq.).

MUNICIPALITY — The Township of Upper Merion, Montgomery County, Pennsylvania.

NATURAL GROUND SURFACE — The ground surface in its original state before any earth moving, filling, stripping or other development activity.

NON-STORMWATER DISCHARGE — any discharge that does not fall under the definition of "stormwater" including but not limited to sewage, processed wastewater, washwater, sump pump discharge, pool water, groundwater.

NPDES — National Pollutant Discharge and Elimination System.

NRCS — Natural Resource Conservation Service, United States Department of Agriculture, previously known as the "Soil Conservation Service (SCS)."

OPEN-PIT MINING — The continuing or recurring removal of material from below the

ground surface by open excavation.

PEAK DISCHARGE — The maximum rate at which stormwater discharges or leaves a site at a given point and time resulting from a specified storm event. Peak discharge shall be measured in cubic feet per second.

PERSON — Any individual, corporation, partnership, joint venture, agency, unincorporated association, municipal corporation, Commonwealth of Pennsylvania agency or any combination thereof.

RATIONAL METHOD — A method for computing quantities of stormwater runoff. The rational formula relates runoff to rainfall by the following: $Q = CIA$

Q = Peak runoff rate in cubic feet per second.

C = Runoff coefficient (assumed dimensionless), often taken as a fraction of rainfall that runs off.

I = Design rainfall intensity in inches per hour lasting for a critical time equal to the time of concentration.

A = Drainage area in acres.

REGULATED ACTIVITIES — Any activities that may affect stormwater runoff and any activities that may contribute non-stormwater discharges to a regulated small MS4.

RETENTION BASIN — A structure formed from soil or other material which is designed to retain permanently a certain amount of stormwater from a designated watershed area and which also may be designed to detain water from a designated watershed area. Retention basins also may receive fresh water from year-round streams. Unlike detention basins, retention basins always contain water and thus may be considered man-made lakes or ponds.

RUNOFF — The surface water discharge of a given watershed after a fall of rain or snow that does not enter the soil but runs off the surface of the land.

SEDIMENT — Solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by water.

SEDIMENTATION BASIN — A basin located and designed to retain rock, sand, gravel, silt or other water transported material. Sedimentation basins are intended to provide a control structure that prevents sediment pollution.

SEEPAGE BED — Any device which directs stormwater for infiltration into the ground.

SEMIIMPERVIOUS SURFACE — Material which is initially slightly penetrable by water when first constructed but which becomes impervious or mostly impervious over time.

SITE — A lot, tract or parcel of land or a series of lots, tracts or parcels of land joined together, where grading work is continuous and performed at the same time.

SOIL — All earth material of whatever origin that overlies bedrock.

SOIL-COVER COMPLEX METHOD — A mathematical method of runoff computation developed by the NRCS of the United States Department of Agriculture as published in the

1986 or latest edition of Urban Hydrology for Small Watersheds (Technical Release No. 55).

STABILIZATION — The proper placing, grading and/or covering of soil, rock or earth to ensure their resistance to erosion, sliding or other movement.

STATE WATER QUALITY REQUIREMENTS — The regulatory requirements to protect, maintain, reclaim, and restore water quality under Title 25 of the Pennsylvania Code and the Clean Streams Law.

STORM SEWER — A system of pipe or other conduits which carries intercepted surface runoff, street water or drainage, excluding domestic sewage and industrial wastes.

STORMWATER — The runoff from the surface of the land resulting from precipitation, snow or ice melt. This includes runoff from roofs and other impervious surfaces.

STORMWATER ACTIVITY — The construction of stormwater facilities to control stormwater.

STORMWATER MANAGEMENT — The set of actions taken to control water in its hydrological cycle with the objective of providing surface drainage and flood control, erosion and sedimentation control and achieving a reduction of pollutants in stormwater runoff.

STREAM — A natural body of water draining a watershed to a river. In Upper Merion, only bodies of water identified as streams on the most recent version of the United States Geological Survey (USGS) 7 1/2-Minute Quadrangles shall be considered streams.

STRIPPING — The removal of vegetation, including trees and/or topsoil. Stripping shall not include, or be deemed to include, the normal process of gardening or property maintenance.

SUBDIVISION — The division or redivision of a lot, tract or parcel of land by any means into two or more lots, tracts, parcels or other divisions of land, including changes in existing lot lines for the purpose, whether immediate or future, of lease, partition by the court for distribution to heirs or devisees, transfer of ownership or building or lot development; provided, however, that the subdivision by lease of land for agricultural purposes into parcels of more than 10 acres, not involving any new street or easement of access or any residential dwelling, shall be exempted.

UNDERGROUND STORMWATER STORAGE — The temporary storage of runoff in a buried structure.

USDA — United States Department of Agriculture.

WATERCOURSE — A permanent stream, intermittent stream, river, brook, creek or a channel or ditch for water, whether natural or man-made.

WATERSHED — The entire region or area drained by a river or other body of water, whether natural or artificial; a drainage basin or subbasin. For Upper Merion Township, watersheds are identified in the Township-Wide Stormwater Management Plan.

WATERS OF THIS COMMONWEALTH — Any and all rivers, streams, creeks, rivulets, impoundments, ditches, watercourses, storm sewers, lakes, dammed water, wetlands, ponds, springs, and all other bodies or channels of conveyance of surface and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of this Commonwealth.

WETLANDS — Those areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs and similar areas. The term includes, but is not limited to, wetland areas listed in the State Water Plan, the United States Fish and Wildlife Service Wetlands Inventory of Pennsylvania, the Pennsylvania Coastal Zone Management Plan and any wetland area designated by a river basin commission.

ARTICLE II - STORMWATER MANAGEMENT SYSTEMS

§140A-11. Applicability of Stormwater Regulations

Any development involving the construction of any new impervious or semipervious surfaces on a tract of land and all subdivisions and land developments shall provide stormwater management facilities when required by and in accordance with the requirements in this article. Stormwater management facilities consist of two parts: stormwater detention/storage facilities and stormwater conveyance facilities.

§ 140A-12. General Requirements for all Stormwater Facilities

- A. Stormwater flow may not be transferred from one watershed to another, concentrated and/or redirected unless any adverse effects of these procedures are mitigated to the satisfaction of and specifically approved by the Township Engineer.
- B. Stormwater flow that is concentrated and discharged shall be discharged in one of the following manners:
 - (1) The stormwater shall be discharged to an energy dissipater(s) and shall then flow directly into a stream on the subject property.
 - (2) The stormwater shall be conveyed and piped to an existing stormwater system on an abutting property, including public property that is capable of handling the flow, as determined by the Township Engineer.
 - (3) If the discharge options outlined above in Subsections B(1) and (2) are not feasible, the stormwater shall be discharged to an energy dissipater(s) and shall then flow through an abutting property which has granted a drainage easement for the flow.
- C. Stormwater facilities, especially detention basins, shall be designed to utilize the natural contours of the land. When such design is impracticable, the construction of the facilities shall utilize slopes as flat as possible to blend the structure into the terrain.
- D. All stormwater facilities shall be landscaped in accordance with the landscaping standards in the township's Subdivision of Land Ordinance, Editor's Note: See Ch. 145, Subdivision of Land, taking into account the function of the stormwater management facility.
- E. The design of stormwater facilities must facilitate regular maintenance, mowing, desilting and reseedling.

