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**PART 1**  
**GENERAL PROVISIONS**

**§ 101. Short Title. [Ord. 954, 12/19/2013]**

This chapter shall be known and may be cited as the "Borough of Elizabethtown Stormwater Management Ordinance."

**§ 102. Statement of Findings. [Ord. 954, 12/19/2013]**

Elizabethtown Borough Council 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 non-point-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 Elizabethtown 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 (MS4s) 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.

**§ 103. Purpose. [Ord. 954, 12/19/2013]**

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 water and groundwater quality and to otherwise protect water resources.
- F. Prevent scour and erosion of stream banks and stream beds.
- G. Provide proper operation and maintenance of all stormwater management best management practices (SWM BMPs) that are implemented within the Borough of Elizabethtown.
- 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.

**§ 104. Statutory Authority. [Ord. 954, 12/19/2013]**

1. Primary Authority. The Borough of Elizabethtown is empowered to regulate these activities by the authority of the Act of October 4, 1978, P.L. 864 (Act 167), 32 P.S. § 680.1 et seq., as amended, the "Storm Water Management Act," and Act 394 of 1937, as amended, 35 P.S. § 691.1 et seq., the Pennsylvania Clean Streams Law. The Borough of Elizabethtown also is empowered to regulate land use activities that affect stormwater impacts by

the authority of the Act of February 1, 1966, P.L. (1965) 1656, No. 581, as reenacted and amended by the Act of May 17, 2012, P.L. 262, No. 43, as amended, the Borough Code.<sup>1</sup>

2. Secondary Authority. The Borough of Elizabethtown 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.<sup>2</sup>

#### **§ 105. Applicability. [Ord. 954, 12/19/2013]**

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

#### **§ 106. Repealer and Continuation of Prior Regulations. [Ord. 954, 12/19/2013]**

1. Except as otherwise required by law, this chapter is intended as a continuation of, and not a repeal of, existing regulations governing the subject matter. To the extent that this chapter restates regulations contained in ordinances previously enacted by the Elizabethtown Borough Council, this chapter shall be considered a restatement and not a repeal of such regulations. It is the specific intent of the Elizabethtown Borough Council that all provisions of this chapter shall be considered in full force and effect as of the date such regulations were initially enacted. All ordinances or parts of ordinances inconsistent with the provisions of this chapter are hereby repealed. It is expressly provided that the provisions of this chapter shall not affect any act done, contract executed or liability incurred prior to its effective date, or affect any suit or prosecution pending or to be instituted to enforce any rights, rule, regulation or ordinance, or part thereof, or to punish any violation which occurred under any prior stormwater regulation or ordinance. In the event any violation has occurred under any prior stormwater regulation or ordinance of the Borough of Elizabethtown, prosecution may be initiated against the alleged offender pursuant to the provisions of said prior stormwater regulation or ordinance, and the provisions and penalties provided in said prior stormwater regulation or ordinance shall remain effective as to said violation.
2. Any plan (hereinafter defined) pending at the time of the effective date of this chapter shall be allowed to proceed with revisions, finalization and implementation in accordance with any ordinance in effect prior hereto.

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<sup>1</sup>Editor's Note: See 53 P.S. § 45101 et seq.

<sup>2</sup>Editor's Note: See 53 P.S. § 10101 et seq.

**§ 107. Severability. [Ord. 954, 12/19/2013]**

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

**§ 108. Compatibility with Other Requirements. [Ord. 954, 12/19/2013]**

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.

**§ 109. Erroneous Permits. [Ord. 954, 12/19/2013]**

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 Elizabethtown purporting to validate such a violation.

**§ 110. Municipal Liability. [Ord. 954, 12/19/2013]**

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 Elizabethtown or any of its officials or employees shall not constitute a representation, guaranty or warranty of any kind by the Borough of Elizabethtown 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 Elizabethtown and its officials and employees. The Borough of Elizabethtown, by enacting and amending this chapter, does not waive or limit any immunity granted to the Borough of Elizabethtown and its officials and employees by the Governmental Immunity Act, 42 Pa. C.S.A. § 8541 et seq., and does not assume any liabilities or obligations.

**§ 111. Duty of Persons Engaged in the Development of Land. [Ord. 954, 12/19/2013]**

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.



**PART 2**  
**DEFINITIONS OF TERMS**

**§ 201. Interpretation and Word Usage. [Ord. 954, 12/19/2013]**

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 Section 107 of the MPC<sup>3</sup> shall be construed as defined in standard dictionary usage.
- I. References to officially adopted regulations, standards or publications of the DEP or other governmental agencies shall include the regulation, publication or standard in effect on the date when an SWM site plan is first filed. It is the intent of the Elizabethtown Borough Council in enacting this section to incorporate such changes to statutes, regulations and publications to the extent authorized by 1 Pa. C.S.A. § 1937.

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<sup>3</sup>Editor's Note: See 53 P.S. § 10107.

**§ 202. Definitions of Terms. [Ord. 954, 12/19/2013]**

As used in this chapter, the following terms shall have the meanings indicated:

**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 the Stormwater Management Act.

**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, disking, 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.

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

**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 Borough of Elizabethtown for approval to engage in any regulated activity at a development site located within the Borough.

**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.<sup>1</sup> See also "nonstructural BMPs" and "structural BMPs."

**BMP MANUAL** — The Pennsylvania Stormwater Best Management Practices Manual of December 2006.

**BOROUGH** — The Borough of Elizabethtown, Lancaster County, Pennsylvania.

**BOROUGH COUNCIL** — The governing body of the Borough.

**BUILDING** — Any enclosed or open structure, other than a boundary wall or fence, occupying more than four square feet of area and/or having a roof supported by columns, piers or walls.

**CARBONATE GEOLOGY** — Limestone or dolomite bedrock. 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.

**CHAPTER 102** — 25 Pa. Code, Chapter 102, Erosion and Sediment Control.

**CHAPTER 105** — 25 Pa. Code, Chapter 105, Dam Safety and Waterway Management.

**CHAPTER 106** — 25 Pa. Code, Chapter 106, Floodplain Management.

**CISTERN** — A reservoir or tank for storing rainwater.

**CLEAN WATER ACT** — The 1972 amendments to the Federal Water Pollution Control Act, P.L. 92-500 of 1972, 33 U.S.C. § 1251 et seq.

**CONSERVATION DISTRICT** — The Lancaster County Conservation District or any agency successor thereto which shall administer and enforce Chapter 102.

**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 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.

DCNR — The Pennsylvania Department of Conservation and Natural Resources.

DEP also PA DEP or PADEP — The Pennsylvania Department of Environmental Protection or any agency successor thereto.

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

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 SITE (SITE) — The specific area of land where regulated activities in the Borough are planned, conducted or maintained.

DISAPPEARING STREAM — A stream in an area underlain by limestone or dolomite that flows underground for a portion of its length.

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

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.

E&S — Erosion and sediment.

E&S MANUAL — The DEP Erosion and Sediment Pollution Control Manual, No. 363-2134-008.

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.<sup>1</sup>

**ENVIRONMENTALLY SENSITIVE AREA** — Slopes greater than 15%, shallow bedrock (located within six feet of ground surface<sup>2</sup>), 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.

**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.

**EXEMPTION** — Released from meeting ordinance requirements when project conditions meet the criteria listed in § 401, Subsection 1.

**EXISTING CONDITIONS** — The dominant land cover during the five-year period immediately preceding a proposed regulated activity.

**FEMA** — The Federal Emergency Management Agency or any agency successor thereto.

**FLOOD** — A general but temporary condition of partial or complete inundation of normally dry land areas from the overflow of streams, rivers and other waters of this commonwealth.

**FLOOD FRINGE** — The portion of the floodplain outside of the floodway.<sup>3</sup>

**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 Maps 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 chance of occurrence in any given year. The floodplain contains both the floodway and the flood fringe.

**FLOODPLAIN MANAGEMENT ACT** — The Act of October 4, 1978, P.L. 851, No. 166, as amended, 32 P.S. § 679.101 et seq.

**FLOODWAY** — The channel of the watercourse and those portions of the adjoining floodplains which are reasonably required to carry and discharge the one-hundred-year (1%) frequency flood. Unless otherwise specified, the

boundary of the floodway is as indicated on maps and flood insurance studies provided by FEMA. In an area where no FEMA maps or studies have defined the boundary of the one-hundred-year (1%) frequency floodway, it is assumed - absent evidence to the contrary - that the floodway extends from the stream to 50 feet from the top of the bank of the stream.<sup>4</sup>

**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.

**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 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 0.30 inch per 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 0.15 to 0.30 inch per 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 0.05 to 0.15 inch per 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 to 0.05 inch per 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. In addition, other areas determined by the Borough to be impervious within the meaning of this definition will also be classified as impervious surfaces.

**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 trenches, 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 at [www.dcnr.state.pa.us/forestry/plants/invasiveplants/index.htm](http://www.dcnr.state.pa.us/forestry/plants/invasiveplants/index.htm).

**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 lot or two or more contiguous lots, tracts or parcels of land for any purpose involving.
  - (1) A group of two or more residential or nonresidential buildings, whether proposed initially or cumulatively, or a single nonresidential building on a lot or lots regardless of the number of occupants or tenure; or
  - (2) The division or allocation of land or space, whether initially or cumulatively, between or among two or more existing or prospective occupants by means of, or for the purpose of, streets, common areas, leaseholds, condominiums, building groups or other features.

- B. Any subdivision of land.
- C. Development in accordance with Section 503(1.1) of the Pennsylvania Municipalities Planning Code.<sup>4</sup>

**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.

**LIMITING ZONE** — A rock formation, other stratum or soil condition which is so slowly permeable that it effectively limits downward passage of effluent.<sup>12</sup> Seasonal high-water tables, whether perched or regional, also constitute a limiting zone.

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

**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.

**MAXIMUM EXTENT PRACTICABLE (MEP)** — Applies when the applicant demonstrates to the Borough'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.<sup>5</sup>

**MEADOW** — A limited, relatively flat area of low vegetation dominated by grasses, either in its natural state or used as pasture or for growing hay.

**MPC** — The Pennsylvania Municipalities Planning Code, Act of 1968, P.L. 805, No. 247, as reenacted and amended, 53 P.S. § 10101 et seq.

**MUNICIPAL SEPARATE STORM SEWER** — A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made 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;

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<sup>4</sup>Editor's Note: See 53 P.S. § 10503.



- 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).

**NATIONAL POLLUTANT 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 the predominant hydrologic soil group found at the site.

**NON-POINT-SOURCE POLLUTION** — Any source of water pollution that does not meet the legal definition of "point source" in Section 502(14) of the Clean Water Act.

**NONSTRUCTURAL 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.

**NRCS** — The Natural Resources Conservation Service (previously Soil Conservation Service, or SCS).

**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 drainageways, 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** — A point where water flows from a conduit, stream, pipe or drain.

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

**PENNDOT** — The Pennsylvania Department of Transportation or any agency successor thereto.

**PERMIT** — A certificate issued to the applicant by the Borough or Borough-designated agent acknowledging receipt and satisfactory review of the submitted application in compliance with the provisions of this chapter.

**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.

**PLANNING COMMISSION** — The Planning Commission of the Borough.

**PLANS** — The SWM and erosion and sediment control plans and narratives.

**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.

**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 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 Chapter 22, Subdivision and Land Development;
- 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; and
- G. Any other regulated activities where the Borough 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.

