CHAPTER 28

STORMWATER MANAGEMENT

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§101. Short Title. This Chapter shall be known and may be cited as the “Borough of New Holland Stormwater Management (SWM) Ordinance.” (Ord. 568, 5/6/2014, §101)

§102. Statement of Findings. The governing body of the Borough of New Holland finds that:

A. Inadequate management of accelerated stormwater runoff resulting from development throughout a watershed increases flood flows and velocities, contributes to erosion and sedimentation, overtaxes the carrying capacity of existing streams and storm sewers, greatly increases the cost of public facilities to convey and manage stormwater, undermines floodplain management and flood control efforts in downstream communities, reduces groundwater recharge, threatens public health and safety, and increases nonpoint source pollution of water resources.

B. A comprehensive program of 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 Borough of New Holland and all the people of the Commonwealth, their resources, and the environment.

C. Stormwater is an important water resource, which provides groundwater recharge for water supplies and base flow of streams, which also protects and maintains surface water quality.

D. Federal and State regulations require certain municipalities to implement a program of stormwater controls. These municipalities are required to obtain a permit for stormwater discharges from their municipal separate storm sewer systems (MS4) under the National Pollutant Discharge Elimination System (NPDES).

E. Riparian forest buffers enhance water quality by filtering pollutants in runoff, providing light control and temperature moderation, processing pollutants, increasing infiltration and providing channel and shoreline stability thus decreasing erosion (DEP Riparian Forest Buffer Guidance, November 27, 2010).

(Ord. 568, 5/6/2014, §102)

§103. Purpose. The purpose of this Chapter is to promote health, safety, and welfare by minimizing the harms and maximizing the benefits described in §102 of this Chapter through provisions designed to:

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

B. Preserve the natural drainage systems as much as practicable.

C. Manage stormwater runoff close to the source.

D. Provide procedures and performance standards for stormwater planning and management.
E. Maintain groundwater recharge to prevent degradation of surface and groundwater quality and to otherwise protect water resources.

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

G. Provide proper operation and maintenance of all stormwater management best management practices (SWM BMPs) that are implemented within the Borough of New Holland.

H. Provide standards to meet NPDES permit requirements.

I. Promote stormwater runoff prevention through the use of nonstructural best management practices (BMPs).

J. Provide a regulatory environment that supports the proportion, density and intensity of development called for in the comprehensive plan; allow for creative methods of improving water quality and managing stormwater runoff; and promote a regional approach to water resource management.

K. Help preserve and protect exceptional natural resources, and conserve and restore natural resource systems.

L. Promote stormwater management practices that emphasize infiltration, evaporation, and transpiration.

M. Preserve and restore the flood-carrying capacity of streams within the Conestoga River watershed and the Mill Creek watershed.

(Ord. 568, 5/6/2014, §103)

§104. Statutory Authority.


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

(Ord. 568, 5/6/2014, §104)

§105. Applicability.

1. The provisions, regulations, limitations, and restrictions of this Chapter shall apply to regulated activities, as defined in this Chapter.

2. For any of the activities regulated by this Chapter, the final approval of subdivision and/or land development plans, the issuance of any building or occupancy permit, or the commencement of any land disturbance activity may not proceed until the property owner or developer or his/her agent has received written approval of a stormwater management site plan from the Borough or its designee.
3. Any landowner or any person engaged in the alteration or development of land which may affect stormwater runoff characteristics shall implement such measures consistent with this Chapter.  

(Ord. 568, 5/6/2014, §105)

§106. Compatibility with Other Ordinance Requirements. Approvals issued pursuant to this Chapter 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. (Ord. 568, 5/6/2014, §106)

§107. Erroneous Permit. Any permit or authorization issued or approved based on false, misleading or erroneous information provided by an applicant is void without the necessity of any proceedings for revocation. Any work undertaken or use established pursuant to such permit or other authorization is unlawful. No action may be taken by a board, agency or employee of the Borough of New Holland purporting to validate such a violation. (Ord. 568, 5/6/2014, §107)

§108. Municipal Liability. Except as specifically provided by the Pennsylvania Storm Water Management Act, Act of October 4, 1978, P.L. 864, No. 167, as amended, 32 P.S. §680.1 et seq., the making of any administrative decision by the Borough of New Holland or any of its officials or employees shall not constitute a representation, guarantee or warranty of any kind by the Borough of New Holland of the practicability or safety of any proposed structure or use with respect to damage from erosion, sedimentation, stormwater runoff, flood, or any other matter, and shall create no liability upon or give rise to any cause of action against the Borough of New Holland and its officials and employees. Borough of New Holland, by enacting and amending this Chapter, does not waive or limit any immunity granted to the Borough of New Holland and its officials and employees by the Governmental Immunity Act, 42 Pa.C.S. §8541 et seq., and does not assume any liabilities or obligations. (Ord. 568, 5/6/2014, §108)

§109. Duty of Persons Engaged in the Development of Land. Notwithstanding any provision(s) of this Chapter, including exemptions, any landowner or any person engaged in the alteration or development of land which may affect stormwater runoff characteristics shall implement such measures as are reasonably necessary to prevent injury to health, safety, or other property. Such measures also shall include actions as are required to manage the rate, volume, direction, and quality of resulting stormwater runoff in a manner which otherwise adequately protects health, property, and water quality. (Ord. 568, 5/6/2014, §109)


1. A financial security (bond, restricted account or letter of credit) for stormwater related improvements shall be supplied by the developer in conjunction with the subdivision/land development approval, or in conjunction with the SWM site plan approval if no subdivision/land development plan is required.

2. The applicant shall provide a financial security to the Borough of New Holland for the timely installation and proper construction of all SWM
facilities, including E&S BMPS, as required by the approved SWM site plan and this Chapter and, as applicable, in accordance with the provisions of §§509, 510, and 511 of the MPC.

3. As the work of installing the required SWM facilities proceeds, the party posting the financial security may request the governing body to release or authorize the release, from time to time, such portions of the financial security necessary for payment to the contractor or contractors performing the work. Any such requests shall be in writing addressed to the governing body, and the governing body shall have forty-five (45) days from receipt of such request within which to allow the municipal engineer to certify, in writing, to the governing body that such portion of the work upon the SWM facilities has been completed in accordance with the approved SWM site plan. Upon such certification the governing body shall authorize release by the bonding company or lending institution of an amount as estimated by the municipal engineer fairly representing the value of the SWM facilities completed. The governing body may, prior to final release at the time of completion and certification by its engineer, require retention of ten percent (10%) of the estimated cost of the aforesaid SWM facilities.

4. In the event that any SWM facilities which may be required have not been installed as provided in the approved SWM site plan the governing body of the Borough of New Holland is hereby granted the power to enforce any corporate bond, or other security by appropriate legal and equitable remedies. If proceeds of such bond, or other security are insufficient to pay the cost of installing or making repairs or corrections to all the SWM facilities covered by said security, the governing body of the Borough of New Holland may, at its option, install part of such SWM facilities and may institute appropriate legal or equitable action to recover the monies necessary to complete the remainder of the SWM facilities. All of the proceeds, whether resulting from the security or from any legal or equitable action brought against the developer, or both, shall be used solely for the installation of the SWM facilities covered by such security, and not for any other municipal purpose.

(Ord. 568, 5/6/2014, §110)
Part 2
Definitions of Terms

§201. Interpretation and Word Usage. The language set forth in the text of this Chapter shall be interpreted in accordance with the following rules of construction:

A. Words used or defined in one tense or form shall include other tenses or derivative forms.

B. Words in the singular number shall include the plural number, and words in the plural number shall include the singular number.

C. The masculine gender shall include the feminine and neuter. The feminine gender shall include the masculine and neuter. The neuter gender shall include the masculine and feminine.

D. The word "person" includes individuals, firms, partnerships, joint ventures, trusts, trustees, estates, corporations, associations and any other similar entities.

E. The word "lot" includes the words "plot," "tract," and "parcel."

F. The words "shall," "must" and "will" are mandatory in nature and establish an obligation or duty to comply with the particular provision. The words "may" and "should" are permissive.

G. The time, within which any act required by this Chapter is to be performed, shall be computed by excluding the first day and including the last day. However, if the last day is a Saturday or Sunday or a holiday declared by the United States Congress or the Pennsylvania General Assembly, it shall also be excluded. The word "day" shall mean a calendar day, unless otherwise indicated.

H. Any words not defined in this Chapter or in §107 of the MPC shall be construed as defined in standard dictionary usage.

I. References to officially adopted regulations, standards, or publications of DEP or other governmental agencies shall include the regulation, publication, or standard in effect on the date when a SWM site plan is first filed. It is the intent of the (governing body) in enacting this Section to incorporate such changes to statutes, regulations, and publications to the extent authorized by 1 Pa.C.S. §1937.

(Ord. 568, 5/6/2014, §201)

§202. Definitions of Terms.

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

ACCESS EASEMENT - a right granted by a landowner to a grantee, allowing entry for the purpose of inspecting, maintaining and repairing SWM facilities.

ACT 167 PLAN - a plan prepared under the authority of Pennsylvania’s Storm Water Management Act of October 4, 1978, and/or the plan for managing
stormwater runoff in the Conestoga River Watershed adopted by Berks, Chester and Lancaster Counties as required by the Storm Water Management Act, and known as the Conestoga River Watershed Act 167 Stormwater Management Plan or the plan for managing stormwater runoff in the Mill Creek Watershed adopted by Lancaster County as required by the Storm Water Management Act, and known as the Mill Creek Watershed Act 167 Stormwater Management Plan.

AGRICULTURAL ACTIVITY - activities associated with agriculture such as agricultural cultivation, agricultural operation, and animal heavy use areas. This includes the work of producing crops and raising livestock including tillage, land clearing, plowing, diskng, harrowing, planting, harvesting crops, or pasturing and raising of livestock and installation of conservation practices. Construction of new buildings or impervious areas is not considered an agricultural activity. This definition also includes noncommercial greenhouses and mushroom houses.

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; the changing of surface conditions by causing the surface to be more or less impervious; earth disturbance activity. As applied to buildings or structures, any change in the supporting members of a building or structure such as bearing walls, columns, beams or girders, joists or rafters, or enclosing walls; any renovation to a building which would change its use.

ANIMAL HEAVY USE AREAS - a barnyard, feedlot, loafing area, exercise lot, or other similar area on an agricultural operation where due to the concentration of animals, it is not possible to establish and maintain vegetative cover of a density capable of minimizing accelerated erosion and sedimentation by usual planting methods. The term does not include entrances, pathways and walkways between areas where animals are housed or kept in concentration.

APPLICANT - a landowner and/or developer, as hereinafter defined, including his heirs, successors and assigns, who has filed an application to the municipality for approval to engage in any regulated activity at a development site located within the municipality.

BASE FLOOD - the flood having a one percent (1%) chance of being equaled or exceeded in any given year (one hundred (100) year flood).

BMP (BEST MANAGEMENT PRACTICE) - activities, facilities, control measures, planning or procedures used to minimize accelerated erosion and sedimentation and manage stormwater to protect, maintain, reclaim, and restore the quality of waters and the existing and designated uses of waters within this Commonwealth before, during and after earth disturbance activities. See also "non-structural BMP" and "structural BMP."


BASE FLOOD ELEVATION - the projected flood height of the base flood.

BUILDING - any structure with a roof intended for shelter or enclosure of persons, animals or property. For the purpose of Section 230 (Floodplain) of the New Holland Borough Zoning Ordinance, this term shall also include gas or liquid storage tanks.

ATTACHED - a building which has two (2) or more party walls in common.
DETACHED - a building which has no party wall.

SEMI-DETACHED - a building which has only one party wall in common.

CARBONATE GEOLOGY - limestone or dolomite bedrock or other carbonate-based rock. Carbonate geology is often associated with Karst topography.

CERTIFICATE OF COMPLETION - documentation verifying that all permanent SWM facilities have been constructed according to the plans and specifications and approved revisions thereto.

CHANNEL - a natural or artificial watercourse with a definite bed and banks which confine and conduct continuously or periodically flowing water.

CHANNEL FLOW - that water which is flowing within the limits of a defined channel.


CISTERN - a reservoir or tank for storing rainwater.


CONSERVATION DISTRICT - Lancaster County Conservation District.

CONSERVATION PLAN - a plan written by an NRCS certified planner that identifies conservation practices and includes site specific BMPs for agricultural plowing or tilling activities and animal heavy use areas.

CONSERVATION PRACTICES - practices installed on agricultural lands to improve farmland, soil and/or water quality which have been identified in a current conservation plan.

CONVEYANCE - (n) any structure that carries a flow. (v) the ability of a pipe, culvert, swale or similar facility to carry the peak flow from the design storm.

CULVERT - a structure with appurtenant works which can convey a stream under or through an embankment or fill.

DAM - an artificial barrier, together with its appurtenant works, constructed for the purpose of impounding or storing water or another fluid or semifluid, or refuse bank, fill or structure for highway, railroad or other purposes which does or may impound water or another fluid or semifluid. The dam falls under the requirements of Chapter 105, Dam Safety and Waterway Management, if the following are true:

A. The contributory drainage area exceeds one hundred (100) acres.

B. The greatest depth of water measured by upstream toe of the dam at maximum storage elevation exceeds fifteen (15) feet.

C. The impounding capacity at maximum storage elevation exceeds fifty (50) acre-feet.
DEP also PA DEP or PADEP - the Pennsylvania Department of Environmental Protection or any agency successor to the Pennsylvania Department of Environmental Protection.

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

DESIGNEE - the agent of a municipal governing body involved with the administration, review or enforcement of any provisions of this Chapter by contract or memorandum of understanding.

DETENTION BASIN - an impoundment structure designed to manage stormwater runoff by temporarily storing the runoff and releasing it at a controlled rate.

DEVELOPER - a person who undertakes any regulated activity of this Chapter.

DEVELOPMENT - any manmade change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations.

DEVELOPMENT SITE (SITE) - the specific area of land where regulated activities in the municipality are planned, conducted or maintained.

DISAPPEARING STREAM - a stream in an area underlain by carbonate geology that flows underground for a portion of its length.

DISTURBED AREA - a land area where an earth disturbance activity is occurring or has occurred.

DRAINAGE EASEMENT - rights to occupy and use another person's real property for the installation and operation of stormwater management facilities, or for the maintenance of natural drainage ways to preserve and maintain a channel for the flow of stormwater therein, or to safeguard health, safety, property, and facilities.

DRAINAGE PERMIT - a permit issued by the municipal governing body after the stormwater management site plan has been approved. Said permit is issued prior to or with the final municipal approval.

E&S - erosion and sediment.

E&S PLAN (also EROSION AND SEDIMENT CONTROL PLAN) - a site-specific plan consisting of both drawings and a narrative that identifies BMPs to minimize accelerated erosion and sedimentation before, during and after earth disturbance activities.

EARTH DISTURBANCE ACTIVITY - a construction or other human activity which disturbs the surface of the land, including, but not limited to: clearing and grubbing; grading; excavations; embankments; land development; agricultural plowing or tilling; operation of animal heavy use areas; timber harvesting activities; road maintenance activities; oil and gas activities; well drilling; mineral extraction; building construction; and the moving, depositing, stockpiling, or storing of soil, rock, or earth materials.

EFFECTIVE AGRICULTURAL ZONE - zoning that allows one (1) lot for every twenty (20) or more acres of the parent tract.
ENVIRONMENTALLY SENSITIVE AREA - slopes greater than fifteen percent (15%), shallow bedrock (located within six (6) feet of ground surface), wetlands, natural heritage areas and other areas designated as conservation or preservation in Greenscapes, the Green Infrastructure Element of the County Comprehensive Plan, where encroachment by land development or land disturbance results in degradation of the natural resource.

EPHEMERAL STREAM - a transient stream; one that flows for a relatively short time.

EROSION - the natural process by which the surface of the land is worn away by water, wind, or chemical action. See also "accelerated erosion" as defined above.

EXISTING CONDITIONS - the dominant land cover during the five (5) year period immediately preceding a proposed regulated activity.


FIVE HUNDRED (500) YEAR FLOOD - a flood that, on the average, is likely to occur once every five hundred (500) years.

FIVE HUNDRED (500) YEAR FLOOD BOUNDARY - the outer boundary of an area of land that is likely to be flooded once every five hundred (500) years (i.e., which has a one-fifth-of-one-percent (.20%) chance of being flooded each year), as determined by the Flood Insurance Study as may from time to time be promulgated by the Federal Emergency Management Association.

FIVE HUNDRED (500) YEAR FLOOD ELEVATION - the water surface elevations of the five hundred (500) year floodplain.

FLOOD - a general and temporary condition of partial or complete inundation of normally dry land areas from the overland flow of watercourses, or from the unusual and rapid accumulation or runoff of surface water from any source.

FLOOD ELEVATION - the projected heights, in relation to the National Geodetic Vertical Datum of 1929 (NGVD), reached by floods of various magnitudes and frequencies in the floodplain areas.

FLOOD FRINGE - that portion of the floodplain outside of the floodway.3

FLOOD OF RECORD - the flood which has reached the highest flood elevation above mean sea level at a particular location.

FLOODPLAIN - any land area susceptible to inundation by water from any natural source or delineated by applicable Department of Housing and Urban Development, Federal Insurance Administration Flood Hazard Boundary - Mapped as being a special flood hazard area. Also, the area of inundation that functions as a storage or holding area for floodwater to a width required to contain a base flood of which there is a one percent (1%) chance of occurrence in any given year. The floodplain contains both the floodway and the flood fringe.


FLOODPROOF - any combination of structural and non-structural additions, changes or adjustments to structures which reduce or eliminate flood damage to property, structures and their contents.
FLOODWAY - that portion of the floodplain which is effective in carrying flow, within which this carrying capacity must be preserved and where the flood hazard is generally highest, i.e., where water depths and velocities are the greatest. It is the channel of a watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the base flood elevation more than one foot (1').