- F. A deed restriction prohibiting removal or alteration of stormwater facilities shall be provided for all stormwater facilities. This deed restriction shall allow removal or alteration that is approved by the township.
- G. An easement granting the township the right, but not the obligation, to enter and improve stormwater facilities shall be provided.
- H. Sedimentation basins shall meet the requirements of the County Soil Conservation District and Chapter 102 of the Pennsylvania Code Title 25.
- I. Roof drains shall discharge to infiltration or vegetative BMPs unless otherwise approved by the Township or Township Engineer. The outflow from roof drains or sump pumps shall not adversely affect neighboring properties. For roof drains that do not discharge to an infiltration BMP, the discharge point for the roof drain must be located a maximum 5 feet from the building unless another location is approved by the Township or Township Engineer. The location of the discharge point for roof drains that discharge to vegetative BMP's shall be reviewed by the Township on a case by case basis to ensure no adverse impacts on neighboring properties. The discharge point for sump pumps shall be located a maximum of 5 feet from the building unless another location is approved by the Township or Township Engineer. To address safety concerns, roof drain and sump pump discharge shall not flow over sidewalks.
- J. Whenever a watercourse, stream or intermittent stream is located within a development site, it shall remain in its natural state and locations and shall not be piped unless necessary state permits are received and the applicant shows that no other alternatives are feasible.
- K. Construction and materials. All construction and materials shall be in conformance with Pennsylvania Department of Transportation (PADOT) Publication 408 unless otherwise approved and shown on an approved land development/subdivision plan.
- L. Groundwater recharge and water quality.
(1) Groundwater recharge. In general, all runoff control measures outside of sinkhole prone areas shall be designed to encourage groundwater recharge and shall be permitted only if suitable subsurface conditions are present. The on-site recharge of all stormwater runoff shall be required if the Township determines that conditions so warrant.
- M. For all regulated earth disturbance activities, erosion and sediment control BMPs shall be designed, implemented, operated, and maintained during the regulated earth disturbance activities (e.g., during construction) to meet the purposes and requirements of this Ordinance and to meet all requirements under Title 25 of the Pennsylvania Code and the Clean Streams Law. Various BMPs and their design standards are listed in the *Erosion and Sediment Pollution Control Program Manual (E&S Manual)*², No. 363-2134-008 (April 15, 2000), as amended and updated.
- N. Stormwater flows (including roof drains) and sump pump discharge onto adjacent property shall not be created, increased, decreased, relocated, or otherwise altered without written notification of the adjacent property owner(s) by the developer/property owner. Such stormwater flows and sump pump discharge shall be subject to the requirements of this Ordinance. See also Section 140A-12.I above.

O. For all regulated activities, SWM BMPs shall be implemented, operated, and maintained to meet the purposes and requirements of this Ordinance and to meet all requirements under Title 25 of the Pennsylvania Code, the Clean Streams Law, and the Storm Water Management Act.

P. Various BMPs and their design standards are listed in the PA DEP Stormwater BMP Manual. There is also a sample list of common BMP's at the end of this ordinance.

§ 140A-13. Stormwater Detention/Storage Facilities

A. Applicability of stormwater detention/storage requirements. Stormwater detention/storage facilities or a fee-in-lieu of such facilities shall be provided in accordance with the following provisions:

(1) A single-family dwelling lot. Stormwater from any new impervious surfaces constructed on a single-family detached lot shall be controlled in accordance with the following requirements:

a) Stormwater from new impervious surfaces of less than 250 square feet of total area, measured cumulatively from the original date of adoption of this chapter (12/17/1998), shall be exempted from these requirements and does not need to be detained.

b) Stormwater from new impervious surfaces not exempted shall be detained/stored through one of the following mechanisms:

[1] Stormwater detention/storage facilities and/or BMP's.

[2] Payment of a fee-in-lieu of stormwater detention/storage facilities and/or BMP's may be considered by the Township only if it is determined that on-site detention/storage and/or BMP's are not feasible.

B. Stormwater Control Facilities.

(1) General design requirements.

a) All plans and designs for stormwater management systems and facilities submitted to the township for approval shall determine stormwater peak discharge and runoff by the use of the USDA Soil Conservation Service (SCS) Soil Cover Complex Method as set forth in Urban Hydrology for Small Watersheds (Technical Release No. 55), with specific attention given to antecedent moisture conditions, flood routing and peak discharge specifications included therein and in Hydrology National Engineering Handbook, Section 4, both by United States Department of Agriculture, Soil Conservation Service. The Township Engineer, however, may permit the use of the rational method for calculation of runoff on land developments of five acres or less. For basins designed using the rational method, the hydrograph and detention volumes shall, at

minimum, equal the volume derived from the routing process when using SCS TR55.

- b) When using the USDA SCS Soil Cover Complex method of stormwater management, the developer shall ensure that, after construction, peak discharges from the site for a ten-year, twenty-four-hour storm of 5.0 inches shall not exceed the before disturbance peak discharge from a two-year, twenty-four-hour storm of 3.2 inches of rainfall. Peak discharges for any storms of greater than ten-year frequency up to and including a one-hundred-year storm shall not exceed 90% of the peak discharges from the site of the same storms before disturbance and shall be calculated based on the following storms:

[1] A twenty-five-year, twenty-four-hour storm of 6.2 inches of rainfall.

[2] A fifty-year, twenty-four-hour storm of 7.2 inches of rainfall.

[3] A one-hundred-year, twenty-four-hour storm of 8.4 inches of rainfall.

- c) When using the rational method of stormwater management, the developer shall ensure that the after construction peak discharges from the site for a ten-year storm shall not exceed the before disturbance peak discharge from a two-year storm. Peak discharges for any storms of greater than ten-year frequency, including twenty-five-year, fifty-year and one-hundred-year storms, shall not exceed 90% of the peak discharges from the site before disturbance for storms of the same duration.

- d) Under certain conditions, the Township Engineer may impose the following additional restrictions on stormwater discharges:

[1] Peak discharge rates on storms in excess of the ten-year storm may be further restricted when a probable risk to downstream structures or unique natural areas exists or when an existing severe flooding problem would be further aggravated.

[a] The developer and/or landowner shall submit to the township an analysis of the impacts of the stormwater flows on the downstream drainage courses in the watershed. The analysis shall include hydrologic and hydraulic calculations necessary to determine the impact of the proposed development upon a dam, highway, structure or existing point of restricted stream flow. The existing point downstream of restricted flow shall be established with the concurrence of the

township.

[2] Where the nature of the soils underlying a runoff structure or the type of business constitute actual or potential risks of contamination to ground- or surface water, submission by the developer to the Department of Environmental Protection to determine permitting requirements is required. A copy of any required permit shall be supplied to the township.

[3] Where groundwater yields are very low or where a groundwater supply already is heavily used, the township may require that the entire volume of a two-year storm be held on site and recharged where feasible and where it will not impact on the geology of the area. Refer to the Township Sinkhole Zone Map, Editor's Note: The Township Sinkhole Zone Map is on file in the township offices, which identifies karstic topography identified as areas with significance related to potential sinkhole development.

[4] In areas where the probability for subsidence activity and sinkhole development exists, the developer shall submit to the township a geological report. If the potential for sinkholes exist within the site, design conditions shall be required to reduce the potential of sinkhole formation.

e) In establishing the antecedent conditions for calculating runoff and time of concentration prior to development, the following assumptions shall apply:

[1] A Type II storm distribution as identified in the latest edition of Urban Hydrology For Small Watersheds (Technical Release No. 55).

[2] Calculations shall be based on the whole tract and/or lot on which development is occurring, even if only a portion of this tract and/or lot is being developed.

[3] The ground cover used in determining the predevelopment flow rates shall be based upon current actual ground cover conditions or ground cover which existing 18 months prior to the application, whichever generates the lower runoff coefficient.

f) The design of all stormwater management facilities shall be in accordance with this chapter and all other applicable local, state and federal regulations.

g) Stormwater control systems may be planned and constructed in

coordination by two or more developments so long as they are jointly in compliance with this chapter and other applicable ordinances, rules and regulations.

(2) Detention/storage systems. stormwater detention/storage facilities shall consist of detention/retention basins, underground stormwater storage and/or BMPs.

(a) Retention/detention basins.

[1] Planning criteria.

[a] All detention basins shall be designed to infiltrate or empty within 72 hours.