**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.<sup>6</sup>

**RIPARIAN BUFFER** — A BMP that is an area of permanent vegetation along a watercourse; plantings to be determined based on site conditions (i.e., soils) and the types of plants and vegetation indigenous to the development area.

**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.<sup>6</sup>

**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.

**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** — The United States Department of Agriculture, Soil Conservation Service (now known as "NRCS").

**SEDIMENT** — Soils or other materials transported by stormwater as a product of erosion.<sup>1</sup>

**SEDIMENTATION** — The action or process of forming or depositing sediment in waters of this commonwealth.<sup>1</sup>

**SEDIMENT BASIN** — A barrier, dam, retention or detention basin located and designed to retain rock, sand, gravel, silt or other material transported by water during construction.

**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.

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

**SEMI-IMPERVIOUS/SEMIPERVIOUS 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 STORM EVENT** — A storm having a frequency of recurrence of once every two 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."

**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.

**STORM EVENT** — A storm of a specific duration, intensity and frequency.<sup>7</sup>

**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.

**STORM WATER MANAGEMENT ACT** — The Act of October 4, 1978, P.L. 864, No. 167, as amended, 32 P.S. § 680.1 et seq.

**STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES (SWM BMPs)** — See "BMP."

**STORMWATER MANAGEMENT FACILITY (SWM FACILITY)** — Any structure, natural or man-made, 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 and maintenance of the SWM facilities in accordance with Part 6 of this chapter.

**STORMWATER MANAGEMENT PLAN (SWM PLAN)** — The plan prepared by the developer or his representative identifying regulated earth disturbance activities and indicating how stormwater runoff will be managed at a particular development site according to this chapter. Stormwater (SWM) plans shall be classified and addressed as follows:

- A. **SMALL PROJECT PLAN** — Regulated activities on existing lots of record that, measured on a cumulative basis from December 19, 2013, create additional impervious areas of 1,001 square feet to 2,000 square feet or involve an earth disturbance activity such as removal of ground cover, grading, filling or excavation of an area less than 5,000 square feet and do not involve the alteration of stormwater facilities or watercourses.
- B. **MINOR STORMWATER MANAGEMENT (SWM) PLAN** — The use of land for any purpose involving:
  - (1) Installation of new impervious or semi-impervious surface between 2,001 and 5,000 square feet; or
  - (2) Removal of ground cover, grading, filling or excavation between 5,000 square feet and an acre (43,560 square feet), except for the agricultural use of land when operated in accordance with a farm conservation plan approved by the Conservation District.

C. MAJOR STORMWATER MANAGEMENT (SWM) PLAN — The use of land for any purpose involving:

- (1) Installation of new impervious or semi-impervious surface that is either in excess of 5,001 square feet; or
- (2) Diversion of piping of any natural or man-made watercourse; or
- (3) Any use within the floodplain area; or
- (4) Removal of ground cover, grading, filling or excavation in excess of one acre, except for the agricultural use of land when operated in accordance with a farm conservation plan approved by the Conservation District.

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 man-made object having an ascertainable stationary location on or in land or water, whether or not affixed to the land.<sup>8</sup>

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

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 (T<sub>c</sub>) — The time for surface runoff to travel from the hydraulically most-distant point (representative of the project) 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 STREAM BANK — The first substantial break in slope between the edge of the bed of the stream and the surrounding terrain. The top of stream

bank can either be a natural or constructed (that is, road or railroad grade) feature, lying generally parallel to the watercourse.

**TREATMENT TRAIN** — The sequencing of structural best management practices to achieve optimal flow management and pollutant removal from urban stormwater.

**USDA** — The United States Department of Agriculture or any agency successor thereto.

**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 a defined bed and banks, whether natural or artificial, with perennial or intermittent flow.

**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 water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, fens, and similar areas.

**WOODLAND** — Land predominantly covered with trees and shrubs. Without limiting the foregoing, woodlands include all land areas of 10,000 square feet or greater, supporting at least 100 trees per acre, so that either:

- A. At least 50 trees are two inches or greater in diameter at breast height (DBH); or
- B. Fifty trees are at least 12 feet in height.





**PART 3****STORMWATER MANAGEMENT STANDARDS****§ 301. General Requirements. [Ord. 954, 12/19/2013]**

1. Preparation of an SWM site plan is required for all regulated activities, unless preparation and submission of the SWM site plan is specifically exempted according to § 401 or the activity qualifies as a small project.
2. No regulated activities shall commence until the Borough of Elizabethtown issues unconditional written approval of a land disturbance plan in the form of a stormwater permit.
3. SWM site plans approved by the Borough of Elizabethtown, in accordance with § 406, shall be on site throughout the duration of the regulated activity.
4. The Borough may, after consultation with the 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 Borough shall maintain a record of consultations with the 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 the DEP. The applicant shall initiate and facilitate all consultations between the DEP and the Borough.
5. 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 E&S Manual, BMP Manual and § 307 of this chapter.
6. 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 off-site volume and rate control, as appropriate, and supported by a detailed design approved by the Borough in accordance with § 301, 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.
7. Unless prohibited by Chapter 27, Zoning, or Chapter 8, Floodplains, which regulates construction and development within the areas of the Borough

subject to flooding, and any other applicable requirements of the Flood Plain Management Act,<sup>5</sup> stormwater management facilities located in the floodplain are permitted when designed and constructed in accordance with the provisions of the BMP Manual, regulatory requirements and the requirements of this chapter.

8. 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 if subject to vehicular/pedestrian traffic.
9. 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.
10. The design of all stormwater management facilities over karst shall include an evaluation of measures to minimize adverse effects and to certify the following:
  - A. No stormwater facilities shall be placed in, over or immediately adjacent to the following features:
    - (1) Sinkholes.
    - (2) Closed depressions.

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<sup>5</sup>Editor's Note: See 32 P.S. § 679.101 et seq.

- (3) Lineaments in carbonate areas.
  - (4) Fracture traces.
  - (5) Caverns.
  - (6) Intermittent lakes.
  - (7) Ephemeral streams.
  - (8) Bedrock pinnacles (surface or subsurface).
- B. Stormwater management facilities shall not be located closer than 100 feet from the rim of sinkholes or closed depressions, nor within 100 feet from disappearing streams; nor shall these facilities be located closer than 50 feet from lineaments or fracture traces; nor shall these facilities be located closer than 25 feet from surface or identified subsurface pinnacles unless lined with an impermeable liner or equivalent design as signed and sealed by a professional geologist.
- C. Stormwater resulting from regulated activities shall not be discharged into sinkholes.
- D. It shall be the developer's responsibility to verify if the development is underlain by carbonate geology. The following certificate shall be included on all stormwater site plans and shall be signed and sealed by the developer's professional geologist: "I, \_\_\_\_\_, certify that the proposed stormwater/BMP facility (circle one) is/is not underlain by carbonate geology."
- E. Whenever an SWM 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. The evaluation may include the use of impermeable liners to reduce or eliminate the separation distances listed in Subsection 10A and B.
11. 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.
12. 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 24 inches between the bottom of the facility and the limiting zone. Modifications will be considered if it is demonstrated to the satisfaction of the Borough 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.
- 13. The calculation methodology to be used in the analysis of volume and peak rates of discharge shall be as required in § 305.
- 14. A planting plan is required for all vegetated stormwater BMPs.
  - A. Native or naturalized/noninvasive 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. The List of Invasive Vegetation in Pennsylvania can be found on the DCNR website at the following address: [www.dcnr.state.pa.us/forestry/plants/invasiveplants/index.htm](http://www.dcnr.state.pa.us/forestry/plants/invasiveplants/index.htm).
  - 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 effectively marked to promote protection of the trees during construction. 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 year of planting.
- 15. Areas proposed for infiltration BMPs shall be protected from sedimentation and compaction during the construction phase to maintain maximum

- infiltration capacity, including but not limited to fencing to limit construction traffic over the infiltration area. Staging of earthmoving activities and selection of construction equipment should consider this protection.
16. 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.
  17. A minimum twenty-foot-wide access easement shall be provided for all SWM facilities with tributary areas equal to or greater than 1,000 square feet and not located within a public right-of-way. Easements shall provide for ingress and egress to a public right-of-way. This shall be noted on the plan.
  18. 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-year frequency flood.
  19. The Borough 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.).
  20. Roof drains and sump pumps shall be tributary to surface infiltration or vegetative BMPs. Use of catchment facilities for the purpose of reuse is also permitted. When it is more advantageous to connect directly to streets or storm sewers, roof drain connections to streets or roadside ditches may be permitted on a case-by-case basis by the Borough. It shall be the burden of the person seeking to make the connection to demonstrate to the Borough that such connection is more advantageous and such connection shall not violate any state or federal statute, rule or regulation. Proposed storm sewer piping may connect to an existing storm sewer piping system, provided the existing storm sewer is adequate.
  21. Nonstructural BMPs shall be utilized for all regulated activities unless proven to be impractical.

**§ 302. Volume Controls. [Ord. 954, 12/19/2013]**

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 Subsection A below, or through continuous modeling approaches or other means as described in the BMP Manual. Small projects may use the method described in Subsection 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-year, twenty-four-hour storm event.
  - (2) For modeling purposes:
    - (a) Existing (predevelopment), nonforested, pervious areas must be considered meadow in good condition.
    - (b) When the existing project site contains impervious area, 20% of existing impervious area to be disturbed shall be considered meadow in good condition in the model for existing conditions.
    - (c) The maximum loading ratio for volume control facilities in karst areas shall be 3:1 impervious drainage area to infiltration area and 5:1 total drainage area to infiltration area. The maximum loading ratio for volume control facilities in nonkarst areas shall be 5:1 impervious drainage area to infiltration area and 8:1 total drainage area to infiltration area. A higher ratio may be approved by the Borough 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. At least the first one 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 Section 504 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 24 hours and not more than 72 hours from the end of the design storm. Any designed infiltration at such facilities is exempt from the minimum twenty-four-hour standard, i.e., may infiltrate in a shorter period of time based on a field-tested infiltration rate, provided that none of this water will be discharged into waters of this commonwealth.
- E. Any portion of the volume control storage that meets all of 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 24 hours from the end of the design storm based on the stabilized infiltration rate and/or the evapotranspiration 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. [Ord. 954, 12/19/2013]**

Rate control for large storms, up to the one-hundred-year event, is essential to protect against immediate downstream erosion and flooding.

- A. Match Predevelopment Hydrograph. Applicants shall provide infiltration facilities or utilize other techniques which will allow the post-development one-hundred-year hydrograph to match the predevelopment one-hundred-year hydrograph for the development site. To match the predevelopment hydrograph, the post-development peak rate must be less than or equal to the predevelopment peak rate, and the post-development runoff volume must be less than or equal to the predevelopment volume for the same storm event.
- B. Where the predevelopment hydrograph cannot be matched, the post-development discharge rates shall not exceed the predevelopment discharge rates for the two-, ten-, twenty-five-, fifty- and one-hundred-year, twenty-four-hour storm events.\* If it is shown that the peak rates of discharge indicated by the post-development analysis are less than or equal to the peak rates of discharge indicated by the predevelopment analysis for two-, ten-, twenty-five, fifty- and one-hundred-year, twenty-four-hour storms,\* then the requirements of this section have been met. Otherwise, the applicant shall provide additional controls as necessary to satisfy the peak rate of discharge requirement.

\* A twenty-four-hour SCS Type II storm or an IDF Curve Rational Method storm.  
(See Table 3-1 in § 305.)