FOREST MANAGEMENT/TIMBER OPERATIONS - planning and activities necessary for the management of forest land. These include conducting a timber inventory and preparation of forest management plans, silvicultural treatment, cutting budgets, logging road design and construction, timber harvesting, site preparation and reforestation.

FREEBOARD - a vertical distance between the maximum design highwater elevation and the top of a dam, levee, tank, basin or diversion ridge.

FREQUENCY - the probability or chance that a given storm event/flood will be equaled or exceeded in a given year.

GRADE - (n) a slope, usually of a road, channel or natural ground specified in percent and shown on plans as specified herein. (v) to finish the surface of a roadbed, top of embankment or bottom of excavation.

GROUNDWATER RECHARGE - the process by which water from above the ground surface is added to the saturated zone of an aquifer, either directly or indirectly.

HYDROLOGIC SOIL GROUP (HSG) - refers to soils grouped according to their runoff-producing characteristics by NRCS. There are four (4) runoff potential groups ranging from A to D.

A. (Low runoff potential) Soils having high infiltration rates even when thoroughly wetted and consisting chiefly of deep, well to excessively drained sands or gravels. These soils have a high rate of water transmission (greater than thirty hundredths (0.30) inches/hour).

B. Soils having moderate infiltration rates when thoroughly wetted and consisting chiefly of moderately deep to deep, moderately well-to-well drained soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission (from fifteen hundredths (0.15) to thirty hundredths (0.30) inches/hour).

C. Soils having slow infiltration rates when thoroughly wetted and consisting chiefly of soils with a layer that impedes downward movement of water, or soils with moderately fine to fine texture. These soils have a slow rate of water transmission (from five hundredths (0.05) to fifteen hundredths (0.15) inches/hour).

D. (High runoff potential) Soils having very slow infiltration rates when thoroughly wetted and consisting chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a clay pan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission (from zero (0) to five hundredths (0.05) inches/hour).

IMPERVIOUS SURFACE (IMPERVIOUS AREA) - surfaces which prevent the infiltration of water into the ground. All structures, buildings, parking areas, driveways, roads, streets, sidewalks, decks, and any areas of
concrete, asphalt, packed stone, and compacted soil shall be considered impervious surface if they prevent infiltration.

IMPOUNDMENT - a retention or detention facility designed to retain stormwater runoff and infiltrate it into the ground (in the case of a retention basin) or release it at a controlled rate (in the case of a detention basin).

INFILTRATION STRUCTURES - a structure designed to direct runoff into the ground (e.g., french drains, seepage pits, seepage trench, rain gardens, vegetated swales, pervious paving, infiltration basins, etc.).

INLET - a surface connection to a closed drain. The upstream end of any structure through which water may flow.

INTERMITTENT - a natural, transient body or conveyance of water that exists for a relatively long time, but for weeks or months of the year is below the local water table and obtains its flow from both surface runoff and groundwater discharges.

INVASIVE VEGETATION (INVASIVES) - plants which grow quickly and aggressively, spreading, and displacing other plants. Invasives typically are introduced into a region far from their native habitat. See Invasive Plants in Pennsylvania by the Department of Conservation and Natural Resources.

KARST - a type of topography or landscape characterized by features including, but not limited to, 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 (1) lot or two (2) or more contiguous lots, tracts or parcels of land for any purpose involving:

   (1) A group of two (2) 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; orb. 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. Any subdivision of land.

C. Development in accordance with §503(1.1) of the Pennsylvania Municipalities Planning Code.

LANDOWNER - the legal or beneficial owner or owners of land including the holder of an option or contract to purchase (whether or not such option or contract is subject to any condition), a lessee if he is authorized under the lease to exercise the rights of the landowner, or other person having a proprietary interest in land, shall be deemed to be a landowner for the purposes of this Chapter.

LAND DISTURBANCE - any activity involving grading, tilling, digging or filling of ground of stripping of vegetation or any other activity that causes an alteration to the natural condition of the land.
LIMITING ZONE - a rock formation, other stratum, or soil condition which is so slowly permeable that it effectively limits downward passage of effluent. Season high water tables, whether perched or regional, also constitute a limiting zone.\(^{12}\)

LINEAMENT - a linear feature in a landscape which is an expression of an underlying geological structure such as a fault.

MAIN STEM (MAIN CHANNEL) - any stream segment or other runoff conveyance facility used as a reach in the Conestoga River or Mill Creek hydrologic model.

MANNING’S EQUATION - an equation 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. Manning’s Equation assumes steady, gradually varied flow.

MEMORANDUM OF UNDERSTANDING - an agreement between the Borough of New Holland and the Lancaster County Conservation District to provide for cooperation between the Lancaster County Conservation District and the New Holland Borough officials, Lancaster County, to include within its ordinances, and to jointly promote conservation of natural resources within the Borough of New Holland on lands both public and private, for the purposes of preventing accelerated soil erosion and sedimentation of streams, reducing stormwater damage, and promoting the health, safety and general welfare of the residents of New Holland.

MAXIMUM EXTENT PRACTICABLE (MEP) - applies when the applicant demonstrates to the Borough of New Holland’s satisfaction that the performance standard is not achievable. The applicant shall take into account the best available technology, cost effectiveness, geographic features, and other competing interests such as protection of human safety and welfare, protection of endangered and threatened resources, and preservation of historic properties in making the assertion that the performance standard cannot be met and that a different means of control is appropriate.\(^{5}\)

MAXIMUM FLOOD ELEVATION - the water surface elevation of a flood which would completely fill the floodplain to the boundaries of the Floodplain Zone.

MEAN SEA LEVEL - the average height of the sea for all stages of the tide, using the National Geodetic Vertical Datum of 1929.


MUNICIPAL SEPARATE STORM SEWER - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains), which is all of the following: (A) owned or operated by a State, city, town, borough, township, county, district, association or other public body (created under State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater or other wastes; (B) designed or used for collecting or conveying stormwater; (C) not a combined sewer; and (D) not part of a publicly owned treatment works as defined at 40 CFR §122.2.

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) - all separate storm sewers that are defined as “large” or “medium” or “small” municipal separate storm
sewer systems pursuant to 40 CFR §§122.26(b)(18), or designated as regulated under 40 CFR §122.26(a)(1)(v).

MUNICIPALITY - the Borough of New Holland, Lancaster County, Pennsylvania.

NRCS - Natural Resources Conservation Service (previously Soil Conservation Service, or SCS).

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) - a permit issued under 25 Pa.Code, Chapter 92a (relating to National Pollutant Discharge Elimination System permitting, monitoring and compliance), for the discharge or potential discharge of pollutants from a point source to surface waters.

NATIVE VEGETATION - plant species that have evolved or are indigenous to a specific geographical area. These plants are adapted to local soil and weather conditions as well as pests and diseases.

NATURAL DRAINAGEWAY - an existing channel for water runoff that was formed by natural processes.

NATURAL GROUND COVER - ground cover which mimics the infiltration characteristics of predominant hydrologic soil group found at the site.

NONPOINT SOURCE POLLUTION - any source of water pollution that does not meet the legal definition of "point source" in §502(14) of the Clean Water Act.

NON-STRUCTURAL BMPs - planning and design approaches, operational and/or behavior-related practices which minimize stormwater runoff generation resulting from an alteration of the land surface or limit contact of pollutants with stormwater runoff.

NPDES - the US EPA's National Pollutant Discharge Elimination System, which regulates point discharges (discrete conveyances such as pipes or man-made ditches).

NRCS - Natural Resources Conservation Service (previously SCS).

ONE HUNDRED (100) YEAR FLOOD - a flood that, on the average, is likely to occur once every one hundred (100) years (i.e., that has a one percent (1%) chance of occurring each year, although the flood may occur in any year).

ONE HUNDRED (100) YEAR FLOOD BOUNDARY - the outer boundary of an area of land that is likely to be flooded once every one hundred (100) years (i.e., that has a one percent (1%) chance of being flooded each year). A study by the Federal Insurance Administration, the United States Army Corps of Engineers, the United States Department of Agriculture’s Soil Conservation Service, the United States Geological Survey, the Susquehanna River Basin Commission, or a licensed surveyor or professional engineer, registered by the Commonwealth of Pennsylvania is necessary to define this boundary.

ONE HUNDRED (100) YEAR FLOOD ELEVATION - the water surface elevations of the one hundred (100) year flood.

OPEN CHANNEL - a drainage element in which stormwater flows with an open surface. Open channels include, but shall not be limited to, natural and man-made drainage ways, swales, streams, ditches, canals, and pipes flowing
partly full. Open channels may include closed conduits so long as the flow is not under pressure.

OUTFALL - point where water flows from a conduit, stream, pipe, or drain.

OUTLET - points of water disposal from a stream, river, lake, tidewater or artificial drain.

PARKING LOT STORAGE - involves the use of impervious parking areas as temporary impoundments with controlled release rates during rainstorms.

PARENT TRACT - all contiguous land held in single and separate ownership, regardless of whether (A) such land is divided into one (1) or more lots, parcels, purparts or tracts; (B) such land was acquired by the landowner at different times or by different deeds, devise, partition or otherwise; or (C) such land is bisected by public or private streets or rights-of-way, which was held by the landowner or his predecessor in title on the effective date of this Chapter.

PEAK DISCHARGE - the maximum rate of stormwater runoff from a specific storm event.

PENNDOT or PADOT - the Pennsylvania Department of Transportation or any agency successor thereto.

PERVIOUS AREA - any material/surface that allows water to pass through at a rate equal to or greater than natural ground cover.

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

PLANS - the SWM and erosion and sediment control plans and narratives.

PLANNING COMMISSION - the Planning Commission of New Holland Borough.

PMF - PROBABLE MAXIMUM FLOOD - the flood that may be expected from the most severe combination of critical meteorologic and hydrologic conditions that are reasonably possible in any area. The PMF is derived from the probable maximum precipitation (PMP) as determined on the basis of data obtained from the National Oceanographic and Atmospheric Administration (NOAA).

PROCESS WASTEWATER - water that comes in contact with any raw material, product, by-product, or waste during any production or industrial process.

QUALIFIED PERSON - any person licensed by the Pennsylvania Department of State or otherwise qualified by law to perform the work required by this Chapter.

RATE CONTROL - SWM controls used to manage the peak flows for the purposes of channel protection and flood mitigation.

RATIONAL FORMULA (RATIONAL METHOD) - a rainfall-runoff relation used to estimate peak flow.

RECORD PLAN - where a regulated activity constitutes a subdivision or land development, the final subdivision or land development plan which contains the information the ordinance requires. Where a regulated activity does not constitute a subdivision or land development, a stormwater management site plan containing all required information and prepared in a form acceptable to the Office of the Recorder of Deeds for recording.
REDEVELOPMENT - any physical improvement to a previously developed lot that involves earthmoving, removal, or addition of impervious surfaces.

REGIONAL STORMWATER MANAGEMENT PLAN - a plan to manage stormwater runoff from an area larger than a single development site. A Regional Stormwater Management Plan could include two (2) adjacent parcels, an entire watershed, or some defined area in between. Regional Stormwater Management Plans can be prepared for new development, or as a retrofit to manage runoff from already developed areas.

REGULATED ACTIVITIES - activities, including earth disturbance activities that involve the alteration or development of land in a manner that may affect stormwater runoff. Regulated activities shall include, but not be limited to:

A. Land development subject to the requirements of the New Holland Borough Subdivision and Land Development Ordinance [Chapter 22].
B. Removal of ground cover, grading, filling or excavation.
C. Construction of new or additional impervious or semi-impervious surfaces (driveways, parking lots, etc.), and associated improvements.
D. Construction of new buildings or additions to existing buildings.
E. Installation or alteration of stormwater management facilities and appurtenances thereto.
F. Diversion or piping of any watercourse.
G. Any other regulated activities where the municipality determines that said activities may affect any existing watercourse’s stormwater management facilities, or stormwater drainage patterns.

RELEASE RATE - for a specific design storm or list of design storms, the percentage of peak flow rate for existing conditions which may not be exceeded for the proposed conditions.

RELEASE RATE MAP - a graphical representation of the release rates for a specific area.

RETURN PERIOD - the average interval, in years, within which a storm event of a given magnitude can be expected to recur. For example, the twenty-five (25) year return period rainfall would be expected to recur on the average once per every twenty-five (25) years.

RETENTION BASIN - a stormwater management facility that includes a permanent pool for water quality treatment and additional capacity above the permanent pool for temporary runoff storage.

RIPARIAN - pertaining to a stream, river or other watercourse. Also, plant communities occurring in association with any spring, lake, river, stream or creek through which waters flow at least periodically.

RIPARIAN BUFFER - a BMP that is an area of permanent vegetation along a watercourse.

RIPARIAN CORRIDOR - a narrow strip of land, centered on a stream or river that includes the floodplain as well as related riparian habitats adjacent to the floodplain.
RIPARIAN CORRIDOR EASEMENT - an easement created for the purpose of protecting and preserving a riparian corridor.

RIPARIAN FOREST BUFFER - a type of riparian buffer that consists of permanent vegetation that is predominantly native trees, shrubs and forbs along a watercourse that is maintained in a natural state or sustainably managed to protect and enhance water quality, stabilize stream channels and banks, and separate land use activities from surface waters.

RISER - a vertical pipe extending from the bottom of a pond that is used to control the discharge rate from the pond for a specified design storm.

ROOFTOP DETENTION - temporary ponding and gradual release of stormwater falling directly onto roof surfaces by incorporating controlled-flow roof drains into building designs.

RUNOFF - any part of precipitation that flows over the land surface.

SCS - U.S. Department of Agriculture, Soil Conservation Service (now known as NRCS).

SEDIMENT - soils or other materials transported by stormwater as a product of erosion.¹

SEDIMENT BASIN - a barrier, dam, retention or detention basin located and designed to retain rock, sand, gravel, silt, or other material transported by water.

SEDIMENT POLLUTION - the placement, discharge or any other introduction of sediment into the waters of the Commonwealth occurring from the failure to design, construct, implement or maintain control measures and control facilities in accordance with the requirements of this Chapter.

SEDIMENTATION - the action or process of forming or depositing sediment in waters of this Commonwealth.¹

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 ground.

SEMI-IMPERVIOUS/SEMI-PERVIOUS SURFACE - a surface which prevents some infiltration of water into the ground.

SHEET FLOW - runoff which flows over the ground surface as a thin, even layer, not concentrated in a channel.

SMALL PROJECT - regulated activities that, measured on a cumulative basis, create new impervious areas of more than one thousand (1,000) sq. ft. and less than five thousand (5,000) sq. ft. or involve earth disturbance activity of an area less than five thousand (5,000) sq. ft. and do not involve the alteration of stormwater facilities or watercourses.

SMALL STORM EVENT - a storm having a frequency of recurrence of once every two (2) years or smaller.

SOIL-COVER COMPLEX METHOD - a method of runoff computation developed by the SCS (now NRCS) that is based on relating soil type and land use/cover to a runoff parameter called curve number (CN). For more information, see "Urban Hydrology for Small Watersheds," Second edition, Technical Release No. 55, SCS, June 1986 (or most current edition).

SOIL GROUP, HYDROLOGIC - see "hydrologic soil group."
SPILLWAY - a depression in the embankment of a pond or basin which is used to pass a post-development one hundred (100) year storm peak flow rate.

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

STORAGE - a volume above or below ground that is available to hold stormwater.

STORAGE INDICATOR METHOD - a reservoir routing procedure based on solution of the continuity equation (inflow minus outflow equals the change in storage) with the outflow defined as a function of storage volume and depth.

STORM FREQUENCY - the number of times that a given storm "event" occurs or is exceeded on the average in the stated period of years. See "return period."

STORM EVENT - a storm of a specific duration, intensity, and frequency.

STORM SEWER - a system of pipes and/or open channels designed to convey stormwater.

STORMWATER - drainage runoff from the surface of the land resulting from precipitation or snow or ice melt.


STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES (SWM BMP) - see "BMPs."

STORMWATER MANAGEMENT FACILITY (SWM FACILITY) - any structure, natural or manmade, that, due to its condition, design, or construction, conveys, stores, infiltrates/evaporates/transpires, cleans or otherwise affects stormwater runoff. Typical SWM facilities include, but are not limited to, detention and retention basins, open channels, watercourses, road gutters, swales, storm sewers, pipes, BMPs, and infiltration structures.

STORMWATER MANAGEMENT OPERATION AND MAINTENANCE PLAN (O & M PLAN) - a plan, including a narrative, to ensure proper functioning of the SWM facilities in accordance with Part 6 of this Chapter.

STORMWATER MANAGEMENT SITE PLAN (SWM SITE PLAN) - the plan prepared by the developer or his representative indicating how stormwater runoff will be managed at a particular development site according to this Chapter.

STREAM - a watercourse.

STRUCTURAL BMPS - physical devices and practices that capture and treat stormwater runoff. Structural stormwater BMPs are permanent appurtenances to the development site.

STRUCTURE - any manmade object having an ascertainable stationary location on or in land or water, whether or not affixed to the lands.

SUBDIVISION - the division or re-division of a single lot, tract or parcel of land by any means into two (2) 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 or as defined in the MPC.
SUBWATERSHED AREA - the smallest drainage unit of a watershed for which stormwater management criteria have been established in the Act 167 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, however, that the subdivision by lease of land for agricultural purposes into parcels of more than ten (10) acres, not involving any new street or easement of access or any residential dwelling, shall be exempted.

SWALE - a low lying stretch of land which gathers or carries surface water runoff.

SWM - stormwater management.

SWM SITE PLAN - a stormwater management site plan.

TIMBER OPERATIONS - see “forest management.”

TIME OF CONCENTRATION (Tc) - the time 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 STREAMBANK - first substantial break in slope between the edge of the bed of the stream and the surrounding terrain. The top of streambank can either be a natural or constructed (that is, road or railroad grade) feature, lying generally parallel to the watercourse.

