WEST VINCENT TOWNSHIP

CHESTER COUNTY, PENNSYLVANIA

ORDINANCE NO. 203

AN ORDINANCE AMENDING AND REENACTING, CHAPTER 302 STORMWATER MANAGEMENT OF THE WEST VINCENT TOWNSHIP CODE

SECTION 1. The existing Chapter 302 of the Code of the Township of West Vincent is deleted.

SECTION 2. Attachment "A" consisting of a revised Chapter 302 of the Code of the Township of West Vincent is enacted in its entirety as the new Chapter 302 Stormwater Management.

SECTION 3. Severability. If any sentence, clause, section or part of this ordinance is for any reason found to be unconstitutional, illegal or invalid, such unconstitutionality, illegality or invalidity shall not affect or impair any of the remaining provisions, sentences, clauses, sections, or part hereof. It is hereby declared as the intent of the Board of Supervisors that this ordinance would have been adopted had such unconstitutional, illegal or invalid sentence, clause, section or part thereof not been included herein.

SECTION 4. Repealer. All ordinances or parts of ordinances conflicting with any provisions of this ordinance are hereby repealed insofar as the same affects this ordinance.

SECTION 5. Effective Date. This Ordinance shall be effective five (5) days after enactment as by law provided.

ENACTED AND ORDAINED THIS 17 DAY OF JANUARY, 2023

WEST VINCENT TOWNSHIP
BOARD OF SUPERVISORS

Bernie Couris, Chairman

Sara Shick, Vice Chairman

Dana Alan, Member

ATTEST:

Kathleen Shillenn, Secretary
Kathryn

Attachment "A"

Chapter 302
Stormwater Management

[HISTORY: Originally adopted by the Board of Supervisors of the Township of West Vincent 6-23-2014 by Ord. No. 160. Amendments noted where applicable. Amended by the Board of Supervisors on _____ by Ordinance No. _____.]

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Article I
General Provisions

§ 302-1 Short Title.
This Chapter shall be known as the "West Vincent Township's Stormwater Management Ordinance."

§ 302-2 Statement of Findings.
The governing body of the Municipality finds that:

A. Inadequate management of accelerated Stormwater Runoff resulting from land disturbance and development throughout a Watershed increases Flooding, flows and velocities, contributes to Erosion and Sedimentation, overtaxes the capacity of Streams and storm sewers, greatly increases the cost of public facilities to convey and manage Stormwater, undermines Floodplain management and Flood reduction efforts in upstream and downstream communities, reduces Infiltration and Groundwater Recharge, increases Nonpoint Source Pollution to waterways, and threatens public health and safety.

B. Inadequate planning and management of Stormwater Runoff resulting from land disturbance and development throughout a Watershed can harm surface water resources by changing the natural hydrologic patterns, accelerating Stream flows (which increase scour and Erosion of Streambeds and Stream banks, thereby elevating Sedimentation), destroying aquatic habitat, and elevating aquatic pollutant concentrations and loadings such as Sediments, nutrients, heavy metals, and pathogens. Groundwater resources are also impacted through loss of Recharge.

C. A comprehensive program of Stormwater management, including minimization of impacts of New Development, Redevelopment, and other Earth Disturbance activities causing accelerated Runoff and Erosion and loss of natural Infiltration, is fundamental to the public health, safety, and general welfare of the people of the Municipality and all of the people of the Commonwealth, their resources, and the environment.

D. Stormwater is an important water resource that provides Infiltration and Groundwater Recharge for water supplies and Baseflow of Streams, which also protects and maintains surface water quality.

E. Impacts from Stormwater Runoff can be minimized by reducing the volume of Stormwater generated and by using project designs that maintain the natural Hydrologic Regime and sustain high water quality, Infiltration, Stream Baseflow, and aquatic ecosystems. Cost-effective and environmentally sensitive Stormwater management can be achieved through the use of nonstructural Site design techniques that minimize Impervious Surfaces, reduce disturbance of land and natural resources, avoid sensitive areas (i.e., Riparian Buffers, Floodplains, steep slopes, Wetlands, etc.), and consider topography and soils to maintain the natural Hydrologic Regime.

F. Public education on the control of pollution from Stormwater is an essential component in successfully addressing Stormwater.

G. Nonstormwater Discharges to municipal or other storm sewer systems can contribute to pollution of the Waters of the Commonwealth.

H. The use of green infrastructure, low impact development (LID), and Conservation Design (CD) are intended to address the root cause of water quality impairment by using systems and practices which use or mimic natural processes to: 1) infiltrate and Recharge, 2) evapotranspire, and/or 3) harvest and use precipitation near where it falls to earth. Green infrastructure practices, LID, and CD contribute to the restoration or Maintenance of pre-development hydrology.

§ 302-3 Purpose.
The purpose of this Chapter is to protect public health, safety and general welfare, property, and water quality by implementing drainage and Stormwater management practices, criteria, and provisions included

herein for Land Development, construction and Earth Disturbance activities, to achieve the following throughout the Municipality:

A. Reduce the frequency and magnitude of Flooding and Stormwater impacts affecting people, property, infrastructure and public services.