- C. Normally dry, open-top, storage facilities shall completely drain the rate control storage over a period of time less than or equal to 24 hours from the peak one-hundred-year water surface design elevation.
- D. A variety of BMPs should be employed and tailored to suit the development site. The following is a partial listing of BMPs which can be utilized in SWM systems for rate control where appropriate:
  - (1) Decreased impervious surface coverage.
  - (2) Routed flow over grass.
  - (3) Grassed channels and vegetated strips.
  - (4) Bioretention areas (rain gardens).
  - (5) Concrete lattice block or permeable surfaces.
  - (6) Seepage pits, seepage trenches or other infiltration structures.
  - (7) Rooftop detention.
  - (8) Parking lot detention.
  - (9) Cisterns and underground reservoirs.
  - (10) Amended soils.
  - (11) Retention basins.
  - (12) Detention basins.
  - (13) Other methods as may be found in the BMP Manual.
- E. Small projects are not required to provide for rate control.

**§ 304. Stormwater Management Performance Standards. [Ord. 954, 12/19/2013]**

- 1. Runoff from impervious areas shall be drained to pervious areas within the development site, unless the site has 85% or more impervious cover and is a redevelopment,<sup>10</sup> 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 predevelopment flow.
- 3. Stormwater flows onto adjacent property shall not be created, increased, decreased, relocated or otherwise altered without evidence of a written



- certified letter of notification to 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 land disturbance plan submission.
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 subwatershed to another unless they are subwatersheds 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 feet above the one-hundred-year water surface elevation. If basement or underground facilities are proposed, detailed calculations addressing the effects of stormwater ponding on the structure and waterproofing and/or floodproofing 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-year storm event.\* All stormwater-conveyance facilities (excluding detention, retention, and wetland basin outfall structures) conveying water originating from off site shall be designed to convey a fifty-year storm event.\* The SWM report shall also provide calculations verifying the safe conveyance of the one-hundred-year runoff event\* to appropriate peak rate control BMPs must be demonstrated in the design.\* A twenty-four-hour SCS Type II storm or an IDF Curve Rational Method storm.
  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.

**§ 305. Calculation Methodology. [Ord. 954, 12/19/2013]**

1. Any stormwater runoff calculations involving drainage areas greater than 200 acres and time of concentration (Tc) greater than 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 Borough. Table 3-1 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 3-1**  
**Acceptable Computation Methodologies for Stormwater**  
**Management Plans**

<b>Method</b>	<b>Method Developed by</b>	<b>Applicability</b>
TR-20 (or commercial computer package based on TR-20)	USDA NRCS	Applicable where use of full hydrology computer model is desirable or necessary
Win TR-55 (or commercial computer package based on TR-55)	USDA NRCS	Applicable for land development plans within limitations described in TR-55
HEC-1/HEC-HMS	U.S. Army Corps of Engineers	Applicable where use of full hydrologic computer model is desirable or necessary
Rational Method (or commercial computer package based on Rational Method)	Emil Kuichling (1889)	For development sites less than 200 acres, $T_c < 60$ min. or as approved by the Borough
EFH2	USDA NRCS	Applicable in rural and undeveloped areas subject to the program limits
Other methods	Varies	Other methodologies approved by the Borough

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," shall be used to determine the rainfall intensity in inches per hour based on the information for the five- through sixty-minute duration storm events. (Refer to Appendix B-3).<sup>6</sup>
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 ( $3 \times T_c$ ), and the descending leg shall have a length equal to seven times the time of concentration ( $7 \times T_c$ ) to approximate an SCS Type II hydrograph.<sup>11</sup>
6. Runoff calculations shall include a hydrologic and hydraulic analysis indicating volume and velocities of flow and the grades, sizes and capacities

<sup>6</sup>Editor's Note: Appendix B is included as an attachment to this chapter.

- of water-carrying structures, sediment basins, retention and detention structures and sufficient design information to construct such facilities. Runoff calculations shall also indicate both predevelopment and post-development rates for peak discharge of stormwater runoff from all discharge points.
7. For the purpose of calculating predevelopment 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 appendixes.<sup>7</sup> If the actual land use is not listed in those appendixes, runoff coefficients shall be chosen from other published documentation, and a copy of said documentation shall be submitted with the SWM plan for review and approval by the Borough.
    - B. A sample worksheet for calculating  $T_c$  is provided in Appendix B-5.<sup>8</sup> Times of concentration ( $T_c$ ) shall be based on the following design parameters or as calculated by an approved hydraulic program:
      - (1) Sheet Flow: The maximum length for each reach of sheet or overland flow before shallow concentrated or open channel flow develops is 150 feet. Flow lengths greater than 100 feet shall be justified based on the actual conditions at each development site. Sheet flow may be determined using the nomograph in Appendix B-4 or Manning's kinematic solution shown in the sheet flow section of Worksheet No. 1 in Appendix B-5.<sup>9</sup>
      - (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-6.<sup>10</sup>
      - (3) Open Channel Flow: At points where sheet and shallow concentrated flows concentrate in field depressions, swales, gutters, curbs or pipe collection systems, the travel times to the downstream end of the development site between these design points shall be based upon Manning's Equation and/or

<sup>7</sup>Editor's Note: Appendix B is included as an attachment to this chapter.

<sup>8</sup>Editor's Note: Appendix B is included as an attachment to this chapter.

<sup>9</sup>Editor's Note: Appendix B is included as an attachment to this chapter.

<sup>10</sup>Editor's Note: Appendix B is included as an attachment to this chapter.

acceptable engineering design standards as determined by the Borough Engineer.

- C. The developer may use stormwater credits for nonstructural BMPs in accordance with the BMP Manual. The allowable reduction will be determined by the Borough.
  - D. Peak rate control is not required for off-site runoff. Off-site runoff may be bypassed around the site, provided all other discharge requirements are met. If off-site 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. Tc for channel and pipe flow shall be computed using Manning's Equation. Supporting documentation and calculations must be submitted for review and approval.

**§ 306. Riparian Corridors. [Ord. 954, 12/19/2013]**

- 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-year floodplain or 35 feet from the top of stream bank (on each side).
- 3. Minimum Management Requirements for Riparian Corridors.
  - 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 Borough 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 continued private ownership and shall count toward the minimum lot area as required by Chapter 27, Zoning.
- 5. Any permitted use (as listed below) within the riparian corridor easement shall be conducted in a manner that will maintain the extent of the existing one-hundred-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 nonmotorized 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.

**§ 307. Stormwater Management Facility Design Standards. [Ord. 954, 12/19/2013]**

1. General.
  - A. For all aboveground storage facilities, the bottom of the excavated basin shall be a minimum of two feet or 24 inches above the seasonal high water table or bedrock, or other limiting zone. Soil sampling, test pits or auger testing must be completed in the proposed location of the facilities in support of the design.
  - B. Aboveground storage facilities without restricted access shall have impoundment areas with side slopes no greater than five horizontal to one vertical (5:1). Basins with side slopes steeper than five horizontal to one vertical (5:1) shall be protected by fencing that will discourage access.
  - C. Aboveground storage facilities with a facility depth greater than eight feet shall not be permitted in residential areas.
  - D. Aboveground storage facilities with a facility depth greater than 15 feet require a dam permit from DEP.
  - E. All pipe collars, when required, shall be designed in accordance with Chapter 7 of the E&S Manual. The material shall consist of concrete, or otherwise nondegradable material approved by the Borough Engineer, around the outfall barrel and shall be watertight.
  - F. The embankment fill material shall be taken from an appropriate borrow area, which shall be free of roots, stumps, wood, rubbish, stones greater than six inches, or frozen or other objectionable materials.
  - G. When required, embankments shall be compacted by sheepsfoot or pad roller. The loose lift thickness shall be nine inches or less, depending on roller size, and the maximum particle size is six inches or less (2/3 of the lift thickness). Five passes of the compaction

equipment over the entire surface of each lift are required. Embankment compaction to visible nonmovement is also required.

- H. The minimum bottom slope of facilities not designed for infiltration shall be 1%. A flatter slope may be used if an equivalent dewatering mechanism is provided.
- I. When required, dewatering shall be provided through the use of underdrain, surface device or alternate approved by the Borough Engineer. If the facility is to be used for infiltration, the dewatering device should be capable of being disconnected and shall only be made operational if the basin is not dewatering within the required time frame.
- J. When required, pretreatment elements shall consist of forebays, filter strips or alternate approved by the Borough Engineer, to keep silt to a smaller portion of the facility for ease of maintenance.
- K. Within basins designed for infiltration, existing native vegetation shall be preserved, if possible. For existing unvegetated areas or for infiltration basins that require excavation, a planting plan shall be prepared, in accordance with § 301, Subsection 14, and the BMP Manual, which is designed to promote infiltration.
- L. For facilities with a depth of two feet or greater, a Type D-W endwall or riser box outlet structure shall be provided.
- M. For facilities with a depth less than two feet, no outlet structure is required.
- N. All discharge control devices with appurtenances shall be made of reinforced concrete and stainless steel. Bolts/fasteners shall be stainless steel.
- O. The spillway shall be designed to provide a nonerosive, stable condition when the project is completed.
- P. The spillway shall be designed to convey the one-hundred-year post-development peak inflow when required.
- Q. Freeboard shall be measured from the top of the water surface elevation in the spillway to the top of the berm for emergency use.
- R. The Borough may require a breach analysis for basins based on site-specific conditions and concern of threat for downstream property. When required, the breach analysis shall be conducted in accordance with the NRCS methodology, the United States Army Corps of Engineers methodology (HEC-1) or other methodologies as approved by the Borough.

- S. Embankment construction.
- (1) An impervious core/key trench, when required, shall consist of a cutoff trench (below existing grade) and a core trench (above existing grade). A key trench may not be required wherever it can be shown that another design feature, such as the use of an impermeable liner, accomplishes the same purpose.
  - (2) Materials used for the core shall conform to the Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the No. 200 sieve. The contractor shall provide the soils test results to the Borough.
  - (3) The dimensions of the core shall provide a minimum trench depth of two feet below existing grade, a minimum width of four feet and a side slope of 1H:1V or flatter.
  - (4) The core should extend up both abutments to the ten-year water surface elevation or six inches below the emergency spillway elevation, whichever is lower.
  - (5) The core shall extend four feet below any pipe penetrations through the impervious core. The core shall be installed along or parallel to the center line of the embankment.
  - (6) Compaction requirements shall be the same as those for the embankment to assure maximum density and minimum permeability.
  - (7) The core shall be constructed concurrently with the outer shell of the embankment.
  - (8) The trench shall be dewatered during backfilling and compaction operations.
2. Aboveground Storage Facilities. Aboveground storage facilities consist of all stormwater facilities which store, infiltrate/evaporate/transpire, clean or otherwise affect stormwater runoff and the top of which is exposed to the natural environment. Aboveground storage facilities are located above the finished ground elevation. Aboveground storage facilities do not include stormwater management facilities designed for conveyance or cisterns.
- A. Design Criteria. Refer to Table 3-2, Aboveground Storage Facility Design Criteria.
- (1) Facility with facility depth of less than two feet:
    - (a) The minimum top of embankment width shall be two feet.

