

**NESHAMINY CREEK WATERSHED
ACT 167
STORMWATER MANAGEMENT ORDINANCE

IMPLEMENTING THE REQUIREMENTS OF THE
NESHAMINY CREEK WATERSHED
ACT 167 STORMWATER MANAGEMENT PLAN
(INCLUDES LITTLE NESHAMINY CREEK WATERSHED)**

ORDINANCE NO. 2011-4-1

AN ORDINANCE OF NEW BRITAIN TOWNSHIP, BUCKS COUNTY, PENNSYLVANIA, AMENDING CHAPTER 26, STORMWATER/WATER/WELLS, PART 1, STORMWATER MANAGEMENT, OF THE CODE OF ORDINANCES OF THE TOWNSHIP OF NEW BRITAIN, BY SETTING FORTH NEW REQUIREMENTS FOR STORMWATER MANAGEMENT DRAINAGE PLANS, MAINTENANCE RESPONSIBILITIES, PROHIBITIONS, ENFORCEMENT AND PENALTIES.

ARTICLE I.

Chapter 26, Stormwater/Water/Wells, Part 1, Stormwater Management, is hereby revised and amended to read as follows:

CHAPTER 26

STORMWATER MANAGEMENT

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PART 1

STORMWATER MANAGEMENT

A. General Provisions.

Section 101. Short Title.

This Ordinance shall be known and may be cited as the “Neshaminy Creek Watershed Stormwater Management Ordinance” (a.k.a. Neshaminy/Little Neshaminy Stormwater Management Ordinance).

Section 102. Statement of Findings.

The Governing Body of the Municipality finds that:

- A. Inadequate management of accelerated stormwater runoff resulting from development and redevelopment throughout a watershed increases flood flows and velocities, contributes to erosion and sedimentation, overtaxes the carrying capacity of streams and storm sewers, greatly increases the cost of public facilities to convey and manage stormwater, undermines floodplain management and flood reduction efforts in upstream and downstream communities, reduces groundwater recharge, and threatens public health and safety.
- B. Inadequate planning and management of stormwater runoff resulting from land development and redevelopment throughout a watershed can also harm surface water resources by changing the natural hydrologic patterns, accelerating stream flows (which increase scour and erosion of streambeds and streambanks, thereby elevating sedimentation), destroying aquatic habitat, and elevating aquatic pollutant concentrations and loadings such as sediments, nutrients, heavy metals, and pathogens.
- C. A comprehensive program of stormwater management (SWM), including reasonable regulation of development and activities causing accelerated runoff, is fundamental to the public health, safety, welfare, and the protection of the people of the Municipality and all the people of the Commonwealth, their resources, and the environment.
- D. Stormwater is an important water resource by providing groundwater recharge for water supplies and base flow of streams, which also protects and maintains surface water quality.
- E. Public education on the control of pollution from stormwater is an essential component in successfully addressing stormwater.
- F. Federal and State regulations require certain municipalities to implement a program of stormwater controls. These municipalities are required to obtain a

permit for stormwater discharges from their separate storm sewer systems under the National Pollutant Discharge Elimination System (NPDES).

Section 103. Purpose.

The purpose of this Ordinance is to promote the public health, safety, and welfare within the Neshaminy Creek watershed by maintaining the natural hydrologic regime and by minimizing the harms and maximizing the benefits described in Section 102 of this Ordinance, through provisions designed to:

- A. 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.
- B. Minimize increases in stormwater volume and control peak flows.
- C. Minimize impervious surfaces.
- D. Provide review procedures and performance standards for stormwater planning and management.
- E. Preserve the natural drainage systems as much as possible.

- F. Manage stormwater impacts close to the runoff source, requiring a minimum of structures and relying on natural processes.
- G. Focus on infiltration of stormwater to maintain groundwater recharge, to prevent degradation of surface and groundwater quality, and to otherwise protect water resources.
- H. Preserve and restore the flood-carrying capacity of streams.
- I. Prevent scour and erosion of streambanks and stream beds.
- J. Provide standards to meet National Pollution Discharge Elimination System (NPDES) permit requirements.
- K. Address certain requirements of the Municipal Separate Stormwater Sewer System (MS4) NPDES Phase II Stormwater Regulations.
- L. Provide for proper operation and maintenance of all stormwater management facilities and Best Management Practices (BMPs) that are implemented in the Municipality.

Section 104. Statutory Authority.

The Municipality is empowered to regulate land use activities that affect runoff, surface, and groundwater quality and quantity by the authority of:

- A. Pennsylvania Municipalities Planning Code, Act 247, as amended.
- B. Cite applicable municipal code, [e.g. Second Class Township Code (Act 69 of 1933, P.L. 103; 53 P.S. § 65101, as amended) and Borough Code (Act 581 of 1965, P.L. 1656; 53 P.S. § 45101, as amended)].

Section 105. Applicability/Regulated Activities.

- 1. All Regulated Activities and all activities that may affect stormwater runoff, including Land Development and Earth Disturbance Activity, are subject to regulation by this Ordinance.
- 2. Regulated Activities include, but are not limited to:
 - A. Land development.
 - B. Subdivisions.
 - C. Prohibited or polluted discharges.
 - D. Alteration of the natural hydrologic regime.
 - E. Construction or reconstruction of, or addition of new impervious or semi-pervious surfaces (i.e., driveways, parking lots, roads, etc.), except for reconstruction of roads where there is no increase in impervious surface.
 - F. Construction of new buildings or additions to existing buildings.
 - G. Redevelopment.
 - H. Diversion piping or encroachments in any natural or man-made channel, and Nonstructural and structural stormwater management Best Management Practices (BMPs) or appurtenances thereto.
 - I. Any of the above Regulated Activities which were approved more than five years prior to the effective date of this Ordinance are resubmitted for Municipal approval.
- 3. In the event of any conflict between the regulations and requirements set forth in this Ordinance and the Township's Subdivision and Land Development Ordinance, the more restrictive standard or the regulation imposing the higher standard shall be controlling. The standards and requirements set forth in this Ordinance and those similar standards and requirements set forth in the Township's Subdivision and Land Development Ordinance are intended to be read together when determining compliance.

Section 106. Exemptions.

- 1. Regulated Activities that create impervious surfaces smaller than or equal to 1,000 square feet are exempt from the peak rate control requirements and the SWM Site Plan

preparation located in Section IV of this Ordinance unless the activity is found to be a significant contributor of pollution to the waters of this Commonwealth.

2. Regulated Activities that create impervious surfaces between 1,001 square feet up to and including 5,000 square feet are exempt only from the peak rate control requirements of this Ordinance.

Table 106.1 Impervious Surface Exemption Thresholds for the Neshaminy Creek Watershed

Ordinance Article or Section	Type of Project	Proposed Impervious Surface		
		0 – 1,000 sq. ft.	1,001 – 5000 sq. ft.	5,000 + sq. ft.
Article IV SWM Site Plan Requirements	Development	Exempt	Not Exempt	Not Exempt
Section 303 Volume Control Requirements	Development	Not Exempt	Not Exempt	Not Exempt
Section 304 Peak Rate Control Requirements	Development	Exempt	Exempt	Not Exempt
Erosion and Sediment Pollution Control Requirements	Must comply with Title 25, Chapter 102 of the PA Code and any other applicable State, County, and Municipal codes.			

3. Agricultural activity is exempt from the peak rate control requirements and SWM Site Plan preparation requirements of this Ordinance provided the activities are performed according to the requirements of 25 Pa. Code 102.
4. Forest management and timber operations are exempt from the peak rate control requirements and SWM Site Plan preparation requirements of this Ordinance provided the activities are performed according to the requirements of 25 Pa. Code 102.
5. Any aspect of BMP maintenance to an existing SWM system made in accordance with plans and specifications previously approved by the Township is exempt.
6. The use of land for gardening for home consumption is exempt from the requirements of this Ordinance.
7. Exemptions from any provisions of this Ordinance shall not relieve the Applicant from the requirements in Section 301. D. through L.
8. Additional Exemption Criteria:
 - A. Exemption Responsibilities – An exemption shall not relieve the Applicant from implementing such measures as are necessary to protect public health, safety, and property.

- B. Drainage Problems – Where drainage problems are documented or known to exist downstream of or is expected from the proposed activity, the Municipality may deny exemptions.
- C. Exemptions are limited to specific portions of this Ordinance.
- D. HQ and EV Streams – The Municipality may deny exemptions in high quality (HQ) or exceptional value (EV) waters and Source Water Protection Areas (SWPA).
- E. Maintenance Exemption – Any maintenance to an existing stormwater management system made in accordance with plans and specifications approved by the Municipal Engineer or Township.

Section 107. Repealer.

Any other ordinance or ordinance provision of the Municipality inconsistent with any of the provisions of this Ordinance is hereby repealed to the extent of the inconsistency only.

Section 108. Severability.

Should any section or provision of this Ordinance be declared invalid by a court of competent jurisdiction, such decision shall not affect the validity of any of the remaining provisions of this Ordinance.

Section 109. Compatibility with Other Ordinance or Legal Requirements.

Approvals issued pursuant to this Ordinance do not relieve the Applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act, or ordinance.

B. Definitions.

Section 210. Interpretation.

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 word “person” includes an individual, firm, association, organization, partnership, trust, company, corporation, unit of government, or any other similar entity.
- D. The words “shall” and “must” are mandatory; the words “may” and “should” are permissive.
- E. The words “used” or “occupied” include the words “intended, designed, maintained, or arranged to be used, occupied or maintained.”

Section 211. Definitions.

ACCELERATED EROSION – The removal of the surface of the land through the combined action of man’s activity and the natural processes of a rate greater than would occur because of the natural process alone.