B. Sustain or improve the natural hydrologic characteristics and water quality of Groundwater and surface waters.

C. Protect natural resources, including Riparian and aquatic living resources and habitats.

D. Maintain the natural Hydrologic Regime of Land Development Sites and their receiving Watersheds.

E. Minimize land disturbance and protect and incorporate natural hydrologic features, drainage patterns, Infiltration and flow conditions within Land Development Site designs.

F. Reduce and minimize the volume of Stormwater generated, and manage and release Stormwater as close to the source of Runoff as possible.

G. Provide Infiltration and maintain natural Groundwater Recharge to protect Groundwater supplies and Stream Baseflows, prevent degradation of surface water and Groundwater quality, and to otherwise protect water resources.

H. Reduce Stormwater pollutant loads to protect and improve the chemical, physical and biological quality of ground and surface waters.

I. Reduce scour, Erosion and Sedimentation of Stream channels.

J. Reduce Flooding impacts and preserve and restore the natural Flood-carrying capacity of Streams and their Floodplains.

K. Protect adjacent and downgradient lands from adverse impacts of direct Stormwater discharges.

L. Minimize Impervious Surfaces and connected Impervious Surfaces to promote Infiltration and reduce the volume and impacts of Stormwater Runoff.

M. Provide proper long-term operation and Maintenance of all permanent Stormwater Management Facilities, BMPs and Conveyances that are implemented within the Municipality.

N. Reduce the impacts of Runoff from existing developed land undergoing Redevelopment while encouraging New Development and Redevelopment in urban areas and areas designated for growth.

O. Implement an illicit discharge detection and elimination program that addresses Nonstormwater Discharges.

P. Provide Stormwater management performance standards and design criteria on a Watershed basis.

Q. Provide standards to meet certain NPDES Stormwater permit requirements.

R. 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 the Commonwealth.

S. Provide review procedures and performance standards for Stormwater planning and management.

T. Fulfill the purpose and requirements of Pennsylvania Act 167, Section 3:

(1) Encourage planning and management of Stormwater Runoff in each Watershed which is consistent

with sound water and land use practices.

(2) Authorize a comprehensive program of Stormwater management designated to preserve and restore the Flood-carrying capacity of Commonwealth Streams; to preserve to the maximum extent practicable natural Stormwater Runoff regimes and natural course, current and cross section of Waters of the Commonwealth; and to protect and conserve Groundwaters and Groundwater Recharge areas.

(3) Encourage local administration and management of Stormwater consistent with the Commonwealth's duty as trustee of natural resources and the people's constitutional right to the preservation of natural, economic, scenic, aesthetic, recreational and historic values of the environment.

§ 302-4 Statutory Authority.

The Municipality is empowered or required to regulate land use activities that affect Runoff and surface water and Groundwater quality and quantity by the authority of:

A. Act of October 4, 1978, P.L. 864 (Act 167) 32 P.S. § 680.1 et seq., as amended, the "Storm Water Management Act" (hereinafter referred to as "the Act");

B. Second Class Township Code, 53 P.S. § 65101, et seq.; and

C. Act of July 31, 1968, P.L. 805, No. 247, 53 P.S. § 10101 et seq., as amended, the Pennsylvania Municipalities Planning Code, Act 247, hereinafter referred to as the "MPC").

§ 302-5 Applicability.

A. The following activities are regulated by this Chapter:

(1) All regulated activities, as defined in this Chapter, including but not limited to New Development, Redevelopment, and Earth Disturbance activities, that are located within the Municipality shall be subject to regulation by this Chapter.

(2) When a building and/or Grading permit is required for any Regulated Activity on an existing parcel or approved lot created by a Subdivision and/or improved as a Land Development project, issuance of the permit shall be conditioned upon adherence to the terms of this Chapter.

(3) This Chapter contains the Stormwater management performance standards and design criteria that are necessary from a Watershed-based perspective. The Municipality's Stormwater Management Conveyance and system design criteria (e.g., inlet spacing, inlet type, collection system design and details, outlet structure design, etc.) shall continue to be regulated by the applicable municipal ordinance(s) and applicable state regulations or as included in § 302-23 of this Chapter.

B. Duty of persons engaged in a Regulated Activity. Notwithstanding any provision(s) of this Chapter, including exemptions, any Landowner or any person engaged in a Regulated Activity, including but not limited to 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 of Waters of the Commonwealth.

C. Phased and incremental project requirements.

(1) Any Regulated Activity (including but not limited to New Development, Redevelopment or Earth Disturbance) that is to take place incrementally or in phases, or occurs in sequential projects on the same parcel or property, shall be subject to regulation by this Chapter if the Regulated Impervious Surface or Earth Disturbance exceeds the corresponding threshold for exemption (as presented in

Table 106.1, Thresholds for Regulated Activities Exempt from Provisions of Chapter Listed Below).

(2) The date of adoption of this Chapter shall be the starting point from which to consider tracts as Parent Tracts relative to future Subdivisions, and from which Impervious Surface and Earth Disturbance computations shall be cumulatively considered. For the purposes of this Chapter, the computation shall be cumulatively considered if the projects are built within 12 months of each other.