TR-20 (CALIBRATED) - the computer-based hydrologic modeling technique adapted to the appropriate watershed for the Act 167 Plan. The model has been “calibrated” to reflect published and observed flow values by adjusting key model input parameters.

TREATMENT TRAIN - the sequencing of structural best management practices to achieve optimal flow management and pollutant removal from urban stormwater.

USDA - United States Department of Agriculture.

VOLUME CONTROL - SWM controls, or BMPs, used to remove a predetermined amount of runoff or the increase in volume between the pre- and post-development design storm.

WATERCOURSE - a channel or conveyance of surface water having defined bed and banks, whether natural or artificial, with perennial or intermittent flow. Watercourses may include, but are not limited to, permanent and intermittent streams, rivers, brooks, runs, creeks, channels, swales, ponds and lakes, whether natural or artificial.

WATERSHED - the entire region or area drained by a watercourse.

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

WETLAND - those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that
under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, ferns, and similar areas.

WOODLAND - land predominantly covered with trees and shrubs. Without limiting the foregoing, woodlands include all land areas of ten thousand (10,000) square feet or greater, supporting at least one hundred (100) trees per acre, so that either (A) at least fifty (50) trees are two (2) inches or greater in diameter at breast height (DBH), or (B) fifty (50) trees are at least twelve (12) feet in height.

(Ord. 568, 5/6/2014, §202)
Part 3

Stormwater Management Standards

§301. General Requirements.

1. Preparation of a SWM site plan is required for all regulated activities, unless preparation and submission of the SWM site plan is specifically exempted according to §502 or the activity qualifies as a small project.

2. No regulated activities shall commence until the municipality issues unconditional written approval of a SWM site plan or stormwater permit.

3. All stormwater runoff flowing over the development site shall be considered in the design of the stormwater management facilities.

4. In accordance with Chapter 102, temporary facilities shall be included in the submitted plans for a phased section where the following conditions are met:
   A. A regulated activity constitutes a subdivision or land development.
   B. The final plan applications are submitted in sections.
   C. Temporary facilities are required for construction of a section.

5. SWM site plans approved by the municipality, in accordance with §505, shall be on site throughout the duration of the regulated activity.

6. The municipality may, after consultation with DEP, approve measures for meeting the State water quality requirements other than those in this Chapter, provided that they meet the minimum requirements of, and do not conflict with, State law including, but not limited to, the Clean Streams Law. The municipality shall maintain a record of consultations with DEP pursuant to this subsection. Where an NPDES permit for stormwater discharges associated with construction activities is required, issuance of an NPDES permit shall constitute satisfaction of consultation with DEP.

7. For all regulated activities, erosion and sediment control and stormwater management BMPs shall be designed, implemented, operated, and maintained to meet the purposes and requirements of this Chapter and to meet all requirements under Title 25 of the Pennsylvania Code and the Clean Streams Law. Various BMPs and their design standards are listed in the Erosion and Sediment Pollution Control Program Manual (E&S Manual),9 No. 363-2134-008 (March 2012), as amended and updated, and the BMP Manual.

8. Developers have the option to propose a Regional Stormwater Management Plan or participate in a Regional Stormwater Management Plan developed by others. A Regional Stormwater Management Plan may include offsite volume and rate control, as appropriate and supported by a detailed design approved by the municipality in accordance with subsection .4. A Regional Stormwater Management Plan must meet all of the volume and rate control standards required by this Chapter for the area defined by the Regional Stormwater Management Plan, but not necessarily for each individual
development site. Appropriate agreements must be established to ensure the requirements of this Chapter and the requirements of the Regional Stormwater Management Plan are met.

9. Unless prohibited by the Borough of New Holland Zoning Ordinance [Chapter 27] or any Ordinance which regulates construction and development within the areas of the Borough of New Holland subject to flooding within the floodplain, and any other applicable requirements of the Flood Plain Management Act, stormwater management facilities located in the floodplain are permitted when designed and constructed in accordance with the provisions of the BMP Manual, regulatory requirements, of the New Holland Borough Zoning Ordinance [Chapter 27] and the requirements of this Chapter.

10. Impervious Areas.

A. The measurement of impervious area shall include all of the impervious areas in the total proposed development even if development is to take place in stages or phases.

B. For development taking place in stages or phases, the entire development plan must be used in determining conformance with this Chapter.

C. Any areas designed to initially be gravel or crushed stone shall be assumed to be impervious.

11. All regulated activities shall include such measures as necessary to:

A. Protect health, safety, and property.

B. Meet the water quality goals of this Chapter by implementing measures to:

   1. Protect and/or improve the function of floodplains, wetlands, and wooded areas.

   2. Protect and/or improve native plant communities including those within the riparian corridor.

   3. Protect and/or improve natural drainageways from erosion.

   4. Minimize thermal impacts to waters of this Commonwealth.

   5. Disconnect impervious surfaces by directing runoff to pervious areas, wherever possible.

12. The design of all stormwater management facilities over Karst (carbonate geology) shall include an evaluation of measures to minimize adverse effects.

13. Infiltration BMPs shall be spread out, made as shallow as practicable, and located to maximize use of natural on-site infiltration features while still meeting the other requirements of this Chapter. Infiltration BMPs shall include pretreatment BMPs unless shown to be unnecessary.

14. The BMPs must be designed to protect and maintain existing uses (e.g., drinking water use; cold water fishery use) and maintain the level of water quality necessary to protect those uses in all streams, and to protect and maintain water quality in “special protection” streams, as required by
the statewide regulations at 25 Pa.Code, Chapter 93 (collectively referred to herein as “State water quality requirements”).

15. Infiltration BMPs intended to receive runoff from developed areas shall be selected based on suitability of soils and development site conditions and shall be constructed on soils that have the following characteristics:

   A. A minimum depth of twenty-four (24) inches between the bottom of the facility and the limiting zone, unless it is demonstrated to the satisfaction of the municipality that the selected BMP has design criteria which allow for a smaller separation.

   B. A stabilized infiltration rate sufficient to accept the additional stormwater load and drain completely as determined by field tests conducted by the applicant’s professional designer.

      (1) The stabilized infiltration rate is to be determined in the same location and within the same soil horizon as the bottom of the infiltration facility.

      (2) The stabilized infiltration rate is to be determined as specified in the BMP Manual.

16. The calculation methodology to be used in the analysis of volume and peak rates of discharge shall be as required in §305.

17. A planting plan is required for all vegetated stormwater BMPs.

   A. Native or naturalized/non-invasive vegetation suitable to the soil and hydrologic conditions of the development site shall be used unless otherwise specified in the BMP Manual.

   B. Invasive vegetation may not be included in any planting schedule. (See *Invasive Plants in Pennsylvania* by the Department of Conservation and Natural Resources (DCNR)).

   C. The limit of existing, native vegetation to remain shall be delineated on the plan along with proposed construction protection measures.

   D. Prior to construction, a tree protection zone shall be delineated at the dripline of the tree canopy. All trees scheduled to remain during construction shall be marked; however, where groups of trees exist, only the trees on the outside edge need to be marked. A forty-eight (48) inch high snow fence or forty-eight (48) inch high construction fence mounted on steel posts located eight (8) feet on center shall be placed along the tree protection boundary. No construction, storage of material, temporary parking, pollution of soil, or regrading shall occur within the tree protection zone.

   E. All planting shall be performed in conformance with good nursery and landscape practice. Plant materials shall conform to the standards recommended by the American Association of Nurseryman, Inc. in the American Standard of Nursery Stock.

      (1) Planting designs are encouraged to share planting space for optimal root growth whenever possible.
(2) No staking or wiring of trees shall be allowed without a maintenance note for the stake and/or wire removal within one (1) year of planting.

18. Areas proposed for infiltration BMPs shall be protected from sedimentation and compaction during the construction phase to maintain maximum infiltration capacity. Staging of earthmoving activities and selection of construction equipment should consider this protection.

19. Infiltration BMPs shall not be constructed nor receive runoff from disturbed areas until the entire contributory drainage area to the infiltration BMP has achieved final stabilization.

20. A minimum twenty (20) foot wide access easement shall be provided for all stormwater facilities with tributary areas equal or greater than one thousand (1,000) sq. ft. and not located within a public right-of-way. Easements shall provide for ingress and egress to a public right-of-way.

21. Drainage easements shall be provided where the conveyance, treatment, or storage of stormwater, either existing or proposed, is identified on the SWM site plan. Drainage easements shall be provided to contain and convey the one hundred (100) year frequency flood.

22. Roof drains and sump pumps shall be tributary to infiltration or vegetative BMPs. Use of catchment facilities for the purpose of reuse is also permitted.

23. Roof drains shall not be connected to streets, sanitary or storm sewers or roadside ditches.

24. Non-structural BMPs shall be utilized for all regulated activities unless proven to be impractical.

25. All stormwater management site plans shall be designed and certified by individuals registered in the Commonwealth of Pennsylvania and qualified to perform such duties based on education and training in hydrology and hydraulics.

26. Stormwater management facilities which involve a State Highway shall be subject to the approval of the PADOT.

27. Stormwater management facilities located within or affecting the floodplain or any watercourse shall also be subject to the requirements of §308 (Floodplain) of this Chapter, the New Holland Borough Zoning Ordinance [Chapter 27], the New Holland Borough Subdivision and Land Development Ordinance [Chapter 22], any ordinance which regulates construction and development within areas of the Borough of New Holland subject to flooding, and any other applicable requirements of the Flood Plain Management Act.

28. The municipality may require additional stormwater control measures for stormwater discharges to special management areas including, but not limited to:

A. Water bodies listed as "impaired" on Pennsylvania’s Clean Water Act 303(d/305(b)) Integrated List.

B. Any water body or watershed with an approved total maximum daily load (TMDL).

C. Critical areas with sensitive resources (e.g., State designated special protection waters, cold water fisheries, carbonate
or other groundwater recharge areas highly vulnerable to contamination, drainage areas to water supply reservoirs, source water protection zones, etc.)

(Ord. 568, 5/6/2014, §301)

§302. Volume Controls. Volume control BMPs are intended to maintain existing hydrologic conditions for small storm events by promoting groundwater recharge and/or evapotranspiration as described in this Section. Runoff volume controls shall be implemented using the design storm method described in paragraph .A below, or through continuous modeling approaches or other means as described in the BMP Manual. Small projects may use the method described in paragraph .B to design volume control BMPs.

A. The design storm method is applicable to any size of regulated activity. This method requires detailed modeling based on site conditions.

(1) Do not increase the post development total runoff volume for all storms equal to or less than the two (2) year twenty-four (24) hour storm event.

(2) For modeling purposes:

(a) Existing (predevelopment) non-forested pervious areas must be considered meadow in good condition.

(b) When the existing project site contains impervious area, twenty percent (20%) of existing impervious area to be disturbed shall be considered meadow in good condition in the model for existing conditions.

(3) The maximum loading ratio for volume control facilities in Karst (carbonate geology) areas shall be three to one (3:1) impervious drainage area to infiltration area and five to one (5:1) total drainage area to infiltration area. The maximum loading ratio for volume control facilities in non-Karst areas shall be five to one (5:1) impervious drainage area to infiltration area and eight to one (8:1) total drainage area to infiltration area. A higher ratio may be approved by the municipality if justification is provided. Hydraulic depth may be used as an alternative to an area based loading ratio if the design hydraulic depth is shown to be less than the depth that could result from the maximum area loading ratio.

B. Volume Control for Small Projects.

(1) At least the first one (1) inch of runoff from new impervious surfaces or an equivalent volume shall be permanently removed from the runoff flow - i.e., it shall not be released into the surface waters of this Commonwealth. Removal options include reuse, evaporation, transpiration and infiltration.

C. A detailed geologic evaluation of the development site shall be performed in areas of carbonate geology to determine the design parameters of recharge facilities. A report shall be prepared in accordance with §405.1 of this Chapter.
D. Storage facilities, including normally dry, open top facilities, shall completely drain the volume control storage over a period of time not less than twenty-four (24) hours and not more than seventy-two (72) hours from the end of the design storm. Any designed infiltration at such facilities is exempt from the minimum twenty-four (24) hour standard, i.e., may infiltrate in a shorter period of time, provided that none of this water will be discharged into waters of this Commonwealth.

E. Any portion of the volume control storage that meets the following criteria may also be used as rate control storage:

1. Volume control storage that depends on infiltration is designed according to the infiltration standards in §301.

2. The volume control storage which will be used for rate control is that storage which is available within twenty-four (24) hours from the end of the design storm based on the stabilized infiltration rate and/or the evapo-transpiration rate.

F. Volume control storage facilities designed to infiltrate shall avoid the least permeable hydrologic soil group(s) at the development site.

§303. Rate Controls. Rate control for large storms, up to the one hundred (100) year event, is essential to protect against immediate downstream erosion and flooding.

A. Match Pre-existing Hydrograph. Developers and/or landowners are encouraged to provide infiltration facilities or utilize other techniques, which will allow the post-development hydrograph to match the preexisting hydrograph, along all parts of the hydrograph, for the development site. To match the pre-existing hydrograph means that it is not to be exceeded at all points in time. This option is most feasible for small subdivisions in areas of non-carbonate geology. “Groundwater recharge” and “water quality” volumes as given in paragraphs .C and .D below can be used as part of this option. State water quality requirements can be met by BMPs, including site design, which provide for replication of pre-construction stormwater infiltration and runoff conditions, so that post-construction stormwater discharges do not degrade the physical, chemical or biological characteristics of the receiving waters. As described in the PADEP Comprehensive Stormwater Management Policy (#392-0300-002, September 28, 2002), this may be achieved by the following:

1. Infiltration: replication of pre-construction stormwater infiltration conditions.

2. Treatment: use of water quality treatment BMPs to ensure filtering out of chemical and physical pollutants from the stormwater runoff.

3. Streambank and Streambed Protection: management of volume and rate of post-construction stormwater discharges to prevent physical degradation of receiving waters (e.g., from scouring and erosion).
B. Detention/Infiltration Standards (only if existing hydrograph cannot be matched).

(1) Post-development rates of runoff from any regulated activity shall not exceed fifty percent (50%) of the peak rate of runoff prior to development for all design storms unless the pre-existing hydrograph is not exceeded at all points in time. The percentage of the pre-development peak rate, which may be released, is known as the "release rate."

(2) When the regulated activity constitutes a subdivision or land development as defined in the New Holland Borough Subdivision and Land Development Ordinance [Chapter 22], the SWM site plan and subdivision/land development plan shall be processed concurrently according to the plan processing procedure outlined in the current New Holland Borough Subdivision and Land Development Ordinance [Chapter 22].

(3) Innovative methods for the control of stormwater runoff are encouraged. Various combinations of methods should be tailored to suit the particular requirements of the type of development and the topographic features of the development site. The following is a partial listing of detention and control methods which can be utilized in stormwater management systems where appropriate:

(a) Detention basins.
(b) Retention basins (subject to prior municipal approval).
(c) Permanent pool, ponds, or lakes designed with detention storage.
(d) Rooftop detention (with proper design of the building to carry the additional load).
(e) Parking lot storage.
(f) Seepage pits, seepage trenches or other infiltration structures.
(g) Concrete lattice block surfaces.
(h) Grassed channels and vegetated strips.
(i) Cisterns and underground reservoirs.
(j) Routed flow over grass.
(k) Decreased impervious surface coverage.
(l) Bio-retention areas (rain gardens).

(2) The following principles shall be applied to the erosion and sediment pollution control plan and construction schedule to minimize soil erosion and sedimentation:
(a) Stripping of vegetation, grading, or other soil disturbance shall be done in a manner which will minimize soil erosion.

(b) Whenever feasible, natural vegetation shall be retained and protected.

(c) To the maximum extent practicable, mature healthy trees of at least six (6) inches DBH and other significant existing vegetation shall be retained and protected. Such trees shall not be removed except as provided on the approved subdivision or land development plan. The filling of soil over the roots of trees to be preserved is prohibited. The roots are presumed to extend out from the tree as far as the tree’s branches extend outward.

(d) No earthmoving or stripping of vegetation will be conducted in areas of greater than thirty-three (33%) slope unless specific approval is obtained from the Borough.

(e) The extent of the disturbed area and the duration of its exposure shall be kept to a minimum, within practical limits. Land disturbance shall be limited to the actual construction site and an access strip.

(f) The Pennsylvania Department of Environmental Protection (DEP) has regulations that require an erosion and sediment control plan for any earth disturbance activity of five thousand (5,000) square feet for more, under 25 Pa.Code §102.4(b).

(g) In addition under 25 Pa.Code, Chapter 92, a DEP "NPDES Construction Activities" permit is required for any earth disturbance one (1) acre or more with a point source discharge to surface waters or the municipality’s storm sewer system, or five acres or more regardless of the planned runoff (hereinafter collectively referred to as "regulated earth disturbance activities"). This includes earth disturbance on any portion of, part of, or during any stage of, a larger common plan of development.

(h) Evidence of any necessary permit(s) for regulated earth disturbance activities from the appropriate DEP regional office or County Conservation District must be provided to the municipality. The issuance of an NPDES Construction permit (or permit coverage under the Statewide general permit (PAG-2) satisfies the requirements paragraph .A.

(i) Either temporary seeding, mulching, temporary detention basins, diversion terraces, rock filter berms, or hay bales (in areas of minimum flows) appropriate to the scale of the operations or other suitable stabilization measures shall be used to protect exposed critical areas during construction and whenever a situation is created which would contribute to increased erosion.

(j) Drainage provisions shall accommodate the stormwater runoff both during and after construction. The permanent
(final) vegetative and structural erosion control and drainage measures shall be installed as directed by the Borough.

(k) Soil erosion and sedimentation facilities shall be installed prior to any on-site grading.