- (b) The maximum interior side slope shall be 2:1.
  - (c) The maximum exterior side slope shall be 2:1.
  - (d) The minimum outlet pipe diameter shall be six inches.
  - (e) Outlet pipe material shall be PVC, HDPE or RCP.
  - (f) An anticlogging device is required in the outlet structure.
  - (g) The spillway freeboard shall be a minimum of three inches.
  - (h) The spillway may be used to route the one-hundred-year storm.
- (2) Facility with depth of two to eight feet:
- (a) The embankment minimum top width shall be five feet.
  - (b) The maximum interior side slope shall be 5:1.
  - (c) The maximum exterior side slope shall be 3:1.
  - (d) A key trench and antiseep collar shall be provided.
  - (e) Compaction density testing of the embankment is required. Test logs shall be provided to the Borough as part of the inspection requirements.
  - (f) A dewatering feature is required.
  - (g) Pretreatment filtering of runoff prior to entering the facility is required.
  - (h) The minimum outlet pipe diameter shall be 12 inches.
  - (i) Outlet pipe material shall be HDPE or RCP.
  - (j) An anticlogging device is required in the outlet structure.
  - (k) The outlet structure is required to have an antivortex design.
  - (l) Watertight joints shall be provided.
  - (m) The spillway freeboard shall be a minimum of six inches.
  - (n) The minimum spillway width is 10 feet, and the maximum spillway width is 50 feet.



- (o) The downstream channel into which the spillway discharges shall be checked for adequate capacity and stability.
  - (p) The spillway shall not be considered to function as part of the primary outlet structure and shall be only for emergency situations.
- (3) Facility with depth greater than eight feet:
- (a) The embankment minimum top width shall be eight feet.
  - (b) The maximum interior side slope shall be 5:1.
  - (c) The maximum exterior side slope shall be 3:1.
  - (d) A key trench and antiseep collar shall be provided.
  - (e) Compaction density testing of the embankment is required. Test logs shall be provided to the Borough as part of the inspection requirements.
  - (f) A dewatering feature for the facility is required.
  - (g) Pretreatment filtering of runoff prior to entering the facility is required.
  - (h) The minimum outlet pipe diameter is 15 inches.
  - (i) Outlet pipe material shall be RCP.
  - (j) An anticlogging device is required in the outlet structure.
  - (k) The outlet structure is required to have an antivortex design as required.
  - (l) Watertight joints shall be provided.
  - (m) The spillway freeboard shall be a minimum of 12 inches.
  - (n) The minimum spillway width is 20 feet; the maximum spillway width is 50 feet.
  - (o) The downstream channel into which the spillway discharges shall be checked for adequate capacity and stability.
  - (p) The spillway shall not be considered to function as part of the primary outlet structure and shall be only for emergency situations.

- (4) General Requirements for Aboveground Storage Facilities:
- (a) Where practical, the spillway shall be constructed in undisturbed ground.
  - (b) The effect on the downstream areas if the facility embankment fails shall be considered in the design of all facilities. Where possible the facility shall be designed to minimize the potential damage caused by such failure of the embankment.
  - (c) For all aboveground facilities that do not rely on infiltration to dewater the runoff, a flow path length-to-width ratio of 2:1 shall be provided to maximize the treatment time between the inflow point and the outlet structure.

**Table 3-2**  
**Aboveground Storage Facility Design Criteria**

	Facility Depth		
	Less than 2 Feet	2 Feet to 8 Feet	Greater than 8 Feet
<b>Embankment Geometry</b>			
Top width (minimum)	2 feet	5 feet	8 feet
Interior side slope (maximum)	2:1	5:1	5:1
Exterior side slope (maximum)	2:1	3:1	3:1
<b>Embankment construction</b>			
Key trench	Not required	Required	Required
Pipe collar	Not required	Required	Required
Compaction density	Not required	Required	Required
<b>Internal Construction</b>			
Dewatering feature	N/A	Required	Required
Pretreatment elements	Not required	Required	Required
<b>Outlet Structure</b>			
Pipe size (minimum)	6 inches	12 inches	15 inches
Pipe material	HDPE, PVC, RCP	HDPE, RCP	RCP
Anticlogging devices	Required	Required	Required
Antivortex design	Not required	Required	Required
Watertight joints in piping	No	Yes	Yes
<b>Spillway Requirements</b>			

**Table 3-2**  
**Aboveground Storage Facility Design Criteria**  
**Facility Depth**

	<b>Less than 2 Feet</b>	<b>2 Feet to 8 Feet</b>	<b>Greater than 8 Feet</b>
Spillway freeboard (minimum)	3 inches	6 inches	12 inches
Width (minimum)	Not required	10 feet	20 feet
Width (maximum)	Not required	50 feet	50 feet
Spillway channel design	Not required	Required	Required
Routing of 100-year storm	Permitted	Not permitted	Not permitted

3. Subsurface Storage Facilities. Subsurface storage facilities consist of all SWM facilities which store, infiltrate/evaporate/transpire, clean or otherwise affect stormwater runoff and the top of which is not exposed to the natural environment. Subsurface facilities are located below the finished ground elevation. Subsurface facilities do not include SWM facilities designed for conveyance.

A. General.

- (1) The stone used for infiltration beds shall be clean washed, uniformly graded coarse aggregate (AASHTO No. 3 or equivalent approved by the Borough). The void ratio for design shall be assumed to be 0.4.
- (2) Material consistency and placement depths for backfill shall be (at a minimum) per all applicable pipe manufacturer's recommendations, further providing it should be free of large (not exceeding six inches in any dimension), objectionable or detritus material. Select nonaggregate material should be indigenous to the surrounding soil material for nonvehicular areas. Backfill within vehicular areas shall comply with this section unless otherwise specified in Chapter 21, Streets and Sidewalks, or Chapter 22, Subdivision and Land Development. Furthermore, if the design concept includes the migration of runoff through the backfill to reach the infiltration facility, the material shall be well-drained, free of excess clay or clay-like materials and generally uniform in gradation.
- (3) Nonwoven geotextiles shall be placed on the sides and top of subsurface infiltration facilities. No geotextiles shall be placed on the bottom of subsurface infiltration facilities.

- (4) When located under pavement, the top of the subsurface facility, facility piping or conveyance shall be a minimum of six inches below the bottom of the pavement subbase. Where located under vegetative cover, the top of the subsurface facility shall be a minimum of 12 inches below the surface elevation or as required to establish vegetation.
  - (5) Subsurface facilities shall be designed to safely convey and/or bypass flows from storms exceeding the design storm.
- B. Design Criteria. Refer to Table 3-3, Subsurface Storage Facility Design Criteria.
  - (1) Infiltration and Storage Facility:
    - (a) Maximum depth from surface: two feet less than limiting zone.
    - (b) Loading ratio: per December 2006 BMP Manual, as amended. The maximum impervious loading ratio is 5:1 relating impervious drainage area to infiltration area. The maximum total loading ratio is 8:1 relating to total drainage area to infiltration area. In areas of karst geology, the maximum impervious drainage area to infiltration area is 3:1.
    - (c) The minimum distribution pipe size shall be four inches. Distribution system piping may be PVC or HDPE.
    - (d) Pretreatment of runoff to the facility is required to provide a method to eliminate solids, sediment, and other debris from entering the subsurface facility.
    - (e) Observation/access ports shall be provided in the facility. For facilities with the bottom less than 12 feet below the average grade of the ground surface, a cleanout shall be an acceptable observation port. For facilities with the bottom 12 feet or more below the average grade of the ground surface, a manhole or other means acceptable to the Borough shall be provided for access to and monitoring of the facility. The number of access points shall be sufficient to flush or otherwise clean out the system.
    - (f) The facility shall be designed to provide a means of evenly balancing the flow across the surface of the facility to be used for infiltration.
  - (2) Storage Without Infiltration Facility.

- (a) The minimum distribution pipe size shall be four inches. Distribution system piping may be PVC, HDPE or RCP.
- (b) Pretreatment of runoff to the facility is required to provide a method to eliminate solids, sediment, and other debris from entering the subsurface facility.
- (c) Observation/access ports shall be provided in the facility. For facilities with the bottom less than 12 feet below the average grade of the ground surface, a cleanout shall be an acceptable observation port. For facilities with the bottom 12 feet or more below the average grade of the ground surface, a manhole or other means acceptable to the Borough shall be provided for access to and monitoring of the facility. The number of access points shall be sufficient to flush or otherwise clean out the system.

**Table 3-3**  
**Subsurface Storage Facility Design Criteria**

	Facility Type	
	Infiltration and Storage	Storage without Infiltration
<b>Facility Geometry</b>		
Depth from surface (maximum)	2 feet less than limiting zone	N/A
Loading ratio (maximum)	Per BMP Manual*	N/A
<b>Distribution System Requirements</b>		
Pipe size (minimum)	4 inches	4 inches
Pretreatment	Required	Required
Loading/balancing	Required	Not required
Observation/access ports	Required	Required

**NOTES:**

\*Unless otherwise determined by professional geologic evaluation.

4. Conveyance Facilities. Conveyance facilities consist of all SWM facilities which carry flow, which may be located either above or below the finished grade. Conveyance facilities do not include SWM facilities which store, infiltrate/evaporate/transpire, or clean stormwater runoff.

A. General.

- (1) Conveyance pipes, culverts, manholes, inlets and endwalls within the public street right-of-way or proposed for dedication shall conform to the requirements of PennDOT Standards for Roadway Construction, Publication No. 72M.
- (2) Conveyance pipes, culverts, manholes, inlets and endwalls which are otherwise subject to vehicular loading shall be designed for the HS-25 loading condition.
- (3) Backfill Material. Material consistency and placement depths for backfill shall be (at a minimum) per all applicable pipe manufacturer's recommendations, further providing it should be free of large (not exceeding six inches in any dimension), objectionable or detritus material. Select nonaggregate material should be indigenous to the surrounding soil material for nonvehicular areas. Backfill within vehicular areas shall comply with this section unless otherwise specified in governing municipal road/street or subdivision and land development ordinances.
- (4) Inlets or manholes shall be placed at all points of changes in the horizontal or vertical directions of conveyance pipes. Curved pipe sections are prohibited.
- (5) Access/maintenance ports. An access/maintenance port is required and may either be an inlet or manhole.
- (6) Watertight joints shall be provided where pipe sections are joined, except for perforated pipe installed as pavement base drain.
- (7) Elliptical pipe of an equivalent cross-sectional area may be substituted in lieu of circular pipe where cover or utility conflict conditions exist.
- (8) The roughness coefficient (Manning's "n" values) used for conveyance pipe capacity calculations should be determined in accordance with the manufacturer's specifications or with PennDOT Publication 13M, Design Manual, Part 2, Highway Design, Chapter 10, Appendix 4, as included below in Table 3-4.