(3) For example:

If after adoption of this Chapter an Applicant proposes construction of a six-hundred-square-foot garage, that project would be exempt from the requirements of this Chapter as noted in Table 106.1. If within 12 months of the original construction an Applicant proposes to construct a nine-hundred-square-foot room addition on the same property, the Applicant would then be required to implement the Stormwater management and plan submission requirements of this Chapter for the cumulative total of 1,500 square feet of additional Impervious Surface added to the property since adoption of this Chapter.

§ 302-6 Exemptions and Modified Requirements.

A. Requirements for exempt activities.

(1) An exemption from any requirement of this Chapter shall not relieve the Applicant from implementing all other applicable requirements of this Chapter or from implementing such measures as are necessary to protect public health, safety and welfare, property, and water quality.

(2) An exemption shall not relieve the Applicant from complying with the requirements for state-designated special protection waters, designated by PADEP as high quality (HQ) or exceptional value (EV) waters, or any other current or future state or municipal water quality protection requirements.

(3) An exemption under this Chapter shall not relieve the Applicant from complying with all other applicable municipal ordinances or regulations.

B. General exemptions. Regulated activities that: involve less than 1,000 square feet of Regulated Impervious Surfaces and less than 5,000 square feet of Earth Disturbance; or are listed in Subsection C of this section, are exempt from those (and only those) requirements of this Chapter that are included in the sections and articles listed in Table 106.1. Exemptions are for the items noted in Table 106.1 only and shall not relieve the Landowner from other applicable requirements of this Chapter. Exemption shall not relieve the Applicant from implementing such measures as are necessary to protect health, safety and welfare, property, and water quality.

Table 106.1

Thresholds for Regulated Activities Exempt from Provisions of Chapter Listed Below (see Notes below)

Ordinance Article/Section	Exemption Activities Listed in § 302-6C	< 1,000 Square Feet of Regulated Impervious Surfaces AND < 5,000 Square Feet of Proposed Earth Disturbance	≥ 1,000 Square Feet of Regulated Impervious Surfaces OR ≥ 5,000 Square Feet of Proposed Earth Disturbance
Article I, General Sections	Not exempt	Not exempt	Not exempt
Article II, Definitions	Not exempt	Not exempt	Not exempt
Article III, SWM §§ 302-14, 302-15 and 302-23	Not exempt	Not exempt	Not exempt
Article III, SWM §§ 302-13, 302-16, 302-17, 302-18, 302-19, 302-20, 302-21 and 302-22	Exempt	Exempt	Not exempt
Article IV, SWM Site Plan Requirements	Exempt	Exempt	Not exempt
Article V, Inspection	Exempt	Exempt	Not exempt
Article VI, Fees	Exempt	Exempt	Not exempt
Article VII, O&M	Exempt	Exempt	Not exempt
Article VIII, Prohibitions	Not exempt	Not exempt	Not exempt
Article IX, Enforcement and Penalties	Not exempt	Not exempt	Not exempt
Other Erosion, Sediment and pollution control requirements	Must comply with Title 25, Chapter 102 of the Pennsylvania Code and other applicable and municipal codes, including the Clean Streams Law.		

NOTES	
	Specific activities listed in § 302-6C are exempt from the indicated requirements, regardless of size.
	A proposed Regulated Activity must be less than BOTH the Regulated Impervious Surfaces and proposed Earth Disturbance thresholds to be eligible for exemption from the requirements listed in this table.
	"Regulated Impervious Surface" – as defined in this Chapter.
	"Exempt" – regulated activities are exempt from the requirements of listed section(s) only; all other provisions of this Chapter apply. These exemptions have no bearing on other municipal regulations or ordinances.

C. Exemptions for specific activities. The following specific regulated activities are exempt from the requirements of §§ 302-13, 302-16, 302-17, 302-18, 302-19, 302-20, 302-21 and 302-22, and Article IV, Article V, Article VI and Article VII of this Chapter (as shown in Table 106.1), unless otherwise noted below. All other Conveyance and system design standards established by the Municipality in other codes or ordinances shall be required, and all other provisions of this Chapter shall apply.

(1) Emergency exemption. Emergency Maintenance work performed for the protection of public health, safety and welfare. This exemption is limited to repair of the existing Stormwater Management Facility; upgrades, additions or other improvements are not exempt. A written description of the scope and extent of any emergency work performed shall be submitted to the Municipality within two calendar days of the commencement of the activity. A detailed plan shall be submitted no later than 30 days following commencement of the activity. If the Municipality finds that the work is not an emergency, then the work shall cease immediately and the requirements of this Chapter shall be addressed as applicable.

(2) Maintenance. Any Maintenance to an existing Stormwater Management Facility, BMP or Conveyance made in accordance with plans and specifications approved by the Municipal Engineer or Municipality.

(3) Existing landscaping. Use of land for Maintenance, Replacement or enhancement of existing landscaping.

(4) Gardening. Use of land for gardening for home consumption.

(5) Agricultural-related activities.

(a) Agricultural activities.

(b) Conservation practices (as defined in Article II) that do not involve construction of any new or expanded Impervious Surfaces.

(c) High Tunnel if:

[1] The High Tunnel or its flooring does not result in an Impervious Surface exceeding 25% of all structures located on the Landowner's total contiguous land area; and

[2] The High Tunnel meets one of the following:

[a] The High Tunnel is located at least 100 feet from any perennial Stream or Watercourse, public road, or neighboring property line.