(l) Procedures for protecting soils or geologic structures with water supply potential from contamination by surface water or other disruption by construction activity shall be established in consultation with the engineer and such areas shall include, at minimum, those underlain by carbonate limestone formations.

(m) All plans for erosion and sedimentation and stormwater management shall conform to the plan content requirements of Pennsylvania Department of Environmental Resources’ “Soil Erosion and Sedimentation Control Manual.”

(n) All subdivision and land developments are required to comply with Chapter 102 of the rules and regulations of the Pennsylvania Clear Streams Law as enacted by the Department of Environmental Resources.

(o) The developer shall be responsible for submission of the erosion and sedimentation control plan to the Lancaster County Conservation District for determination of the plan’s compliance with Chapter 102. Conservation District approval of the plan must be made before the Borough will make final plan approval. On projects disturbing more than twenty-five (25) acres or land, an earth disturbance permit must be secured from the Department of Environmental Resources. No permits from the Borough will be issued or any earthmoving begun until the earth disturbance permit is issued.

(p) The requirements of the Pennsylvania Department of Environmental Resources and/or the Soil Conservation Service, USDA, shall be met, and evidence of approvals by those agencies shall be submitted to the Borough.

(q) The erosion and sedimentation control plan must be available on site at all times and be fully implemented. The site must be open for inspections by the Department of Environmental Resources and the Soil Conservation District.

C. Groundwater Recharge.

(1) Developed areas shall maintain groundwater recharge consistent with predevelopment conditions, dependent on hydrologic soil groups and impervious cover unless the developer can prove the inability of the development site to achieve recharge based on existing development site conditions. This volume of runoff is termed the “recharge volume” and is calculated in accordance with §306. The recharge volume must be infiltrated within forty-eight (48) hours after the end of the design storm. Development sites where the post developed impervious area is equal to or less than the pre developed impervious area shall not be required to provide ground water recharge volume.
(2) Design of the stormwater management facilities shall provide for ground water recharge to compensate for the reduction in the percolation that occurs when the ground surface runoff characteristics have been altered. A detailed geologic evaluation of the development site shall be performed to determine the suitability of recharge facilities. The evaluation shall be performed by a State licensed/certified Professional Geologist, and shall, at a minimum, address soil permeability, depth to bedrock, susceptibility to sinkhole formation, and subgrade stability. Where pervious pavement is permitted for parking lots, recreational facilities, non-dedicated streets, or other areas, pavement construction specifications shall be noted on the plan.

(3) If the developer can prove through analysis that the development site is in an area underlain by carbonate geology, and such geologic conditions may result in sinkhole formations, then the development site is exempt from recharge requirements. However, the development site shall still be required to meet all other hydrologic and water quality management standards as found in this Chapter.

D. Water Quality. Provide adequate storage and treatment facilities necessary to capture and treat a minimum of the runoff from the first one and two-tenth (1.2) inches of rainfall for all regulated activities. This volume of storage is the “water quality volume” and is calculated in accordance with §306.11. The recharge volume may be a component of the water quality volume. If the recharge volume is less than the water quality volume, the remaining water quality volume may be captured and treated by methods other than recharge/infiltration BMPs. The water quality volume must take a minimum of twenty-four (24) hours to be discharged. Development sites where the post developed impervious area is equal to or less than the pre-developed impervious area shall not be required to provide water quality volume unless required by NPDES Part II.

E. Stormwater Conveyance Corridor Protection (Riparian Corridor Preservation and Vegetation). Runoff from developed areas of the development site, including, but not limited to, areas of impervious surface, shall be managed through a series of riparian corridor vegetation facilities whenever possible. This will be accomplished in a manner satisfactory to the municipality, utilizing the “Pennsylvania Handbook of Best Management Practices for Developing Areas,” 1998, riparian forested buffer, and the priority goal of the riparian vegetation will be the reduction of thermal impacts on stormwater runoff associated with impervious areas, with a secondary goal being the protection of capacity of existing stormwater conveyance channels. These goals will be achieved through the use of design criteria in §304 of this Chapter and shall be in addition to any other municipal ordinance provisions.

F. Normally dry, open top, storage facilities shall completely drain the rate control storage over a period of time less than or equal to twenty-four (24) hours from the peak one hundred (100) year water surface design elevation.

G. Small projects are not required to provide for rate control.

1. Any stormwater management facility designed to store stormwater runoff and requiring a berm or earth embankment (i.e., detention or retention basin) shall be designed to provide an emergency spillway to handle the one hundred (100) year post-development peak flow rate. The height of embankment must be set to provide at minimum one (1.0) foot of freeboard above the maximum elevation computed when the entire one hundred (100) year peak flow passes through the spillway. However, criteria for design and construction of stormwater management facilities are not the same criteria that are used in permitting of dams under the PA DEP Dam Safety Program. Depending upon the physical characteristics of a dam, a dam permit may be required and the design will have to meet the provisions of Chapter 105. Depending on the physical characteristics of a dam, the design could require that anywhere from a one hundred (100) year to a probable maximum flood (PMF) storm event be considered. The following is required:

A. Retention basins may only be used with specific Borough approval.

B. Drainage facilities for drainage areas in excess of one-half (1/2) square mile (three hundred twenty (320) acres) shall conform to the requirements of, and be approved by the Pennsylvania Department of Environmental Resources, Division of Dams and Encroachments.

C. The maximum water depth shall not exceed six (6) feet, unless approved by a modification granted in conformance with §808 by the Borough Council upon recommendation of the municipal engineer.

D. The minimum top width of all dams/embankments/berms shall be five (5) feet.

E. Side slopes shall not be steeper than three (3) horizontal to one (1) vertical for non-residential sites, and four (4) horizontal to one (1) vertical for residential sites.

F. All basins shall be structurally sound and shall be constructed of sound and durable materials. The completed structure and the foundation of all basins shall be stable under all probably conditions of operation. An emergency spillway shall be provided for the basin and shall be capable of discharging the one hundred (100) year peak rate of runoff which enters the basin after development, in a manner which will not damage the integrity of the facility and will not create a downstream hazard. Where practical, the emergency spillway shall be constructed in undisturbed ground. An easement for inspection and repair shall be provided when the conveyance structure crosses property boundaries.

G. All basins not including groundwater recharge and/or water quality storage shall include an outlet structure to permit draining the basin to a completely dry position within twenty-four (24) hours following the end of the design rainfall. All basins that do include groundwater recharge and/or water quality storage shall include an outlet structure to permit draining the basin to the level of the groundwater recharge and/or water quality storage within twenty-four (24) hours following the end of the design rainfall.

H. A cutoff trench of relatively impervious material shall be provided within all basin embankments.
I. All structures passing through detention basin embankments (as defined in Part 2 above) shall have properly spaced concrete cutoff collars and all piping must be watertight. All structures passing through dam embankments (as defined in Part 2 above) shall have seepage diaphragms and drains.

J. All discharge control devices with appurtenances (except discharge pipes) shall be made of reinforced concrete and stainless or hot dip galvanized steel. Discharge pipes shall conform to the requirements of subsection .6 below.

K. Low flow channels shall be provided from each water carrying facility to the outlet structure for all basins that do not include groundwater recharge and/or water quality storage. Grass low flow channels shall be two percent (2%) minimum slope and concrete low flow channels shall be one-half percent (1/2%) minimum, and shall be designed to enable ease of maintenance. All basins that do not include groundwater recharge and/or water quality storage shall not be required to have a low flow channel.

L. Minimum slope within that portion of a basin that does not include groundwater recharge and/or water quality storage shall be two percent (2%) positive grade to the low flow channel.

M. Tile fields may be required to aid in draining the bottom of a basin if swampy and/or unmaintainable conditions are known to exist.

N. Design storms for the computation of detention basin volumes shall be a duration sufficient to maximize the required volumes, up to a maximum twenty-four (24) hour storm.

O. Design storms for the computation of retention basins (where approved) volumes shall be based upon a twenty-four (24) hour storm with a one hundred (100) year return period (a storm with a one percent (1%) chance of occurrence each year).

P. Outlet structures within basins in or adjacent to residential areas shall have childproof, non-clogging trash racks over all design openings less than eighteen (18) inches in diameter, except those openings designed to carry perennial stream flows.

Q. The effect on downstream areas if the basin embankment fails shall be considered in the design of all basins. Where possible, the basin shall be designed to minimize the potential damage caused by such failure of the embankment.

R. All structures (detention basins, cisterns, etc.), other than those used for groundwater recharge volume and water quality volume, must completely drain within twenty-four (24) hours after the end of the design storm.

S. Soils used for the construction of basins shall have low erodibility factors ("K" factors).

T. Energy dissipaters and/or level spreaders shall be installed at points where pipes or drainage ways discharge to or from basins. Generally, outlet pipes designed to carry the pre-development, two (2) year storm flow will be permitted to discharge to a stream with only a dissipater. Storms of a ten (10) year or greater intensity should be
spread across floodplains by level spreaders; rock material found on the site is suggested for their construction.

U. Temporary and permanent grasses or stabilization measures shall be established on the sides of all earthen basins within fifteen (15) days of initial construction.

V. Notwithstanding the above, all requirements of the Pennsylvania Department of Environmental Resources and/or the Soil Conservation Service, USDA, shall be met, and evidence of approvals by those agencies shall be submitted to the Borough.

2. Where, in the judgment of the Borough, the quantity of stormwater runoff will cause detrimental downstream impact, quantity will be a consideration in the method of stormwater management.

3. Minimum floor elevations for all structures that would be affected by a basin, other temporary impoundments, or open conveyance systems where ponding may occur shall be two (2) feet above the one hundred (100) year water surface. If basement or underground facilities are proposed, detailed calculations addressing the effects of stormwater ponding on the structure and waterproofing and/or flood-proofing design information shall be submitted for approval.

4. All storm sewer pipes, culverts and bridges (excluding detention and retention basin outfall structures), gutters and swales conveying water originating only from within the boundaries of the development site shall be designed for a twenty-five (25) year storm event. All storm sewer pipes, culverts and bridges (excluding detention and retention basin outfall structures) conveying water originating from offsite shall be designed for a fifty (50) year storm event. Drainage easements shall be provided to contain and convey the one hundred (100) year frequency flood throughout the development site. Easements shall begin at the furthest upstream property line of the proposed development site in a watershed.

5. A concentrated discharge of stormwater to an adjacent property shall be within an existing natural drainageway or watercourse or otherwise an easement shall be required.

6. Storm sewer pipes other than those used as roof drains, detention basin underdrains and street subbase underdrains, shall have a minimum diameter of eighteen (18) inches and be made of reinforced concrete pipe, smooth lined corrugated polyethylene pipe, or approved equivalent. Where installation conditions merit, structural calculations that address the actual design requirements will be required.

7. A five (5) minute storm duration shall be used if this does not result in a maximum expected discharge that exceeds the capability of thirty (30) inch pipe. If a five (5) minute storm duration results in a pipe size exceeding thirty (30) inches, the time of concentration approach shall be used in determining storm duration.

8. Inlets shall be placed on both sides of the street at low spots, at a maximum of six hundred (600) feet apart along a storm sewer pipe or culvert, at points of abrupt changes in the horizontal or vertical directions of storm sewers and at points where the flow in gutters exceeds three (3) inches.
9. Inlets shall normally be along the curb line at or beyond the curb radius points. For the purpose of the inlet location at corners, the depth of flow shall be considered for each gutter. At intersections, the depth of flow across the through streets (proposed and existing) shall not exceed one (1) inch for the twenty-five (25) year storm event.

10. Inlets shall be depressed two (2) inches below the grade of the gutter or ground surface. Manholes may be substituted for inlets at locations where inlets are not required to handle surface runoff.

11. Inlets shall not be placed in areas other than streets and parking lots, unless otherwise approved by the Borough.

12. Storm sewer pipes and culverts shall be installed on sufficient slopes to provide a minimum velocity of three (3) feet per second when flowing full.

13. All storm sewer pipe and culverts shall be laid to a minimum depth of one (1) foot from finished subgrade to the crown of pipe in paved areas and one (1) foot from finished grade to the crown of pipe in grassed areas.

14. Curves in pipes or box culverts without an inlet or manhole are prohibited. Tee joints, elbows and wyes are also prohibited unless used in an underground stormwater storage facility. Manholes, inlets, headwalls and endwalls proposed for dedication or located along streets or subject to vehicular traffic shall conform to the requirements of the Pa DOT, Bureau of Design, Standards for Roadway Construction, Publication No. 72, in effect at the time the design is submitted, or as otherwise modified by the municipality.

15. All stormwater structures smaller than forty-eight (48) inches equivalent diameter which discharge from residential lots to a street or from a street to residential lots shall extend from the street right-of-way a minimum distance of two-thirds (2/3) the length of the longest adjacent lot dimension.

16. Headwalls and endwalls shall be used where stormwater runoff enters or leaves the storm sewer horizontally from a natural man-made channel. PADOT Type “DW” headwalls and endwalls shall be utilized.

17. Stormwater roof drains, sump pumps and pipes shall not directly discharge water into a street right-of-way or discharge water directly over a sidewalk or discharge into a sanitary sewer or storm sewer.

18. All existing and natural watercourses, channels, drainage systems, wetlands and areas of surface water concentration shall be maintained in their existing condition unless an alteration is approved by the municipality and any other necessary approving body.

19. Culverts shall be provided with wing walls and constructed for width of right-of-way. The cartway area over the bridge shall be twenty-four (24) inches wider, or, either side, than the road connecting with the bridge, of if the character of the road is expected to change for future planning, the cartway of the bridge shall be made to anticipate this condition. On either side of the bridge cartway, the bridge railing must be set back from the edge of the final cartway and this area may be used to place sidewalks, present or future.

20. Flow velocities from any storm sewer may not result in a deflection or erosion of the receiving channel.
21. Energy dissipaters shall be placed at the outlets of all storm sewer pipes, culverts and bridges where flow velocities exceed maximum permitted channel velocities as specified below:

A. Three (3) feet per second where only sparse vegetation can be established and maintained because of shade or soil condition.

B. Four (4) feet per second where normal growing conditions exist and vegetation is to be established by seeding.

C. Five (5) feet per second where a dense, vigorous sod can be quickly established or where water can be temporarily diverted during establishment of vegetation. Netting and mulch or the equivalent methods for establishing vegetation shall be used.

D. Six (6) feet per second where there exists a well-established sod of good quality.

22. Storm sewers, as required, shall be placed immediately in front of the curb, when parallel to the street within the right-of-way. When located in undedicated land, they shall be placed within an easement not less than twenty (20) feet wide as approved by the Borough.

23. Open ditches per se shall be avoided but properly designed, graded and turfed drainage swales shall be permitted in lieu of storm sewers in commercial and industrial areas and, where approved by the Borough, in residential areas. Such swales shall be designed not only to carry the required discharge without erosion, but also to increase the time of concentration, reduce the peak discharge and velocity and permit the water to percolate into the soil.

24. The following conditions shall be met for all swales:

A. Capacities and velocities shall be computed using the Manning equation. The design parameters shall be as follows:

(1) Vegetated swales shall meet the following two design considerations:

(a) The first shall consider swale stability based on a low degree of retardance ("n"=0.03).

(b) The second shall consider swale capacity based on a high degree of retardance ("n"=0.05).

(2) All vegetated swales shall have a minimum slope of one percent (1%) unless approved by the municipal engineer.

(3) The "n" factors to be used for paved or rip-rap swales or gutters shall be based upon accepted engineering design practices as approved by the municipality.

B. All swales shall be designed to concentrate low flows to minimize siltation and meandering.

25. Manning "n" values used for design of pipes and culverts shall be in accordance with Appendix B6.

26. All storm sewer crossings of streets shall be perpendicular to the street centerline.
27. Storm facilities not located within a public right-of-way shall be contained in and centered within an easement. Easements shall follow property boundaries where possible.

28. Adequate erosion protection shall be provided along all open channels and at all points of discharge.

29. All groundwater recharge facilities shall be designed to empty in forty-eight (48) hours subsequent to any storm event. All water quality facilities shall be designed so that water is released slowly for a minimum of twenty-four (24) hours subsequent to any storm event. All infiltration, detention or retention facilities, the volume of which will be used for stormwater management (pre vs. post) shall be designed to empty within twenty-four (24) hours subsequent to any storm event. Volumes which will not be available within twenty-four (24) hours subsequent to any storm event shall not be used for stormwater management (pre vs. post).

30. Prior dedication of any project areas, the developer shall submit record surveys of all drainage easements and basins to the boundaries of their respective easements.

(Ord. 568, 5/6/2014, §304)

§305. Stormwater Management Performance Standards.

1. Runoff from impervious areas shall be drained to pervious areas within the development site, unless the site has eighty-five percent (85%) or more impervious cover and is a redevelopment, in which case the portion of the site that discharges to pervious areas shall be maximized.

2. Stormwater runoff from a development site to an adjacent property shall flow directly into a natural drainageway, watercourse, or into an existing storm sewer system, or onto adjacent properties in a manner similar to the runoff characteristics of the pre-development flow.

3. Stormwater flows onto adjacent property shall not be created, increased, decreased, relocated, or otherwise altered without written notification of the adjacent property owner(s) by the developer. Such stormwater flows shall be subject to the requirements of this Chapter, including the establishment of a drainage easement. Copies of all such notifications shall be included in SWM site plan submissions.

4. Existing on-site natural and man-made SWM facilities shall be used to the maximum extent practicable.

5. Stormwater runoff shall not be transferred from one (1) sub-watershed to another unless they are sub-watersheds of a common watershed that join together within the perimeter of the development site and the effect of the transfer does not alter the peak discharge onto adjacent lands.