**Table 3-4****Roughness Coefficient "n" for Manning's Equation**

<b>Manning's "n"</b>	<b>Types of Pipe</b>
0.010	Polyvinyl chloride (PVC) with smooth inner walls
0.012	Porous cement concrete pipe; corrugated high-density polyethylene (HDPE) with smooth inner walls

Manning's "n"	Types of Pipe
0.015	Corrugated high-density polyethylene (HDPE) with corrugated inner walls

- (9) All pipes must enter inlets completely through one of the sides. No corner entry of pipes is permitted.
- (10) Within the public street right-of-way, the gutter spread based on the twenty-five-year storm shall be no greater than 1/2 of the travel lane and shall have a maximum depth of three inches at the curbline. A parking lane shall not be considered as part of the travel lane. In the absence of pavement markings separating a travel lane from the parking lane, the parking lane shall be assumed to be seven feet wide if parking is permitted on the street.
- (11) Flow Depth Within Intersections. Within intersections of streets, the maximum depth of flow shall be 1 1/2 inches based on the twenty-five-year storm.
- (12) Inlets in streets shall be located along the curbline and have PennDOT Type C top units. The hood shall be aligned with the adjacent curb height accounting for the required two-inch inlet sump.
- (13) All inlets placed in paved areas shall have heavy-duty, bicycle-safe grating consistent with PennDOT Publication 72M. A note to this effect shall be added to the SWM site plan or inlet details therein.
- (14) Inlets, junction boxes, or manholes greater than five feet in depth shall be detailed on the SWM site plan.
- (15) A swale shall be considered as any man-made ditch designed to convey stormwater directly to another SWM facility or surface waters.
- (16) Inlets within swales shall have PennDOT Type M top units or equivalent approved by the Borough Engineer.
- (17) Swale capacities and velocities shall be computed using the Manning Equation using the following design parameters:
  - (a) Vegetated Swales.

- [1] The first condition shall consider swale stability based upon a low degree of retardance ("n" = 0.03);
  - [2] The second condition shall consider swale capacity based upon a higher degree of retardance ("n" = 0.05); and
  - [3] All vegetated swales shall have a minimum slope of 1% unless otherwise approved by the Borough Engineer.
  - [4] The "n" factors to be used for paved or riprap swales or gutters shall be based upon accepted engineering design practices, as approved by the Borough Engineer.
- (18) Trash racks shall be provided on all endwalls and storm sewer discharge points for pipe diameters of 18 inches or greater. The proposed trash rack shall be subject to review and approval by the Borough. Such protection devices shall be designed to be removable for cleaning.
  - (19) Headwalls and endwalls shall be constructed of concrete.
  - (20) Flared end sections shall be of the same material as the connecting pipe and shall be designed for the size of the connecting pipe.
  - (21) Level spreaders:
    - (a) Shall discharge at existing grade onto undisturbed vegetation.
    - (b) Shall discharge at a depth not exceeding 3.0 inches for a fifty-year, twenty-four-hour design storm.
  - (22) Energy dissipaters shall be designed in accordance with the requirements in the E&S Manual.
  - (23) SWM facilities which qualify as a dam per DEP regulations or facilities deemed a potential threat to the life, safety or welfare of the general public shall be subject to the following requirements:
    - (a) Facilities which qualify as a dam per DEP regulation shall obtain the required permit through the DEP and design the facility in accordance with DEP standards.



- (b) Additional requirements and analysis may be required by the Borough to prove that the proposed facility has been designed to limit the potential risk to the life, safety or welfare of the general public.
  - (24) In addition to the material requirements in this section, culverts designed to convey waters of the commonwealth may be constructed with either a corrugated metal arch or a precast concrete culvert pending DEP approval of the necessary permit(s).
- B. Design Criteria. Refer to Table 3-5, Conveyance Facility Design Criteria.
- (1) Within a public street right-of-way:
    - (a) Conveyance system material shall consist of HDPE or RCP pipe.
    - (b) The minimum pipe slope shall be 0.5%.
    - (c) A minimum one foot of cover to the stone subgrade shall be provided over the conveyance pipes in paved or vehicular areas; in grassed areas, a minimum pipe cover of one foot shall be provided.
    - (d) The minimum pipe diameter shall be 15 inches.
    - (e) The minimum street-crossing angle for the conveyance system shall be 75° to 90°. The street-crossing angle shall be measured between the pipe center line and the street center line.
    - (f) The maximum spacing between access or maintenance ports shall be 400 feet.
    - (g) Inlets and manholes shall be concrete.
    - (h) Inlets shall be depressed a minimum of two inches below the surface grade to provide positive flow.
    - (i) Swales shall be provided with a minimum freeboard of six inches.
    - (j) The maximum swale velocity shall be determined based on the stability of the channel.
    - (k) The minimum allowable swale slope shall be 1%.
    - (l) Swale side slopes in residential and nonresidential areas shall be a maximum of 4:1.

- (m) The bottom width to flow depth ratio in any swale shall be 12:1.
  - (n) Pipe entrances/discharges in public street rights-of-way shall be provided with a headwall/endwall treatment or equivalent as approved by the Borough.
  - (o) The conveyance system discharge locations shall be provided with an energy dissipater designed to handle the anticipated flow conditions. The supporting design calculations shall be provided in the stormwater management report.
- (2) Outside public street right-of-way: vehicular loading.
- (a) Conveyance system material shall consist of PVC, HDPE or RCP pipe.
  - (b) The minimum pipe slope shall be 0.5%.
  - (c) A minimum one foot of cover to the stone subgrade shall be provided over the conveyance pipes.
  - (d) The minimum pipe diameter shall be 15 inches.
  - (e) The maximum spacing between access or maintenance ports shall be 400 feet.
  - (f) Inlets and manholes shall be constructed of concrete.
  - (g) Inlets shall be depressed a minimum of two inches below the surface grade to provide positive flow.
- (3) Outside public street right-of-way: nonvehicular loading.
- (a) Conveyance system material shall consist of PVC, HDPE or RCP pipe.
  - (b) The minimum pipe slope shall be 0.5%.
  - (c) A minimum one foot of cover to the surface shall be provided over the conveyance pipes.
  - (d) The minimum pipe diameter shall be eight inches.
  - (e) Maximum spacing between access or maintenance ports shall be 400 feet.
  - (f) Manholes shall be constructed of concrete.

- (g) Inlets shall be depressed a minimum of one inch below the surface grade to provide positive flow.
- (h) Swales shall be provided with a minimum freeboard of six inches.
- (i) The maximum swale velocity shall be determined based on the stability of the channel.
- (j) The minimum swale slope (longitudinal) shall be 1%.
- (k) Swale side slopes in residential areas shall be a maximum of 4:1, and a maximum of 3:1 in nonresidential areas.
- (l) The bottom width to flow depth ratio in swales shall be 12:1.
- (m) Pipe entrances/discharges in public street rights-of-way shall be provided with a headwall/endwall or flared end section treatment.
- (n) The conveyance system discharge locations shall be provided with an energy dissipater designed to handle the anticipated flow conditions.

**Table 3-5**  
**Conveyance Facility Design Criteria**

Location	Within Public Street Right-of-Way	Outside Public Street Right-of-Way	
		Vehicular Loading	Nonvehicular Loading
<b>Pipe design</b>			
Material	HDPE, RCP	PVC, HDPE, RCP	PVC, HDPE, RCP
Slope (minimum)	0.5%	0.5%	0.5%
Cover	1 foot to stone subgrade	1 foot to stone subgrade	1 foot to surface
Diameter (minimum)	15 inches	15 inches	8 inches
Street-crossing angle	75° to 90°	N/A	N/A
Access/ maintenance port frequency (maximum)	400 feet	400 feet	400 feet
<b>Inlet design</b>			
Material	Concrete	Concrete	N/A

**Table 3-5  
Conveyance Facility Design Criteria  
Within Public**

<b>Location</b>	<b>Street Right-of-Way</b>	<b>Outside Public Street Right-of-Way</b>	
<b>Loading</b>	<b>All</b>	<b>Vehicular Loading</b>	<b>Nonvehicular Loading</b>
Grate depression	2 inches	2 inches	1-inch minimum
<b>Manhole design</b>			
Material	Concrete	Concrete	Concrete
<b>Swale design</b>			
Freeboard (minimum)	6 inches	N/A	6 inches
Velocity (maximum)	Stability check	N/A	Stability check
Slope (minimum)	1%	N/A	1%
Side slopes (residential area)	4:1 max	N/A	4:1 max
Side slopes (nonresidential area)	4:1 max	N/A	3:1 max
Bottom width to flow depth ratio	12:1	N/A	12:1
<b>Outlet design</b>			
End treatment	Headwall/ endwall	N/A	Headwall/ endwall or flared end section
Energy dissipater	Required	N/A	Required

5. Capture and Reuse Facilities.

A. Design Requirements:

- (1) Calculation of water usage to ensure adequate capacity is available for storage of follow-up rainfall events. The property will draw from the cistern on a daily basis; the cistern shall be dewatered in 72 hours to maintain the capacity of the storage facility. This shall be noted on the plan and maintenance agreement.
- (2) Verification of conveyance pipe capacity in the roof leader design shall be provided in the stormwater management report.
- (3) The stormwater runoff storage container(s) shall be protected from direct sunlight to minimize algae growth.

- (4) An alternative supply of water shall be available for the property use during dry periods if the reuse facility is used for supplying the dwelling with water.
- (5) Stormwater runoff storage containers should be watertight with smooth interior surfaces.
- (6) The cover (or lid) should have a tight fit to keep out surface water, children, animals, dust and light. The cover or lid opening should be a minimum 24 inches in order to access the facility for maintenance and repair.
- (7) Cisterns shall be designed to store the runoff volume of a one-hundred-year storm event for the area served by the stormwater runoff storage facility.
- (8) Every stormwater runoff storage facility (cistern, rain barrel, etc.) shall be provided with an overflow or an emergency outlet. The overflow shall be designed to discharge away from buildings and other structures and towards existing natural or man-made channels, stormwater facilities or vegetated slopes.
- (9) The plans proposing a water storage facility shall include the following:
  - (a) All calculations and assumptions used in the design.
  - (b) Sufficient detail showing the proposed method of dewatering (i.e., pump).
  - (c) Structural details.
- (10) Maintenance responsibilities for water storage and reuse facilities shall include flushing the storage units to remove any accumulated sediment; the inside surfaces shall be brushed and thoroughly disinfected.
- (11) The stormwater runoff collected shall not be allowed to freeze in the devices.

**§ 308. Erosion and Sedimentation Control. [Ord. 954, 12/19/2013]**

- 1. The applicant must comply with the erosion control rules and regulations of Chapter 102.
- 2. The design plan and construction schedule shall incorporate measures to prevent soil erosion and sedimentation.
- 3. The following principles shall be applied to the design plan and construction schedule to minimize soil erosion and sedimentation:

- A. Erosion and sedimentation controls designed in conformance with the E&S Manual shall be implemented during the construction and post-construction periods to prevent soil erosion, sedimentation and other pollutants from entering streams, lakes, etc.
  - B. Natural vegetation shall be retained and protected on all undisturbed areas.
  - C. The extent of the disturbed area and the duration of its exposure shall be kept to a minimum. Stockpiles to remain in place longer than 20 days shall be seeded.
  - D. It shall be the applicant's responsibility during construction to prevent soil pollution to neighboring property, public streets, and streams. Soil dropped from construction equipment and sedimentation shall be immediately removed from roads, public and private property, and streams.
  - E. Drainage provisions shall accommodate the stormwater runoff both during and after construction.
  - F. Soil erosion and sedimentation facilities shall be installed prior to any on-site earth disturbances.
4. The developer shall maintain a copy of the erosion and sedimentation control plan and notes on site during construction.