[b] The High Tunnel is located at least 35 feet from any perennial Stream or Watercourse, public road, or neighboring property line.

[c] The High Tunnel is supported with a buffer or diversion system that does not directly drain into a Stream or other Watercourse by managing Stormwater Runoff in a manner consistent with the requirements of Pennsylvania Act 167.

(6) Forest Management. Forest Management operations that are consistent with a sound Forest Management plan as filed with the Municipality and which comply with the Pennsylvania Department of Environmental Protection's management practices contained in its publication "Soil Erosion and Sedimentation Control Guidelines for Forestry" (as amended or replaced by subsequent guidance). Such operations are required to have an Erosion and Sedimentation Control plan, which meets the requirements of 25 Pa. Code Chapter 102 and meets the Erosion and Sediment Control standards of § 302-15 of this Chapter.

(7) Maintenance of existing gravel and paved surfaces. Replacement of existing gravel and paved surfaces shall meet the Erosion and Sediment Control requirements of 25 Pa. Code Chapter 102 and § 302-15 of this Chapter, and is exempt from all other requirements of this Chapter listed in this Subsection C. Resurfacing of existing gravel and paved surfaces is exempt from the requirements of this Chapter listed above. Paving of existing gravel surfaces is exempt from the requirements of this Chapter listed above. Construction of new or additional Impervious Surfaces shall comply with all requirements of this Chapter as indicated in Table 106.1.

(8) Municipal roadway shoulder improvements. Shoulder improvements conducted within the existing roadway cross section of municipal-owned roadways, unless an NPDES permit is required, in which case the proposed work must comply with all requirements of this Chapter.

(9) In-place Replacement of residential dwelling unit. The Replacement in the exact footprint of an existing one- or two-family dwelling unit.

(10) In-place Replacement, repair or Maintenance of residential Impervious Surfaces. The Replacement of existing residential patios, decks, driveways, pools, garages, and/or sidewalks that are accessory to an existing one- or two-family dwelling unit in the exact footprint of the existing Impervious Surface.

D. Modified requirements for small projects. Regulated activities that involve more than 1,000 but less than 2,000 square feet of Regulated Impervious Surfaces and more than 5,000 but less than 10,000 square feet of proposed Earth Disturbance may apply the modified requirements presented in the "Simplified Approach to Stormwater Management for Small Projects" (Appendix A) to comply with the requirements of §§302-13, 302-16, 302-17, 302-18, 302-19, 302-20, 302-21 and 302-22, and Article IV, Article V, Article VI and Article VII of this Chapter (as shown in Table 106.2). The Applicant shall first contact the Municipal Engineer: 1) to confirm that the proposed project is eligible for use of the simplified approach and is not otherwise exempt from these ordinance provisions; 2) to determine what components of the proposed project are to be considered as Impervious Surfaces; and 3) to determine if other known Site or local conditions exist that may preclude the use of any techniques included in the "Simplified Approach." Appendix A includes instructions and procedures for preparation, submittal, review and approval of documents required when using the Simplified Approach and shall be adhered to by the Applicant. Infiltration testing for projects using the Simplified Approach is recommended but is not required by this Chapter. All other provisions of this Chapter shall apply.

Table 106.2

Thresholds for Regulated Activities Eligible for "Modified" Requirements for Provisions of Chapter Listed Below

Chapter Article/Section	Activities Listed in § 302-6D and E
Article I, General	All provisions apply
Article II, Definitions	All provisions apply
Sections 302-14, 302-15 and 302-23	All provisions apply
Sections 302-13, 302-16, 302-17, 302-18, 302-19, 302-20, 302-21 and 302-22	Exempt if modified requirements of § 302-6D and/or E are applied
Article IV, SWM Site Plan	Exempt if Modified Requirements of § 302-6D and/or E are Applied
Article V, Inspection	Exempt if modified requirements of § 302-6D and/or

	E are applied
Article VI, Fees	Exempt if modified requirements of § 302-6D and/or E are applied
Article VII, O&M	Exempt if modified requirements of § 302-6D and/or E are applied
Article VIII, Prohibitions	All provisions apply
Article IX, Enforcement	All provisions apply
Other Erosion, Sediment and pollution control requirements	Must comply with Title 25, Chapter 102 of the Pennsylvania Code and other applicable state and municipal codes, including the Clean Streams Law.
NOTES	"Modified requirements" – Regulated activities listed within the subsections of this Chapter noted in Table 106.2 are eligible for exemption only from the indicated sections and subsections of this Chapter and only if the modified requirements of § 302-6D and/or E are met to the satisfaction of the Municipality; all other provisions of this Chapter apply.