AGRICULTURAL ACTIVITY – Activities associated with agriculture such as agricultural cultivation, agricultural operation, and animal heavy use areas. This includes the work of producing crops including tillage, land clearing, plowing, disking, harrowing, planting, harvesting crops or pasturing and raising of livestock and installation of conservation measures. Construction of new buildings or impervious area is not considered an agricultural activity.

ALTERATION – As applied to land, a change in topography as a result of the moving of soil and rock from one location or position to another; also the changing of surface conditions by causing the surface to be more or less impervious as the result of changing the land cover including the water, vegetation and bare soil.

APPLICANT – A person who has filed an application for approval to engage in any Regulated Activity defined in Section 105 of this Ordinance.

AS-BUILT DRAWINGS – Engineering or site drawings maintained by the Contractor as he constructs the project and upon which he documents the actual locations of the building components and changes to the original contract documents. These documents, or a copy of same, are turned over to the Qualified Professional at the completion of the project.

BANKFULL – The channel at the top-of-bank, or point from where water begins to overflow onto a floodplain.

BASE FLOW – Portion of stream discharge derived from groundwater; the sustained discharge that does not result from direct runoff or from water diversions, reservoir releases, piped discharges, or other human activities.

BEST MANAGEMENT PRACTICES (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.

BIORETENTION – A stormwater retention area that utilizes woody and herbaceous plants and soils to remove pollutants before infiltration occurs.

BUFFER – The area of land immediately adjacent to any stream, measured perpendicular to and horizontally from the top-of-bank on both sides of a stream (see Top-of-Bank).

CHANNEL – An open drainage feature through which stormwater flows. Channels include, but shall not be limited to, natural and man-made watercourses, swales, streams, ditches, canals, and pipes that convey continuously or periodically flowing water.

CISTERN – An underground reservoir or tank for storing rainwater.

CONSERVATION DISTRICT – The Bucks County Conservation District.

CULVERT – A structure with its appurtenant works, which carries water under or through an embankment or fill.

CURVE NUMBER – Value used in the Soil Cover Complex Method. It is a measure of the percentage of precipitation which is expected to run off from the watershed and is a function of the soil, vegetative cover, and tillage method.

DAM – A man-made barrier, together with its appurtenant works, constructed for the purpose of impounding or storing water or another fluid or semifluid. A dam may include a refuse bank, fill or structure for highway, railroad or other purposes which impounds or may impound water or another fluid or semifluid.

DEPARTMENT – The Pennsylvania Department of Environmental Protection (PADEP).

DESIGNEE – The agent of the Bucks County, Bucks County Conservation District, and/or agent of the Governing Body involved with the administration, review, or enforcement of any provisions of this Ordinance by contract or memorandum of understanding.

DESIGN PROFESSIONAL (QUALIFIED) – A Pennsylvania Registered Professional Engineer, Registered Landscape Architect or Registered Professional Land Surveyor trained to develop stormwater management plans.

DESIGN STORM – The magnitude and temporal distribution of precipitation from a storm event measured in probability of occurrence (e.g., a 5-year storm) and duration (e.g., 24-hours), used in the design and evaluation of stormwater management systems.

DETENTION BASIN – An impoundment designed to collect and retard stormwater runoff by temporarily storing the runoff and releasing it at a predetermined rate. Detention basins are designed to drain completely soon after a rainfall event and become dry until the next rainfall event.

DETENTION VOLUME - The volume of runoff that is captured and released into the Waters of the Commonwealth at a controlled rate.

DEVELOPER – A person that seeks to undertake a land development or subdivision.

DEVELOPMENT – Any human-induced change to improved or unimproved real estate, whether public or private, including, but not limited to, land development, construction, installation, or expansion of a building or other structure, land division, street construction, drilling, and site alteration such as embankments, dredging, grubbing, grading, paving, parking or storage facilities, excavation, filling, stockpiling, or clearing. As used in this Ordinance, development encompasses both new development and redevelopment.

DEVELOPMENT SITE – The specific tract or parcel of land where any regulated activity set forth in Section 105 is planned, conducted or maintained.

DIFFUSED DRAINAGE DISCHARGE – Drainage discharge that is not confined to a single point location or channel, including sheet flow or shallow concentrated flow.

DISCHARGE – 1. (verb) To release water from a project, site, aquifer, drainage basin or other point of interest (verb); 2. (noun) The rate and volume of flow of water such as in a stream, generally expressed in cubic feet per second. See also Peak Discharge.

DISCHARGE POINT – The point of discharge for a stormwater facility.

DISCONNECTED IMPERVIOUS AREA (DIA) – An impervious or impermeable surface that is disconnected from any stormwater drainage or conveyance system and is redirected or directed to a pervious area, which allows for infiltration, filtration, and increased time of concentration.

DISTURBED AREAS – Unstabilized land area where an earth disturbance activity is occurring or has occurred.

DITCH – A man-made waterway constructed for irrigation or stormwater conveyance purposes.

DRAINAGE CONVEYANCE FACILITY – A stormwater management facility designed to transport stormwater runoff that includes channels, swales, pipes, conduits, culverts, and storm sewers.

DRAINAGE EASEMENT – A right granted by a landowner to a grantee, allowing the use of private land for stormwater management purposes.

DRAINAGE PERMIT – A permit issued by the Municipality after the SWM Site Plan has been approved.

EARTH DISTURBANCE ACTIVITY – A construction or other human activity that disturbs the surface of land, including, but not limited to, clearing and grubbing, grading, excavations, embankments, land development, agricultural plowing or tilling, timber harvesting activities, road maintenance activities, mineral extraction, and the moving, depositing, stockpiling, or storing of soil, rock or earth materials.

EMERGENCY SPILLWAY – A conveyance area that is used to pass peak discharge greater than the maximum design storm controlled by the stormwater facility.

ENCROACHMENT – A structure or activity that changes, expands or diminishes the course, current or cross section of a watercourse, floodway or body of water.

EXISTING RESOURCES AND SITE ANALYSIS MAP – A base map which identifies fundamental environmental site information, including floodplains, wetlands, topography, vegetative site features, natural areas, prime agricultural land and areas supportive of endangered species.

EROSION – The process by which the surface of the land, including water/stream channels, is worn away by water, wind, or chemical action.

EROSION AND SEDIMENT CONTROL PLAN – A site-specific plan identifying BMPs to minimize accelerated erosion and sedimentation. For agricultural plowing or tilling activities, the Erosion and Sediment Control Plan is that portion of a conservation plan identifying BMPs to minimize accelerated erosion and sedimentation.

EXCEPTIONAL VALUE WATERS – Surface waters of high quality which satisfy Pennsylvania Code Title 25 Environmental Protection, Chapter 93, Water Quality Standards, §93.4b(b) (relating to antidegradation).

EXISTING CONDITIONS – The initial condition of a project site prior to the proposed alteration.

EXISTING RECHARGE AREA – Undisturbed surface area or depression where stormwater collects and a portion of which infiltrates and replenishes the groundwater.

FLOOD – A temporary condition of partial or complete inundation of land areas from the overflow of streams, rivers, and other waters of the Commonwealth.

FLOODPLAIN – Any land area susceptible to inundation by water from any natural source or as delineated by applicable Department of Housing and Urban Development, Federal Insurance Administration Flood Hazard Boundary Map as being a special flood hazard area.

FLOODWAY – The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

FOREST MANAGEMENT/TIMBER OPERATIONS – Planning and associated activities necessary for the management of forestland. These include timber inventory and preparation of forest management plans, silvicultural treatment, cutting budgets, logging road design and construction, timber harvesting, and reforestation.

FREEBOARD – A vertical distance between the elevation of the design high-water and the top of a dam, levee, tank, basin, swale, or diversion berm. The space is required as a safety margin in a pond or basin.

GOVERNING BODY – elected municipal officials of municipalities (e.g. Township Supervisors or Township Council or Borough Council).

GRADE – 1. (noun) A slope, usually of a road, channel or natural ground specified in percent and shown on plans as specified herein. 2. (verb) To finish the surface of a roadbed, the top of an embankment, or the bottom of excavation.

GROUNDWATER – Water beneath the earth's surface that supplies wells and springs, and is often between saturated soil and rock.

GROUNDWATER RECHARGE – The replenishment of existing natural underground water supplies from rain or overland flow.

HEC-HMS – The U.S. Army Corps of Engineers, Hydrologic Engineering Center (HEC) - Hydrologic Modeling System (HMS). This model was used to model the Neshaminy Creek watershed during the Act 167 Plan development and was the basis for the Standards and Criteria of this Ordinance.

HIGH QUALITY WATERS – Surface waters having quality which exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water by satisfying Pennsylvania Code Title 25 Environmental Protection, Chapter 93 Water Quality Standards, § 93.4b(a).

HOT SPOT – An area where land use or activity generates highly contaminated runoff, with concentrations of pollutants in excess of those typically found in stormwater.

Typical pollutant loadings in stormwater may be found in Chapter 8, Section 6, of the Pennsylvania Stormwater Best Management Practices Manual, Pennsylvania Department of Environmental Protection (PADEP) No. 363-0300-002 (2006). More information concerning hot spots may be found in Section 306.A. of this Ordinance.

HYDROGRAPH – A graph representing the discharge of water versus time for a selected point in the drainage system.

HYDROLOGIC REGIME – The hydrologic cycle or balance that sustains quality and quantity of stormwater, baseflow, storage, and groundwater supplies under natural conditions.

HYDROLOGIC SOIL GROUP – A classification of soils by the Natural Resources Conservation Service, formerly the Soil Conservation Service, into four runoff potential groups. The groups range from A soils, which are very permeable and produce little runoff, to D soils, which are not very permeable and produce much more runoff.

IMPERVIOUS SURFACE – Surfaces which prevent the infiltration of water into the ground, including all buildings, streets, parking areas, driveways, roads, sidewalks, swimming pools and any area in concrete, asphalt, gravel, stone or similar materials. Impervious surfaces also include other areas determined to be impervious by the Township Engineer.