**PART 4**  
**PLAN PROCESSING PROCEDURES**

**§ 401. Exemption from Plan Submission Requirements. [Ord. 954, 12/19/2013]**

1. The following regulated activities are specifically exempt from the SWM site plan preparation and submission requirements articulated in § 301, Subsection 1, and Parts 4 and 5 of this chapter:
  - A. An applicant proposing the cumulative installation of 1,000 square feet or less of impervious surface coverage may be exempt from design, plan submittal, and processing requirements of Parts 3, 4 and 5 of this chapter. No person or activity is exempted from compliance with § 604 and Parts 7, 8 and 9 of this chapter. The applicant shall comply with the erosion and sediment control requirements of 25 Pa. Code, Chapter 102. Exemptions do not relieve the applicant of the responsibility to secure the required permits or approvals for activities regulated by any other code, law, regulation, or ordinance. Exemption 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 proceeding for revocation. Any work undertaken or use established pursuant to such permit or other authorization is unlawful. 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 A-1 and pay any applicable filing fee.<sup>11</sup>
  - B. Agricultural activity (see definitions), provided the activities are performed according to the requirements of Chapter 102.
  - C. Conservation practices being installed as part of the implementation of a conservation plan written by an NRCS-certified planner.
  - D. Domestic landscape and/or vegetable gardening.
2. The stormwater exemption application (refer to Appendix A-1) shall be completed and submitted to the Borough. Upon receipt of a written approval from the Borough, the applicant may proceed with the proposed improvements.
3. The Borough may deny or revoke any exemption pursuant to this section at any time for any project that the Borough believes may pose a threat to public health, safety, property or the environment.

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<sup>11</sup>Editor's Note: Appendix A is included as an attachment to this chapter.

**§ 402. Small Projects. [Ord. 954, 12/19/2013]**

1. Anyone proposing a small project shall submit three copies of the small project application to the Borough.
2. A complete small project application shall include:
  - A. Small project application form (Appendix A-2).<sup>12</sup>
  - B. Small project sketch plan, including the following (Appendix A-5):<sup>13</sup>
    - (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 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's current fee schedule).
3. The small project application shall be submitted in a format that is clear, concise, legible, neat and well-organized.
4. The small project application shall be reviewed by Borough staff and does not require processing through the Planning Commission or Borough Council. Upon receipt of a written approval from the Borough, the applicant may proceed with the proposed improvements.

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<sup>12</sup>Editor's Note: Appendix A is included as an attachment to this chapter.

<sup>13</sup>Editor's Note: Appendix A is included as an attachment to this chapter.



**§ 403. Preapplication Meeting. [Ord. 954, 12/19/2013]**

Applicants are encouraged to schedule a preapplication meeting to review the overall stormwater management concept with Borough staff/Engineer. The preapplication meeting is not mandatory and shall not constitute formal filing of a plan with the Borough. Topics discussed may include the following:

- A. The developer shall provide 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 Borough Subdivision and Land Development and/or Zoning Ordinance provisions.
- E. The conceptual project layout, including proposed structural and nonstructural BMPs.

**§ 404. Minor Stormwater Management Plan Submission. [Ord. 954, 12/19/2013]**

- 1. When a minor SWM plan is required, the applicant shall submit the following to the Borough:
  - A. Eight copies of the SWM plan prepared in accordance with the requirements of Article V of this chapter.
  - B. Two copies of all supplemental data, including a minor stormwater management application (Appendix A-3).<sup>14</sup>
  - C. A filing fee (in accordance with the Borough's current fee schedule).
- 2. The minor SWM 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 Borough Engineer, 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 Borough staff or its designee, shall be returned to the applicant within 15 business days, along with a statement that the submission is incomplete and stating the deficiencies

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<sup>14</sup>**Editor's Note: Appendix A is included as an attachment to this chapter.**

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 Borough's decision not to accept a particular application in accordance with § 1004 of this chapter.

5. At its sole discretion and in accordance with this Part, when an SWM site plan is found to be deficient, the Borough may either disapprove the submission and require a resubmission, or, in the case of minor deficiencies, the Borough may accept submission of revisions.
6. The minor stormwater management plans shall be reviewed by Borough staff or its designee and do not require processing through the Planning Commission or Borough Council. Upon receipt of a written approval from the Borough, the applicant may proceed with the proposed improvements.

**§ 405. Major Stormwater Management Site Plan Submission. [Ord. 954, 12/19/2013]**

1. When a major SWM site plan is required, the applicant shall submit the following to the Borough:
  - A. Eight copies of the SWM site plan prepared in accordance with the requirements of Article V of this chapter.
  - B. Two copies of all supplemental data, including a major stormwater management plan application (Appendix A-4).<sup>15</sup>
  - C. A filing fee (in accordance with the Borough's current fee schedule).
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 Borough Engineer, 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 15 business 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 Borough's decision not to accept a particular application in accordance with § 1004 of this chapter.

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<sup>15</sup>Editor's Note: Appendix A is included as an attachment to this chapter.

5. At its sole discretion and in accordance with this Part, when an SWM site plan is found to be deficient, the Borough may either disapprove the submission and require a resubmission, or, in the case of minor deficiencies, the Borough may accept submission of revisions.
6. The major stormwater management plan shall be processed through the Borough Planning Commission and Borough Council.

**§ 406. Municipal Review. [Ord. 954, 12/19/2013]**

1. When the regulated activity constitutes a subdivision or land development, the SWM site plan and subdivision/land development plan shall be processed concurrently according to the plan processing procedure outlined in Chapter 22.
2. When the regulated activity constitutes a small project, the Borough shall review and take action on the small project application within 15 business days of filing.
3. When the regulated activity does not constitute an exemption or small project, the Borough Engineer shall review the SWM site plan for conformance with the provisions of this chapter.
4. Following receipt of the Borough Engineer's report and within 90 days following the date of the first regular meeting of the Borough Council after the date the application is filed, the Borough Council will schedule the SWM site plan application for action at a regularly scheduled public meeting.
5. Within 15 days of the meeting at which the SWM site plan application is acted upon by the Borough Council, written notice of the Borough Council's action shall be sent to the following individuals:
  - A. The applicant.
  - B. The firm that prepared the plan.
6. If the Borough disapproves the SWM site plan, the Borough will state the reasons for the disapproval in writing. The Borough 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.
7. Upon unconditional plan approval, the Borough or its designee will complete and issue the stormwater management permit allowing construction of the project to commence.

**§ 407. Modification Procedures. [Ord. 954, 12/19/2013]**

1. The provisions of this chapter are intended as minimum standards for the protection of the public health, safety and welfare. The Borough Council may grant a modification from literal compliance with mandatory provisions of this chapter if the applicant can prove and establish that an alternative proposal will allow for equal or better results on the applicant's site.
2. The approval of the modification shall not have the effect of making null and void the intent and purpose of this chapter. In the approval of a modification, the Borough Council may impose such conditions as will, in its judgment, secure substantially the objectives of the standards and requirements of this chapter.
3. All requests for modifications shall be processed in accordance with the following:
  - A. A request for a modification shall be submitted to the Borough. The request shall be made in writing and identify:
    - (1) The specific section of this chapter or decision which is requested for modification;
    - (2) The proposed alternative to the requirement, when applicable; and
    - (3) Justifications for an approval of the modification.
  - B. The Borough shall:
    - (1) Schedule the request for consideration by the Borough Council at a public meeting within 45 days of receipt; and
    - (2) Provide adequate notice to the applicant and any other involved parties of the meeting at which consideration of the request is scheduled.
  - C. The Borough Council shall, following consideration of the request, take such public action as it shall deem advisable and notify all parties involved of the action. Such notice shall cite the findings and reasons for the deposition of the modification.
  - D. Any application requesting a modification under this section shall be accompanied by adequate supporting engineering data and plans and shall be subject to review and recommendations of the Borough Engineer prior to any action by the Borough.
4. Waivers or modification of § 302, relating to water quality and volume control, require processing and approval by the regional office of the PADEP.

The applicant shall initiate and facilitate all consultations between the DEP and the Borough.

**§ 408. Revision of Plans. [Ord. 954, 12/19/2013]**

1. Revisions to an SWM site plan after submission, but before Borough action, shall require a resubmission of the modified SWM site plan consistent with §§ 404 and 405 of this chapter and be subject to review as specified in § 406 of this chapter.
2. For the purposes of review deadlines, each resubmission required under § 408, 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 an SWM site plan after approval shall be submitted as a new plan to the Borough, accompanied by the applicable review fee.

**§ 409. Authorization to Construct and Term of Validity. [Ord. 954, 12/19/2013]**

Approval of an SWM site plan shall be valid for a period of one year unless extended by the Borough. Any time extensions shall not exceed four additional one-year extensions, for a total of five years. If a certificate of completion as required by § 411 of this chapter has not been submitted within the specified time period, then the Borough may consider the SWM site plan disapproved and may revoke any and all permits issued by the Borough. SWM site plans that are considered disapproved by the Borough may be resubmitted in accordance with Part 4 of this chapter.

**§ 410. Financial Security. [Ord. 954, 12/19/2013]**

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. The Borough shall, prior to issuing a stormwater management or earth disturbance permit, require financial security to be posted.
2. The applicant shall provide financial security to the Borough 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 Sections 509, 510 and 511 of the MPC.<sup>16</sup>

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<sup>16</sup>Editor's Note: See 53 P.S. §§ 10509, 10510 and 10511.

3. As the work of installing the required SWM facilities proceeds, the party posting the financial security may request the Borough Council to release or authorize the release, from time to time, of 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 Borough Council, and the Borough Council shall have 45 days from receipt of such request within which to allow the Borough Engineer to certify, in writing, to the Borough Council 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 Borough Council shall authorize release by the bonding company or lending institution of an amount as estimated by the Borough Engineer fairly representing the value of the SWM facilities completed. The Borough Council may, prior to final release at the time of completion and certification by its Engineer, require retention of 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 Borough Council is hereby granted the power to enforce any corporate bond or other security by appropriate legal and equitable remedies. If the 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 Borough 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.

**§ 411. Certificate of Completion. [Ord. 954, 12/19/2013]**

1. At the completion of the project, and as prerequisite for the release of the financial security, the applicant shall provide the certification of completion (Appendix A-8)<sup>17</sup> 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 Borough shall conduct a final inspection to certify compliance with this chapter.

**§ 412. Plan Recordation. [Ord. 954, 12/19/2013]**

1. Upon completion of the plan improvements and prior to the release of financial security, the applicant shall submit an as-built plan to the

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<sup>17</sup>Editor's Note: Appendix A is included as an attachment to this chapter.

Borough. The as-built plan must show the final design specifications for all SWM facilities, grading and site improvements and be sealed by a registered professional engineer or surveyor. As-built plans shall include all information identified on the checklist included in Appendix A-7.<sup>18</sup>

2. Review by Borough Engineer.
  - A. The as-built plan shall be reviewed by the Borough Engineer to verify the plan includes all of the SWM facilities on the subject property and the facilities are shown at the correct location.
  - B. The Borough Engineer shall either approve the as-built plan or identify corrections required.
  - C. If the Borough Engineer identifies corrections required to the as-built plan, the applicant shall submit a revised as-built plan to the Borough addressing the corrections.
3. Following approval of the as-built plan by the Borough Engineer, the applicant shall submit the SWM site plan for recordation in the office of the Recorder of Deeds. Recording fees will be the responsibility of the applicant/developer.
4. Upon completion of recording, a digital copy of the as-built plan, the SWM site plan signed and sealed with the recording information and calculations, waiver requests and other documents shall be submitted to the Borough along with one paper copy of the recorded plan.
  - A. The digital inventory shall be in an electronic format acceptable to the Borough Engineer.
  - B. All coordinates as depicted on the plan shall be based on the PA South Zone State Plan Coordinate System (NAD83 for horizontal and NAVD88 for vertical).