E. Modified requirements for agricultural structures. It is the declared policy of the Commonwealth to conserve and protect and to encourage the development and improvement of its agricultural lands for the production of food and other agricultural products. Municipalities must encourage the continuity, development and viability of agricultural operations within its jurisdiction. Except as necessary to protect the public health, safety and welfare, regulated activities involving proposed new or expanded Impervious Surfaces associated with agricultural activities are exempt from the requirements of §§ 302-13, 302-16, 302-17, 302-18, 302-19, 302-20, 302-21 and 302-22, and Article IV, Article V, Article VI and Article VII of this Chapter (and listed in Table 106.2) only when it has been demonstrated to the satisfaction of the Municipality that the proposed project will comply with all of the requirements listed below. The Applicant shall be required to submit to the Township a sketch plan showing the dimensions of any proposed building, which sketch shall also include the proposed new or expanded Impervious Surface and vehicle parking and movement area. The sketch shall also show any proposed BMPs and any point of discharge of Runoff. The Township shall review the sketch for compliance with the section and inform the Applicant within 15 days of the submission that it either agrees that the project is exempt, more information is needed, or the project is not exempt under this section. All other provisions of this Chapter shall apply. To be eligible for exemption from the Chapter provisions stated above, the proposed Regulated Activity shall:

(1) Be directly associated with an Agricultural Activity (as defined in Article II);

(2) Include less than 15,000 square feet of proposed new or expanded Impervious Surface and adjoining vehicle parking and movement area;

(3) Be installed on a farm or mushroom operation that has a current mushroom farm environmental management plan (MFEMP) reviewed and deemed adequate by the Conservation District or an agricultural Erosion and Sediment Control Plan or Conservation Plan (as defined in Article II) that complies with the requirements of 25 Pa. Code Chapter 102;

(4) Divert Runoff from the proposed new or expanded Impervious Surfaces (including vehicle parking and movement area) entirely away from animal management, waste management and crop farming areas and any other source of pollutants;

(5) Include BMP(s) that will permanently Retain at least one inch of rainfall Runoff from the total area of proposed new or expanded Impervious Surfaces and vehicle parking and movement areas;

(6) Be designed so that any point of discharge of Runoff from the proposed new or expanded Impervious Surface (excluding vehicle movement area):

(a) Is not directly connected to, and is not directly connected to any constructed Conveyance that is connected to, a municipal separate storm sewer system or public roadway;

(b) Is located at least 150 feet from any municipal separate storm sewer system or public roadway, or any constructed Conveyance connected to any municipal separate storm sewer system or public roadway.

(7) Either have all proposed new or expanded Impervious Surfaces and proposed vehicle parking and movement areas and BMP(s) included within the current MFEMP or current agricultural Erosion and Sediment Control Plan or a Conservation Plan for the farm or mushroom operation, or be constructed per design plans prepared and sealed by a Licensed Professional in conformance with the PADEP "Best Practices for Environmental Protection in the Mushroom Farm Community" (2003, or as amended), or per design plans prepared and sealed by a Licensed Professional (or conservation district staff person designated by NRCS) that comply with USDA NRCS standards and specifications, and for which completion of construction will be certified by the licensed (or NRCS-designated design) professional responsible for the design; and

(8) Not be eligible for exemption if an NPDES permit is required.

§ 302-7 Compatibility with Other Ordinances or Legal Requirements.

A. Approvals issued and actions taken pursuant to this Chapter do not relieve the Applicant of the responsibility to secure and comply with other required permits or approvals for activities regulated by any other applicable code, rule, act, law, regulation or ordinance.

B. To the extent that this Chapter imposes more rigorous or stringent requirements for Stormwater management than any other code, rule, act, law, regulation or ordinance, the specific requirements contained in this Chapter shall take precedence.

C. Nothing in this Chapter shall be construed to affect any of the Municipality's requirements regarding Stormwater matters that do not conflict with the provisions of this Chapter, such as local Stormwater management design criteria (e.g., inlet spacing, inlet type, collection system design and details, outlet structure design, etc.). The requirements of this Chapter shall supersede any conflicting requirements in other municipal ordinances or regulations.

§ 302-8 Financial Security.

A. For all activities requiring submittal of a Stormwater management (SWM) Site plan that involve Subdivision or Land Development, the Applicant shall post financial security to the Municipality for the timely installation and proper construction of all Stormwater Management Facilities as required by the approved SWM Site Plan and this Chapter, and such financial security shall:

(1) Be equal to or greater than the full construction cost of the required facilities except to the extent that financial security for the cost of any of such improvements is required to be and is posted with the Pennsylvania Department of Transportation in connection with a highway occupancy permit application; and

(2) Be determined, collected, applied and enforced in accordance with Sections 509 through 511 of the MPC and the provisions of Chapter 315, Subdivision and Land Development, of the Township's Code.

B. For all other activities, before issuing a grading permit for a project, the Township may require a cash bond or corporate surety bond in a form satisfactory to the Township Board of Supervisors conditioned upon the faithful performance of the control measures and other conditions specified in the grading permit within the time specified, or within any extension thereof granted by the Township Board of

Supervisors in the amount of the total estimated cost of all control measures and safeguards for adjourning properties plus an amount for inspection, engineering, legal and an amount for contingencies, including any damages occurring on or off the development Site. Said bond may be combined with a bond filed under Chapter 315, Subdivision and Land Development. Each bond shall be maintained and renewed annually and shall be executed by a surety or guaranty company qualified to transact business in the state.