[b] Basins shall not be located within floodplains, as defined in the Township's Zoning Ordinance, Editor's Note: See Ch. 165, Zoning, unless appropriate permits and approvals are obtained from the township, the state and the federal government.

[2] Construction criteria.

[a] In order to ensure proper drainage on the floor of detention basins, a minimum grade of 2% shall be maintained for areas of sheet and channel flow. For channel flow, a minimum grade of 1% will be permitted with the addition of a low flow channel. Under certain circumstances, such as continuous seasonal flow, the township may require a low flow channel or underdrain be constructed.

[b] The minimum top width of the basin berm shall be 10 feet. A cutoff trench (key-way) of impervious material shall be provided under all embankments that require fill material. The cutoff trench shall be a minimum of eight feet wide, two feet deep, and have side slopes of one to one.

[c] The maximum slope of all slopes around a detention/retention basin, including the slopes of earth detention embankments, shall be three to one. The top and/or toe of any slope shall be located a minimum of five feet from any property line. Whenever possible, the side slopes and basin shape shall conform to the natural topography.

[d] When requested by the Township Engineer, the township shall be supplied with information providing that all embankments are structurally sound. This requires a geotechnical investigation. Construction of the embankments must be in eight-inch (or less) lifts and compacted to a density not less than 95% of the maximum dry density as determined by American Society for Testing and Materials (ASTM) D-1557. When requested by the township, each eight-inch (or less) layer

shall be tested to determine its density per ASTM D-1556. Compaction test results shall be certified by a Pennsylvania licensed professional engineer and kept on file at the site during construction and be subject to review at all times, with copies being forwarded to the township. Polyvinyl chloride (PVC) liners, forty-mil thickness or alternate acceptable to the Township Engineer, must be used in the construction of any basin in sinkhole prone areas as defined on the township's Sinkhole Zone Map. Editor's Note: The Sinkhole Zone Map is on file in the township offices.

[e] The average detention basin length should be at least twice the average width. The maximum depth shall be 10 feet, measured from the invert to the emergency spillway. Inflow and outflow facilities to the basin shall be the greatest possible distance from each other and should, if possible, be at opposite ends of the basin.

[f] All temporary sediment control basins shall meet the requirements of the County Soil Conservation District and Chapter 102 of Pennsylvania Code Title 25.

[3] Spillway design criteria. Emergency spillways shall be constructed to withstand the pressures of impounded waters. Whenever possible, the spillway shall be constructed on undisturbed ground. Emergency spillways shall be constructed of reinforced concrete, vegetated earth, riprap, turf reinforcing grids or other material accepted by the township. All emergency spillways shall be constructed so that the embankment is protected against erosion. The emergency spillway water elevation for the peak flow rate of the one-hundred-year design storm under outlet block conditions shall be indicated on the design plans. The minimum freeboard shall be one foot. "Freeboard" is the difference between the spillway water surface elevation for the peak flow rate of the one-hundred-year design storm under outlet block conditions and the top of the basin embankment. The emergency spillway shall not discharge over uncompacted earthen fill and/or easily erodible material. Spillway velocities may not exceed those recommended for each lining material in the latest edition of Erosion and Sediment Pollution Control Program Manual published by the Bureau of Soil and Water Conservation. Flow from the spillway must be directed to a receiving stream via a stable channel or controlled to restore existing drainage patterns.

[4] Outlet structures design criteria.

[a] Outlet structures within the detention/retention basins shall be constructed of reinforced concrete or an approved alternate.

Orifice, weir flow or a combination of both may be used for stormwater control. Extreme care should be taken to assure that outlet pipes are watertight.

[b] Energy dissipators shall be installed at points where pipes or drainageways discharge to or from basins.

[c] Anti-seep collars shall be installed around the pipe barrel within the normal saturation zone of the detention basin berms. The anti-seep collars and their connections to the pipe barrel shall be watertight. The anti-seep collars shall extend a minimum of two feet beyond the outside of the principal pipe barrel. The maximum spacing between collars shall be 14 times the minimum projection of the collar measured perpendicular to the pipe. A minimum of two anti-seep collars shall be installed on each pipe outlet.

[5] Sinkhole prone areas. In sinkhole prone areas, as identified on the Township's Sinkhole Location Map, the Township Engineer may require applicants to install liners in retention and detention systems. Such liners shall be constructed of PVC with a forty-mil thickness sandwiched between two layers of eight-ounce geotextile material or clay alternatives approved by the Township Engineer.

[6] Fencing. Fencing is to be provided around detention basins as determined by the Township Engineer. Fencing may be either three-rail post and rail fence with wire mesh attached to post and rails, chain link fencing or other approved equal.

(b) Underground stormwater storage.

[1] General requirements. Underground stormwater storage is permitted in pipes or tanks but is not permitted in stone-filled underground storage pits. In sinkhole prone areas, underground stormwater storage shall only be permitted when approved by the Township Engineer and only when no other type of stormwater storage facility is feasible. See the Upper Merion Township Sinkhole Location Map revised April 2004 or most recent version for sinkhole prone areas.

[2] Structural design. Underground storage structures shall be designed to prevent failure by internal or external pressures and forces, including, but not limited to, hydrostatic uplift pressure and imposed surface loads such as vehicles operated on or adjacent to the tank. Structural design criteria must be based on sound and accepted engineering principles.

[3] Site design and maintainability.

[a] In acid or sulfidic soils, structure materials shall be nonreactive

with the soil or measures shall be taken to protect the tank from the soil.

- [b] All underground storage structures shall be provided with adequate access for inspection and maintenance. A sufficient number of access points shall be provided by the applicant, as required by the Township Engineer and determined by plan area or length of storage pipe. Access must include a removable manhole cover(s) of at least two feet in diameter to a vertical pipe or precast shaft of at least four feet in diameter or an inlet grating on a precast vertical shaft of at least two feet by four feet. Access must be provided to the lowest point of water storage. Manhole steps that meet the Township Engineer's design specifications shall be provided.
- [c] All underground storage structures shall be kept free from sediment and debris. Sediment traps shall be designed to be readily maintainable.
- [d] Underground storage volume, above the frost line or below the water table, shall not be included in the calculations for storage volume to satisfy stormwater runoff criteria.
- [e] In sinkhole prone areas, all underground storage structures shall have watertight connections and shall be separated from all surrounding soil or overhead material by a PVC liner of forty-mil thickness sandwiched between two layers of eight-ounce geotextile material.
- [f] Underground storage structures shall not be located in areas conflicting with present trees or future plantings or in areas where slope instability could result.
- [g] All underground storage structures must be provided with positive gravity flow outlets. Minimum outlet pipe diameter shall be four inches. Discharge dissipation shall be handled as specified for aboveground storage facilities.

(c) BMPs

[1] Peak Rate reduction BMP's can be installed to meet the peak rate reductions referenced in Section 140A-13.B(1). Please refer to the following publications for acceptable peak rate reduction BMP's and associated design guidelines and/or Appendix B at the end of this ordinance.

[a] PA DEP Pennsylvania Stormwater Best Management Practices Manual latest revision.

[b] Philadelphia Stormwater Manual latest edition. (Chapter 6 and 7)

B Fee-in-lieu alternative for stormwater management facilities/BMP's.