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<sup>18</sup>Editor's Note: Appendix A is included as an attachment to this chapter.





**PART 5**  
**INFORMATION TO BE INCLUDED ON OR WITH STORMWATER**  
**MANAGEMENT SITE PLANS**

**§ 501. General Plan Requirements. [Ord. 954, 12/19/2013]**

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 and design calculations shall be signed and sealed by the qualified person responsible for the design (Appendix A-6).<sup>19</sup>
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 Chapter 22, Subdivision and Land Development.

**§ 502. Minor Stormwater Management Plan. [Ord. 954, 12/19/2013]**

1. Drafting Standards.
  - A. The plan should be clearly and legibly drawn.
  - B. If the plan is prepared in two or more drawing sheets, a key map showing the location of the sheets and a match line shall be placed on each sheet.
  - C. Each sheet shall be numbered to show the relationship to the total number of sheets in the plan (e.g., Sheet 1 of 5). The cover page shall include a sheet index indicating which plan sheets are to be recorded.
  - D. Drawings or maps of the project area shall be drawn at one inch equals 50 feet or a larger scale (i.e., one inch equals 40 feet, one inch equals 30 feet, etc.) and shall be submitted on twenty-four-inch by thirty-six-inch sheets.
  - E. SWM site plans shall be prepared in a form that meets the requirements for recording in the office of the Recorder of Deeds of Lancaster County.
  - F. The total development site boundary and size with distances marked to the nearest foot and bearings to the nearest degree.

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<sup>19</sup>Editor's Note: Appendix A is included as an attachment to this chapter.

- G. The proposed name or identifying title of the plan.
- 2. SWM Site Plan Information. The following items shall be included in the SWM plan:
  - A. The date of the SWM plan and all revision dates, graphic scale, 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. 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 Borough, which shall be included on a plan sheet intended for recording.
  - E. 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.
  - F. A note informing the owner that the Borough shall have the right of entry for the purposes of inspecting all stormwater conveyance, treatment or storage facilities.
  - G. The Borough of Elizabethtown SWM plan approval certification shall be included on the plan (Appendix A-6).<sup>20</sup>
  - H. A location map, drawn to a scale of a minimum of one inch equals 2,000 feet, relating the plan to Borough boundaries, at least two intersections of road center lines or other identifiable landmarks.
  - I. A note on the plan indicating any area that is not to be offered for dedication along with the statement that the Borough is not responsible for maintenance of any area not dedicated to and accepted for public use and that no alteration to swales, basins or placement of structures shall be permitted within easements.

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<sup>20</sup>Editor's Note: Appendix A is included as an attachment to this chapter.

- J. A certificate, signed and sealed by a qualified professional registered in the Commonwealth of Pennsylvania and qualified to perform such duties. See form of certificate in Appendix A-6.<sup>21</sup>
- K. The names of all owners of all immediately adjacent lands, including those properties located across street rights-of-way.
- L. Existing Features.
  - (1) In areas of disturbance, contours at intervals of one or two feet. In areas of steep slopes (greater than 15%) and areas undisturbed, five-foot contour intervals may be used. In areas of very flat slopes, one-foot contours are required.
  - (2) The locations of all existing utilities (including on-lot disposal systems and wells), sanitary sewers, and water lines and associated easements within 100 feet of the development site boundary.
  - (3) Physical features, including flood hazard boundaries, wetlands, sinkholes, streams, lakes, ponds and other water bodies, existing drainage courses, karst features, areas of native vegetation, including trees greater than six inches' diameter at breast height, woodlands, other environmentally sensitive areas and the total extent of the upstream area draining through the development site within 100 feet of the development site boundary.
  - (4) An overlay showing soil names and boundaries.
  - (5) All existing man-made features within 100 feet of the development site boundary.
- M. Proposed Features.
  - (1) Changes to the land surface and vegetative cover, including final proposed contours at intervals of one or two feet in areas of disturbance. In areas of steep slopes (greater than 15%) and areas undisturbed, five-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).

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<sup>21</sup>Editor's Note: Appendix A is included as an attachment to this chapter.

- (5) Plan and profile drawings of all proposed SWM facilities, including BMPs, drainage structures, pipes, open channels and swales. This information shall be of the quality required for construction of all facilities.
    - (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 planting plan shall be provided for all vegetated BMPs in accordance with § 301, Subsection 14.
  - N. The location of all E&S control facilities and the sequence of construction.
  - O. The plan shall include a note on the cover page identifying the number of square feet of impervious coverage which the stormwater management facilities have been designed to accommodate.
3. Additional Information.
- A. A general description of the development site, including a description of existing natural and hydrologic features and any environmentally sensitive areas.
  - B. A general description of the overall SWM concept for the project, including a description of permanent SWM techniques, nonstructural 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 SWM facilities are meant to function with each other to manage stormwater runoff.
  - C. The effect of the project (in terms of runoff volumes, water quality and peak flows) on adjacent properties and on any existing Borough SWM facilities that may receive runoff from the development site.
  - D. Complete hydrologic, hydraulic and structural computations for all SWM facilities.
  - E. An expected project time schedule.

**§ 503. Major Stormwater Management Plan. [Ord. 954, 12/19/2013]**

- 1. Drafting Standards.
  - A. The plan should be clearly and legibly drawn.

- B. If the plan is prepared in two or more drawing sheets, a key map showing the location of the sheets and a match line shall be placed on each sheet.
  - C. Each sheet shall be numbered to show the relationship to the total number of sheets in the plan (e.g., Sheet 1 of 5).
  - D. Drawings or maps of the project area shall be drawn at one inch equals 50 feet or a larger scale (i.e., one inch equals 40 feet, one inch equals 30 feet, etc.) and shall be submitted on twenty-four-inch by thirty-six-inch sheets.
  - E. SWM plans shall be prepared in a form that meets the requirements for recording in the office of the Recorder of Deeds of Lancaster County.
  - F. The total development site boundary and size with distances marked to the nearest foot and bearings to the nearest degree.
  - G. The proposed name or identifying title of the plan.
  - H. The plan sheets or sheet index shall clearly indicate which sheets are to be recorded as part of the project.
2. SWM Site Plan Information. The following items shall be included in the SWM site plan:
- A. The date of the SWM site plan and all revision dates, graphic scale, 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. 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 Borough, which shall be included on a plan sheet intended for recording.
  - E. 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.

- F. A note informing the owner that the Borough shall have the right of entry for the purposes of inspecting all stormwater conveyance, treatment, or storage facilities.
- G. The Borough of Elizabethtown SWM plan approval certification shall be included on the plan (Appendix A-6).<sup>22</sup>
- H. A location map, drawn to a scale of a minimum of one inch equals 2,000 feet, relating the plan to municipal boundaries, at least two intersections of road center lines or other identifiable landmarks.
- I. A note on the plan indicating any area that is not to be offered for dedication along with the statement that the Borough is not responsible for maintenance of any area not dedicated to and accepted for public use and that no alteration to swales, basins or placement of structures shall be permitted within easements.
- J. A certificate, signed and sealed by a qualified professional registered in the Commonwealth of Pennsylvania and qualified to perform such duties. See form of certificate in Appendix A-6.<sup>23</sup>
- K. The names of all owners of all immediately adjacent lands, including those properties located across street rights-of-way.
- L. Existing Features.
  - (1) In areas of disturbance, contours at intervals of one or two feet. In areas of steep slopes (greater than 15%) and areas undisturbed, five-foot contour intervals may be used. In areas of very flat slopes, one-foot contours are required.
  - (2) The locations of all existing utilities (including on-lot disposal systems and wells), sanitary sewers and water lines and associated easements within 200 feet of the development site boundary.
  - (3) Physical features, including flood hazard boundaries, wetlands, sinkholes, streams, lakes, ponds and other water bodies, existing drainage courses, karst features, areas of native vegetation, including trees greater than six inches' diameter at breast height, woodlands, other environmentally sensitive areas and the total extent of the upstream area draining through the development site within 200 feet of the development site boundary.
  - (4) An overlay showing soil names and boundaries.

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<sup>22</sup> Editor's Note: Appendix A is included as an attachment to this chapter.

<sup>23</sup> Editor's Note: Appendix A is included as an attachment to this chapter.

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

M. Proposed Features.

- (1) Changes to the land surface and vegetative cover, including final proposed contours at intervals of one or two feet in areas of disturbance. In areas of steep slopes (greater than 15%) and areas undisturbed, five-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. This information shall be of the quality required for construction of all facilities.
- (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 planting plan shall be provided for all vegetated BMPs in accordance with § 301, Subsection 14.

N. The location of all E&S control facilities and the sequence of construction.

O. The plan shall include a note on the cover page identifying the number of square feet of impervious coverage which the stormwater management facilities have been designed to accommodate.

3. Additional Information.

- A. A general description of the development site, including a description of existing natural and hydrologic features and any environmentally sensitive areas.
- B. A general description of the overall SWM concept for the project, including a description of permanent SWM techniques, nonstructural 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 SWM facilities are meant to function with each other to manage stormwater runoff.

- C. The effect of the project (in terms of runoff volumes, water quality and peak flows) on adjacent properties and on any existing municipal SWM facilities that may receive runoff from the development site.
- D. Complete hydrologic, hydraulic and structural computations for all SWM facilities.
- E. An expected project time schedule.

**§ 504. Supplemental Information. [Ord. 954, 12/19/2013]**

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. The location of 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 SWM facilities on adjacent karst features and impacts of karst features on adjacent SWM facilities.
  - D. The requirements of § 301, Subsection 10, shall be addressed in the geologic evaluation.
2. An E&S plan, including all approvals, as required by Chapter 102, shall be provided to the Borough 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.



**PART 6**  
**OPERATION AND MAINTENANCE (O&M)**

**§ 601. Responsibilities of Developers and Landowners. [Ord. 954, 12/19/2013]**

1. The landowner, successor and assigns shall maintain all SWM facilities in good working order in accordance with the approved O&M plan.
2. The landowner shall convey to the Borough easements to assure the Borough the right, but not the responsibility, to access the site for inspections and maintenance.
3. The landowner shall keep on file with the Borough 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 Borough within 10 days of the change.
4. Enumerate permanent SWM facilities as permanent real estate appurtenances and record as deed restrictions or easements that run with the land.
5. The record owner of the development site shall sign and record an operation and maintenance (O&M) agreement (stormwater management agreement) covering all SWM facilities, including riparian buffers and riparian forest buffers, which are to be privately owned. Said agreement, designated as Appendix D, is attached hereto and made part hereof.<sup>24</sup> The O&M plan and agreement shall be recorded as a restrictive covenant agreement that runs with the land.

**§ 602. Operation and Maintenance agreements. [Ord. 954, 12/19/2013]**

1. The operation and maintenance agreement shall be subject to the review and approval of the Borough Solicitor, Borough Engineer and Borough Council.
2. The Borough is exempt from the requirement to sign and record an O&M agreement.

**§ 603. Operation and Maintenance (O&M) Plan Contents. [Ord. 954, 12/19/2013]**

1. The O&M plan shall clearly establish the operation and maintenance necessary to ensure the proper functioning of all temporary and permanent SWM facilities and E&S control facilities.
2. The following shall be addressed in the O&M plan:

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<sup>24</sup>**Editor's Note: Appendix D is included as an attachment to this chapter.**

- A. 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 shall be inspected by a qualified person, which may include the landowner, or the owner's designee (including the Borough for dedicated and owned facilities), according to the following minimum frequencies:
    - (a) Annually for the first five years.
    - (b) Once every three years thereafter.
    - (c) During or immediately after the cessation of a ten-year or greater storm (six-inch equivalent).
    - (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) Reestablishment 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 Borough.
- B. A riparian forest buffer management plan prepared in accordance with 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 SWM and E&S facilities.
- D. Establishment of suitable easements for access to all SWM facilities.