C. The Township reserves the right given to it by the Pennsylvania Municipalities Planning Code to have a Developer increase the amount of the financial security established hereunder at any time that, in the sole opinion of the Township, the funds remaining in the account are insufficient either to complete the improvements required or to provide the Maintenance bond necessary under the Pennsylvania Municipalities Planning Code or any Township ordinances, either as a result of additional requirements required by the Township Engineer and which may be legally imposed on Developer by the Township, interruptions in construction, inflationary increases in costs, or any other foreseen or unforeseen factor that may arise at any time to the completion of said improvements. Any such request to increase the amount in the financial security shall be made in writing by Township to Developer after the approval by the Township at a regular meeting of the Board, and said additional amount shall be posted within 30 days of the date of said written request; in the event that Developer fails to post the additional security in the time period provided herein, said failure shall be tantamount to a failure to complete and Township shall be entitled to all remedies provided by law, including all remedies set forth in Township ordinances.

D. Upon or before final release of financial security and completion of subdivision or Land Development improvements, the permanent stormwater management system for a tract shall be fully installed and functional in accordance with the approved Stormwater Management Site Plan. Temporary Sediment trapping facilities in Detention Basins, upon inspection and approval by the Township Engineer, shall be converted into permanent Stormwater Management basins; additional facilities designed to serve more than an individual lot shall begin operation. All such work shall be specified in the approved plan.

§ 302-9 Waivers.

A. General. The requirements of this Chapter are essential and shall be strictly adhered to. For any Regulated Activity where, after a close evaluation of alternative Site designs, it proves to be impracticable to meet any one or more of the mandatory minimum standards of this Chapter on the Site, the Municipality may approve measures other than those in this Chapter, subject to Subsections B and C of this section.

B. The governing body shall have the authority to waive or modify the requirements of one or more provisions of this Chapter if the literal enforcement will exact undue hardship because of peculiar conditions pertaining to the land in question, provided that such modification will not be contrary to the public interest and that the purpose and intent of the Chapter is observed. Cost or financial burden, by itself, shall not be considered a hardship. Modification may also be considered if an alternative standard or approach can be demonstrated to provide equal or better achievement of the results intended by the Chapter. A request for modification shall be in writing and accompany the SWM Site Plan submission. The request shall state in full the grounds and facts on which the request is based, the provision or provisions of the Chapter involved, and the minimum modification necessary.

C. PADEP approval required. No waiver or modification of any regulated Stormwater activity involving Earth Disturbance greater than or equal to one (1) acre may be granted by the Municipality unless that action is approved in advance by PADEP or the Chester County Conservation District.

§ 302-10 Requirements for a Township Grading Permit and Erroneous Permit.

A. Permits Required.

No Person (as defined herein) shall commence or perform any grading, excavation or fill or any Earth Disturbance or any Regulated Activity without first having obtained a Stormwater Management, Erosion and Sediment Control and Grading Permit (Grading Permit) from West Vincent Township unless exempt under § 302-6. A separate grading permit shall be required for each site.

(1) It shall be unlawful for any Person to commence any Earth Disturbance Activity, pave, fill, strip, or change the existing grade of any land within the Township without first securing a Grading Permit from the Township, unless exempt.

(2) It shall be unlawful for any Person to disturb, modify, block, divert, or affect the natural overland or subsurface flow of stormwater within the Township without first securing a Grading Permit from the Township, unless exempt.

(3) It shall be unlawful for any Person to construct, erect or install any dam, ditch, culvert, drain pipe, bridge or any other structure or obstruction affecting the drainage of his or her property or any other property without first securing a Grading Permit, unless exempt.

B. Application for Grading Permit.

(1) Any person, company, or entity proposing to engage in activity requiring a Grading Permit hereunder shall apply by written application to the Township Designated Official, which shall include the applicant's agreement to comply with the regulations in § 302-10F hereof upon issuance of the Grading Permit.

(2) The applicant should consult Chapter 390-Zoning, the Comprehensive Plan, and Chapter 315-Subdivision and Land Development, which plan for and regulate the development of land within the Township. The applicant is encouraged to consult with surrounding municipalities which can be affected by, or can affect, the proposed land development.

(3) A separate application shall be required for each Earth Disturbance Activity operation. Three copies of all the documents referred to in § 302-10C hereof shall be submitted with each application, one of which at the discretion of the Township Designated Official, shall be submitted at the applicant's expense to the Chester County Conservation District for review and comment.

C. Data Required for Grading Permit. - The application for a grading permit shall be accompanied by the following:

(1) When a Regulated Activity is not exempt but qualifies for submittal under § 302-6D - Simplified Approach for Small Projects or § 302-6E - Modified Requirements for Agricultural Structures, the following shall be submitted:

(a) a completed copy of a Grading Permit Application,

(b) application fee as established by Township resolution, and

(c) a Simplified Stormwater Management Site Plan/Sketch Plan containing the features described in Section 1, Step 1 of Appendix A.2,

(d) completed Simplified Approach Worksheet (Table 4) of Appendix A.2,

(e) a completed Operations and Maintenance Agreement per Appendix A.3.