- (1) In order to address flooding and erosion problems found in all the watersheds in Upper Merion Township, applicants may pay a fee-in-lieu of stormwater detention/storage facilities as an alternative to the construction of stormwater detention/storage facilities. When fees are offered by an applicant, the township may, but shall not be required to, accept the fees provided that the proposed stormwater solution meets the requirements in § 140A-13.B.
- (2) These fees shall be used to construct township-sponsored stormwater facilities located within the same watershed as the project paying the fee. Additionally, such fees may be used for the acquisition of land and rights-of-way, engineering, legal and planning costs and all other costs, including debt service, related to the construction of necessary stormwater control facilities.
- (3) Applicants shall pay the following fees-in-lieu of stormwater facilities:

Payment of a fee-in-lieu of stormwater detention/storage facilities and/or BMP's may be considered by the Township only if it is determined by the Township that on-site detention/storage is not feasible. Fees-in-lieu of stormwater detention/storage facilities/BMP's shall be based on the cubic feet of required storage capacity that will not be controlled with stormwater control facilities above the permitted 250 square feet of impervious surface that is exempted in accordance with § 140A-13.A(1) above. Such fee shall be established and updated periodically by resolution of the Upper Merion Township Board of Supervisors and shall be based on an average cost of providing stormwater control facilities per cubic foot of storage capacity.
- (4) Fees collected by the Township shall be deposited in an interest-bearing account in a bank authorized to receive deposits of township funds. Interest earned by the account shall be credited to that account and shall be used for the same purposes as money deposited in the account.
- (5) Fee-in-lieu payments shall be collected before final permits are issued.
- (6) Fee-in-lieu credit. Each cubic foot of stormwater storage capacity compensated by a fee-in-lieu payment shall be credited as the actual construction of this stormwater storage when sites are proposed for development in the future.

C §140A-14.Criteria for Redevelopment Sites

- A. The total impervious surface on the site shall be reduced by at least twenty percent (20%) based upon a comparison of existing impervious surface (based on actual ground cover conditions) to proposed impervious surface.
- B. Where site conditions prevent the reduction of impervious area, stormwater BMPs shall be implemented to provide water quality volume (runoff volume generated from a two-year-return-period storm event) equivalent to a reduction in impervious area of at least 20%
- C. Where site constraints prevent impervious area reduction or the implementation of stormwater BMPs, practical alternatives may be used to result in an improvement in water quality. Such practical alternatives may include, but not be limited to:

- (a) Fees paid in-lieu of impervious area reduction or the installation of stormwater BMP's providing volume reduction. The fee shall be equal to the cost that would have been incurred for constructing the stormwater facilities/BMP(s) referenced in Section 140A-13.B. The Township and the applicant shall attempt to agree on a figure for the costs of constructing stormwater BMP(s). If the applicant and the Township cannot agree on the construction costs, the applicant shall provide the Township with a construction estimate at the applicant's sole expense. The Township shall review said construction cost estimate and make a decision as to construction costs. The construction cost estimate shall be prepared by an independent third party registered engineer with no interest, financial or otherwise, in the affected property or application.
- (b) Off-site BMP implementation for a drainage area comparable to that of the project;
- (c) Watershed or stream restoration;
- (d) Retrofitting an existing stormwater facility or BMP; or
- (e) Other practices approved by the Township Engineer.

D. If the developer/applicant proposes a reduction in impervious area, the developer/applicant will be required to substantiate the reduction by submitting engineering calculations for the proposed reduction.

- (1) Disconnect Impervious Cover. Impervious area is considered either connected or disconnected depending on where stormwater runoff is discharged. When stormwater runoff from an impervious area flows directly to a stormwater management facility it is considered DCIA (directly connected impervious area). However, some impervious cover can be disconnected by directing the flow to a pervious area which allows for infiltration. When this is done, the area may be considered Disconnected Impervious Cover (DIC). DIC may be treated as pervious when determining whether a redevelopment site has met the 20% reduction in impervious surface.
- (2) Rooftop Disconnection. An adjustment to DCIA is permitted when a downspout is disconnected and then directed to pervious area which allows for infiltration. The roof area which drains the disconnected downspout may be considered DIC. DIC may be treated as pervious when determining whether a redevelopment site has met the 20% reduction in impervious surface.

ARTICLE III - GRADING

§ 140A-15. Applicability of Grading Standards

All permanent and temporary cutting, filling, grading, regrading and/or other forms of earth-moving activities shall be known as "grading" and shall comply with the grading standards in this article.

§ 140A-16. Grading Requirements.

A. Protection of adjacent property.

(1) No person shall engage in earth moving that endangers any adjoining public street, sidewalk, alley or other public or private property from settling, cracking or other damage which might result from such earth moving. If, in the opinion of the township, the nature of the earth moving is such as to create a hazard to life or property unless otherwise adequately safeguarded, the applicant shall construct such walls, fences, guardrails or other structures to safeguard the public street, sidewalk, alley or other public or private property and persons using such as the Township Engineer may require.

(2) All grading shall be set back at least five feet from property lines unless approved by the Township.

(3) Wherever grading will increase the volume, velocity or direction of stormwater flow toward a property line, the applicant shall install and maintain drainage facilities sufficient to prevent adverse effects on the adjoining property. The grading, construction and operation of these drainage facilities shall not cause any adverse effects on abutting properties.

B. Interference with flow of water. No person shall dump, move or place any soil, bedrock or other material or divert or increase the flow of water so as to cause the same to be deposited upon or roll, flow or wash upon or over the premises of another without the express consent of the owner of such premises so affected or upon or over any public street, street improvement, road, sewer, storm drain watercourse or right-of-way or any public property; nor may any person block the natural flow of water by damming or blocking this flow.

C. Handling of materials. No person shall, when hauling soil, bedrock or other material over any public street, road, alley or public property, allow such materials to blow, spill or track over and upon such street, road, alley or public property or adjacent private property.

D. Compliance with Steep Slope Ordinance. All grading shall comply with the township's Steep Slope Ordinance, as outlined in Upper Merion Township's Zoning Ordinance. Editor's Note: See Ch. 165, Zoning.

ARTICLE IV - EROSION AND SEDIMENTATION CONTROL

§ 140A-17. Applicability of Erosion and Sedimentation Control Standards

All changes in the contour of the land, grading, excavating, removal or destruction of the topsoil and removal of trees or other vegetative cover of the land shall be known as "earth disturbance activities" and shall comply with the erosion and sedimentation control standards in this article.

§ 140A-18. General Requirements

A. All earth disturbance activities must be in conformance with Chapter 102, Title 25, Rules and Regulations, Part I, Commonwealth of Pennsylvania, Department of Environmental Protection, Subpart C, Protection of Natural Resources, Article II, Water Resources, Chapter 102, Erosion Control and in accordance with Montgomery County Conservation District policies.

B. The Township Engineer may require a review by the Montgomery County Conservation District of any plans for earth disturbance activity.

C. Plans for earth disturbance activities shall meet the following requirements:

(1) (1) All projects involving earth disturbance that are required to get a Class A or Class B permit from the township shall have an erosion and sedimentation control plan that meets the requirements of the Pennsylvania Erosion and Sediment Pollution Control Program Manual.

(2) an earth disturbance activity that involves equal to or greater than 1.0 acre shall obtain a NPDES permit.

§ 140A-19. Design Requirements

In addition to any NPDES requirements, all earth disturbance activities shall meet the following requirements:

A. Minimum grading. The maximum bare area of a tract (without stabilization) shall not exceed 25% of the total area of the tract at any one time. This requirement shall apply only if the total area of the tract, before subdivision or land development, is greater than four acres.

B. The maximum time of exposure for bare areas shall be 20 days before stabilization measures must be implemented.

C. Fording or travel in the beds of perennial streams or intermittent streams with water by mechanized equipment is not permitted; bridges or culverts shall be used when crossing streams is necessary.

D. Roads and parking areas in active construction areas shall be completed (except for wearing course) before building construction is permitted. The binder course shall be repaired and returned to grade before installing wearing course.

E. Temporary erosion control measures may be removed only after the construction area and contained site is stabilized and the lawn area established.

F. All newly graded slopes steeper than three to one or over shall be sodded or stabilized with erosion control netting.

G. A routine end-of-day check shall be made during construction to make sure that all control measures are working properly. All persons engaged in land disturbance activities shall design, implement and maintain control measures which prevent accelerated erosion and sedimentation. There shall be no adverse discharge of the sediment or other solid materials from the site as the result of stormwater runoff. This should be accomplished by scheduling the construction in such a way as to utilize new plantings and properly installed erosion control measures.