**§ 604. Maintenance of Existing Facilities/BMPs. [Ord. 954, 12/19/2013]**

- 1. SWM facilities existing on the effective date of this chapter, which have not been accepted by the Borough, 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, Subsection 2A, above. If the Borough 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 Borough shall notify the landowner of corrective measures that are required and provide for a reasonable period of time, not to exceed 30 days, within which the property owner shall take such corrective action. If the landowner does not take the required corrective action, the Borough 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 10% of the cost of the work. If such bill is not paid by the property owner within 30 days, the Borough may file a municipal claim against the property upon which the work was performed in accordance with the applicable laws. The Borough shall have the right to choose among the remedies and may use one or more remedies concurrently.

**§ 605. Permanence of Stormwater Management/BMP facilities. [Ord. 954, 12/19/2013]**

1. The following note shall be included on the cover page: "No person shall modify, remove, fill, landscape or alter SWM facilities and/or BMP facilities which may 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 an SWM facility, a BMP facility or within a drainage easement."



**PART 7**  
**FEES AND EXPENSES**

**§ 701. General Provisions. [Ord. 954, 12/19/2013]**

The Borough may include all costs incurred in the fees charged to an applicant.

**§ 702. Expenses Covered by Fees. [Ord. 954, 12/19/2013]**

The fees (per the Borough Fee Schedule, as amended) 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 Borough Solicitor/Engineer/staff.
- D. Inspections.
- E. Any additional work required to enforce any permit provisions regulated by this chapter, correct violations and assure proper completion of stipulated remedial actions.

**§ 703. Borough of Elizabethtown Stormwater Management Inspection Fund. [Ord. 954, 12/19/2013]**

- 1. Persons installing SWM storage facilities or BMPs shall be required to pay a specified amount to the Elizabethtown Borough Stormwater Management Inspection Fund to help defray costs of periodic inspection expenses.
- 2. The amount of the deposit shall be determined as follows:
  - A. If the storage facility is to be privately owned and maintained, the deposit shall cover the cost of periodic inspections performed by the Borough for a period of 10 years.
  - B. If the storage facility is to be owned and maintained by the Borough, the deposit shall cover the cost of periodic inspections performed by the Borough for a period of 10 years.
  - C. The Borough's Engineer will establish the estimated costs utilizing information submitted by the applicant. If the applicant is not satisfied with costs prepared by the Borough Engineer, the applicant can appeal the same pursuant to § 1004.
- 3. All interest earned shall become the property of the Borough to be further used for inspection.

4. Nothing contained herein in § 703 shall constitute a waiver of any duty of any private owner to maintain its SWM storage facilities at its sole expense.
5. At a minimum, the Borough shall inspect the stormwater and BMP facilities:
  - A. Once the first three years.
  - B. Once every two years thereafter.
  - C. During or immediately after the cessation of a rainfall event of six inches or greater.
6. The Borough shall prepare a report of the site inspection for the file records; and if deficiencies are found or the owner is in violation of the stormwater management maintenance and declaration of easement agreement, the Borough shall issue a letter of violation to the property owner to be satisfactory addressed within the time frame indicated in the letter. The property owner shall be responsible to reimburse the Borough for legal, engineering and administrative costs of enforcement if the violations are not remedied within the time frame indicated.



**PART 8**  
**INSPECTIONS**

**§ 801. Schedule of Inspections. [Ord. 954, 12/19/2013]**

1. The Borough or its designee shall inspect all phases of the installation of any temporary or permanent SWM facilities.
2. A schedule of required inspections shall be determined through a preconstruction meeting with Borough staff. The schedule shall include, but not be limited to, inspections for erosion and sedimentation control measures, pipe installation prior to backfilling, outlet structure installation prior to backfilling, seepage bed installation, underdrain installation prior to backfilling, site grading, antiseep collar installation, impermeable liner installation, roof leader installation and connection, site stabilization, etc.
3. Required inspections shall be scheduled through the Borough a minimum of 48 hours prior to the time the inspection is requested.
4. During any stage of work, if the Borough or its designee determines that any temporary or permanent SWM facilities are not being installed in accordance with the approved SWM site plan, the Borough shall revoke any existing permits until a revised SWM site plan is submitted and approved, as specified in this chapter.



**PART 9**  
**PROHIBITIONS**

**§ 901. Prohibited Discharges and Connections. [Ord. 954, 12/19/2013]**

1. The following connections are prohibited, except as provided in § 901, Subsection 4, below.
  - A. Any drain or conveyance, whether on the surface or subsurface, that allows any nonstormwater discharge, including sewage, process wastewater and wash water, to enter a municipal separate storm sewer or waters of this commonwealth and any connections to the storm sewer from indoor drains and sinks; and
  - B. Any drain or conveyance connected from a commercial or industrial land use to the municipal separate storm sewer which has not been documented in plans, maps or equivalent records and approved by the Borough.
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 § 901, 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 an SWM facility or within a drainage easement.
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. Dechlorinated 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 groundwaters.
5. In the event that the Borough or DEP determines that any of the discharges identified in § 901, Subsection 4, above significantly contribute to pollution of the waters of this commonwealth, the Borough or DEP will notify the responsible person(s) to cease the discharge.

**PART 10**  
**ENFORCEMENT AND PENALTIES**

**§ 1001. Right-of-Entry. [Ord. 954, 12/19/2013]**

Upon presentation of proper credentials, duly authorized representatives of the Borough may enter at reasonable times upon any property within the Borough to investigate or ascertain the condition of the subject property in regard to any aspect regulated by this chapter.

**§ 1002. Enforcement. [Ord. 954, 12/19/2013]**

The Borough Council is hereby authorized and directed to enforce all of the provisions of this chapter.

- A. Any permit or approval issued by the Borough of Elizabethtown pursuant to this chapter may be suspended by the Borough for:
  - (1) Noncompliance with or failure to implement any provision of the approved SWM site plan or O&M agreement.
  - (2) A violation of any provisions of this chapter or any other applicable law, ordinance, rule or regulation relating to the regulated activity.
  - (3) 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.
- B. A suspended permit may be reinstated by the Borough when:
  - (1) The Borough has inspected and approved the corrections to the violation that caused the suspension;
  - (2) The Borough is satisfied that the violation has been corrected.

**§ 1003. Violations, penalties and remedies. [Ord. 954, 12/19/2013]**

- 1. It shall be a violation of this chapter to commit or permit any other person to commit any of the following acts:
  - A. To commence regulated activities prior to obtaining unconditional approval of an SWM site plan or in violation of the terms or conditions of an SWM site plan approved under this chapter.
  - B. To install, repair, modify or alter SWM facilities prior to obtaining approvals under this chapter or in a manner which violates the terms and conditions of any approval issued under this chapter.

- C. To misuse or fail to maintain any SWM facility installed upon a property.
  - D. To construct any improvements upon, grade, fill or take any other action which will impair the proper functioning of any SWM facility.
  - E. To place false information on or omit relevant information from an application for approval under this chapter.
  - F. To fail to comply with any other provisions of this chapter.
- 2. For each violation of the provisions of this chapter, the owner, agent, lessee, contractor or any other person who commits, takes part in, or assists in any such violation shall be liable, upon conviction thereof in a summary proceeding, to pay a fine of not less than \$200 nor more than \$1,000 for each offense, together with the costs of prosecution. In accordance with Section 3321(6) of the Borough Code,<sup>25</sup> any person found guilty of violating this chapter may be assessed reasonable attorneys' fees incurred by the Borough in the enforcement proceeding. Each day or portion thereof in which a violation exists shall be considered a separate violation of this chapter, and each section of this chapter which is violated shall be considered a separate violation.
  - 3. The Borough may also institute suits to restrain, prevent, or abate a violation of this chapter in equity or at law. Such proceedings in equity or at law may be initiated before any court of competent jurisdiction. In cases of emergency where, in the opinion of the court, the circumstances of the case require immediate abatement of the unlawful conduct, the court may, in its decree, fix a reasonable time during which the person responsible for the unlawful conduct shall correct or abate the same. The expense of such proceedings shall be recoverable from the violator in such manner as may now or hereafter be provided by law. In accordance with Section 3321(6) of the Borough Code, any person found guilty of violating this chapter may be assessed reasonable attorneys' fees incurred by the Borough in the enforcement proceeding.
  - 4. The Borough Council may also take actions relating to suspension or revocation of permits set forth in § 1002.
  - 5. The Borough Council may, by resolution, appoint a Code Enforcement Officer to enforce this chapter and may authorize such Code Enforcement Officer to institute summary criminal proceedings without prior action by the Borough Council.

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<sup>25</sup>Editor's Note: See 53 P.S. § 48321(6).

**§ 1004. Appeals. [Ord. 954, 12/19/2013]**

1. Any person aggrieved by any administrative action of the Borough may appeal to the Elizabethtown Borough Council within 30 days of that action. Any such appeal shall be governed by the procedures of Article V of the Local Agency Law, 2 Pa. C.S.A. § 501 et seq.
2. Any person aggrieved by any decision of the Borough Council may appeal to the Lancaster County Court of Common Pleas in accordance with Article VII of Local Agency Law, 2 Pa. C.S.A. § 701 et seq., the Local Agency Law, within 30 days of that decision.

**§ 1005. Modification of Ordinance Provisions. [Ord. 954, 12/19/2013]**

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 Borough 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 Borough 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 SWM site 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 Borough may impose such conditions as will, in its judgment, secure substantially the objectives of the standards and requirements of this chapter.





**PART 11**  
**REFERENCES**

**§ 1101. References.**

1. 25 Pennsylvania Code, Chapter 102, Erosion and Sediment Control.
2. Minnesota Pollution Control Agency.
3. Code of Federal Regulations, Title 44: Emergency Management and Assistance, § 9.4, Definitions.
4. 25 Pa. Code, Chapter 105.
5. Based on definition in Wisconsin Department of Natural Resources Administrative Rule NR 151.006.
6. Pennsylvania Department of Environmental Protection, No. 363-0300-002 (December 2006), as amended and updated, Pennsylvania Stormwater Best Management Practices Manual, Harrisburg, Pennsylvania.
7. City of Jacksonville website, <http://www3.coj.net/Departments/CityFees/Glossary.aspx>.
8. Lancaster County Model Subdivision and Land Development Ordinance.
9. Pennsylvania Department of Environmental Protection, No. 363-2134-008 (March 2012), as amended and updated, Erosion and Sediment Pollution Control Program Manual, Harrisburg, Pennsylvania.
10. CSN Technical Bulletin No. 5, Stormwater Design for High Intensity Redevelopment Projects in the Chesapeake Bay Watershed, Version 2.0, Chesapeake Stormwater Network, January 5, 2011, page 43.
11. "Penn State Urban Hydrology Model User Manual," by Thomas A. Seybert, PE, David F. Kibler, PE, and Elizabeth I. White, PE, August 1993, page 70, and VT/PSUHM help screen.
12. 25 Pa. Code, Chapter 71, Administration of Sewage Facilities Planning Program, § 71.1.