(2) When a Regulated Activity is not exempt nor does it qualify for submittal under § 306-6D - Simplified Approach for Small Projects or § 306-6E - Modified Requirements for Agricultural Structures, the following shall be submitted:

(a) a completed copy of a Grading Permit Application,

(b) application fee as established by Township resolution,

(c) a stormwater management site plan including all information required by Article IV,

(d) an erosion and sediment control plan including all information required by Article III,

(e) a time schedule indicating anticipated starting and completion dates of the development sequence, the expected date of completion of construction of each of the proposed BMPs, and the time of exposure of each area prior to the completion of such measures.

However, when a Regulated Activity is part of a subdivision or land development a separate application for and approval of a Grading Permit shall not be needed. Instead, the application for the subdivision or land development plan approval shall include the review and approval of all necessary stormwater management and erosion and sediment pollution control measures and accompanying data as required by this ordinance.

Further, when the scope of a Regulated Activity is less than one (1) acre of Earth Disturbance and the activity does not require subdivision and land development approval, at the discretion of the Township Engineer, reduced provisions may be established from those in Articles III and IV to show compliance with the requirements of this Ordinance.

(3) Any submission that is found to be incomplete shall not be accepted for review and shall be returned to the Applicant within ten (10) regular business days with a notification in writing of the specific manner in which the submission is incomplete.

D. Approval of Grading Permit.

(1) The Township Designated Official or her/his delegated agent shall issue all Grading Permits in letter form. The Township Designated Official may request the assistance of any appointed Township consultant.

(2) Any submission deemed inconsistent or noncompliant may be revised and resubmitted with the revisions addressing the concerns of the Township Designated Official or her/his delegated agent.

E. Expiration of Grading Permit.

Every Grading Permit shall expire by limitation and become null and void if the work authorized by such Grading Permit has not been commenced within six (6) months or is not completed within one (1) year from the date of issue, provided that the Township Designated Official may, if the Grading Permit holder presents satisfactory evidence that unusual difficulties have prevented work being started or completed within the specific time limits, grant a reasonable extension of time, and, provided, further, that the application for the extension of time is made before the date of expiration of the Grading Permit.

F. Regulations for Grading Permit Holders

(1) The Grading Permit holder is responsible for any on-site or off-site property damage or personal injury caused by his activity authorized by the Grading Permit.

(2) No person, company, or entity shall modify, fill, excavate, pave, grade or regrade land in any manner as to endanger or damage public or private property, or to cause physical damage or personal injury. All precautions will be taken to prevent any damage to adjoining streets, sidewalks, buildings, structures, and other on-site or off-site property which could be caused by settling, cracking, erosion or sediment.

(3) No person, company, or entity shall fail to adequately maintain in good operating order any drainage facility on his premises. All watercourses, drainage ditches, culverts, drain pipes and drainage structures involved with work related to a Grading Permit, shall be kept open and free flowing at all times.

(4) No person, company, or entity shall deposit or place any debris or other material in any regulated watercourses, drainage ditch or structure in such a manner as to obstruct free flow unless specifically intended to reduce erosion and approved by the Chester County Conservation District and proper permits from the Pennsylvania Department of Environmental Protection if required are obtained.

(5) The owner of any property on which any work has been done pursuant to a Grading Permit granted under this chapter shall continually maintain and repair all graded surfaces and anti-erosion devices such as retaining walls, drainage structures or means, plantings and ground cover, installed or completed.

(6) All graded surfaces shall be seeded, sodded, planted or otherwise protected from erosion within four (4) days of the temporary or permanent cessation of earthmoving activities, weather permitting, and shall be watered, tended, and maintained until growth is well established.

(7) Precautions shall be taken to prevent the unnecessary removal of trees and provide for their protection by suitable tree wells, as determined by the Township Designated Official.

(8) When required, adequate provisions shall be made for dust control measures as determined by the Township Designated Official.

(9) All plans and specifications accompanying applications for Grading Permits shall include provisions for both temporary and permanent erosion and sediment control.

(10) The design, installation and maintenance of erosion and sediment control measures shall be accomplished in accordance with standards and specifications established by this chapter and the Pennsylvania Department of Environmental Protection and the Chester County Conservation District.

(11) Inspections shall be conducted in accordance with the general procedure outlined in Section 302-30.

(12) Compaction test reports shall be kept on file at the site and be subject to review at all times by the Township Designated Official.

G. Erroneous Grading Permit.

Any Grading 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 Grading Permit or other authorization is unlawful. No action may be taken by a board, agency, or employee of the Municipality purporting to validate such a violation.

Article II
Definitions

§ 302-11 Interpretation.
For the purposes of this Chapter, certain terms and words used herein shall be interpreted as follows:

A. Words used in the present tense include the future tense; the singular number includes the plural, and the plural number includes the singular; words of masculine gender include feminine gender, and words of feminine gender include masculine gender.

B. The word "includes" or "including" shall not limit the term to the specific example but is intended to extend its meaning to all other instances of like kind and character.

C. The word "person" includes an individual, partnership, public or private association or corporation, firm, trust, estate, Municipality, governmental unit, public utility or any other legal entity whatsoever which is recognized by law as the subject of rights and duties. Whenever used in any section prescribing or imposing a penalty, the term "person" shall include the members of a partnership, the officers, members, servants and agents of an association, officers, agents and servants of a corporation, and the officers of a Municipality.