IMPOUNDMENT – A retention or detention basin designed to retain stormwater runoff and release it at a controlled rate.

INFILL DEVELOPMENT – Development that occurs on smaller parcels that remain undeveloped but are within or very close proximity to urban or densely developed areas. Infill development usually relies on existing infrastructure and does not require an extension of water, sewer or other public utilities.

INFILTRATION – Movement of surface water into the soil, where it is absorbed by plant roots, evaporated into the atmosphere, or percolated downward to recharge groundwater.

INFILTRATION STRUCTURES – A structure designed to direct runoff into the underground water (e.g., French drains, seepage pits, or seepage trenches).

INITIAL ABSTRACTION (Ia): The value used to calculate the volume or peak rate of runoff in the soil cover complex method. It represents the depth of rain retained on vegetation plus the depth of rain stored on the soil surface plus the depth of rain infiltrated prior to the start of runoff.

INLET – The upstream end of any structure through which water may flow.

INTERMITTENT STREAM – A stream that flows only part of the time. Flow generally occurs for several weeks or months in response to seasonal precipitation or groundwater discharge.

KARST – A type of topography or landscape characterized by surface depressions, sinkholes, rock pinnacles/uneven bedrock surface, underground drainage, and caves. Karst is formed on carbonate rocks, such as limestone or dolomite.

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; or
 - (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;
- B. A subdivision of land.
- C. Development in accordance with Section 503(1.1) of the PA Municipalities Planning Code.

LOT – A designated parcel, tract or area of land established by a plat or otherwise as permitted by law and to be used, developed or built upon as a unit.

LOW IMPACT DEVELOPMENT (LID) PRACTICES – Practices that will minimize proposed conditions runoff rates and volumes, which will minimize needs for artificial conveyance and storage facilities.

MAIN STEM (MAIN CHANNEL) – Any stream segment or other runoff conveyance used as a reach in the Neshaminy Creek hydrologic model.

MANNING EQUATION (MANNING FORMULA) – A method for calculation of velocity of flow (e.g., feet per second) and flow rate (e.g., cubic feet per second) in open channels based upon channel shape, roughness, depth of flow and slope. “Open Channels” may include closed conduits so long as the flow is not under pressure.

MUNICIPAL ENGINEER – A professional engineer licensed as such in the Commonwealth of Pennsylvania, duly appointed as the engineer for a municipality, planning agency or joint planning commission.

MUNICIPALITY – New Britain Township, Bucks County, Pennsylvania.

NATURAL HYDROLOGIC REGIME (see Hydrologic Regime).

NONPOINT SOURCE POLLUTION – Pollution that enters a water body from diffuse origins in the watershed and does not result from discernible, confined, or discrete conveyances.

NON-STORMWATER DISCHARGES – Water flowing in stormwater collection facilities, such as pipes or swales, which is not the result of a rainfall event or snowmelt.

NPDES – National Pollutant Discharge Elimination System, the Federal government's system for issuance of permits under the Clean Water Act, which is delegated to PADEP in Pennsylvania.

NRCS – Natural Resource Conservation Service (previously Soil Conservation Service).

OUTFALL – “Point source” as described in 40 CFR § 122.2 at the point where the Municipality's storm sewer system discharges to surface waters of the Commonwealth.

OUTLET – Points of water disposal to a stream, river, lake, tidewater or artificial drain.

PARENT TRACT – The parcel of land from which a land development or subdivision originates, determined from the date of municipal adoption of this Ordinance.

PEAK DISCHARGE – The maximum rate of stormwater runoff from a specific storm event.

PENN STATE RUNOFF MODEL (PSRM) – The computer-based hydrologic model developed at the Pennsylvania State University.

PERENNIAL STREAM – A stream which contains water at all times except during extreme drought.

PIPE – A culvert, closed conduit, or similar structure (including appurtenances) that conveys stormwater.

PLANNING COMMISSION – The planning commission of New Britain Township.

POINT SOURCE – Any discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, or conduit from which stormwater is or may be discharged, as defined in State regulations at 25 Pa. Code § 92.1.

POST CONSTRUCTION – Period after construction during which disturbed areas are stabilized, stormwater controls are in place and functioning, and all proposed improvements in the approved land development plan are completed.

PREDEVELOPMENT (see Existing Condition).

PRETREATMENT – Techniques employed in stormwater BMPs to provide storage or filtering to trap coarse materials and other pollutants before they enter the system, but not necessarily designed to meet the volume requirements of Section 303.

PERVIOUS SURFACE – A surface that allows the infiltration of water into the ground.

PROJECT SITE – The specific area of land where any Regulated Activities in the Municipality are planned, conducted or maintained.

QUALIFIED PROFESSIONAL - Any person licensed by the Pennsylvania Department of State or otherwise qualified by law to perform the work required by the Ordinance.

RATIONAL METHOD – A rainfall-runoff relation used to estimate peak flow.

RECHARGE – The replenishment of groundwater through the infiltration of rainfall, other surface waters, or land application of water or treated wastewater.

RECORD DRAWINGS – Original documents revised to suit the as-built conditions and subsequently provided by the Engineer to the client. The Engineer reviews the contractor's as-built drawings against his/her own records for completeness, then either turns these over to the client or transfers the information to a set of reproducibles, in both cases for the client's permanent records. Record drawings are not the same as record plans submitted for recording with the County in accordance with the PA Municipalities Planning Code (Act 247).

REDEVELOPMENT – Any development that requires demolition or removal of existing structures or impervious surfaces at a site and replacement with new impervious surfaces. Maintenance activities such as top-layer grinding/milling and re-paving are not considered to be redevelopment and are not considered earth disturbance. Interior remodeling projects and tenant improvements are also not considered to be redevelopment. Utility trenches in streets are not considered redevelopment. The limit of disturbance for a utility trench shall be restricted to the trench width and include staging areas outside of an impervious surface.

REGULATED ACTIVITIES - Any earth disturbance activities or any activities that involve the alteration or development of land in a manner that may affect stormwater runoff.

REGULATED EARTH DISTURBANCE ACTIVITY - Activity involving earth disturbance subject to regulation under 25 Pa. Code 92, 25 Pa. Code 102, or the Clean Streams Law.

RELEASE RATE – The percentage of existing conditions peak rate of runoff from a site or subarea to which the proposed conditions peak rate of runoff must be reduced to protect downstream areas.

REPAVING – Replacement of the impervious surface that does not involve reconstruction of an existing paved (impervious) surface.

REPLACEMENT PAVING – Reconstruction of and full replacement of an existing paved (impervious) surface.

RETENTION BASIN – A structure in which stormwater is stored and not released during the storm event. Retention basins are designed for infiltration purposes, and do not have an outlet. The retention basin must infiltrate stored water in three days or less.

RETENTION VOLUME/REMOVED RUNOFF – The volume of runoff that is captured and not released directly into the surface Waters of the Commonwealth during or after a storm event.

RETURN PERIOD – The probability an event will occur in any given year. Typically displayed as a whole number, e.g. 25-year event, and represents the inverse of the frequency of that event. For example, the 25-year return period rainfall gives the probability, 1/25 or 4 %, which that size storm will occur in any given year.

ROAD MAINTENANCE – Earth disturbance activities within the existing road cross-section, such as grading and repairing existing unpaved road surfaces, cutting road banks, cleaning or clearing drainage ditches and other similar activities.

ROOF DRAINS – A drainage conduit or pipe that collects water runoff from a roof and leads it away from the structure.

RUNOFF – Any part of precipitation that flows over the land surface.

SALDO – Subdivision and Land Development Ordinance.

SEDIMENT - Soils or other materials transported by surface water as a product of erosion.

SEDIMENT POLLUTION – The placement, discharge or any other introduction of sediment into the waters of the Commonwealth.

SEDIMENTATION – The process by which mineral or organic matter is accumulated or deposited by the movement of water or air.

SEEPAGE PIT/SEEPAGE TRENCH – An area of excavated earth filled with loose stone or similar coarse material, into which surface water is directed for infiltration into the

underground water. More information on Seepage Pits may be found in the PA BMP Manual, December 2006, Chapter 6, Section 4.

SEPARATE STORM SEWER SYSTEM – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels or storm drains) primarily used for collecting and conveying stormwater runoff.

SHALLOW CONCENTRATED FLOW – Stormwater runoff flowing in shallow, defined ruts prior to entering a defined channel or waterway.

SHEET FLOW – A flow process associated with broad, shallow water movement on sloping ground surfaces that is not channelized or concentrated.

SOIL COVER COMPLEX METHOD – A method of runoff computation developed by the NRCS that is based on relating soil type and land use/cover to a runoff parameter called Curve Number (CN).

SOURCE WATER PROTECTION AREAS (SWPA) – The zone through which contaminants, if present, are likely to migrate and reach a drinking water well or surface water intake.

SPECIAL PROTECTION SUBWATERSHEDS – Watersheds that have been designated in Pennsylvania Code Title 25 Environmental Protection, Chapter 93 Water Quality Standards, as exceptional value (EV) or high quality (HQ) waters.

SPILLWAY – A conveyance that is used to pass the peak discharge of the maximum design storm that is controlled by the stormwater facility.

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 FREQUENCY – The number of times that a given storm “event” occurs or is exceeded on the average in a stated period of years. See “Return Period”.

STORM SEWER – A system of pipes and/or open channels that convey intercepted runoff and stormwater from other sources, but excludes domestic sewage and industrial wastes.

STORMWATER – The surface runoff generated by precipitation reaching the ground surface.

STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES – Is abbreviated as BMPs or SWM BMPs throughout this Ordinance.