6. Minimum floor elevations for all structures that would be affected by a basin, other temporary impoundments, or open conveyance systems where ponding may occur shall be two (2) feet above the one hundred (100) year water surface elevation. If basement or underground facilities are proposed, detailed calculations addressing the effects of stormwater ponding on the structure and water-proofing and/or flood-proofing design information shall be submitted for approval.
7. All stormwater conveyance facilities (excluding detention, retention, and wetland basin outfall structures) shall be designed to convey a twenty-five (25) year storm event. All stormwater conveyance facilities (excluding detention, retention, and wetland basin outfall structures) conveying water originating from offsite shall be designed to convey a 50 year storm event. Safe conveyance of the one hundred (100) year runoff event to appropriate peak rate control BMPs must be demonstrated in the design.

8. Erosion protection shall be provided along all open channels, and at all points of discharge. Flow velocities from any storm sewer may not result in erosion of the receiving channel.

(Ord. 568, 5/6/2014, §305)

§306. Calculation Methodology.

1. Any stormwater runoff calculations involving drainage areas greater than two hundred (200) acres and time of concentration (Tc) greater than sixty (60) minutes, including on- and off-site areas, shall use generally accepted calculation techniques based on the NRCS soil-cover complex method.

2. Stormwater runoff from all development sites shall be calculated using either the modified rational method, a soil-cover-complex methodology, or other method acceptable to the municipality. Table 306-2-1 summarizes acceptable computation methods. It is assumed that all methods will be selected by the design professional based on the individual limitations and suitability of each method for a particular development site.

| Table 306-2-1 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. |
| WinTR-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                         | US Army Corps of Engineers             | Applicable where use of full hydrologic computer model is desirable or necessary. |
| Rational method (or commercial computer package based on rational method) | Emil Kuichling (1889)                  | For development sites less than 200 acres, Tc<60 min. or as approved by the municipality. |
| EFH2                                  | USDA NRCS                             | Applicable in rural and undeveloped areas subject to the program limits. |
| Other methods                         | Varies                                | Other methodologies approved by the municipality. |

1A twenty-four (24) hour SCS Type II storm or an IDF curve rational method storm.
3. If the SCS method is used, Antecedent Moisture Condition 1 is to be used in areas of carbonate geology, and Antecedent Moisture Condition 2 is to be used in all other areas. A type II distribution shall be used in all areas.

4. If the rational method is used, the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 data (see subsection .2 above) or PennDOT Publication 584 “PennDOT Drainage Manual,” 2008 Edition, or latest, shall be used to determine the rainfall intensity in inches per hour based on the information for the 5 through 60 minute duration storm events.

5. Hydrographs may be obtained from NRCS methods such as TR-55, TR20, or from use of the “modified” or “unit hydrograph” rational methods. If “modified” or “unit hydrograph” rational methods are used, the ascending leg of the hydrograph shall have a length equal to three times the time of concentration (3xTc) and the descending leg shall have a length equal to seven (7) times the time of concentration (7xTc) to approximate an SCS Type II hydrograph.\(^1\)

6. Runoff calculations shall include a hydrologic and hydraulic analysis indicating volume and velocities of flow and the grades, sizes, and capacities of water carrying structures, sediment basins, retention and detention structures and sufficient design information to construct such facilities. Runoff calculations shall also indicate both pre-development and post-development rates for peak discharge of stormwater runoff from all discharge points.

7. For the purpose of calculating pre-development peak discharges, all runoff coefficients, both on-site and off-site, shall be based on actual land use assuming summer or good land conditions. Post-development runoff coefficients for off-site discharges used to design conveyance facilities shall be based on actual land use assuming winter or poor land conditions.

8. Criteria and assumptions to be used in the determination of stormwater runoff and design of management facilities are as follows:

   A. Runoff coefficients shall be based on the information contained in Appendix B-1 and B-2 if the actual land use is listed in those Appendices. If the actual land use is not listed in these Appendices, runoff coefficients shall be chosen from other published documentation, and a copy of said documentation shall be submitted with the SWM site plan.

   B. A sample worksheet for calculating Tc is provided in Appendix B-4. Times of concentration (Tc) shall be based on the following design parameters:

   \(1\) Sheet flow: The maximum length for each reach of sheet or overland flow before shallow concentrated or open channel flow develops is one hundred (100) feet. Sheet flow may be determined using the nomograph in Appendix B-3, or the Manning’s kinematic solution shown in the Sheet Flow section of Worksheet No. 1 in Appendix B-4.

   \(2\) Shallow concentrated flow: Travel time for shallow concentrated flow shall be determined using Figure 3-1 from TR-55, Urban Hydrology for small watersheds, as shown in Appendix B-5.
(3) Open channel flows: At points where sheet and shallow concentrated flows concentrate in field depressions, swales, gutters, curbs, or pipe collection systems, the travel times to downstream end of the development site between these design points shall be based upon Manning’s equation and/or acceptable engineering design standards as determined by the municipal engineer.

C. The developer may use stormwater credits for non-structural BMPs in accordance with the BMP Manual. The allowable reduction will be determined by the municipality.

D. Peak rate control is not required for off-site runoff. Off-site runoff may be by-passed around the site provided all other discharge requirements are met. If offsite runoff is routed through rate control facilities, runoff coefficients for off-site discharges used to design those rate control facilities shall be based on actual land use assuming winter or poor land conditions.

9. Times of concentration shall be calculated based on the methodology recommended in the respective model used. Times of concentration for channel and pipe flow shall be computed using Manning’s equation. Supporting documentation and calculations must be submitted for review and approval.

10. Groundwater Recharge Requirements. The groundwater recharge volume (Rev) is the volume of stormwater runoff from a developed site which shall be required to maintain existing pre-development groundwater recharge at development sites. It may be part of the water quality volume, and is calculated on the basis of treatment and recharge by structural stormwater management practices as follows:

\[ \text{Rev} = \frac{(S)(Rv)(A)}{12} \]

Where,

- \( \text{Rev} \) = Recharge volume in acre-feet
- \( A \) = Area of watershed in acres
- \( Rv \) = 0.05 + 0.9(I), where I = net increase in impervious area/area of watershed (A)
- \( S \) = the Soil Specific Recharge factor and varies according to soil type:

<table>
<thead>
<tr>
<th>Hydrologic Soil Group</th>
<th>Soil Specific Recharge Factor (S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.40</td>
</tr>
<tr>
<td>B</td>
<td>0.26</td>
</tr>
<tr>
<td>C</td>
<td>0.13</td>
</tr>
<tr>
<td>D</td>
<td>0.07</td>
</tr>
</tbody>
</table>

Each specific recharge factor \( (S) \) is based on the USDA average annual recharge volume per soil type divided by the annual rainfall in Lancaster County (forty-one (41) inches per year) and multiplied by ninety percent (90%) (to model a volume which captures ninety percent (90%) of the runoff). This keeps the recharge volume calculation consistent with the WQv methodology. The USDA average annual recharge...
volume per soil type is eighteen (18) inches for HSG "A," twelve (12) inches for HSG "B," six (6) inches for HSG "C" and three (3) inches for HSG "D" (Rawls, Brakensiek & Saxton, 1982).

A. If more than one hydrologic soil group (HSG) is present at a development site, a composite recharge volume shall be computed based upon the proportion of total increased impervious surface within each HSG.

B. Infiltration BMPs intended to receive runoff from developed areas shall be selected based on suitability of soils and development site conditions and shall be constructed on soils that have the following characteristics:

   (1) A minimum depth of forty-eight (48) inches between the bottom of the facility and the seasonal high water table and/or bedrock (limiting zones).

   (2) An infiltration and/or percolation rate sufficient to accept the additional stormwater load and drain completely as determined by field tests conducted by the owner’s professional designer.

C. Infiltration BMPs receiving only roof runoff may be placed in soils having a minimum depth of twenty-four (24) inches between the bottom of the facility and the limiting zone.

D. The recharge volume provided at the development site shall be directed to the most permeable HSG available.

E. Structural Stormwater management facilities which provide treatment and recharge of the required recharge volume will be designed as part of a stormwater management facility which incorporates groundwater recharge BMPs as a primary benefit using that facility, in accordance with the design specifications contained in “Pennsylvania Handbook of Best Management Practices for Developing Areas,” 1998, or the most recent version thereof.

F. The groundwater recharge volume shall be infiltrated within forty-eight (48) hours after the end of the design storm.

G. Development sites where the post developed impervious area is equal to or less than the pre developed impervious area shall not be required to provide ground water recharge volume.

11. Calculation of water quality volume: The water quality volume (WQv) is the storage capacity needed to treat stormwater runoff equivalent to a minimum of the first one and two tenths (1.2) inches of runoff from the developed areas of the development site. The following calculation is used to determine the storage volume, WQv, in acre-feet of storage:

\[
W_{qv} = \frac{(1.2)(R_v)(A)}{12}
\]

\(W_{qv}\) = water quality volume in acre-feet

\(A\) = Area of watershed in acres

\(R_v\) = 0.05 + 0.9(I), where \(I\) = net increase in impervious area/area of watershed (A)
WQv shall be designed as part of a stormwater management facility which incorporates water quality BMPs as a primary benefit of using that facility, in accordance with design specifications contained in “Pennsylvania Handbook of Best Management Practices for Developing Areas,” 1998. The Water Quality volume shall take a minimum of twenty-four (24) hours to be discharged from the basin. Development sites where the post developed impervious area is equal to or less than the pre-developed impervious area shall not be required to provide water quality volume, unless required by NPDES Part II.

§307. Riparian Corridors.

1. In order to protect and improve water quality, a riparian corridor easement shall be created and recorded as part of any subdivision or land development that encompasses a riparian corridor.

2. Except as otherwise required by Chapter 102, the riparian corridor easement shall be measured to be the greater of the limit of the one hundred (100) year floodplain or thirty-five (35) feet from the top of streambank (on each side).

   A. Existing native vegetation shall be protected and maintained within the riparian corridor easement.
   B. Whenever practicable invasive vegetation shall be actively removed and the riparian corridor easement shall be planted with native trees, shrubs and other vegetation to create a diverse native plant community appropriate to the intended ecological context of the site.

4. The riparian corridor easement shall be enforceable by the municipality and shall be recorded in the Lancaster County Recorder of Deeds Office, so that it shall run with the land and shall limit the use of the property located therein. The easement shall allow for the continued private ownership and shall count toward the minimum lot area as required by Zoning, unless otherwise specified in the municipal Zoning Ordinance [Chapter 27].

5. Any permitted use within the riparian corridor easement shall be conducted in a manner that will maintain the extent of the existing one hundred (100) year floodplain, improve or maintain the stream stability, and preserve and protect the ecological function of the floodplain.

6. The following conditions shall apply when public and/or private recreation trails are permitted within riparian corridors:
   A. Trails shall be for non-motorized use only.
   B. Trails shall be designed to have the least impact on native plant species and other sensitive environmental features.

7. Septic drainfields and sewage disposal systems shall not be permitted within the riparian corridor easement and shall comply with setback requirements established under 25 Pa.Code, Chapter 73.

§308. Floodplain. Floodplain areas shall be established and preserved as provided below:
A. A one hundred (100) year floodplain shall be established for all watercourses and shall be delineated by one of the following methods:

(1) A hydrologic report prepared by an individual registered in the Commonwealth of Pennsylvania to perform such duties.

(2) A hydrologic report prepared by an agency of the County, State, or U.S. government.

B. Whenever a floodplain is located within or along a lot, the record plan (where a regulated activity constitutes a subdivision or land development) or stormwater management site plan (where a regulated activity does not constitute a subdivision or land development) shall include: the boundary of the floodplain, along with the elevation and locational dimensions from the centerline of the watercourse; a plan note that the floodplain shall be kept free of structures, fill, and other encroachments; and a plan note that floor elevations for all structures adjacent to the floodplain shall be two (2) feet above the one hundred (100) year flood elevation.

C. The above provision shall not be construed as a prohibition of the following, provided they comply with paragraph .D:

(1) Stormwater management facilities.

(2) Stream improvements whose sole purpose is to improve aquatic life habitat and which are approved by the Pennsylvania Fish and Boat Commission.

(3) Farm ponds.

(4) Flood-proofing and flood hazard reduction structures to protect existing buildings.

(5) Public and private utility facilities, except buildings.

(6) Water-oriented uses (except building), e.g., docks, piers, boat launching ramps, hatcheries.

(7) Water monitoring devices.

(8) Culverts, bridges, and their approaches for floodplain crossings by streets, access drives and driveways.

D. Plans for any of the eight uses within a floodplain permitted under paragraph .C, above, shall demonstrate that the proposed uses do not increase the height or frequency of flooding; are installed so as to withstand the maximum volume, velocity, and force of floodplain water; are flood and flotation proof; do not endanger public health and safety; do not degrade quality of surface water, or groundwater.

(Ord. 568, 5/6/2014, §308)
Part 4

Information to Be Included on or with Stormwater Management Site Plans

§401. General Plan Requirements.

1. The SWM site plan shall consist of a narrative and all applicable calculations, maps, plans and supplemental information necessary to demonstrate compliance with this Chapter.

2. All landowners of land included in the SWM site plan shall be required to execute all applications and final documents.

3. All SWM site plans shall be prepared by a qualified person.

4. Where the regulated activity constitutes subdivision or land development as hereinabove defined, the SWM site plan shall be submitted with and form an integral part of the plans required under the County Subdivision and Land Development Ordinance.

(Ord. 568, 5/6/2014, §401)

§402. Drafting Standards.

1. The plan should be clearly and legibly drawn.

2. If the plan is prepared in two (2) or more drawing sheets, a key map showing the location of the sheets and a match line shall be placed on each sheet.

3. Each sheet shall be numbered to show the relationship to the total number of sheets in the plan (e.g., Sheet 1 of 5).

4. Drawings or maps of the project area shall be drawn at one (1) inch = fifty (50) feet or larger scale (i.e., one (1) inch = forty (40) feet, one (1) inch = thirty (30) feet, etc.) and shall be submitted on twenty-four (24) inch x thirty-six (36) inch sheets.

5. SWM site plans shall be prepared in a form that meets the requirements for recording for the Office of the Recorder of Deeds of Lancaster County.

6. The total development site boundary and size with distances marked to the nearest foot and bearings to the nearest degree

(Ord. 568, 5/6/2014, §402)

§403. SWM Site Plan Information. The following items shall be included in the SWM site plan:

A. The date of the SWM site plan and latest revision, graphic scale (no more than fifty (50) feet), written scale and North arrow.

B. 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.

C. The file or project number assigned by the firm that prepared the plan.

D. General description of the project.
E. All stormwater management facilities must be located on a map and described in detail.

F. Plans for groundwater recharge facilities must show the locations of existing and proposed septic tank infiltration areas and wells. A minimum fifty (50) foot separation from on lot disposal systems (OLDS) infiltration areas is required. Infiltration rates shall be based upon perk and probe tests conducted at the site of the proposed facility.

G. All calculations, assumptions and criteria used in the design of the stormwater management facilities must be shown. If multiple facilities are used in conjunction with each other, such as infiltration best management practices with vegetation based management practices, a summary narrative shall be included describing any sequencing and how the facilities are meant to function with each other to manage stormwater runoff.

H. A statement, signed by the landowner, acknowledging the SWM facilities to be permanent fixtures that cannot be altered or removed unless a revised plan is approved by the municipality.

I. The following signature block for the municipality:

    Borough of New Holland SWM Site Plan Approval Certification

    At a meeting on __________________________, 20____, the ______ Borough of New Holland approved this project, and all conditions have been met. This approval includes the complete set of plans and information that are filed with the Borough of New Holland in Building Permit File No. __________, based upon its conformity with the standards of the Borough of New Holland Stormwater Management Ordinance.

    __________________________

    Borough Manager/Designee

J. For SWM facilities located off-site:

    (1) A note on the plan referencing a recorded stormwater operation and maintenance (O&M) agreement that indicates the location and responsibility for maintenance of the off-site facilities.

    (2) All off-site SWM facilities shall meet the performance standards specified in this Chapter.

K. A note informing the owner that the municipality shall have the right of entry for the purposes of inspecting all stormwater conveyance, treatment, or storage facilities.

L. A location map, drawn to a scale of a minimum of one inch equals two thousand feet (1" = 2,000'), relating the plan to municipal boundaries, at least two (2) intersections of road centerline or other identifiable landmarks showing all existing man-made features two hundred (200) feet beyond the development site boundary that could be affected by the project.

M. The total development site boundary and size with distances marked to the nearest foot and bearings to the nearest degree.
N. Horizontal and vertical profiles of all open channels, including hydraulic capacity.

O. Overland drainage paths.

P. **Existing Features.**

   (1) Existing contours at intervals of one (1) or two (2) feet. In areas of steep slopes (greater than twenty percent (20%)) five (5) foot contour intervals may be used.

   (2) The locations of all existing utilities (including on lot disposal systems and wells), sanitary sewers, and water lines and associated easements within two hundred (200) feet of the property lines.

   (3) Physical features including flood hazard boundaries, wetlands, sinkholes, streams, lakes, ponds and other waterbodies, existing drainage courses, Karst features, areas of native vegetation including trees greater than six (6) inch diameter at breast height, woodlands, other environmentally sensitive areas and the total extent of the upstream area draining through the development site.

   (4) An overlay showing soil names and boundaries.

   (5) All existing man-made features within two hundred (200) feet of the development site boundary.

Q. **Proposed Features.**

   (1) Changes to the land surface and vegetative cover, including final proposed contours at intervals of one (1) or two (2) feet in areas of disturbance. In areas of steep slopes (greater than fifteen percent (15%)) and areas undisturbed, five (5) foot contour intervals may be used.

   (2) Proposed structures, roads, paved areas, buildings and other impervious and semi-impervious areas.

   (3) The location of any proposed on-lot disposal systems, replacement drainfield easements, and water supply wells.

   (4) A note indicating existing and proposed land use(s).

   (5) Plan and profile drawings of all proposed SWM facilities, including BMPs, drainage structures, pipes, open channels, and swales.