H. All erosion and sedimentation control structures shall be designed, built and maintained in accordance with the Pennsylvania Erosion and Sediment Pollution Control Program Manual.

ARTICLE V - ADMINISTRATIVE REQUIREMENTS

§ 140A-20. Permit Requirements

A. All persons proposing to construct stormwater control facilities and/or BMPs, commence grading and/or perform earth disturbance activities shall meet the following permit requirements:

(1) The following activities are exempt from permitting requirements:

(a) Earth disturbance activities that only involve the removal of trees or other vegetative cover of the land where less than 2,000 square feet of land is disturbed are exempt from any permitting requirements.

(b) The addition of less than a total of 250 square feet of impervious surface on a single-family detached lot, totaled cumulatively, provided that no structures are built or grading done that would change the existing flow of stormwater or adversely affect abutting properties. The Township may require applicants to obtain a Class A permit when the flow or location of stormwater will be changed or abutting properties will be adversely affected.

(2) Class A permits.

(a) Stormwater, grading and earth disturbance activities on a lot that are not exempted are required to get a Class A permit.

(b) Other stormwater, grading and earth disturbance activities which meet all of the following criteria shall be required to get a Class A permit:

[1] No more than 20 cubic yards of material are excavated or filled, measured cumulatively from the date of adoption of this chapter.

[2] No more than 3,000 square feet of new impervious or semipervious material is constructed on a site, measured cumulatively from the date of adoption of this chapter.

[3] No more than 5,000 square feet of trees or other vegetation are stripped or removed from the land, measured cumulatively from the date of adoption of this chapter.

(3) Class B permits. Stormwater, grading and earth disturbance activities which do not meet the requirements for a Class A permit and are not exempted shall be required to get a Class B permit.

B. Permits shall be valid for only one site; however, one permit may cover all stormwater control, grading and erosion and sediment control activities on the same site.

C. Permits issued pursuant to this chapter do not relieve the owner of the site of responsibility for securing required permits for work to be done which is required by any other applicable code, rule, statutes, regulations or ordinances. This chapter shall not preclude the inclusion in such other permit of more stringent requirements concerning regulation of runoff and erosion.

D. Application for permit. A written application from the owner of the site or his authorized representative, in the form prescribed by the township, shall be required for each permit. No permit shall be transferable without the written consent of the township.

E. Fees. The applicant shall pay fees and costs incurred by the Township (including fees for services provided by Township consultants) for the processing of plans, the inspection of facilities, and improvements and the drafting of any and all documents necessary to carry out the terms of this chapter. Such fees and costs shall be as set forth from time to time by the Board of Supervisors by ordinance or resolution.

B. F. The application shall be approved or denied within thirty working days of receipt of administratively complete application and fee. The Township shall notify applicant if the application is determined to be incomplete or contains information that cannot be verified. Upon receipt of the supplemental information, the Township has an additional fifteen working days to approve or deny the application.

G. Conditions upon permit issuance. In granting any permit covered under this article, the Township may attach such conditions thereto as may be deemed reasonably necessary to prevent danger to public or private property or any sewer, storm drain or watercourse, or to prevent the operation from being conducted in a manner hazardous to life or property or in a manner likely to create a nuisance. Such conditions may include but are not limited to the erection or installation of walls, drains, dams and structures, plantings and vegetation, runoff and erosion control measures or devices, furnishing necessary easements and a specified method of performing work. No person shall violate any conditions imposed as part of a permit.

H. Permit expiration and renewal. Every permit shall expire by limitation and become null and void if the work authorized by such permit has not been commenced within six months, is not completed within one year from the date of issue or ceases for a period of six months. The township may, if the permit holder presents satisfactory evidence that unusual difficulties have prevented work from being started or completed within the specified time limits, grant a reasonable extension of time, and provided that the application for the extension of time is made before the date of expiration of the permit. The Township has the right to attach conditions to permit extensions including but not limited to the installation/maintenance of erosion control and/or stormwater management facilities.

M. Hold harmless indemnity agreement. The township shall, before issuing a permit, require the applicant to execute an agreement that shall hold harmless and indemnify the township against any and all suits, claims, losses and damages by reason of the nature of the work such that it may create bodily injury, including death, to person or persons or damage to or destruction of property of any kind or character

§ 140A-21. Submittal Requirements

A. Class A permits. All applications for a Class A permit shall be accompanied by the

information listed below. When additional information is needed to determine compliance, the Township may require the submittal of plans which show any or all of the information required for Class B permits, as listed in § 140A-15B below.

- (1) The date, name, address and telephone number of the preparer(s) of plans or each portion thereof, the owner of the site; and lot, block, deed reference tract or street address or similar description which identifies and locates the proposed work.
- (2) A clear and definite delineation of the limits of work and the areas to remain undisturbed, alone, with a statement of the area of the total site and of the areas to remain undisturbed.
- (3) Boundary lines of the property, adjacent streets and North arrow.
- (4) A general delineation of the slope of the land and the direction stormwater flows, both before and after the development takes place.
- (5) The general location of existing and proposed buildings, structures, paving, trees, streams and other significant features on the site.

B. Class B permits. All applications for Class B permits shall be accompanied by plans and reports which contain, but are not limited to, the following information:

- (1) The date, name, address and telephone number of the preparer(s) of plans or each portion thereof; the owner of the site; and lot, block, deed reference tract or street address or similar description which identifies and locates the proposed work.
- (2) Certification from the preparer(s) of the plan, who shall be registered professional engineer(s) or surveyor(s) qualified by background and experience in runoff and erosion control design and computation, attesting to the completeness and correctness of existing conditions as shown and to the compliance of all proposed earthmoving and other work with all of the requirements of this chapter, except for specific waivers or modifications as listed.
- (3) A clear and definite delineation of the limits of work and the areas to remain undisturbed, along with a statement of the area, in square feet, of the total site and of the areas to remain undisturbed.
- (4) A narrative report describing the project and giving the purpose. The engineering assumptions and calculations in accordance with the design standards in Article II for stormwater control measures and facilities shall include hydrologic data sheet. The hydrologic data sheet shall include but not be limited to:
 - (a) Watershed and subwatershed areas in acres and slopes in percentages.
 - (b) Weighted soil cover complex numbers for each subarea.
 - (c) Peak discharge rates in cubic feet per second and velocities in feet per second for emergency spillways and outlet structures.
 - (d) Total storage capacity in cubic feet.
 - (e) A plan showing the effective watershed.

- (f) Inflow and outflow hydrographs for all detention/retention facilities.
 - (g) Hydraulic analysis of storm sewer conveyance system.
 - (h) Hydrologic analysis and channel information, including inlet/outlet control computations.
- (5) Outbound of property, adjacent streets and North arrow.
 - (6) Location of buildings and accessory uses within 200 feet of property boundaries.
 - (7) Existing topography of the area to be disturbed and surrounding area to indicate drainage patterns above and below the site.
 - (8) Existing watercourses on site and adjacent.
 - (9) A contour interval shall be selected which provides an accurate representation of site topography; however, in no case shall it be less than two feet.
 - (10) Copy of USGS map with site located.
 - (11) Soil types and geological features including, one-hundred-year floodplain, wetlands, sinkholes and vegetation.
 - (12) Erosion and sediment control measures proposed with details and calculations. The erosion and sediment control plan shall include a phasing plan which details the sequencing of erosion and sediment control measures as they relate to the site preparation, grading and construction of improvements.
 - (13) Plan details, profiles and cross sections of all stormwater control and conveyance structures and systems, including but not limited to pipe size, class and material, class of bedding, backfill material and compaction and dimensional details.
 - (14) Finished grades.
 - (15) Any other information needed to determine compliance with the standards in this chapter.
- C. Prior to the issuance of a permit, the applicant shall provide evidence of having obtained all permits or waiver of permits from other applicable regulatory agencies.
 - D. When erosion and sediment control plans are required, they shall be submitted in quadruplicate and shall meet, as a minimum, the standards of the Pennsylvania Erosion and Sediment Pollution Control Program Manual.
 - E. Modifications of plans. Modifications of the approved plans shall be submitted to the township and may be required to be reprocessed in the same manner as the original application and plans. Field modifications may be authorized by the township, provided that written authorization is given to the person performing work pursuant to this chapter, with a copy forwarded to the Montgomery County Conservation District.