STORMWATER MANAGEMENT FACILITY – Any structure, natural or man-made, that, due to its condition, design, or construction, conveys, stores, or otherwise affects stormwater runoff quality, rate or quantity. Typical stormwater management facilities include, but are not limited to, detention and retention basins, open channels, storm sewers, pipes, and infiltration structures.

STORMWATER MANAGEMENT PLAN – The watershed plan, known as the “Neshaminy Creek Watershed Act 167 Stormwater Management Plan,” for managing those land use activities that will influence stormwater runoff quality and quantity and that would impact the Neshaminy Creek Watershed adopted by Bucks and Montgomery Counties as required by the Act of October 4, 1978, P.L. 864 (Act 167).

STORMWATER SWM SITE PLAN – The plan prepared by the Applicant or his representative indicating how stormwater runoff will be managed at the particular site of interest according to this Ordinance.

STREAM – A flow of water in a natural channel or bed, as a brook, rivulet, or a small river.

STREAM BUFFER – The land area adjacent to each side of a stream, essential to maintaining water quality (See Buffer).

STREAM ENCLOSURE – A bridge, culvert, or other structure in excess of 100 feet in length upstream to downstream which encloses a regulated water of the Commonwealth.

STREAMBANK EROSION – The widening, deepening, or headward cutting of channels and waterways, caused by stormwater runoff or bankfull flows.

SUBAREA (SUBWATERSHED) – The smallest drainage unit of a watershed for which stormwater management criteria have been established in the Stormwater Management Plan.

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 the subdivision by lease of land for agricultural purposes into parcels of more than ten acres, not involving any new street or easement of access or any residential dwelling, shall be exempted.

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

SWALE – A low lying stretch of land that gathers or carries surface water runoff.

SWM SITE PLAN – The documentation of the stormwater management system to be used for a given development site, the contents of which are established in Section 402.

TIMBER OPERATIONS – See Forest Management.

TIME-OF-CONCENTRATION (TC) – The time required for surface runoff to travel from the hydraulically most distant point of the watershed to a point of interest within the watershed. This time is the combined total of overland flow time and flow time in pipes or channels, if any.

TOP-OF-BANK – Highest point of elevation in a stream channel cross-section at which a rising water level just begins to flow out of the channel and over the floodplain.

TOTAL SITE AREA – The area of a site that is to be disturbed and all onsite areas, whether disturbed or undisturbed, that will drain to a proposed stormwater management facility.

VEGETATED SWALE – A natural or man-made waterway, usually broad and shallow, covered with erosion-resistant grasses, used to convey surface water.

VERNAL POOL – Seasonal depressional wetlands that are covered by shallow water for variable periods from Winter to Spring, but may be completely dry for most of the Summer and Fall.

WATERCOURSE – A channel or conveyance of surface water having a defined bed and banks, whether natural or artificial, with perennial or intermittent flow.

WATERS OF THE COMMONWEALTH – Any and all rivers, streams, creeks, rivulets, 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 the Commonwealth.

WATERSHED – Region or area drained by a river, watercourse, or other body of water, whether natural or artificial.

WET BASIN – Pond for urban runoff management that is designed to detain urban runoff and always contains water.

WETLAND – Those areas that are inundated or saturated by surface or groundwater 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. Wetlands generally include swamps, marshes, bogs, fens, and similar areas.

C. Stormwater Management.

Section 212. General Requirements.

1. Applicants proposing Regulated Activities in the Neshaminy Creek watershed that do not fall under the exemption criteria shown in Section 106 shall submit a Stormwater Management (SWM) Site Plan consistent with the Neshaminy Creek Watershed SWM Plan to the Municipality for review. The SWM criteria of this Ordinance shall apply to the total proposed development even if development is to take place in stages. Preparation and implementation of an approved SWM Site Plan is required. No Regulated Activities shall commence until the Municipality issues written approval of a SWM Site Plan, which demonstrates compliance with the requirements of this Ordinance.
2. SWM Site Plans approved by the Municipality, in accordance with Article IV, shall be on-site throughout the duration of the Regulated Activity.
3. The Municipality may, after consultation with the Department of Environmental Protection (PADEP), approve measures for meeting the State water quality requirements other than those in this Ordinance, provided that they meet the minimum requirements of, and do not conflict with, State law including, but not limited to, the Clean Streams Law.
4. For all regulated earth disturbance activities, Erosion and Sediment (E&S) Control Best Management Practices (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, No. 363-2134-008 (April 15, 2000), as amended and updated.
5. For all Regulated Activities, implementation of the volume controls in Section 303 of this Ordinance is required.
6. Impervious areas:
 - A. The measurement of impervious areas shall include all of the impervious areas in the total proposed development even if development is to take place in stages.
 - B. For development taking place in stages, the entire development plan must be used in determining conformance with this Ordinance.
 - C. For projects that add impervious area to a parcel, the total impervious area on the parcel is subject to the requirements of this Ordinance unless the new impervious area is under 5,000 square feet.
7. Stormwater flows onto adjacent property shall not be created, increased, decreased, relocated, or otherwise altered without written notification of the adjacent property owner(s). Such stormwater flows shall be subject to the requirements of this Ordinance.

8. All Regulated Activities shall include such measures as necessary to:
 - A. Protect health, safety, and property.
 - B. Meet the water quality goals of this Ordinance by implementing measures to:
 - (1) Minimize disturbance to floodplains, wetlands, and wooded areas.
 - (2) Create, maintain, repair or extend riparian buffers.
 - (3) Avoid erosive flow conditions in natural flow pathways.
 - (4) Minimize thermal impacts to waters of this Commonwealth.
 - (5) Disconnect impervious surfaces (i.e. Disconnected Impervious Areas, DIAs) by directing runoff to pervious areas, wherever possible.
 - C. To the maximum extent practicable, incorporate the techniques for Low Impact Development Practices (e.g. protecting existing trees, reducing area of impervious surface, cluster development, and protecting open space) described in the Pennsylvania Stormwater Best Management Practices Manual, Pennsylvania Department of Environmental Protection (PADEP) No. 363-0300-002 (2006).
9. Infiltration BMPs should be spread out, made as shallow as practicable, and located to maximize the use of natural on-site infiltration features while still meeting the other requirements of this Ordinance.
10. The design of all facilities over Karst shall include an evaluation of measures to minimize the risk of adverse effects.
11. Storage facilities should completely drain both the volume control and rate control capacities over a period of time not less than 24 and not more than 72 hours from the end of the design storm.
12. The design storm volumes to be used in the analysis of peak rates of discharge should be obtained from the Precipitation-Frequency Atlas of the United States, Atlas 14, Volume 2, Version 3.0, U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Weather Service, Hydrometeorological Design Studies Center, Silver Spring, Maryland. NOAA's Atlas 14 can be accessed at <http://hdsc.nws.noaa.gov/hdsc/pfds/>.
13. For all regulated activities, SWM BMPs shall be designed, 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.

14. Various BMPs and their design standards are listed in the Pennsylvania Stormwater Best Management Practices Manual (PA BMP Manual).

Section 213. Permit Requirements by Other Governmental Entities.

Approvals issued and actions taken under this Ordinance do not relieve the Applicant of the responsibility to secure required permits or approvals for activities regulated by any other code, law, regulation or ordinance.

Section 214. Volume Control.

1. Volume controls will mitigate increased runoff impacts, protect stream channel morphology, maintain groundwater recharge, and contribute to water quality improvements. Stormwater runoff volume control methods are based on the net change in runoff volume for the two-year storm event.
2. Volume controls shall be implemented using the Design Storm Method in Subsection A. or the Simplified Method in Subsection B below. For Regulated Activities equal to or less than one acre, this Ordinance establishes no preference for either methodology; therefore, the Applicant may select either methodology on the basis of economic considerations, the intrinsic limitations of the procedures associated with each methodology, and other factors. All regulated activities greater than one acre must use the Design Storm Method. For small projects that propose 1,000 square feet or less of impervious Subsection D. should be used.

A. Design-Storm Method (Any Regulated Activity): This method requires detailed modeling based on site conditions. For modeling assumptions refer to Section 305.A.

- (1) Post-development total runoff should not be increased from pre-development total runoff for all storms equal to or less than the 2-year 24-hour duration precipitation.
- (2) The following applies in order to estimate the increased volume of runoff for the 2-year 24-hour duration precipitation event:

To calculate the runoff volume (cubic feet) for existing site conditions (pre-development) and for the proposed developed site conditions (post-development), it is recommended to use the soil cover complex method as shown on the following page. The calculated volume shall be either reused, evapotranspired, or infiltrated through structural or nonstructural means.

Soil Cover Complex Method:

Step 1: Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where

P = 2-year Rainfall (in)

S = $(1000 / CN) - 10$, the potential maximum retention
(including initial abstraction, Ia)

Step 2: Runoff Volume (Cubic Feet) = $Q \times \text{Area} \times 1/12$

Q = Runoff (in)

Area = SWM Area (sq ft)

B. Simplified Method (Regulated activities less than or equal to 1 acre):

- (1) Stormwater facilities shall capture the runoff volume from at least the first two inches (2") of runoff from all new impervious surfaces.

Volume (cubic feet) = (2" runoff / 12 inches) * impervious surface (sq ft)

- (2) At least the first inch (1") of runoff volume from the new impervious surfaces shall be permanently removed from the runoff flow—i.e., it shall not be released into the surface waters of the Commonwealth. The calculated volume shall be either reused, evapotranspired or infiltrated through structural or nonstructural means.

Volume (cubic feet) = (1" runoff / 12 inches) * impervious surface (sq ft)

- (3) Infiltration facilities should be designed to accommodate the first half inch (0.5") of the permanently removed runoff.
- (4) No more than one inch (1") of runoff volume from impervious surfaces shall be released from the site. The release time must be over 24 to 72 hours.