   (6) Where pervious pavement is to be installed, pavement material and construction specifications shall be included.

   (7) The location of all existing and proposed easements, including drainage easements, access easements and riparian corridor easements.

   (8) A minimum twenty (20) foot wide access easement around all stormwater management facilities that would provide ingress from and egress to a public right-of-way.

   (9) A planting plan shall be provided for all vegetated BMPs in accordance with §301.14.
R. The location of all E&S control facilities.

(Ord. 568, 5/6/2014, §403)

§404. Additional Information.

1. General description of the development site, including a description of existing natural and hydrologic features and any environmentally sensitive areas.

2. General description of the overall SWM concept for the project, including a description of permanent SWM techniques, non-structural BMPs to be employed and construction specifications of the materials to be used for structural SWM facilities. The narrative shall include a description of any treatment trains and how the facilities are meant to function with each other to manage stormwater runoff.

3. The effect of the project (in terms of runoff volumes, water quality and peak flows) on adjacent properties and on any existing municipal stormwater management facilities that may receive runoff from the development site.

4. Complete hydrologic, hydraulic, and structural computations for all SWM facilities.

5. Expected project time schedule.

6. A Declaration of Adequacy/Highway Occupancy Permit from PADOT District Office when utilization of a PADOT stormwater facility is proposed.

(Ord. 568, 5/6/2014, §1)

§405. Supplemental Information.

1. In areas of carbonate geology, a detailed geologic evaluation prepared by a registered professional geologist (PG) must be submitted as part of the SWM site plan. The report shall include, but not limited to, the following:

   A. Certify that no stormwater management facilities are placed in, over, or immediately adjacent to the following Karst features:
      (1) Sinkholes.
      (2) Closed depressions.
      (3) Lineaments in carbonate areas.
      (4) Fracture traces.
      (5) Caverns.
      (6) Intermittent lakes.
      (7) Ephemeral disappearing streams.
      (8) Bedrock pinnacles (surface or subsurface).

   B. A plan for remediation of any identified Karst features.

   C. Impacts of stormwater management facilities on adjacent Karst features, and impacts of Karst features on adjacent stormwater management facilities.
D. Stormwater management basins shall not be located closer than one hundred (100) feet from the rim of sinkholes or closed depressions, nor within one hundred (100) feet from disappearing streams; nor shall these basins be located closer than fifty (50) feet from lineaments or fracture traces; nor shall these basins be located closer than twenty-five (25) feet from surface or identified subsurface pinnacles.

E. Stormwater resulting from regulated activities shall not be discharged into sinkholes.

F. If the developer can prove through analysis that the development site is in an area underlain by carbonate geology, and such geologic conditions may result in sinkhole formations, then the development site is exempt from recharge requirements as described in §303.C. However, the development site shall still be required to meet all other hydrologic and water quality management standards as found in this Chapter.

G. It shall be the developer’s responsibility to verify if the development site is underlain by carbonate geology. The following note shall be attached to all stormwater management site plans and signed and sealed by the developer’s qualified professional, “I, _____________, certify that the proposed detention basin (circle one) is/is not underlain by carbonate geology.”

H. Whenever a stormwater facility will be located in an area underlain by carbonate geology, a geological evaluation of the proposed location by a registered Professional Geologist shall be conducted to determine susceptibility to sinkhole formation.

2. An E&S plan, including all approvals, as required by 25 Pa.Code, Chapter 102, shall be provided to the municipality prior to unconditional final plan approval.

3. For any activities that require a DEP Joint Permit Application and are regulated under Chapter 105 or Chapter 106, require a PennDOT highway occupancy permit, or require any other permit under applicable State or Federal regulations, the permit(s) shall be part of the SWM site plan and must be obtained prior to unconditional final plan approval.

4. An operation and maintenance (O&M) plan that addresses the requirements of §603.

(Ord. 568, 5/6/2014, §405)
Part 5

Plan Processing Procedures

§501. Small Projects.

1. Anyone proposing a small project, shall submit three (3) copies of the small project application to the municipality.

2. A complete small project application shall include:
   A. Small project application form (Appendix A).
   B. Small project sketch plan including the following:
      (1) Name and address of landowner (and/or) developer.
      (2) Date of small project application submission.
      (3) Name of individual and/or firm that prepared the sketch if different than the landowner and/or developer.
      (4) Location and square footage of proposed impervious area or land disturbance.
      (5) Approximate footprint and location of all structures on adjacent properties if located within fifty (50) feet of the proposed impervious area or land disturbance.
      (6) Approximate location of existing stormwater management facilities if present.
      (7) Location and description of proposed stormwater management facilities.
      (8) Direction of proposed stormwater discharge (e.g., with arrows).
      (9) Scale and north arrow.
   C. Filing fee (in accordance with the Borough of New Holland’s current fee schedule).

3. The small project application shall be submitted in a format that is clear, concise, legible, neat and well organized.

(Ord. 568, 5/6/2014, §501)

§502. Exemption from Plan Submission Requirements.

1. The following regulated activities are specifically exempt from the SWM site plan preparation and submission requirements articulated in §301.1 and Parts 4 and 5 of this Chapter:
   A. Agricultural activity (see definitions) provided the activities are performed according to the requirements of 25 Pa.Code, Chapter 102.
   B. Forest management and timber operations (see definitions) provided the activities are performed according to the requirements of 25 Pa.Code, Chapter 102.
C. Conservation practices being installed as part of the implementation of a conservation plan written by an NRCS certified planner.

D. The installation of one thousand (1,000) or fewer square feet of impervious surface coverage proposed after the effective date of this Chapter or an earlier date; provided, that the activities meet the criteria of subsection .3 below and are conducted in accordance with all requirements of this Chapter.

E. Domestic landscape and/or vegetable gardening.

2. The municipality may deny or revoke any exemption pursuant to this Section at any time for any project that the municipality believes may pose a threat to public health, safety, property or the environment.

3. An applicant proposing the cumulative installation of one thousand (1,000) square feet or less of impervious surface coverage may be exempt from the design, plan submittal, and processing requirements of Parts 3, 4, and 5 of this Chapter if the proposal meets the criteria in the subsection .3. No person or activity is exempted from compliance with §605 and Part 7, 8, and 9 of this Chapter. Exemptions 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. Exemptions shall not relieve an applicant from implementing such measures as necessary to meet compliance with any NPDES permit requirements. Any exemption based on false, misleading, or erroneous information provided by an applicant is void without the necessity of any proceedings for revocation. Any work undertaken or use established pursuant to such permit or other authorization is unlawful.

A. Any applicant desiring exemption from design, plan submission, and plan processing requirements shall complete an application for exemption in the form set forth in Appendix D and pay any applicable filing fee.

B. The applicant for exemption under this subsection .3 shall provide the municipality with all information necessary for the municipality to determine that:

(1) There shall be no disturbance of land within floodplains, wetlands, environmentally sensitive areas, riparian forest buffers, or slopes greater than fifteen percent (15%).

(2) No impervious surface coverage shall be installed and no earth disturbance activity shall be conducted within any existing drainage or stormwater easement created by or shown on any recorded plan.

(3) The applicant shall minimize soil disturbance, take steps to minimize erosion and sedimentation during construction activity, and promptly reclaim all disturbed areas with topsoil and vegetation.

(4) The proposed impervious surface shall not adversely impact any existing known problem areas or downstream property.
owners or the quality of runoff entering any municipal separate storm sewer system.

(6) The applicant shall comply with the erosion and sediment control requirements of 25 Pa.Code, Chapter 102, and the proposed impervious surface shall not create accelerated erosion and sedimentation.

C. If the proposed activity does not meet all of the criteria set forth in paragraph .3.B above, the applicant shall follow the small project processing procedure in §501.

D. The applicant shall comply with applicable State water quality standards. If the proposed activity is located in a high quality (HQ) or exceptional value (EV) watershed, the applicant shall be responsible for compliance with all Federal and State requirements applicable to these special protection waters. This exemption does not provide relief from any other applicable State or Federal requirements.

E. No applicant and no activity shall violate or cause to be violated: the Federal Clean Water Act, Clean Streams Law, or any regulation issued thereunder, an NPDES permit, any recorded stormwater management or operations and maintenance agreement, or any requirement applicable to a municipal separate storm sewer system.

(Ord. 568, 5/6/2014, §502)

§503. Pre-Application Meeting. Applicants are encouraged to schedule a pre-application meeting to review the overall stormwater management concept with municipal staff/engineer. The pre-application meeting is not mandatory and shall not constitute formal filing of a plan with the municipality. Topics discussed may include the following:

A. Available geological maps, plans and other available data.

B. Findings of the site analysis including identification of any environmentally sensitive areas, wellhead protection areas, riparian corridors, hydrologic soil groups, existing natural drainageways, Karst features, areas conducive to infiltration to be utilized for volume control, etc.

C. Results of infiltration tests.

D. Applicable subdivision and land development and/or zoning ordinance provisions.

E. The conceptual project layout, including proposed structural and non-structural BMPs.

(Ord. 568, 5/6/2014, §503)

§504. Stormwater Management Site Plan Submission.

1. When a SWM plan is required, the applicant shall submit the following to the municipality for review and recommendations:
   
   A. Completed and signed SWM site plan application.

   B. Three (3) copies of the SWM site plan prepared in accordance with the requirements of Part 4 of this Chapter.
(1) Two (2) copies to the Borough accompanied by the requisite Borough review fee, as specified in this Chapter.

(2) One (1) copy to the Borough Engineer.

C. Four (4) copies of all supporting information.

D. Filing fee in accordance with the Borough of New Holland’s current fee schedule.

(1) In the event that an applicant disputes the amount of such review fees, the applicant shall, within ten (10) days of the filing date, notify the Borough in writing that such fees are disputed.

(2) In the event that the Borough and the applicant cannot agree on the amount of the review fees which are reasonable and necessary, then the applicant and the Borough shall follow the procedure for disputed resolution set forth in the Municipalities Planning Code.

2. The SWM site plan shall be submitted in a format that is clear, concise, legible, neat and well organized.

3. The applicant is responsible for submitting plans to any other agencies such as the Lancaster County Conservation District, PennDOT, DEP, etc., when permits from these agencies are required. Final approval shall be conditioned upon the applicant obtaining all necessary permits.

4. Incomplete submissions as determined by the governing body or its designee, shall be returned to the applicant within ten (10) days, along with a statement that the submission is incomplete, and stating the deficiencies found. Otherwise, the application shall be deemed accepted for filing as of the date of submission. Acceptance of the application shall not, however, constitute an approval of the plan or a waiver of any deficiencies or irregularities. The applicant may appeal the municipality’s decision not to accept a particular application in accordance with §805 of this Chapter.

5. At its sole discretion and in accordance with this Part, when a SWM site plan is found to be deficient, the Borough of New Holland may either disapprove the submission and require a resubmission, or in the case of minor deficiencies, the Borough of New Holland may accept submission of revisions.

6. Approval of the SWM site plan application shall be communicated to the applicant by mail at the applicant’s last known address.

7. No building permits or certificates of occupancy shall be issued unless the Borough Engineer verified that the SWM site plan standards and requirements herein are satisfied.

8. Approval of a SWM site plan by the Borough shall not be construed as an indication that the plan complies with the standards of any other agency.

(Ord. 568, 5/6/2014, §504)

§505. Municipal Review.

1. The Borough or its designee shall review the stormwater management site plan for consistency with this Chapter and the adopted Act 167 Plans. The Borough or its designee shall require receipt of a complete plan, as specified in this Chapter.
2. When the regulated activity constitutes a subdivision or land development as defined in the New Holland Borough Subdivision and Land Development Ordinance [Chapter 22], the SWM site plan and subdivision/land development plan shall be processed concurrently according to the plan processing procedure outlined in the current New Holland Borough Subdivision and Land Development Ordinance [Chapter 22].

3. For regulated activities requiring a PADEP Joint Permit Application, the Borough or its designee shall notify PADEP whether the stormwater management site plan is consistent with the appropriate Act 167 Plan and forward a copy of the review letter to the Borough and the developer. PADEP may consider the Borough or its designee’s review comments in determining whether to issue a permit.

4. The developer shall be responsible for completing an “as-built survey” of all stormwater management facilities included in the approved stormwater management site plan. The as-built survey and an explanation of any discrepancies with the design plans shall be submitted to the Borough or its designee for final approval. In no case shall the Borough or its designee approve the as-built survey until the Borough or its designee receives a copy of an approved Declaration of Adequacy/Highway Occupancy Permit from the PA DOT District Office, and any applicable permits from PADEP.

5. When the regulated activity constitutes a small project, the municipality shall review and take action on the small project application within forty-five (45) days of filing.

6. When the regulated activity does not constitute a subdivision or land development or small project the municipal engineer shall review the SWM site plan for conformance with the provisions of this Chapter.

7. Following receipt of the municipal engineer’s report and within ninety (90) days following the date of the first regular meeting of the governing body after the date the application is filed, the governing body will schedule the SWM site plan application for action at a regularly scheduled public meeting.

8. Within fifteen (15) days of the meeting at which the SWM site plan application is acted upon by the governing body, written notice of the governing body’s action shall be sent to the following individuals:

   A. Landowner or his agent.
   B. Applicant.
   C. Firm that prepared the plan.
   D. Lancaster County Planning Commission.
   E. Lancaster County Conservation District.

9. If the municipality disapproves the SWM site plan, the municipality will state the reasons for the disapproval in writing. The municipality also may approve the SWM site plan with conditions and, if so, shall provide the acceptable conditions for approval in writing. Such conditional approval shall be contingent upon the applicant’s written acceptance of the conditions.

10. The Borough or its designee’s approval of a stormwater management site plan shall be valid for a period not to exceed one (1) year unless a
schedule is submitted and approved for a longer period of time as part of the
approval process. This one (1) year time period shall commence on the date
that the Borough or its designee approves the stormwater management site
plan. If stormwater management facilities included in this approved
stormwater management site plan have not been constructed, or if an as-built
survey of these facilities has not been approved within this one (1) year
time period, then the Borough or its designee may consider the stormwater
management site plan disapproved and may recommend that the municipality
revoke any and all permits. Stormwater management site plans that are
considered disapproved by the Borough or its designee shall be resubmitted in
accordance with §504 of this Chapter.

(Ord. 568, 5/6/2014, §505)

§506. Revision/Modifications of Plans.

1. Revisions to a SWM site plan after submission but before municipal
action shall require a re-submission of the modified SWM site plan consistent
with §504 of this Chapter and be subject to review as specified in §505 of
this Chapter. Revisions and/or modifications which would require a re-
submission includes, but is not limited to, the following:

   A. A change in stormwater management facilities or techniques.

   B. The relocation or re-design of stormwater management facili-

   C. Modifications that are necessary because soil or other
   conditions are not as stated on the stormwater management site plan (as
determined by the Borough or its designee or the Borough Engineer).

2. For the purposes of review deadlines, each resubmission required
under subsection .1 (after submission but before approval) shall constitute
a new submission for the purposes of time limits as set forth in the MPC and
this Chapter.

3. Any substantial revisions to a SWM site plan after approval shall
be submitted as a new plan to the municipality, accompanied by the applicable
review fee.

(Ord. 568, 5/6/2014, §506)

§507. Authorization to Construct and Term of Validity. Approval of a
SWM site plan shall be valid for a period not to exceed one (1) year. This
time period shall commence on the date that the municipality approves the SWM
site plan. If a certificate of completion as required by §508 of this
Chapter has not been submitted within the specified time period, then the
municipality may consider the SWM site plan disapproved and may revoke any
and all permits issued by the municipality. SWM site plans that are
considered disapproved by the municipality may be resubmitted in accordance
with §504 of this Chapter. (Ord. 568, 5/6/2014, §507)

§508. Certificate of Completion.

1. At the completion of the project, and as prerequisite for the
release of the financial security, the applicant shall provide certification
of completion from an engineer, landscape architect, surveyor or other
qualified person verifying that all permanent SWM facilities have been
constructed according to the plans and specifications and approved revisions thereto.

2. Upon receipt of the certificate of completion, and prior to release of the remaining financial security the municipality shall conduct a final inspection to certify compliance with this Chapter.

(Ord. 568, 5/6/2014, §508)

§509. Plan Recordation.

1. Upon completion of the plan improvements the applicant shall submit an as-built plan for recordation in the Office of the Recorder of Deeds. The as-built plan must show the final design specifications for all stormwater management facilities and be sealed by a registered professional engineer. When a digital submission of an as-built plan is required, all coordinates as depicted on the plan shall be based on the PA South Zone State Plane Coordinate System (NAD83 for horizontal and NAVD88 for vertical).

2. Concurrently with the recordation of the as-built plan, the applicant shall submit the SWM site plan for recordation in the Office of the Recorder of Deeds, unless the site plan has already been recorded.

(Ord. 568, 5/6/2014, §509)

§510. Schedule of Inspections.

1. The Borough or its designee shall inspect all phases of the installation of any temporary or permanent stormwater management facilities.

2. During any stage of the work, if the Borough or its designee determines that any temporary or permanent stormwater management facilities are not being installed in accordance with the approved stormwater management site plan, the Borough shall revoke any existing permits until a revised stormwater management site plan is submitted and approved, as specified in this Chapter.

(Ord. 568, 5/6/2014, §510)
§601. Applicability. For the purposes of this Part, drainage courses, swales, stormwater inlets, pipes, conduits, detention basins and other stormwater management facilities, including best management practices (BMPs), shall be included under the term "stormwater management facilities." (Ord. 568, 5/6/2014, §601)

§602. Maintenance Responsibilities.

1. The stormwater management site plan for the development site shall contain an operation and maintenance schedule prepared by the developer and approved by the Borough providing for the necessary and proper operation and maintenance of the stormwater management facility(ies). The maintenance schedule shall also be recorded with the final subdivision or land development plan, if one is required.