§ 140A-22. Performance Bond

- A. Applications requiring a Class B permit shall also meet the following requirements:

(1) The township shall, before issuing a permit, require a cash escrow or surety bond, in a form satisfactory to the township, conditioned upon the faithful performance of the stormwater management and erosion control measures and other conditions specified in the permit within the time specified, or within any extension thereof granted by the township, in the amount of the total estimated cost of all stormwater management, erosion and sediment control measures and safeguards for adjoining properties. A surety bond shall be maintained and renewed annually and shall be executed by a surety or guaranty company qualified to transact business in the commonwealth. Cash escrows shall be deposited with the Township Treasurer, who shall give his receipt therefore, reciting that the cash has been deposited in compliance with and subject to the provisions of this section. The escrow or bond shall obligate the principal, his executors, administrators, successors and assigns, jointly and severally, with the surety and shall inure to the benefit of Upper Merion Township and its officers, employees and to any person aggrieved by the principal's failure to comply with the conditions thereof. The principal and the surety shall, under the escrow or bond, continue to be firmly bound under a continuing obligation for the payment of all necessary costs and expenses or liabilities which may be incurred or expended by Upper Merion Township to meet the minimum requirements of this chapter.

(2) Default.

- (a) Whenever the township shall find that a default has occurred in the performance of any term or condition of the permit or bond, written notice thereof shall be given to the principal and to the surety of the bond. Such notice shall state the work to be done, the estimated cost thereof and the period of time deemed by the township to be reasonably necessary for the completion of such work.
- (b) If a cash bond has been posted, notice of default as provided by the preceding Subsection A(1) shall be given to the principal, and if compliance is not had within the specified time, the township shall proceed, without delay and without further notice or proceedings whatsoever, to use the cash deposited or any portion of such deposit to cause the required work to be done by contract or otherwise, in the discretion of the Township Engineer.
- (c) In the event of any default in the performance of any term or condition of the permit or bond, the township or the surety, or any person employed or engaged on his behalf, shall have the right to go upon the site to complete the required work or make it safe. In the event that the township undertakes the work or to make the work site safe with the funds from the forfeited cash or corporate bond, such funds shall be used to pay the cost of contracting, including engineering and administration, for restoration of the site to meet the requirements of the permit. If the cost of the work or making it safe exceeds the amount of the cash or corporate bond, the permittee shall continue to be firmly bound under a continuing obligation for payment of all excess cost and expenses incurred by the township. The township shall submit a bill for all such excess costs and expenses to the permittee. All such costs and expenses incurred by the township shall be a personal obligation of the permittee and shall be a lien upon the premises, and whenever a bill therefore remains unpaid for a period of 60 days after it has been

rendered by the township, the Township Solicitor shall file a municipal claim or an action of assumpsit for such costs and expenses in the manner provided by law for the collection of debts and municipal claims.

- (3) Access. No person shall interfere with or obstruct the ingress or egress to or from any such site or premises by an authorized representative or agent of any surety or of the township engaged in completing the work required to be performed under the permit or in complying with the terms or conditions thereof.
- (4) Return of bond. A corporate bond shall remain in full force and effect until completion of the work in accordance with Article IV of this chapter. A cash bond shall be returned to the depositor or his successors or assigns upon the completion of the work in accordance with Article IV of this chapter, except for any portion thereof used pursuant to Subsection A of this section.

§ 140A-23. Waivers

- A. If strict application of these requirements would be unreasonable, the applicant may request that the Board of Supervisors grant a waiver. All waiver requests may be reviewed by the Township or Township Engineer to ensure compliance with current MS4 requirements.
- B. The Board of Supervisors may, upon written request from the applicant, modify or adjust the standards of this chapter to permit reasonable utilization of property in substantial conformance with the objectives of these regulations and the public interest. All requests for a modification shall:
 - (1) Be in writing and part of a formal application;
 - (2) State the sounds and facts of unreasonableness or hardship on which the request is based;
 - (3) List the provision(s) of the chapter involved; and
 - (4) State the minimum modification necessary from these regulations.
- C. All waivers that are granted shall be noted on required plans.

§ 140A-24. Maintenance/Inspections

- A. Maintenance. All stormwater management facilities, including retention and detention basins designed and constructed for the purpose specified under these regulations, shall be maintained in proper working order in accordance with those plans filed with the township.
 - (1) Maintenance responsibility. It shall be the responsibility of the property owners upon whose property the facilities are located to properly maintain in working order all storm water management facilities. In the case of a subdivision and/or land development, the developer may establish a homeowner's association to be responsible for the ownership and maintenance of the facilities. If a homeowner's association is to be in place, membership must be a deed requirement for all lots.

B. Inspection of stormwater management facilities.

- (1) Construction inspections. The permit holder shall notify the Township Engineer in order to obtain inspections in accordance with the following schedule and at least 48 hours before the inspection is to be made:
 - (a) Initial inspection: when work on the excavation or fill is about to be commenced.
 - (b) Rough grading: when all rough grading has been completed.
 - (c) Drainage facilities: when drainage facilities are to be installed and before such facilities are backfilled.
 - (d) Special structures: when excavations are complete for retaining and crib walls and when reinforcing steel is in place and before concrete is poured.
 - (e) Final inspection: when all work, including the installation of all drainage and other structures, has been completed.
 - (f) Certification. Prior to final inspection, the applicant shall provide a certification by a registered engineer or surveyor indicating the following:
 - [1] The stormwater drainage system, including the piping, detention basin, spillway and outlet structures, has been constructed to the dimensions, design and elevations shown on the plan.
 - [2] The basin capacity is in accordance with the stormwater management calculations as approved by the Township Engineer.
- (2) Additional periodic inspections. The township may perform additional periodic inspections of stormwater facilities to check that the facilities are functioning properly.

C. Maintenance Requirements

- (1) For any facilities for which maintenance is to remain the responsibility of a lot owner(s), homeowners' association or similar entity capable of carrying out maintenance responsibilities, the requirements of this chapter shall be applicable.

D. Responsibilities of Developers and Landowners

1. Facilities, areas, or structures used as Stormwater Management BMPs shall be enumerated as permanent real estate appurtenances and recorded as deed restrictions or conservation easements that run with the land. Written documentation that these restrictions or easements have been recorded must be submitted to the Township prior to issuance of a stormwater permit or prior to recording any subdivision or land development plans.
2. O&M Plans for stormwater management approved pursuant to 25 Pa. Code §102 after the date of this Ordinance shall be recorded as a restrictive deed covenant that runs with the land. Written documentation that this restrictive deed covenant has been

recorded must be submitted to the Township prior to issuance of a stormwater permit or prior to recording any subdivision or land development plans.

3. The municipality may take enforcement actions against an owner for any failure to satisfy the provisions of this Ordinance.

E. Removal of unlawfully deposited materials. If any soil, bedrock or other material or liquid is caused to be deposited upon or to roll, flow or wash upon any public property or right-of-way in violation of the above sections of this article, the person responsible shall be notified and shall cause the same to be removed from such public property or way within 36 hours. In the event of an immediate danger to the public health or safety, notice shall be given by the most expeditious means and the material or liquid shall be removed immediately. In the event that it is not so removed, the township shall cause such removal and the cost of such removal shall be paid to the township by said person responsible and shall be a debt due the township. The township shall submit a bill for all such costs to the said person responsible. All such costs incurred by the township shall be a personal obligation of the said person responsible and shall be a lien upon the premises of such person, and whenever a bill therefore remains unpaid for a period of 60 days after it has been rendered by the township, the Township Solicitor shall file a municipal claim or an action of assumpsit for such costs in the manner provided by law for the collection of debts and municipal claims.