C. Stormwater Control Measures: The Applicant must demonstrate how the required volume is controlled through Stormwater Best Management Practices (BMPs) which shall provide the means necessary to capture, reuse, evaporate, transpire or infiltrate the total runoff volume.

- (1) If natural resources exist on the site, the Applicant is required to submit a SWM Site Plan shall determine the total acreage of protected area where no disturbance is proposed. The acreage of the protected area should be subtracted from the total site area and not included in the stormwater management site area acreage used in determining the volume controls.

**Stormwater Management Site Area =
{Total Site Area (for both pre & post development conditions) – Protected Area}**

Natural Resource Areas should be calculated based upon the Municipality's own natural resource protection ordinance. For additional reference see Chapter 5, Section 5.4.1, of the PA BMP manual.

- (2) Calculate the volume controls provided through nonstructural BMPs.
- (3) Volume controls provided through nonstructural BMPs should be subtracted from the required volume to determine the necessary structural BMPs.

$$\text{Required Volume Control (ft}^3\text{)} - \text{Nonstructural Volume Control (ft}^3\text{)} = \text{Structural Volume Requirement (ft}^3\text{)}$$

- (4) Calculate the volume controls provided through structural BMPs. See PA BMP manual, Chapter 6, for description of the BMPs.
- (5) Infiltration BMPs intended to receive runoff from developed areas shall be selected based on the suitability of soils and site conditions. Infiltration BMPs shall be constructed on soils that have the following characteristics:
 - (a) A minimum soil depth of 24 inches between the bottom of the infiltration BMPs and the top of bedrock or seasonally high water table.
 - (b) An infiltration rate sufficient to accept the additional stormwater load and dewater completely as determined by field tests. A minimum of 0.25 inches/hour (in/hr) should be utilized and for acceptable rates a safety factor of 50% should be applied for design purposes (e.g., for soil which measured 0.5 in/hr, the BMP design should use 0.25 in/hr to insure safe infiltration rates after construction).
 - (c) All open-air infiltration facilities shall be designed to completely infiltrate runoff volume within three days (72 hours) from the start of the design storm.
- (6) Soils – A soils evaluation of the project site shall be required to determine the suitability of infiltration facilities. All Regulated Activities are required to perform a detailed soils evaluation by a qualified design professional which at minimum address' soil permeability, depth to bedrock, and subgrade stability. The general process for designing the infiltration BMP shall be:

- (a) Analyze hydrologic soil groups as well as natural and man-made features within the site to determine general areas of suitability for infiltration practices. In areas where development on fill material is under consideration, conduct geotechnical investigations of sub-grade stability; infiltration may not be ruled out without conducting these tests.
- (b) Provide field tests such as double ring infiltrometer or hydraulic conductivity tests (at the level of the proposed infiltration surface) to determine the appropriate hydraulic conductivity rate. Percolation tests are not recommended for design purposes.
- (c) Design the infiltration structure based on field determined capacity at the level of the proposed infiltration surface and based on the safety factor of 50%.
- (d) If on-lot infiltration structures are proposed, it must be demonstrated to the Municipality that the soils are conducive to infiltrate on the lots identified.
- (e) An impermeable liner will be required in detention basins where the possibility of groundwater contamination exists. A detailed hydrogeologic investigation may be required by the Municipality.

D. Small Project Stormwater Management Rate Control Requirements: This Section applies to only small projects (residential and non-residential) that propose less than 1,000 square feet of new impervious.

- (1) Newly planted deciduous trees can reduce runoff volume by 6 cubic feet. Newly planted evergreen trees can reduce runoff volume by 10 cubic feet.
- (2) Projects that proposed between 0 square feet and 500 square feet of new impervious are required to plant trees that would reduce runoff volume by 10 cubic feet. Projects that proposed between 501 square feet and 1,000 square feet of new impervious are required to plant trees that would reduce runoff volume by 20 cubic feet.
- (3) Proposed deciduous or evergreen trees must be selected from the Township's Required Plant Material List from the Subdivision and Land Development Ordinance.
- (4) If an Applicant demonstrates the required number of plantings can not be accommodated on the property the Applicant is required to pay a fee-in-lieu of landscaping in an amount equal to \$350 per tree.

Section 215. Stormwater Peak Rate Control and Management Districts.

Peak rate controls for large storms, up to the 100-year event, is essential in order to protect against immediate downstream erosion and flooding. The following peak rate controls have been determined through hydrologic modeling of the Neshaminy Creek watershed.

1. Standards for managing runoff from each subarea in the Neshaminy Creek Watershed for the 2-, 5-, 10-, 25-, 50-, and 100-year design storms are shown in Table 304.1. Development sites must control proposed development conditions runoff rates to existing conditions runoff rates for the design storms in accordance with Table 304.1 on the following page.

Table 304.1
Peak Rate Runoff Control Standards by Stormwater Management Districts
In The Neshaminy Creek Watershed
(includes Little Neshaminy Creek)

District	Design Storm Post-Development (Proposed Conditions)	Design Storm Pre-Development (Existing Conditions)
New Britain Township	2-year	1-year
	5-year	2-year
	10-year	5-year
	25-year	10-year
	50-year	25-year
	100-year	50-year

2. General – Proposed conditions rates of runoff from any Regulated Activity shall not exceed the peak release rates of runoff from existing conditions for the design storms specified in this Section of the Ordinance.
3. Off-Site Areas – When calculating the allowable peak runoff rates, developers do not have to account for runoff draining into the subject development site from an off-site area. On-site drainage facilities shall be designed to safely convey off-site flows through the development site.
4. Site Areas – The stormwater management site area is the only area subject to the management district criteria. The stormwater management site area included on-site areas that are not proposed to be disturbed, but drain to a proposed stormwater management facility. Non-impacted areas or non-regulated activities bypassing the stormwater management facilities would not be subject to the management district criteria.
5. Criteria for Redevelopment Sites – For redevelopment sites, meet the full requirements specified by Table 304.1 and Sections 304.A through 304.D.

Section 216. Calculation Methodology.

1. The following criteria shall be used for runoff calculations:
 - A. For development sites not considered redevelopment, the ground cover used to determine the existing conditions runoff volume and flow rate shall be as follows:
 - (1) For the wooded portion of sites use a ground cover of “woods in good condition.” An area is classified as wooded if a continuous canopy of trees exists over a 1/8 acre.
 - (2) The undeveloped portion of the site including agriculture, bare earth, and fallow ground shall be considered as “meadow in good condition,” unless the natural ground cover generates a lower curve number (CN) or Rational “c” value (i.e., woods).
 - B. For development and redevelopment sites, the ground cover used to determine the existing conditions runoff volume and flow rate for the developed portion of the site shall be based upon actual land cover conditions, except that 50% of the impervious surface area shall be considered meadow in the model for existing conditions.
2. Stormwater runoff peak discharges from all development sites with a drainage area greater than one acre shall be calculated using a generally accepted calculation technique that is based on the NRCS Soil Cover Complex Method. Table 305.1 summarizes acceptable computation methods. The method selected by the design professional shall be based on the individual limitations and suitability of each method for a particular site. The Municipality may allow the use of the Dekalb Rational Method ($Q=CIA$) to estimate peak discharges from drainage areas that contain one acre or less.

 Q = Peak flow rate, cubic feet per second (CFS)
 C = Runoff coefficient, dependent on land use/cover
 I = Design rainfall intensity, inches per hour
 A = Drainage Area, acres
3. All calculations consistent with this Ordinance using the Soil Cover Complex Method shall use the appropriate design rainfall depths for the various return period storms according to the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 rain data corresponding to the Doylestown rain gage. These rainfall depths are: 2.7" (1-year), 3.3" (2-year), 4.1" (5-year), 4.8" (10-year), 5.8" (25-year), 6.7" (50-year) and 7.6" (100-year). This data may also be directly retrieved from the NOAA Atlas 14 website: hdsc.nws.noaa.gov/hdsc/pfds/orb/pa_pfds.html. If a hydrologic computer model such as PSRM or HEC-1 / HEC-HMS is used for stormwater runoff calculations, then the duration of rainfall shall be 24 hours.

TABLE 305.1
Acceptable Computation Methodologies For
Stormwater Management Plans

METHOD	METHOD DEVELOPED BY	APPLICABILITY
TR-20 (or commercial computer package based on TR-20)	USDA NRCS	Applicable where use of full hydrology computer model is desirable or necessary.
TR-55 (or commercial computer package based on TR-55)	USDA NRCS	Applicable for land development plans within limitations described in TR-55.
HEC-1 / HEC-HMS	U.S. Army Corps of Engineers	Applicable where use of full hydrologic computer model is desirable or necessary.
PSRM	Penn State University	Applicable where use of a hydrologic computer model is desirable or necessary; simpler than TR-20 or HEC-1.
Dekalb Rational Method (or commercial computer package based on Rational Method)	Emil Kuichling (1889)	For sites 1 acre or less, or as approved by the Municipality and/or Municipal Engineer.
Other Methods	Varies	Other computation methodologies approved by the Municipality

4. All calculations using the Rational Method shall use rainfall intensities consistent with appropriate times-of-concentration for overland flow & return periods from NOAA Atlas 14, Volume 2 Version 2.1. Times-of-concentration for overland flow shall be calculated using the methodology presented in Chapter 3 of Urban Hydrology for Small Watersheds, NRCS, TR-55 (as amended from time-to-time by NRCS). Times-of-concentration for channel & pipe flow shall be computed using Manning's equation.
5. Runoff Curve Numbers (CN) for both existing and proposed conditions to be used in the soil cover complex method shall be based on TR-55.
6. Runoff coefficients (C) for both existing and proposed conditions for use in the Rational Method shall be consistent with Table B-7 below.