2. The stormwater management site plan for the development site shall establish responsibilities for the continuing operating and maintenance of all proposed stormwater control facilities, including best management practices (BMPs), consistent with the following principles:

   A. If a development contains structures such as streets, sewers and other public improvements that will be dedicated to the Borough, stormwater control facilities may also be dedicated to and maintained by the Borough. Even if the Borough elects to accept dedication of streets, the Borough is under no obligation to accept stormwater management facilities located outside of the public right-of-way.

   B. If a development site is to be maintained in single ownership or if sewers and other public improvements are to be privately owned and maintained, then the ownership and maintenance of stormwater control facilities shall be the responsibility of the owner, lessee, private management entity, or any other parties in interests.

3. The governing body, upon recommendation of the Borough Engineer, shall make the final determination on the continuing maintenance responsibilities prior to final approval of the subdivision/land development/stormwater management site plan. The acceptance of ownership and operating/maintenance responsibilities for any or all of the stormwater management facilities is at the sole discretion of the Borough.

4. Maintenance of stormwater management facilities shall include, but not be limited to, the following:

   A. Liming and fertilizing vegetated channels and other areas according to the specifications in the "Erosion and Sedimentation Control Handbook of Lancaster County."

   B. Reestablishment of vegetation by seeding and mulching or sodding of scoured areas or areas where vegetation has not been successfully established.

   C. Mowing as necessary to maintain adequate strands of grass and to control weeds. Chemical weed control may be used if Federal, State
and local laws and regulations are met. Selection of seed mixtures shall be subject to approval by the Borough.

D. Removal of silt from all permanent structures which trap silt or sediment in order to keep the material from building up in grass waterways, pipes, detention or retention basins, infiltration structures, or BMPs, and thus reducing their capacity to convey or store water.

E. Regular inspection of the areas in question to assure proper implementation of BMPs, maintenance and care.

F. All pipes, swales and detention facilities shall be kept free of any debris or other obstruction in original design condition.

§603. Responsibilities of Developers and Landowners for Privately Owned Stormwater Management Facilities.

1. The landowner, successor and assigns shall maintain all stormwater management facilities in good working order in accordance with the approved O&M plan.

2. The landowner shall convey to the municipality easements to assure access for inspections and maintenance, if required.

3. The landowner shall keep on file with the municipality the name, address and telephone number of the person or company responsible for maintenance activities; in the event of a change, new information will be submitted to the municipality within ten (10) days of the change.

4. Other items may be included in the agreement where determined necessary to guarantee the satisfactory maintenance of all facilities. The maintenance agreement shall be subject to the review and approval of the Borough Solicitor and governing body.

5. Enumerate permanent SWM facilities as permanent real estate appurtenances and record as deed restrictions or easements that run with the land.

6. The record owner of the development site shall sign and record an operation and maintenance (O&M) agreement covering all stormwater management facilities, including riparian buffers and riparian forest buffers, which are to be privately owned. Said agreement, designated as Appendix C, is attached and made part hereto. The O&M plan and agreement shall be recorded as a restrictive covenant agreement that runs with the land.

7. If the owner fails to maintain the stormwater control facilities following due notice by the Borough to correct the problem(s), the Borough may perform the necessary maintenance work or corrective work and the owner shall reimburse the Borough for all reasonable costs. Failure to reimburse the Borough may lead to a lien being placed against any or all properties which utilize the facility.

§604. Operation and Maintenance Agreements.

1. The operation and maintenance agreement shall be subject to the review and approval of the municipal solicitor and governing body.
2. The municipality is exempt from the requirement to sign and record an O&M agreement.

(Ord. 568, 5/6/2014, §604)

§605. Operation and Maintenance (O&M) Plan Contents.

1. The O&M plan shall clearly establish the operation and maintenance necessary to ensure the proper functioning of all temporary and permanent stormwater management facilities and erosion and sedimentation control facilities.

2. The following shall be addressed in the O&M plan:

   A. Description of maintenance requirements, including, but not limited to, the following:

      (1) Regular inspection of the SWM facilities. To assure proper implementation of BMPs, maintenance and care SWM BMPs should be inspected by a qualified person, which may include the landowner, or the owner’s designee (including the municipality for dedicated and owned facilities), according to the following minimum frequencies:

      (a) Annually for the first five (5) years.

      (b) Once every three (3) years thereafter.

      (c) During or immediately after the cessation of a ten (10) year or greater storm.

      (d) As specified in the O&M agreement pursuant to §602.

      (2) All pipes, swales and detention facilities shall be kept free of any debris or other obstruction and in original design condition.

      (3) Removal of silt from all permanent structures which trap silt or sediment in order to keep the material from building up in grass waterways, pipes, detention or retention basins, infiltration structures, or BMPs, and thus reducing their capacity to convey or store water.

      (4) Re-establishment of vegetation of scoured areas or areas where vegetation has not been successfully established. Selection of seed mixtures shall be subject to approval by the municipality.

   B. Riparian forest buffer management plan prepared in accordance with 25 Pa.Code, Chapter 102, §14(b)(4), if required.

   C. Identification of a responsible individual, corporation, association or other entity for ownership and maintenance of both temporary and permanent stormwater management and erosion and sedimentation control facilities.

   D. Establishment of suitable easements for access to all facilities.

(Ord. 568, 5/6/2014, §605)

§606. Maintenance of Facilities Accepted by the Municipality.
1. The municipality reserves the right to accept or reject any proposal to dedicate ownership and operating responsibility of any SWM facilities to the municipality.

2. If SWM facilities are accepted by the municipality for dedication, the landowner/developer shall be required to pay a specified amount to the municipal stormwater maintenance fund to defray costs of periodic inspections and maintenance expenses. This fee shall be provided to the municipality prior to unconditional plan approval. The amount of the deposit shall be determined as follows subject to the approval of the municipal governing body:

   A. The deposit shall cover the estimated costs for maintenance and inspections for twenty-five (25) years. The municipality will establish the estimated costs according to the O&M requirements outlined in the approved O&M plan.

   B. The amount of the deposit to the fund shall be converted to present worth of the annual series values.

   C. If a storage facility is proposed that also serves as a recreation facility (e.g., ballfield, lake), the municipality may reduce or waive the amount of the maintenance fund deposit based upon the value of the land for public recreation purpose.

3. If at any time a dedicated storage facility is eliminated due to the installation of storm sewers or other storage facility such as a regional detention facility, the unused portion of the maintenance fund deposit will be applied to the cost of abandoning the facility and connecting to the storm sewer system or other facility. Any amount of the deposit remaining after the costs of abandonment are paid will be returned to the depositor.

4. All dedicated facilities shall be inspected by the municipality according to the following minimum frequencies:

   A. Annually for the first five (5) years.

   B. Once every three (3) years thereafter.

   C. During or immediately after the cessation of a ten (10) year or greater storm.

   D. As specified in the O&M agreement pursuant to §602.

5. Maintenance shall be conducted as necessary to provide for the continued functioning of the facility. Costs of inspections, maintenance and repairs are recoverable from the municipal stormwater maintenance fund.

(Ord. 568, 5/6/2014, §606)

§607. Maintenance of Existing Facilities/BMPs.

1. SWM facilities existing on the effective date of this Chapter, which have not been accepted by the municipality or for which maintenance responsibility has not been assumed by a private entity such as a homeowners association shall be maintained by the individual landowners. Such maintenance shall include at a minimum those items set forth in §603 above. If the municipality determines at any time that any permanent SWM facility has been eliminated, altered, blocked through the erection of structures or the deposit of materials, or improperly maintained, the condition constitutes
a nuisance and the municipality shall notify the landowner of corrective measures that are required, and provide for a reasonable period of time, not to exceed thirty (30) days, within which the property owner shall take such corrective action. If the landowner does not take the required corrective action, the municipality may either perform the work or contract for the performance of the work and bill the landowner for the cost of the work plus a penalty of ten percent (10%) of the cost of the work. If such bill is not paid by the property owner within thirty (30) days, the municipality may file a municipal claim against the property upon which the work was performed in accordance with the applicable laws. The municipality shall have the right to choose among the remedies and may use one or more remedies concurrently.

2. No person shall modify, remove, fill, landscape or alter stormwater management facilities which have been installed on a property unless a stormwater management permit has been obtained to permit such modification, removal, filling, landscaping or alteration. No person shall place any structure, fill, landscaping or vegetation into a stormwater management facility or within a drainage easement which will limit or alter the functioning of the facility or easement in any manner.

(Ord. 568, 5/6/2014, §607)
Part 7
Fees and Expenses

§701. General. The fees required by this Chapter are the Borough review fee. The Borough review fee shall be established by the municipality by separate resolution (meeting all requirements of the MPC) or by ordinance to defray review costs incurred directly or indirectly by the Borough and the Borough Engineer. All fees shall be paid by the applicant. (Ord. 568, 5/6/2014, §701)

§702. Expenses Covered by Fees. Review fee amounts may be found in the Borough of New Holland’s currently adopted fee schedule. The review fee may include, but not be limited to, costs for the following:

A. Administrative and clerical costs.
B. Review of the SWM site plan.
C. Review of the stormwater operation and maintenance plan and stormwater agreement by the municipal solicitor/staff.
D. The inspection of stormwater management facilities and drainage improvements during construction.
E. The final inspection upon completion of the stormwater management facilities and drainage improvements presented in the stormwater management site plan.
F. Any additional work required to enforce any permit provisions regulated by this Chapter, correct violations, and assure proper completion of stipulated remedial actions.

(Ord. 568, 5/6/2014, §702)

§703. Improvement Security. An improvement security (bond or letter of credit) for stormwater related improvements shall be supplied by the developer in conjunction with the subdivision/land development approval, or in conjunction with the stormwater management site plan approval if no subdivision/land development plan is required. The applicant shall provide an improvement security to the Borough for the timely installation and proper construction of all stormwater management facilities as required by the approved stormwater management site plan and this Chapter equal to one hundred ten percent (110%) of the construction cost of the required controls.

(Ord. 568, 5/6/2014, §703)
§801. Prohibited Discharges and Connections.

1. The following connections are prohibited, except as provided in subsection .4 below.
   
   A. 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 a municipal separate storm sewer (if applicable), or waters of this Commonwealth, and any connections to the storm sewer from indoor drains and sinks.
   
   B. Any drain or conveyance connected from a commercial or industrial land use to the municipal separate storm sewer (if applicable) which has not been documented in plans, maps, or equivalent records, and approved by the municipality.

2. No person shall allow, or cause to allow, discharges into surface waters of this Commonwealth which are not composed entirely of stormwater, except (A) as provided in subsection .4 below and (B) discharges allowed under a State or Federal permit.

3. No person shall place any structure, fill, landscaping or vegetation into a SWM facility or within a drainage easement that will limit or diminish the functioning of the facility in any manner.

4. The following discharges are authorized unless they are determined to be significant contributors to pollution to the waters of this 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. Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used.
   H. Flows from riparian habitats and wetlands.
   I. Uncontaminated water from foundations or from footing drains.
   J. Lawn watering.
   K. De-chlorinated swimming pool discharges.
   L. Uncontaminated groundwater.
   M. Water from individual residential car washing.
   N. Routine external building wash down (which does not use detergents or other compounds).
O. Diverted stream flows.

P. Rising ground waters.

5. In the event that the municipality or DEP determines that any of the discharges identified in Section 801.D above significantly contribute to pollution of the waters of this Commonwealth, the municipality or DEP will notify the responsible person(s) to cease the discharge.

(Ord. 568, 5/6/2014, §801)

§802. Alteration of SWM BMPs. No person shall modify, remove, fill, landscape, or alter any SWM BMPs, facilities, areas, or structures without the written approval of the municipality. (Ord. 568, 5/6/2014, §802)

§803. Prohibited Connections. The following connections are prohibited, except as provided in §801.4 above:

A. No person in the Borough shall allow, or cause to allow, stormwater discharges into the Borough’s separate storm sewer system which are not composed entirely of stormwater, except (1) as provided in subsection .B below, and (2) discharges allowed under a State or Federal permit.

B. Discharges which may be allowed, based on a finding by the Borough that the discharge(s) do not significantly contribute to pollution to surface waters of the Commonwealth, are:

   (1) Discharges from firefighting activities.
   (2) Uncontaminated water from foundation or from footing drains.
   (3) Potable water sources including dechlorinated water lines and fire hydrant flushings.
   (4) Flows from riparian habitats and wetlands.
   (5) Lawn watering.
   (6) Irrigation drainage.
   (7) Pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used.
   (8) Routine external building washdown (which does not use detergents or other compounds).
   (9) Air conditioning condensate.
   (10) Water from individual residential car washing.
   (11) Dechlorinated swimming pool discharges.
   (12) Springs.
   (13) Uncontaminated groundwater water from crawl space pumps.
   (14) Diverted stream flows.
   (15) Rising ground waters.

(Ord. 568, 5/6/2014, §803)
Part 9

Enforcement and Penalties

§901. Right-of-Entry. Upon presentation of proper credentials, duly authorized representatives of the municipality may enter at reasonable times upon any property within the municipality to investigate or ascertain the condition of the subject property in regard to any aspect regulated by this Chapter. (Ord. 568, 5/6/2014, §901)

§902. Notification. In the event that any person fails to comply with the requirements of this Chapter, or fails to conform to the requirements of any permit issued hereunder, the Borough shall provide written notification of the violation. Such notification shall set forth the nature of the violation(s) and establish a reasonable time limit, for correction of these violation(s). Such notice may require without limitation:

A. The performance of monitoring, analyses, and reporting.
B. The elimination of prohibited discharges.
C. Cessation of any violating discharges, practices, or operations.
D. The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property.
E. Payment of a fine to cover administrative and remediation costs.
F. The implementation of stormwater BMPs.
G. Operation and maintenance of stormwater BMPs.

Failure to comply within the time specified shall subject such person to the penalty provisions of this Chapter. All such penalties shall be deemed cumulative and shall not preclude by the Borough from pursuing any and all other remedies. (Ord. 568, 5/6/2014, §902)

§903. Enforcement/Violations. The municipal governing body is hereby authorized and directed to enforce all of the provisions of this Chapter.

A. A set of design plans approved by the Borough shall be on file at the development site throughout the duration of the construction activity. Periodic inspections may be made by the Borough or designee during construction.

B. It shall be unlawful for any person, firm or corporation to undertake any activity under §105 on any property except as provided for in the approved stormwater management site plan and pursuant to the requirements of this Chapter. It shall be unlawful to alter or remove any control structure required by the stormwater management site plan pursuant to this Chapter or allow the property to remain in a condition which does not conform to the approved stormwater management site plan.

C. At the completion of the project, and as prerequisite for the release of the performance guarantee, the owner or his representatives shall:
(1) Provide a certification of completion from an engineer, architect, surveyor or other qualified person verifying that all permanent facilities have been constructed according to the plans and specifications and approved revisions thereto.

(2) Provide a set of as built drawings.

D. After receipt of the certification by the Borough, a final inspection shall be conducted by the governing body or its designee to certify compliance with this Chapter.

E. Prior to revocation or suspension of a permit, the governing body will schedule a hearing to discuss the non-compliance if there is no immediate danger to life, public health or property.

F. Suspension and Revocation of Permits.

(1) Any permit or approval issued by the municipality pursuant to this Chapter may be suspended by the municipality for:

   (a) Noncompliance with or failure to implement any provision of the approved SWM site plan or O&M agreement.

   (b) A violation of any provisions of this Chapter or any other applicable law, ordinance, rule, or regulation relating to the regulated activity.

   (c) The creation of any condition or the commission of any act during construction or development that constitutes or creates a hazard, nuisance, pollution or endangers the life or property of others.

(2) A suspended permit may be reinstated by the municipality when:

   (a) The municipal engineer or his designee has inspected and approved the corrections to the stormwater management and erosion and sediment pollution control measure(s), or the elimination of the hazard or nuisance.

   (b) The governing body is satisfied that the violation of the ordinance, law or rule and regulation has been corrected.

   (c) A permit revoked by the governing body cannot be reinstated. The applicant may apply for a new permit under the procedures outlined in this Chapter.

G. Any occupancy permit shall not be issued unless satisfactory inspection pursuant to subsection .4 has been secured. The occupancy permit shall be required for each lot owner and/or developer for all subdivisions and land development in the Borough.

H. It shall be a violation of this Chapter to commit any of the following acts:

   (1) To commence land disturbance activities for which an approved stormwater management site plan is required prior to approval of said plan.
(2) To install, repair, modify or alter stormwater management facilities prior to obtaining an approved stormwater management site plan.

(3) To misuse or fail to maintain any stormwater management facility installed upon a property.

(4) To construct any improvements upon, grade, fill, or take any other action which will impair the proper functioning of any stormwater management facility.

(5) To place false information on or omit relevant information from a stormwater management site plan.

(6) To fail to comply with any other provisions of this Chapter.

(Ord. 568, 5/6/2014, §903)

§904. Public Nuisance.

1. Any violation of any provision of this Chapter is deemed to be a public nuisance.

2. Each day that a violation of any provision continues constitutes a separate violation.

(Ord. 568, 5/6/2014, §904)

§905. Penalties.

1. Any person who or which has violated any provisions of this Chapter, shall, upon a judicial determination thereof, be subject to civil judgment for each such violation of not less than one thousand dollars ($1,000.00), or more than ten thousand dollars ($10,000.00), for each violation, plus costs of prosecution including, without limitation, any and all expert or attorney fees, costs, or expenses incurred by the Borough to enforce this Chapter. Each day that a violation occurs shall constitute a separate offense. All fines shall be paid to the Borough of New Holland.