§ 140A-25. Operation and Maintenance Agreements

A. Prior to completing construction of a SWM Site Plan, the property owner shall sign and record an Operation and Maintenance (O&M) Agreement (see Appendix A) covering all stormwater control facilities which are to be privately owned.

(1) The owner, successor and assigns shall operate and maintain all facilities in accordance with the approved schedule(s) in the O&M Plan.

(2) The owner shall convey to the Municipality conservation easements to assure access for periodic inspections by the Municipality and maintenance, as necessary.

(3) The owner shall keep on file with the Municipality the name, address, and telephone number of the person or company responsible for operation and maintenance activities. In the event of a change, new information shall be submitted by the owner to the Municipality within ten (10) working days of the change.

B. The owner is responsible for operation and maintenance (O&M) of the SWM BMPs. If the owner fails to adhere to the O&M Agreement, the municipality may perform the services required and charge the owner appropriate fees. Nonpayment of fees may result in a lien against the property.

§ 140A-26. Noncompliance; Enforcement; Violations and Penalties; Appeals

A. Right-of-Entry

Upon presentation of proper credentials, the municipality may enter at reasonable times upon any property within the municipality to inspect the condition of the stormwater structures and facilities in regard to any aspect regulated by this Ordinance.

B. Inspection

SWM BMPs should be inspected by the landowner or the owner's designee (including the municipality for dedicated and owned facilities), according to the following list of minimum frequencies. Written documentation of these inspections shall be maintained by the landowner and shall be submitted to the Township upon request :

1. Annually for the first 5 years following construction.
2. Once every 3 years thereafter.
3. During or immediately after the cessation of a 10-year or greater storm.

C. Restrictions

It is unlawful for any person to modify, remove, fill, landscape, or alter any approved SWM BMPs, facilities, areas, or structures without the written approval of DEP or a delegated County Conservation District, and the Municipality.

D. Suspension and Revocation

1. Approval or permit revocation or suspension. Any approval or permit issued under this chapter may be revoked or suspended by the Township after notice, for:
 - (a) Violation of any condition of the permit.
 - (b) Violation of any provision of this chapter or any other applicable law, ordinance, rule or regulation relating to a regulated activity.
 - (c) The creation of any condition or the commission of any act which constitutes or creates a hazard, nuisance, pollution, or endangers the life or property of others
 - (d) Non-compliance with or failure to implement any provision of an approved SWM Site Plan or O & M Agreement.
2. A suspended approval may be reinstated by the municipality when:
 - (1) The municipality has inspected and approved the corrections to the violations that caused the suspension.
 - (2) The municipality is satisfied that the violation has been corrected.

3. An approval that has been revoked by the municipality cannot be reinstated. The applicant may apply for a new approval under the provisions of this Ordinance.

4. If a violation causes no immediate danger to life, public health, or property, at its sole discretion, the municipality may provide a limited time period for the owner to correct the violation. In these cases, the municipality will provide the owner, or the owner's designee, with a written notice of the violation and the time period allowed for the owner to correct the violation. If the owner does not correct the violation within the allowed time period, the municipality may revoke or suspend any, or all, applicable approvals and permits pertaining to this property. Upon failure to comply within the time specified, the permittee shall be considered in violation of this chapter, in which case the bond, if any, shall be forfeited and fines or penalties shall be imposed under Article V of this chapter. Any subsequent violation may result in the issuance of a citation and imposition of fines. Whenever time does not permit the giving of a notice of noncompliance or violation of Article II or III of this chapter prior to the taking of corrective action by the township, the occurrence of any of the events proscribed by Article V shall be a violation of this chapter.

E. Violations and penalties. Any person violating any of the provisions of this chapter shall be liable, on conviction, to a fine or penalty as set forth in Chapter 1, General Provisions, Article III, General Penalty Provisions of the Upper Merion Township Code, and whenever such person shall have been notified by the township in any manner set forth in this chapter, each day that he shall continue such violation after notification shall constitute a separate offense punishable by a like fine or penalty. Such fines or penalties shall be collected as like fines or penalties are now collected by law.

F. In addition, the municipality may institute injunctive, mandamus, or any other appropriate action or proceeding at law or in equity for the enforcement of the Ordinance. Any court of competent jurisdiction shall have the right to issue restraining orders, temporary or permanent injunctions, mandamus, or other appropriate forms of remedy or relief.

G. Appeals. An appeal from any decision of the Township may be taken to the Department Director. Such appeal shall be made in writing within 10 working days after such decision has been made. The appeal shall be verified by an affidavit and shall be filed with the Department Director. The appellant or his representative shall have the right to appear and be heard if such right is requested in the written appeal. A prompt decision of such appeal shall be made by the Department Director. In making a decision, the Department Director may vary or modify any provision of this chapter where there are practical difficulties in the way of executing the strict letter of the law so that the spirit of the law shall be observed, public safety secured and substantial justice done. Such variation or modification shall be the minimum necessary in order to grant relief.

- H. Any person aggrieved by any action of the Department Director referenced in the section above, relevant to the provisions of this Ordinance, may appeal to the Board of Supervisors within 30 days of that action.
- I. Any person aggrieved by any decision of the Board of Supervisors, relevant to the provisions of this Ordinance, may appeal to the County Court of Common Pleas in the county where the activity has taken place within 30 days of the municipality's decision.

ARTICLE VI - ILLICIT DISCHARGES AND CONNECTIONS

§ 140A-27. Prohibited Discharges and Connections

A. Any drain or conveyance, whether on the surface or subsurface, which allows any non-stormwater discharge, including sewage, process wastewater, and washwater, to enter a regulated small MS4 or to enter the waters of the commonwealth is prohibited.

B. No person shall allow, or cause to allow, discharges into a regulated small MS4 or discharges into waters of the commonwealth which are not composed entirely of stormwater, except as provided in Subsection C below and discharges allowed under a state or federal permit.

C. The following discharges are authorized unless they are determined to be significant contributors to pollution of a regulated small MS4 or to the waters of the commonwealth:

- (1) Discharges from fire-fighting activities.
- (2) Flows from riparian habitats and wetlands.
- (3) Potable water sources, including waterline flushing.
- (4) Uncontaminated water from foundations or from footing drains.
- (5) Irrigation drainage.
- (6) Lawn watering.
- (7) Air-conditioning condensate.
- (8) Dechlorinated swimming pool discharges.
- (9) Springs.
- (10) Uncontaminated groundwater.
- (11) Water from crawl spaces pumps (including sump pumps).

(12) Water from individual residential car washing.

(13) Pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used.

(14) Routine external building washdown (which does not use detergents or other compounds).

(15) Diverted stream flows

(16) Rising groundwater

D. In the event that the municipality or DEP determines that any of the discharges identified in Subsection C significantly contribute pollutants to a regulated small MS4 or to the waters of the commonwealth, the municipality or DEP will notify the responsible person(s) to cease the discharge.

ARTICLE VII – REFERENCES

1. Pennsylvania Department of Environmental Protection. No. 363-0300-002 (December 2006), as amended and updated. *Pennsylvania Stormwater Best Management Practices Manual*. Harrisburg, PA.

2. Pennsylvania Department of Environmental Protection. No. 363-2134-008 (April 15, 2000), as amended and updated. *Erosion and Sediment Pollution Control Program Manual*. Harrisburg, PA.

APPENDIX A

OPERATION AND MAINTENANCE (O&M) AGREEMENT STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES (SWM BMPs)

THIS AGREEMENT, made and entered into this ____ day of _____, 20____, by and between_____, (hereinafter the “Landowner”), and _____, Montgomery County, Pennsylvania, (hereinafter “Municipality”);

WITNESSETH

WHEREAS, the Landowner is the owner of certain real property as recorded by deed in the land records of__ County, Pennsylvania, Deed Book__ at page_____, (hereinafter “Property”).