TABLE B-7. RATIONAL RUNOFF COEFFICIENTS
By Hydrologic Soils Group and Overland Slope (%)

Land Use	A			B			C			D		
	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+
Cultivated Land	0.08	0.13	0.16	0.11	0.15	0.21	0.14	0.19	0.26	0.18	0.23	0.31
	0.14	0.18	0.22	0.16	0.21	0.28	0.20	0.25	0.34	0.24	0.29	0.41
Pasture	0.12	0.20	0.30	0.18	0.28	0.37	0.24	0.34	0.44	0.30	0.40	0.50
	0.15	0.25	0.37	0.23	0.34	0.45	0.30	0.42	0.52	0.37	0.50	0.62
Meadow	0.10	0.16	0.25	0.14	0.22	0.30	0.20	0.28	0.36	0.24	0.30	0.40
	0.14	0.22	0.30	0.20	0.28	0.37	0.26	0.35	0.44	0.30	0.40	0.50
Forest	0.05	0.08	0.11	0.08	0.11	0.14	0.10	0.13	0.16	0.12	0.16	0.20
	0.08	0.11	0.14	0.10	0.14	0.18	0.12	0.16	0.20	0.15	0.20	0.25
Residential Lot Size 1/8 Acre	0.25	0.28	0.31	0.27	0.30	0.33	0.30	0.33	0.36	0.33	0.36	0.42
	0.32	0.37	0.40	0.35	0.39	0.44	0.38	0.42	0.49	0.41	0.45	0.54
Lot Size 1/4 Acre	0.22	0.26	0.29	0.24	0.29	0.33	0.27	0.31	0.36	0.30	0.34	0.40
	0.30	0.34	0.37	0.33	0.37	0.42	0.36	0.40	0.47	0.38	0.42	0.52
Lot Size 1/3 Acre	0.19	0.23	0.26	0.22	0.26	0.30	0.25	0.29	0.34	0.28	0.32	0.39
	0.28	0.32	0.35	0.30	0.35	0.39	0.33	0.38	0.45	0.36	0.40	0.50
Lot Size 1/2 Acre	0.16	0.20	0.24	0.19	0.23	0.28	0.22	0.27	0.32	0.26	0.30	0.37
	0.25	0.29	0.32	0.28	0.32	0.36	0.31	0.35	0.42	0.34	0.38	0.46
Lot Size 1 Acre	0.14	0.19	0.22	0.17	0.21	0.26	0.20	0.25	0.31	0.24	0.29	0.35
	0.22	0.26	0.29	0.24	0.28	0.34	0.28	0.32	0.40	0.31	0.35	0.46
Industrial	0.67	0.68	0.68	0.68	0.68	0.69	0.68	0.69	0.69	0.69	0.69	0.70
	0.85	0.85	0.86	0.85	0.86	0.86	0.86	0.86	0.87	0.86	0.86	0.88
Commercial	0.71	0.71	0.72	0.71	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
	0.88	0.88	0.89	0.89	0.89	0.89	0.89	0.89	0.90	0.89	0.89	0.90
Streets	0.70	0.71	0.71	0.71	0.72	0.74	0.72	0.73	0.76	0.73	0.75	0.78
	0.76	0.77	0.79	0.80	0.82	0.84	0.84	0.85	0.89	0.89	0.91	0.95
Open Space	0.05	0.10	0.14	0.08	0.13	0.19	0.12	0.17	0.24	0.16	0.21	0.28
	0.11	0.16	0.20	0.14	0.19	0.26	0.18	0.23	0.32	0.22	0.27	0.39
Parking	0.85	0.86	0.87	0.85	0.86	0.87	0.85	0.86	0.87	0.85	0.86	0.87
	0.95	0.96	0.97	0.95	0.96	0.97	0.95	0.96	0.97	0.95	0.96	0.97

^a Runoff coefficients for storm recurrence intervals less than 25 years.

^b Runoff coefficients for storm recurrence intervals of 25 years or more.

Source: Rawls, W.J., S.L. Wong and R.H. McCuen, 1981. "Comparison of Urban Flood Frequency Procedures". Preliminary Draft, U.S. Department

7. The Manning equation is preferred for one-dimensional, gradually-varied, open channel flow. In other cases, appropriate, applicable methods should be applied, however, early coordination with the Municipality is necessary.
8. Outlet structures for stormwater management facilities shall be designed to meet the performance standards of this Ordinance using the generally accepted hydraulic analysis technique or method of the Municipality.
9. The design of any stormwater detention facilities intended to meet the performance standards of this Ordinance shall be verified by routing the design storm hydrograph through these facilities using the Storage-Indication Method. For drainage areas greater than one acre in size, the design storm hydrograph shall be computed using a calculation method that produces a full hydrograph. The Municipality may approve the use of any generally accepted full hydrograph approximation technique that shall use a total runoff volume that is consistent with the volume from a method that produces a full hydrograph.

Section 217. Other Requirements.

1. Hot Spots.
 - A. The use of infiltration BMPs is prohibited on hot spot land use areas, such as vehicle fueling stations, public works storage areas, recycling facilities, fleet storage areas, facilities that make or store hazardous materials, etc.
 - B. Stormwater runoff from hot spot land uses shall be pretreated. In no case may the same BMP be employed consecutively to meet this requirement.
2. West Nile Guidance Requirements. All wet basin designs shall incorporate biologic controls to deter the breeding of mosquitoes.

D. Stormwater Management (SWM) Site Plan Requirements.

Section 218. General Requirements.

For any of the activities regulated by this Ordinance, the preliminary or final approval of subdivision and/or land development plans, the issuance of any building or occupancy permit, the commencement of any earth disturbance, or activity may not proceed until the property Owner or Applicant or his/her agent has received written approval of a SWM Site Plan from the Municipality and an approval of an adequate Erosion and Sediment (E&S) Control Plan review from the Municipality or County Conservation District.

Section 219. SWM Site Plan Requirements.

1. The SWM Site Plan shall consist of a general description of the project, including calculations, maps, and plans. A note on the maps shall refer to the associated computations and E&S Control Plan by title and date. The cover sheet of the computations and E&S Control Plan shall refer to the associated maps by title and date. All SWM Site Plan materials shall be submitted to the Municipality in a format that is clear, concise, legible, neat, and well organized; otherwise, the SWM Site Plan shall not be accepted for review and shall be returned to the Applicant.
2. The following items shall be included in the SWM Site Plan:
 - A. General.
 - (1) General description of the project including plan contents described in Section 402.B.
 - (2) General description of proposed SWM techniques to be used for SWM facilities.
 - (3) Complete hydrologic and hydraulic computations for all SWM facilities.

- (4) All reviews and letters of adequacy from the Conservation District for the Erosion & Sedimentation Plan as required by New Britain Township, County or State regulations.
- (5) A general description of proposed nonpoint source pollution controls.
- (6) Appropriate sections from the Municipality's Subdivision and Land Development Ordinance, and other applicable local ordinances, shall be followed in preparing the SWM Site Plan.

B. Plans: SWM Site Plan shall provide the following information:

- (1) The overall stormwater management concept for the project.
- (2) A determination of natural site conditions and stormwater management needs. This shall include, but not be limited to:
 - (a) Site Features:
 - 1) The location of the project relative to highways, municipal boundaries or other identifiable landmarks.
 - 2) The locations of all existing and proposed utilities, sanitary sewers, and water lines on site and to within 50 feet of property lines.
 - 3) Proposed structures, roads, paved areas, and buildings.
 - 4) The total tract boundary and size with distances marked to the nearest foot and bearings to the nearest degree.
 - 5) Plan and profile drawings of all SWM BMP's, including drainage structures, pipes, open channels, and swales. At a minimum this should include pre- and post-drainage area maps, an overall post construction stormwater management plan, stormwater details sheets, and landscape plans (if proposing bio-retention facilities, low impact development, bioretention, or vegetative basins).
 - 6) The locations and minimum setback distances of existing and proposed on-lot wastewater facilities and water supply wells.
 - 7) The location of all erosion and sediment control facilities.

8) The location of proposed septic tank infiltration areas and wells in cases where groundwater recharge measures such as seepage pits, beds or trenches are proposed.

(b) Natural Site Conditions:

1) An Existing Resource and Site Analysis Map (ERSAM) showing environmentally sensitive areas including, but not limited to:

- steep slopes
- ponds
- lakes
- streams
- wetlands
- hydric soils
- hydrologic soil groups A and B
- vernal pools
- stream buffers
- open channels
- existing recharge areas
- floodplains

The area of each of these sensitive areas shall be calculated and should be consistent with the runoff volume calculation Section 303.C.1.

2) A detailed site evaluation for projects proposed in areas of frequent flooding, Karst topography, and other environmentally sensitive areas, such as brownfields and source water protection areas.

3) Existing and proposed contour lines (2 ft).

4) The total extent of the drainage area upstream from the site and all down gradient receiving channels, swales and waters to which stormwater runoff or drainage will be discharged.

(c) Stormwater runoff design computations and documentation as specified in this Ordinance, or as otherwise necessary to demonstrate that the maximum practicable measures have been taken to meet the requirements of this Ordinance, including the recommendations and general requirements in Section 301.

- (d) The effect of the project (in terms of runoff volumes, water quality, and peak flows) on surrounding properties and aquatic features and on any existing stormwater conveyance system that may be affected by the project.