2. In addition to and concurrent with any and all other remedies available, the Borough of New Holland may institute injunctive, mandamus or any other appropriate action or proceeding at law, in equity, or otherwise for the enforcement of this Chapter, and any court of competent jurisdiction shall have the right to issue restraining orders, temporary or permanent injunctions, mandamus, or any and all other appropriate forms of remedy or relief, which shall include, without limitation, the following-described expert and attorney fees, costs, and expenses. The violator also shall reimburse and pay the Borough for any and all expert or attorney fees, costs, or expenses incurred by the Borough to enforce this Chapter, or any stormwater agreement or plan with the Borough, regardless of whether such enforcement includes, without limitation, investigation, negotiation, settlement, arbitration, litigation, liening, or any other enforcement action.

(Ord. 568, 5/6/2014, §905)

§906. Appeals.
1. Any person aggrieved by any administrative action of the Borough of New Holland may appeal to New Holland Borough Council within thirty (30) days of that action. Any such appeal shall be governed by the procedures of Chapter 5 of the Local Agency Law, 2 Pa.C.S.A. 551 et seq.

2. Any person aggrieved by any decision of New Holland Borough Council may appeal to the Lancaster County Court of Common Pleas, in accordance with Chapter 7 of Local Agency Law, 2 Pa.C.S.A. 751 et seq., the Local Agency Law, within thirty (30) days of that decision.

§907. Modification of Facilities. A modification which involves a change in stormwater management methods, techniques, or facilities, or which involves the relocation or redesign of stormwater management facilities, or which is necessary because soil or other conditions are not stated on the approved plan, shall require a resubmission by the developer in accordance with the plan requirements as set forth in §504 of this Chapter. (Ord. 568, 5/6/2014, §907)


1. The provisions of this Chapter not relating to water quality are intended as minimum standards for the protection of the public health, safety, and welfare. The municipality reserves the right to modify or to extend them conditionally in individual cases as may be necessary in the public interest; provided, however, that such variation shall not have the effect of nullifying the intent and purpose of this Chapter, and that the applicant shows that to the satisfaction of the municipality that the applicable regulation is unreasonable, or will cause undue hardship, or that an alternative proposal will allow for equal or better results. The list of such modifications, along with an explanation of and justification for each modification, shall be included on the plan. This Section does not apply during an enforcement action.

2. In granting waivers/modifications for provisions of this Chapter not relating to water quality, the municipality may impose such conditions as will, in its judgment, secure substantially the objectives of the standards and requirements of this Chapter.

(Ord. 568, 5/6/2014, §908)
Part 10

References

§1001. References.


2. Minnesota Pollution Control Agency.


5. Based on definition in Wisconsin Department of Natural Resources Administrative Rule NR 151.006.


8. Lancaster County Model Subdivision and Land Development Ordinance.


(Ord. 568, 5/6/2014, Art. X)
APPENDIX A
SMALL PROJECT APPLICATION

File Number 	 Date Received 
Submitted Fees $ 	 Approval of Application Date 

Project Street Address: 
Project Name: 
Owner’s Name and Address: 
Phone# / Fax# / Email: 

Please list the date of any previous Small Project Applications for the subject property: 

Proposed Activity:
[ ] Removal of ground cover, grading, filling or excavation of an area less than 5,000 square feet
  Total area of land disturbance: sq. ft.
  Type of Regulated Activity (check all that apply):
  [ ] Removal of ground cover
  [ ] Grading
  [ ] Filling
  [ ] Excavation
  [ ] Other earth disturbance activity (please describe)

[ ] Addition of Impervious Surface (more than 1,000 SF but less than 5,000 SF)
  Type of new impervious surface: [ ] driveway, [ ] shed, [ ] garage, [ ] deck, [ ] walkway,
  [ ] other (describe)
  Total new impervious surface proposed for construction: sq. ft.
  Are you removing existing impervious as part of this project?
  [ ] No
  [ ] Yes — Total area of existing Impervious to be removed sq. ft.

Check all items below that will be impacted by the project:
  _____Mature trees
  _____Sinkholes
  _____Water wells
  _____Septic drainfields
  _____Alternate septic drainfields
  _____Creeks, streams, wetlands, or ponds
  _____Existing stormwater management facility (basin, swale, etc.)
  _____Easements
Total runoff volume to be permanently removed/managed on site from attached calculation worksheet: ___________ gallons or ___________ cubic feet

Proposed Stormwater Management Controls (Best Management Practice):

- Rain Garden
- Infiltration Trench
- Cistern
- Rain Barrel
- Other (describe) ___________________________________________________________

Sketch

Provide a sketch of the proposed additional impervious area or land disturbance. Include the following on the sketch:

- Property boundary
- Location and approximate footprint of existing structures (buildings, patios, driveways, etc.)
- Approximate location of any of the following features which will be impacted by the project:
  - Mature trees
  - Sinkholes
  - Water wells
  - Septic drainfields
  - Alternate septic drainfields
  - Creeks, streams, wetlands, ponds
  - Existing stormwater management facilities (basins, swales, etc.)
- Location and approximate footprint of proposed impervious area or land disturbance.
- Approximate footprint and location of all structures on adjacent properties if located within fifty feet (50') of the proposed impervious area or land disturbance.
- Location and description of proposed stormwater management facilities (e.g. rain gardens, swales, rain barrels, etc.)
- Direction of proposed stormwater discharge (e.g. with arrows)
- Scale and north arrow

Person/Firm to be completing work: ____________________________________________
Phone# / Fax# / Email: _______________________________________________________

Name of Person Submitting this Application: _____________________________________
Signature: ________________________________
Date: _________________________________
Small Project Application Calculation Worksheet

The applicant may use the following to calculate the amount of runoff which must be managed in accordance with §302.B of this Chapter.

Project Name: 

Owner Name: 

Proposed Additional Impervious Area: ______ square feet

Impervious Area Calculations

Calculate the amount of runoff to be permanently removed (managed on site through reuse, evaporation, transpiration or infiltration):

Additional impervious area ÷ 12 = Permanently Removed Runoff Volume (PRV)

_________ square feet of additional impervious ÷ 12 = _______cubic feet PRV

_________ cubic feet x 7.48 gallons per cubic feet = _______ gallons PRV
EXAMPLE

Small Project Application Calculation Worksheet

Landowner Name: Jane Doe (20 x 45' garage)
Owner Name: Jane Doe

Proposed Additional Impervious Area: 900 square feet

Impervious Area Calculations

Calculate the amount of runoff to be permanently removed (managed on site through reuse, evaporation, transpiration or infiltration) using the following formula:

\[
\text{Additional impervious area} ÷ 12 = \text{Permanently Removed Runoff Volume (PRV)}
\]

\[
900 \text{ square feet of additional impervious} ÷ 12 = 75 \text{ cubic feet PRV}
\]

\[
75 \text{ cubic feet} \times 7.48 \text{ gallons per cubic foot} = 561 \text{ gallons PRV}
\]
### RUNOFF COEFFICIENTS "C" FOR RATIONAL FORMULA

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<th>B</th>
<th>C</th>
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### APPENDIX NO. B-2

**RUNOFF CURVE NUMBERS “CN” FOR SCS METHOD**

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<tr>
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<td>65</td>
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</tr>
<tr>
<td>Lot size 1/8 acre</td>
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<td>Lot size 1/3 acre</td>
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<td>66</td>
<td>75</td>
<td>75</td>
<td>77</td>
<td>87</td>
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<td>64</td>
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<td>65</td>
<td>73</td>
<td>72</td>
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<td>61</td>
<td>64</td>
<td>72</td>
<td>71</td>
<td>75</td>
<td>85</td>
</tr>
</tbody>
</table>

- 716 -

Page Added 7/1/2014
# Worksheet #1: Time of concentration (Tc) or travel time (Tt)

<table>
<thead>
<tr>
<th>Project</th>
<th>By</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Checked</td>
<td>Date</td>
</tr>
</tbody>
</table>

Circle one: Present  Developed
Circle one: Tc  Tt through subarea

**NOTES:** Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

## Sheet flow (Applicable to Tc only)

<table>
<thead>
<tr>
<th>Segment ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Surface description (table 3-1)</td>
</tr>
<tr>
<td>2. Manning's roughness coeff., n (table 3-1)</td>
</tr>
<tr>
<td>3. Flow length, L (total L ≤ **150 ft)</td>
</tr>
<tr>
<td>4. Two-yr 24-hr rainfall, P2</td>
</tr>
<tr>
<td>5. Land slope, s</td>
</tr>
<tr>
<td>6. ( T_t = \frac{P_2^{0.67}}{s^{0.5} n^{0.4}} ) Compute ( T_t )</td>
</tr>
</tbody>
</table>

## Shallow concentrated flow

<table>
<thead>
<tr>
<th>Segment ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Surface description (paved or unpaved)</td>
</tr>
<tr>
<td>8. Flow length, L</td>
</tr>
<tr>
<td>9. Watercourse slope, s</td>
</tr>
<tr>
<td>10. Average velocity, V (figure 3-1)</td>
</tr>
<tr>
<td>11. ( T_t = \frac{V^{0.5}}{s} ) Compute ( T_t )</td>
</tr>
</tbody>
</table>

## Channel flow

<table>
<thead>
<tr>
<th>Segment ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>12. Cross sectional flow area, a</td>
</tr>
<tr>
<td>13. Wetted perimeter, Pw</td>
</tr>
<tr>
<td>14. Hydraulic radius, ( r = \frac{a}{P_w} ) Compute ( r )</td>
</tr>
<tr>
<td>15. Channel slope, s</td>
</tr>
<tr>
<td>16. Manning's roughness coeff., n</td>
</tr>
<tr>
<td>17. ( V = \frac{1}{r^{0.5}} ) Compute ( V )</td>
</tr>
<tr>
<td>18. Flow length, L</td>
</tr>
<tr>
<td>19. ( T_t = \frac{L}{V} ) Compute ( T_t )</td>
</tr>
<tr>
<td>20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11, and 19)</td>
</tr>
</tbody>
</table>

*Table 3-1 per latest TR-55. Urban Hydrology for Small Watersheds*
**150’ sheet flow length per latest TR-55 revision
APPENDIX NO. B-5

AVERAGE VELOCITIES FOR ESTIMATING TRAVEL TIME FOR
SHALLOW CONCENTRATED FLOW

Figure 3-1.—Average velocities for estimating travel time for shallow concentrated flow.

**APPENDIX NO. B-6**

MANNING “n” VALUES FOR PIPES

<table>
<thead>
<tr>
<th>PIPE MATERIAL</th>
<th>MANNING “n”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reinforced Concrete</td>
<td>0.013</td>
</tr>
<tr>
<td>All diameters</td>
<td></td>
</tr>
<tr>
<td>Corrugated Polyethylene</td>
<td>0.012</td>
</tr>
<tr>
<td>Smooth Lining</td>
<td></td>
</tr>
<tr>
<td>All diameters</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX C

OPERATION AND MAINTENANCE (O&M) AGREEMENT
STORMWATER MANAGEMENT FACILITIES

THIS AGREEMENT, made and entered into this _____ day of __________, 20___, by and between __________________________, (hereinafter the “Landowner”), and
________________________, ____________________________________________ County, Pennsylvania, (hereinafter “Municipality”);

WITNESSETH

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

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

WHEREAS, the SWM FACILITIES Operation and Maintenance (O&M) Plan approved by the Municipality (hereinafter referred to as the “O&M Plan”) for the property identified herein, which is attached hereto as Appendix A and made part hereof, as approved by the Municipality, provides for management of stormwater within the confines of the Property through the use of Stormwater Management Best Management Practices (BMPs); and

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

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

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

1. The Landowner shall construct the SWM Facilities in accordance with the plans and specifications identified in the SWM Site Plan.

2. The Landowner shall operate and maintain the SWM Facilities as shown on the SWM Plan in good working order in accordance with the specific operation and maintenance requirements noted on the approved O&M Plan.

3. The Landowner hereby grants permission to the Municipality, its authorized agents and employees, to enter upon the property, at reasonable times and upon presentation of proper credentials, to inspect the SWM Facilities whenever necessary. Whenever possible, the Municipality shall notify the Landowner prior to entering the property.
4. In the event the Landowner fails to operate and maintain the SWM Facilities per paragraph 2, the Municipality or its representatives may enter upon the Property and take whatever action is deemed necessary to maintain said SWM Facilities. It is expressly understood and agreed that the Municipality is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the Municipality.

5. In the event the Municipality, pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner shall reimburse the Municipality for all expenses (direct and indirect) incurred, plus a 10% penalty, within 10 days of receipt of invoice from the Municipality.

6. The intent and purpose of this Agreement is to ensure the proper maintenance of the onsite SWM Facilities by the Landowner; provided, however, that this Agreement shall not be deemed to create or effect any additional liability of any party for damage alleged to result from or be caused by stormwater runoff.

7. It is the intent of the parties to this Agreement that maintenance obligations shall pass to subsequent title holders upon change in ownership of the Property, or any lot created from the Property, and such subsequent owners shall assume all maintenance and operation obligations for the time period during which they hold title. Liability for violating this Agreement shall survive the conveyance of the Property, or any part thereof, to a third party.

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

9. The Municipality intends to inspect the SWM Facilities at a minimum of once every three years to ensure their continued functioning.

10. The Municipality may, in addition to and concurrent with the remedies prescribed herein or otherwise, proceed with any action at law, in equity, or otherwise to enforce the Stormwater Management Ordinance, a stormwater management plan, or this Agreement. The Landowner, his personal representatives, successors, heirs, and assigns, also each agree to reimburse and pay the Municipality any and all expert or attorney fees, costs, or expenses incurred by the Municipality with respect to the Municipality enforcing this Agreement, the Stormwater Management Ordinance, or the stormwater management plan including, without limitation, investigation, defense, negotiation, settlement, arbitration, litigation, liening, or other enforcement action.

11. If ownership or maintenance responsibility of the Stormwater Facilities is to be assigned to a homeowners' association, condominium unit owners' association or similar entity, the Municipality shall be notified. In the event such an association or entity has already been formed, the association or entity shall consent to and join in this Agreement. If such association or entity fails to properly maintain the Stormwater Facilities, then in addition to any and all other remedies described herein or otherwise, the Municipality shall have the same rights granted to municipalities with reference to maintenance of common open space under Section 705 of the
Pennsylvania Municipalities Planning Code, Act of July 31, 1968, P.L. 805, No. 247, or any future amendment thereof, to maintain the Stormwater Facilities. Any association or entity hereafter formed shall enter into an agreement with the Municipality recognizing its duties and the Municipality's rights under this Agreement; provided, however, that in the event such additional agreement is not effected for any or no reason, the Municipality's rights to enforce this Agreement, the Plan, or the Stormwater Management Ordinance with respect to such association or entity shall in no way be affected, nullified, eliminated, or limited.

12. This Agreement shall constitute, in perpetuity, a covenant running with the Property or equitable servitude; and shall be binding upon, and shall inure to the benefit of, each party to this Agreement and their respective personal representatives, successors, heirs, and assigns including, without limitation, all present and future owners of the Property or any part thereof.

13. This Agreement may be amended only by written instrument signed by all then-current owners of the Property, and any lots subdivided therefrom, and by the Municipality.

14. Words of any gender used in this Agreement shall be interpreted to include all other genders, and words in the singular number shall be held to include the plural, and vice versa.

15. This Agreement shall be recorded in the Office of the Recorder of Deeds of Lancaster County, Pennsylvania.

IN WITNESS WHEREOF, and with the intent to be legally bound hereby, each of the parties to this Agreement have affixed their following signatures and seals on the day and year first written above.

ATTEST: For the Municipality:

_________________________ (SEAL)

WITNESS: For the Landowner:

_________________________ (SEAL)

_________________________ (SEAL)
COMMONWEALTH OF PENNSYLVANIA : ss: 
COUNTY OF LANCASTER : ss: 

On this, the _____ day of __________________________, 20____, before me, a Notary Public in and for the Commonwealth of Pennsylvania, the undersigned officer, personally appeared ____________________________ and ____________________________, known to me (or satisfactorily proven) to be the person(s) whose name(s) is(are) subscribed to the within instrument and acknowledged that he(she)(they) executed the same for the purposes contained therein.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

______________________________ (SEAL)

Notary Public
**APPENDIX D**

**EXEMPTION APPLICATION**

<table>
<thead>
<tr>
<th>Date Received</th>
<th>File Number</th>
<th>Property Act #</th>
<th>Submitted Fees</th>
<th>Approval of Application Date</th>
</tr>
</thead>
</table>

**Project Street Address:**

**Owner’s Name:**

**Signature:**

**Phone# / Fax# / Email:**

**Person/Firm to be completing work:**

**Phone# / Fax# / Email:**

**Proposed Activity:**

- After *(Date of ordinance adoption/to be determined by Borough)* have you previously added impervious surface on this property?
  - [ ] No
  - [ ] Yes, Total area of previous impervious surface _______ sq. ft

- Are you removing existing impervious surface as part of this project?
  - [ ] No
  - [ ] Yes, Impervious surface to be removed _______ sq. ft

- Addition of impervious surface (1,000 square feet or less)
  - Total new impervious surface proposed _______ sq. ft.
    - Type of new impervious surface:  
      - [ ] driveway
      - [ ] shed
      - [ ] garage
      - [ ] deck
      - [ ] walkway
      - [ ] other
      (please describe)

- Earth Disturbance Activity
  - Total area of earth disturbance: _______ sq. ft.
    - Type of regulated removal activity (check all that apply):  
      - [ ] Ground Cover
      - [ ] Grading
      - [ ] Filling
      - [ ] Excavation
      - [ ] Other earth disturbance activity (please describe)

- Check all items below that will be impacted by the project:
  - [ ] Floodplain
  - [ ] Wetlands
  - [ ] Slopes greater than 15%
  - [ ] Known bedrock within 6 ft of the ground surface
  - [ ] Riparian Forest Buffer
  - [ ] Natural water flow paths (creeks, streams, ponds, swales, etc.)
  - [ ] Existing known stormwater problem areas
  - [ ] Downstream property owners

**Sketch**

Provide a sketch of the proposed additional impervious area or land disturbance.