WHEREAS, the Landowner is proceeding to build and develop the Property; and

WHEREAS, the SWM BMP Operation and Maintenance (O&M) Plan approved by the Municipality (hereinafter referred to as the “O&M Plan”) for the property identified herein,

which is attached hereto as Appendix A and made part hereof, as approved by the Municipality, provides for management of stormwater within the confines of the Property through the use of BMPs; and

WHEREAS, the Municipality, and the Landowner, his successors and assigns, agree that the health, safety, and welfare of the residents of the Municipality and the protection and maintenance of water quality require that on-site SWM BMPs be constructed and maintained on the Property; and

WHEREAS, the Municipality requires, through the implementation of the SWM Site Plan, that SWM BMPs as required by said SWM Site Plan and the Municipal Stormwater Management Ordinance be constructed and adequately operated and maintained by the Landowner, successors, and assigns.

NOW, THEREFORE, in consideration of the foregoing promises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The Landowner shall construct the BMPs in accordance with the plans and specifications identified in the SWM Site Plan.
2. The Landowner shall operate and maintain the BMPs as shown on the SWM Plan in good working order in accordance with the specific operation and maintenance requirements noted on the approved O&M Plan.
3. The Landowner hereby grants permission to the Municipality, its authorized agents and employees, to enter upon the property, at reasonable times and upon presentation of proper credentials, to inspect the BMPs whenever necessary. Whenever possible, the Municipality shall notify the Landowner prior to entering the property.
4. In the event the Landowner fails to operate and maintain the BMPs per paragraph 2, the Municipality or its representatives may enter upon the Property and take whatever action is deemed necessary to maintain said BMP(s). It is expressly understood and agreed that the Municipality is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the Municipality.
5. In the event the Municipality, pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner shall reimburse the Municipality for all expenses (direct and indirect) incurred within 10 days of receipt of invoice from the Municipality.
6. The intent and purpose of this Agreement is to ensure the proper maintenance of the onsite BMPs by the Landowner; provided, however, that this Agreement shall not be deemed to create or affect any additional liability of any party for damage alleged to result from or be caused by stormwater runoff.

7. The Landowner, its executors, administrators, assigns, and other successors in interests, shall release the Municipality from all damages, accidents, casualties, occurrences, or claims which might arise or be asserted against said employees and representatives from the construction, presence, existence, or maintenance of the BMP(s) by the Landowner or Municipality.

8. The Municipality intends to inspect the BMPs at a minimum of once every three years to ensure their continued functioning.

9. This Agreement shall be recorded at the Office of the Recorder of Deeds of Montgomery County, Pennsylvania, and shall constitute a covenant running with the Property and/or equitable servitude, and shall be binding on the Landowner, his administrators, executors, assigns, heirs, and any other successors in interests, in perpetuity.

ATTEST:

WITNESS the following signatures and seals:

(SEAL)

For the Municipality:

For the Landowner:

ATTEST:

_____ (Township)

County of _____, Pennsylvania

I, _____, a Notary Public in and for the county and state aforesaid, whose commission expires on the _____ day of _____, 20____, do hereby certify that _____ whose name(s) is/are signed to the foregoing Agreement bearing date of the _____ day _____, 20____, has acknowledged the same before me in my said county and state.

GIVEN UNDER MY HAND THIS _____ day of _____, 20____.

NOTARY PUBLIC

(SEAL)

APPENDIX B

LIST OF STORMWATER BEST MANAGEMENT PRACTICES (BMP'S)

BMP description	Reference Document	Can it be used
in sinkhole Areas		
Protect Sensitive/Special Value Features (floodplains, riparian areas, wetlands, woods, natural drainageways, steep slopes)	BMP Manual*	yes
Protect/Conserve/Enhance Riparian Buffers	BMP Manual	yes
Protect/Utilize Natural Flow Pathways in Overall Stormwater Planning and Design	BMP Manual	yes
Minimize Total Disturbed Area	BMP Manual	yes
Minimize Soil Compaction in Disturbed Area	BMP Manual	yes
Re-Vegetate and Re-Forest Disturbed Areas Using Native Species	BMP Manual	yes
Reduce Street Imperviousness	BMP Manual	yes
Reduce Parking Imperviousness	BMP Manual	yes
Rooftop Disconnection	BMP Manual	yes
Disconnection from Storm Sewer	BMP Manual	yes
Pervious Pavement with Infiltration Bed	BMP Manual/PWD**	no

Infiltration Basin	BMP Manual	no
Subsurface Infiltration Bed	BMP Manual/PWD	no
Infiltration Trench	BMP Manual	no
Rain Garden/Bioretenion	BMP Manual/PWD	no***
Dry Well/Seepage Pit	BMP Manual	no
Constructed Filter	BMP Manual/PWD	no***
Vegetated Swale	BMP Manual/PWD	no***
Vegetated Filter Strip	BMP Manual/PWD	yes
Infiltration Berm/Retentative Grading	BMP Manual/PWD	yes
Vegetated Roof	BMP Manual/PWD	yes
Runoff Capture & Reuse	BMP Manual	yes
Constructed Wetland	BMP Manual	no***
Wet Pond/Retention Basin	BMP Manual/PWD	no***
Dry Extended Detention Basin	BMP Manual	no***
Water Quality Filters/Hydrodynamic Devices	BMP Manual	yes
Riparian Buffer Restoration	BMP Manual	yes
Landscape Restoration	BMP Manual	yes
Soil Amendment/Restoration	BMP Manual	yes
Floodplain Restoration	BMP Manual	yes
RainBarrels and Cisterns	PWD	yes
Subsurface Vaults	PWD	yes

* Pennsylvania Stormwater Best Management Practices Manual

** Philadelphia Water Department – Stormwater Manual – Stormwater Management Practice Design Guidelines

*** Can be used in sinkhole prone areas if an impervious liner is proposed/installed

Please refer to the PWD Stormwater Manual or the PA Stormwater BMP Manual for addition BMP's, details of each BMP and typical maintenance requirements for each BMP.

SECTION 2. REPEALER.

All Ordinances or parts of Ordinances inconsistent herewith or in conflict with any of the specific terms enacted hereby, to the extent of said inconsistencies or conflicts, are hereby specifically repealed.

SECTION 3. REVISIONS.

The Upper Merion Township Board of Supervisors does hereby reserve the right, from time to time, to adopt modifications of, supplements to, or amendments of its Ordinance, including this provision.

SECTION 4. SEVERABILITY.

In the event that any section, sentence, clause, phrase or word of this Ordinance shall be declared illegal, invalid or unconstitutional by any Court of competent jurisdiction, such declaration shall not prevent, preclude or otherwise foreclose enforcement of any of the remaining portions of this Ordinance.

SECTION 5. EFFECTIVE DATE.

This amendment shall become effective five (5) days after date of adoption.

SECTION 6. FAILURE TO ENFORCE NOT A WAIVER.

The failure of Upper Merion Township to enforce any provision of this Ordinance shall not constitute a waiver by the Township of its rights of future enforcement hereunder.

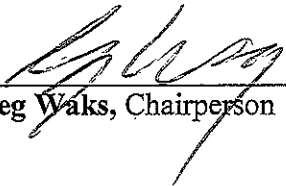
ORDAINED AND ENACTED by the Board of Supervisors for Upper Merion Township, Montgomery County, Pennsylvania, this 20th day of February, 2014.

ATTEST:

**UPPER MERION TOWNSHIP
BOARD OF SUPERVISORS:**



David Kraynik, Township Manager

By: 

Greg Waks, Chairperson

Advertised Proposed Ordinance in Times Herald: February 13, 2014
Proof of Publication Dated: February 14, 2014
Hearing Held: February 20, 2014
Ordinance Adopted: February 20, 2014
Ordinance Entered: February 20, 2014 as Township Ordinance No. 2014-

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