C. The format of the plan shall include the following:

- (1) The expected project time schedule.
- (2) The name of the development, the name and address of the owner of the property, and the name of the individual or firm preparing the plan.
- (3) The date of submission.
- (4) A graphic and written scale of one inch equals no more than 50 feet; for tracts of 20 acres or more, the scale shall be one inch equals no more than 100 feet.
- (5) A north arrow.
- (6) An access easement around all stormwater management facilities is required that would provide ingress to and egress from a public right-of-way. The size of the easement shall commensurate with the maintenance and access requirements determined in the design of the BMP.
- (7) A key map showing all existing man-made features beyond the property boundary that would be affected by the project.
- (8) A note on the plan indicating the location and responsibility for maintenance of stormwater management facilities. All facilities shall meet the performance standards and design criteria specified in this Ordinance.
- (9) The following signature block for the Design Engineer: "I, (Design Engineer), on this date (date of signature), hereby certify that the SWM Site Plan meets all design standards and criteria of The Neshaminy Creek Watershed Act 167 Stormwater Management Ordinance or Plan."
- (10) A statement signed by the Applicant acknowledging that any revision to the approved SWM Site Plan must be approved by the Municipality and that a revised E&S Plan must be submitted to the Conservation District.

D. A soil erosion and sediment control plan, where applicable, as prepared for and submitted to the approval authority.

E. The SWM Site Plan shall include an Operations & Maintenance (O&M) Plan for all existing and proposed physical stormwater management facilities, as well as

schedules and costs for O&M activities. This plan shall address long-term ownership and responsibilities for O&M.

Section 220. Plan Submission.

The Municipality requires submission of a complete SWM Site Plan, as specified in this Ordinance.

- A. Proof of application or documentation of required permit(s) or approvals for the programs listed below shall be part of the plan:
 - (1) NPDES Permit for Stormwater Discharges from Construction Activities.
 - (2) Any other permit under applicable State or Federal regulations.
- B. Six (6) copies of the SWM Site Plan shall be submitted to the following agencies:
 - (1) Two copies to the Municipality accompanied by the requisite municipal review fee, as specified in this Ordinance.
 - (2) Two copies to the County Conservation District.
 - (3) One copy to the Municipal Engineer (where applicable).
 - (4) One copy to the County Planning Commission if the regulated activity is also required to submit a subdivision and/or land development plan to the Planning Commission in accordance with the Pennsylvania Municipal Planning Code.
- C. Any submissions to the agencies listed above that are found to be incomplete shall not be accepted for review and shall be returned to the Applicant with a notification in writing of the specific manner in which the submission is incomplete.
- D. Additional copies shall be submitted as requested by the Municipality or PADEP.

Section 221. Stormwater Management (SWM) Site Plan Review.

- 1. The SWM Site Plan shall be reviewed by a qualified professional on behalf of the Municipality for consistency with the provisions of this Ordinance. After review, the qualified professional shall provide a written recommendation for the Municipality to approve or disapprove the SWM Site Plan. If it is recommended to disapprove the SWM Site Plan, the qualified professional shall state the reasons for the disapproval in writing. The qualified professional also may recommend approval of the SWM Site Plan with conditions and, if so, shall provide the acceptable conditions for approval in writing. The SWM Site Plan review and recommendations shall be completed within the time allowed by the Municipalities Planning Code for reviewing subdivision plans.

2. The Municipality will notify the Applicant in writing within 45 days whether the SWM Site Plan is approved or disapproved. If the SWM Site Plan involves a subdivision and land development plan, the notification period is 90 days. If a longer notification period is provided by other statute, regulation, or ordinance, the Applicant will be so notified by the Municipality. If the Municipality disapproves the SWM Site Plan, the Municipality shall cite the reasons for disapproval in writing.

Section 222. Modification of Plans.

A modification to a submitted SWM Site Plan that involves a change in SWM BMPs or techniques, or that involves the relocation or redesign of SWM BMPs, or that is necessary because soil or other conditions are not as stated on the SWM Site Plan as determined by the Municipality shall require a resubmission of the modified SWM Site Plan in accordance with this Article.

Section 223. Resubmission of Disapproved SWM Site Plans.

A disapproved SWM Site Plan may be resubmitted, with the revisions addressing the Municipality's concerns, to the Municipality in accordance with this Article. The applicable review fee must accompany a resubmission of a disapproved SWM Site Plan.

Section 224. Authorization to Construct and Term of Validity.

The Municipality's approval of an SWM Site Plan authorizes the Regulated Activities contained in the SWM Site Plan for a maximum term of validity of five years following the date of approval. The Municipality may specify a term of validity shorter than five years in the approval for any specific SWM Site Plan. Terms of validity shall commence on the date the Municipality signs the approval for an SWM Site Plan. If an approved SWM Site Plan is not completed according to Section 407 within the term of validity, the Municipality may consider the SWM Site Plan disapproved and may revoke any and all permits. SWM Site Plans that are considered disapproved by the Municipality shall be resubmitted in accordance with Section 406 of this Ordinance.

E. Inspections.

Section 225. Inspections.

1. The Municipality shall inspect all phases of the installation of the Best Management Practices (BMPs) and/or stormwater management (SWM) facilities as deemed appropriate by the Municipality.
2. During any stage of the work, if the Municipality determines that the BMPs and/or stormwater management facilities are not being installed in accordance with the approved SWM Site Plan, the Municipality shall revoke any existing permits or other approvals

and issue a cease and desist order until a revised SWM Site Plan is submitted and approved, as specified in this Ordinance and until the deficiencies are corrected.

3. A final inspection of all BMPs and/or stormwater management facilities may be conducted by the Municipality to confirm compliance with the approved SWM Site Plan prior to the issuance of any Occupancy Permit.
4. The Applicant and/or developer shall be responsible for providing as-built plans of all SWM BMPs included in the approved SWM Site Plan. The as-built plans and an explanation of any discrepancies, which were reviewed and received approval by the Municipality, shall be submitted to the Municipality.
5. The as-built submission shall include a certification of completion signed by a qualified professional verifying that all SWM BMPs have been constructed according to the approved plans and specifications. If any Qualified Professionals contributed to the construction plans, they must sign and seal the completion certificate.

F. Fees and Expenses.

Section 226. Municipal Stormwater Management (SWM) Site Plan Review and Inspection Fee.

Fees shall be established by the Municipality to cover plan review and construction inspection costs incurred by the Municipality. All fees shall be paid by the Applicant at the time of SWM Site Plan submission. A review and inspection fee schedule shall be established by resolution of the municipal governing body based on the size of the Regulated Activity and based on the Municipality's costs for reviewing SWM Site Plans and conducting inspections pursuant to Section 501. The Municipality shall periodically update the review and inspection fee schedule to ensure that review costs are adequately reimbursed.

Section 227. Expenses Covered by Fees.

The fees required by this Ordinance (unless otherwise waived by the Municipality) shall, at a minimum, cover:

- A. Administrative costs.
- B. The review of the Stormwater (SWM) Site Plan by the Municipality.
- C. The review of as-built drawings.
- D. The site inspections.
- E. The inspection of SWM facilities and drainage improvements during construction.
- F. The final inspection at the completion of the construction of the SWM facilities and drainage improvements presented in the SWM Site Plan.

- G. Any additional work required to enforce any permit provisions regulated by this Ordinance, correct violations, and assure proper completion of stipulated remedial actions.

G. Maintenance Responsibilities.

Section 228. Performance Guarantee.

- 1. For subdivisions and land developments, the Applicant shall provide a financial guarantee to the Municipality for the timely installation and proper construction of all stormwater management (SWM) facilities as:
 - A. Required by the approved SWM Site Plan equal to or greater than the full construction cost of the required controls; or
 - B. The amount and method of payment provided for in the Subdivision and Land Development Ordinance.
- 2. For other regulated activities, the Municipality shall require a financial guarantee from the Applicant.

Section 229. Responsibilities for Operations and Maintenance (O&M) of Stormwater Facilities and BMPs.

- 1. The owner of any land upon which stormwater facilities and BMPs will be placed, constructed, or implemented, as described in the stormwater facility and BMP O&M plan, shall record the following documents in the Office of the Recorder of Deeds for Bucks County, within 45 days of approval of the stormwater facility and BMP O&M plan by the Municipality:
 - A. The O&M plan, or a summary thereof;
 - B. O&M agreements under Section 704; and
 - C. Easements under Section 705.
- 2. The Municipality may suspend or revoke any approvals granted for the project site upon discovery of failure on the part of the owner to comply with this Section.
- 3. The following items shall be included in the stormwater facility and BMP O&M plan:
 - A. Map(s) of the project area, in a form that meets the requirements for recording at the offices of the Recorder of Deeds of Bucks County, and shall be submitted on 24-inch x 36-inch sheets. The contents of the maps(s) shall include, but not be limited to:

- (1) Clear identification of the location and nature of stormwater facilities and BMPs.
 - (2) The location of the project site relative to highways, municipal boundaries or other identifiable landmarks.
 - (3) Existing and final contours at intervals of two feet, or others as appropriate.
 - (4) Existing streams, lakes, ponds, or other bodies of water within the project site area.
 - (5) Other physical features including flood hazard boundaries, sinkholes, streams, existing drainage courses, and areas of natural vegetation to be preserved.
 - (6) The locations of all existing and proposed utilities, sanitary sewers, and water lines on site and within 50 feet of property lines of the project site.
 - (7) Proposed final changes to the land surface and vegetative cover, including the type and amount of impervious area that would be added.
 - (8) Proposed final structures, roads, paved areas, and buildings.
 - (9) A 20-foot-wide access easement around all stormwater facilities and BMPs that would provide ingress to and egress from a public right-of-way.
- B. A description of how each stormwater facility and BMP will be operated and maintained, and the identity and contact information associated with the person(s) responsible for O&M.
- C. The name of the project site, the name and address of the owner of the property, and the name of the individual or firm preparing the plan.
- D. A statement, signed by the facility owner, acknowledging that the stormwater facilities and BMPs are fixtures that can be altered or removed only after approval by the Municipality.
4. The stormwater facility and BMP O&M plan for the project site shall establish responsibilities for the continuing O&M of all stormwater facilities and BMPs, as follows:
- A. If a plan includes structures or lots which are to be separately owned and in which streets, sewers and other public improvements are to be dedicated to the

Municipality, stormwater facilities and BMPs may also be offered for dedication to and maintained by the Municipality.

- B. If a plan includes O&M by single ownership, or if sewers and other public improvements are to be privately owned and maintained, the O&M of stormwater facilities and BMPs shall be the responsibility of the owner or private management entity.
5. The Municipality shall make the final determination on the continuing O&M responsibilities. The Municipality reserves the right to accept or reject the O&M responsibility for any or all of the stormwater facilities and BMPs.
 6. Facilities, areas, or structures used as BMPs shall be enumerated as permanent real estate appurtenances and recorded as deed restrictions or conservation easements that run with the land.
 7. The O&M Plan shall be recorded as a restrictive deed covenant that runs with the land.
 8. The Municipality may take enforcement actions against an owner for any failure to satisfy the provisions of this Article and this Ordinance.

Section 230. Municipal Review of Stormwater Facilities and BMP Operations and Maintenance (O&M) Plan.

1. The Municipality shall review the stormwater facilities and BMP O&M plan for consistency with the purposes and requirements of this Ordinance, and any permits issued by PADEP.
2. The Municipality shall notify the Applicant in writing whether the stormwater facility and BMP O&M plan is approved.
3. The Municipality shall require a "Record Drawing" of all stormwater facilities and BMPs.

Section 231. Operations and Maintenance (O&M) Agreement for Privately Owned Stormwater Facilities and BMPs.

1. The owner shall sign an O&M agreement with the Municipality covering all stormwater facilities and BMPs that are to be privately owned. The O&M agreement shall be transferred with transfer of ownership. The agreement shall be prepared by the Municipal Solicitor.

2. Other items may be included in the O&M agreement where determined necessary to guarantee the satisfactory O&M of all stormwater controls and BMPs. The O&M agreement shall be subject to the review and approval of the Municipality.
3. The owner is responsible for the 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.

Section 232. Stormwater Management Easements.

1. The owner must obtain all necessary real estate rights to install, operate, and maintain all stormwater facilities in the SWM Site Plan.
2. The owner must provide the municipal easements, or other appropriate real estate rights, to perform inspections and maintenance for the preservation of stormwater runoff conveyance, infiltration, and detention areas.

H. Prohibitions.

Section 233. Prohibited Discharges.

1. Any drain or conveyance, whether on the surface or subsurface, that allows any non-stormwater discharge, including sewage, process wastewater, and wash water to enter the waters of the Commonwealth is prohibited.
2. No person shall allow, or cause to allow, discharges into surface waters of this Commonwealth which are not composed entirely of stormwater, except (1) as provided in Subsection C. below, and (2) discharges allowed under a State or Federal permit.
3. The following discharges are authorized unless they are determined to be significant contributors to pollution to the waters of the Commonwealth:
 - A. Discharges from firefighting activities.
 - B. Potable water sources, including water line flushing.
 - C. Irrigation drainage.
 - D. Air conditioning condensate.
 - E. Springs.
 - F. Water from crawl space pumps.
 - G. Flows from riparian habitats and wetlands.

- H. Uncontaminated water from foundations or from footing drains.
 - I. Lawn watering.
 - J. De-chlorinated swimming pool discharges (per Department of Environmental Protection (PADEP) requirements).
 - K. Uncontaminated groundwater.
 - L. Water from individual residential car washing.
 - M. Routine external building wash down (which does not use detergents or other compounds).
4. In the event that the Municipality or PADEP determines that any of the discharges identified in Subsection C. significantly contribute to pollution of the waters of this Commonwealth, the Municipality or PADEP will notify the responsible person(s) to cease the discharge.

Section 234. Roof Drains.

Roof drains and sump pumps shall discharge to infiltration or vegetative BMPs and to the maximum extent practicable satisfy the criteria for disconnected impervious areas (DIAs).

Section 235. Alteration of SWM BMPs.

- 1. No person shall modify, remove, fill, landscape, or alter any Stormwater Management (SWM) Best Management Practices (BMPs), facilities, areas, or structures unless it is part of an approved maintenance program and written approval of the Municipality has been obtained.
- 2. No person shall place any structure, fill, landscaping, or vegetation into a stormwater facility or BMP or within a drainage easement which would limit or alter the functioning of the stormwater facility or BMP without the written approval of the Municipality.

H. Enforcement and Penalties.

Section 236. Right-of-Entry.

- 1. Upon presentation of proper credentials, duly authorized representatives of the Municipality may enter at reasonable times upon any property within the municipality to inspect the implementation, condition, or operation and maintenance of the stormwater facilities or Best Management Practices (BMPs) in regard to any aspect governed by this Ordinance.

2. Landowners with stormwater facilities and BMPs on their property shall allow persons working on behalf of the Municipality ready access to all parts of the premises for the purposes of determining compliance with this Ordinance.
3. Persons working on behalf of the Municipality shall have the right to temporarily locate on any stormwater facility or BMP in the municipality such devices as are necessary to conduct monitoring and/or sampling of the discharges from such stormwater facilities or BMP.

Section 237. Inspection.

Stormwater Management (SWM) Best Management Practices (BMPs) should be inspected for proper operation by the landowner, or the owner's designee (including the Municipality for dedicated and owned facilities), according to the following list of minimum frequencies:

- A. Annually for the first five years,
- B. Once every three years thereafter,
- C. During or immediately after the cessation of a ten-year or greater storm, and/or
- D. As specified in the Operations and Maintenance (O&M) agreement.

Section 238. Enforcement.

All inspections regarding compliance with the Stormwater Management (SWM) Site Plan and this Ordinance shall be the responsibility of the Municipality.

- A. Whenever the Municipality finds that a person has violated a prohibition or failed to meet a requirement of this Ordinance, the Municipality may order compliance by written notice to the responsible person. Such notice may, without limitation, require the following remedies:
 - (1) Performance of monitoring, analyses, and reporting.
 - (2) Elimination of prohibited connections or discharges.
 - (3) Cessation of any violating discharges, practices, or operations.
 - (4) Abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property.
 - (5) Payment of a fine to cover administrative and remediation costs.
 - (6) Implementation of stormwater facilities and Best Management Practices (BMPs).
 - (7) Operation and Maintenance (O&M) of stormwater facilities and BMPs.

- B. Such notification shall set forth the nature of the violation(s) and establish a time limit for correction of these violations(s). Said notice may further advise that, if applicable, should the violator fail to take the required action within the established deadline, the work will be done by the Municipality and the expense may be charged to the violator.
- C. Failure to comply within the time specified may subject a violator to the penalty provisions of this Ordinance. All such penalties shall be deemed cumulative and shall not prevent the Municipality from pursuing any and all other remedies available in law or equity.

Section 239. Suspension and Revocation of Permits and Approvals.

- 1. Any building, land development, or other permit or approval issued by the Municipality may be suspended or revoked, in whole or in part, by the Municipality for:
 - A. Noncompliance with or failure to implement any provision of the permit;
 - B. A violation of any provision of this Ordinance; or
 - C. The creation of any condition or the commission of any act during construction or development which constitutes or creates a hazard or nuisance, pollution or which endangers the life, health, or property of others.
- 2. A suspended permit may be reinstated by the Municipality when:
 - A. The Municipality has inspected and approved the corrections to the stormwater facilities and BMPs or the elimination of the hazard or nuisance; and
 - B. The Municipality is satisfied that all applicable violations in this Ordinance have been corrected.
- 3. Any permit or approval that has been revoked by the Municipality cannot be reinstated. The Applicant may apply for a new permit under the procedures outlined of this Ordinance.

Section 240. Penalties.

- 1. Any person violating the provisions of this Ordinance shall be subject to penalties that may range from liens against the property to fines for each violation, recoverable with costs. Each day that the violation continues shall constitute a separate offense and the applicable fines are cumulative.
- 2. In addition, the Municipality may institute injunctive, mandamus or any other appropriate action or proceeding at law or in equity for the enforcement of this Ordinance. Any court

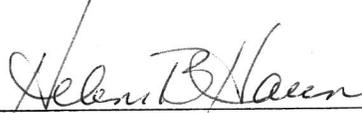
of competent jurisdiction shall have the right to issue restraining orders, temporary or permanent injunctions, mandamus, or other appropriate forms of remedy or relief.

Section 241. Appeals.

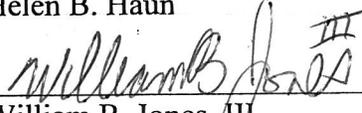
1. As per the Pennsylvania Municipalities Planning Code (MPC), Section 909.1(9), any person aggrieved by any action pursuant to this Ordinance may appeal to New Britain Township Zoning Hearing Board within 30 days of that action.
2. Any person aggrieved by any decision of New Britain Township Board of 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 Municipal decision.

ENACTED and ORDAINED at a regular meeting of the Board of Supervisors of New Britain Township on the 4th of April, 2011.

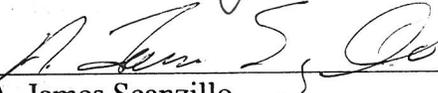
NEW BRITAIN TOWNSHIP
BOARD OF SUPERVISORS



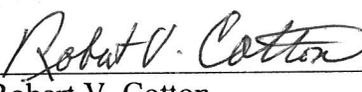
Helen B. Haun



William B. Jones, III



A. James Scanzillo



Robert V. Cotton

ATTEST:



Eileen M. Bradley, Secretary

John A. Bodden, Sr.

I hereby certify that the foregoing Ordinance was advertised in the Intelligencer (name of publication) on March 28, 2011, a newspaper of general circulation in the Municipality and was duly enacted and approved as set forth at a regular meeting of the Municipality's governing body held on April 4, 2011.



Eileen M. Bradley, Secretary