D. The words "shall" and "must" are mandatory; the words "may" and "should" are permissive.

E. The words "used" or "occupied" include the words "intended, designed, maintained, or arranged to be used, occupied, or maintained."

F. The definitions in this Chapter are for the purposes of enforcing the provisions of this Chapter and have no bearing on other municipal regulations or ordinances.

§ 302-12 Definitions.
As used in this Chapter, the following terms shall have the meanings indicated:

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

APPLICANT
A Landowner, Developer or other person who has filed an application to the Municipality for approval to engage in any Regulated Activity as defined in this Chapter.

AS-BUILT PLANS (DRAWINGS)
Engineering or Site plans or drawings that document the actual locations, dimensions and elevations of the improvements and building components, and changes made to the original design plans. The final version of these documents, or a copy of same, are signed and sealed by a qualified Licensed Professional and submitted to the Municipality at the completion of the project, as per the requirements of § 302-31 of this Chapter as "Final As-Built plans."

BANKFULL
The channel at the Top-Of-Bank or point from where water begins to overflow onto a Floodplain.

BASEFLOW
Portion of Stream discharge derived from Groundwater; the sustained discharge that does not result from direct Runoff or from water diversions, reservoir releases, piped discharges, or other human activities.

BMP (BEST MANAGEMENT PRACTICE)
Activities, facilities, designs, measures or procedures used to manage Stormwater impacts from regulated activities; to provide water quality treatment, Infiltration, volume reduction, and/or peak rate control; to promote Groundwater Recharge; and to otherwise meet the purposes of this Chapter. Stormwater BMPs are commonly grouped into one of two broad categories or measures: "structural" or "nonstructural." In this Chapter, nonstructural BMPs or measures include certain low impact

development and Conservation Design practices used to minimize the contact of pollutants with Stormwater Runoff. These practices aim to limit the total volume of Stormwater Runoff and manage Stormwater at its source by techniques such as protecting natural systems and incorporating existing landscape features. Nonstructural BMPs include, but are not limited to, the protection of sensitive and special value features such as Wetlands and Riparian areas, the preservation of open space while clustering and concentrating development, the reduction of Impervious cover, and the disconnection of rooftops from storm sewers. Structural BMPs are those that consist of a physical system that is designed and engineered to capture and treat Stormwater Runoff. Structural BMPs include, but are not limited to, a wide variety of practices and devices from large-scale Retention ponds and constructed Wetlands to small-scale underground treatment systems, Infiltration facilities, filter strips, bioretention, wet ponds, permeable paving, grassed Swales, Riparian buffer, sand filters, Detention Basins, and manufactured devices. Structural and nonstructural Stormwater BMPs are permanent appurtenances to the Site. See also Stormwater Management Facility and Stormwater Control Measure (SCM).

BUFFER

See "Riparian Buffer."

CARBONATE GEOLOGY (or CARBONATE ROCK FORMATIONS)

See "Karst."

CFS

Cubic feet per second.

CHANNEL

A natural or artificial open drainage feature that conveys, continuously or periodically, flowing water and through which Stormwater flows. Channels include, but shall not be limited to, natural and man-made drainageways, Swales, Streams, ditches, canals and pipes flowing partly full.

CN

Curve number.

COMMONWEALTH

Commonwealth of Pennsylvania.

CONSERVATION DISTRICT

The Chester County Conservation District.

CONSERVATION DESIGN

A series of holistic Land Development design goals that maximize protection of key land and environmental resources, preserve significant concentrations of open space and greenways, evaluate, and maintain Site hydrology, and ensure flexibility in development design to meet community needs for complimentary and aesthetically pleasing development. Conservation Design encompasses the following objectives: conservation/enhancement of natural resources, wildlife habitat, biodiversity corridors, and greenways (interconnected open space); minimalization of environmental impact resulting from a change in land use (minimum disturbance, minimum Maintenance); Maintenance of a balanced water budget by making use of Site characteristics and Infiltration; incorporation of unique natural, scenic and historic Site features into the configuration of the development; preservation of the integral characteristics of the Site as viewed from adjoining roads; and reduction in Maintenance required for Stormwater management practices. Such objectives can be met on a Site through an integrated development process that respects natural Site conditions and attempts, to the maximum extent possible, to replicate or improve the natural hydrology of a Site.

CONSERVATION PLAN

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

CONSERVATION PRACTICES

Practices installed on agricultural lands to improve farmland, soil and/or water quality, which have been identified in a current Conservation Plan.

CONVEYANCE

A natural or man-made existing or proposed Stormwater Management Facility, feature or channel used for the transportation or transmission of Stormwater from one place to another. For the purposes of this Chapter, "Conveyance" shall include pipes, drainage ditches, channels and Swales (vegetated and other), gutters, Stream channels, and like facilities or features.

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 Stormwater management systems. Also see "Return Period."

DETENTION (or TO DETAIN)

The capture and temporary storage of Runoff in a Stormwater Management Facility for release at a controlled rate.

DETENTION BASIN

An impoundment designed to collect and retard Stormwater Runoff by temporarily storing the Runoff and releasing it at a predetermined rate. Detention Basins are designed to drain completely shortly after any given rainfall event.

DETENTION VOLUME

The volume of Runoff that is captured and released into the Waters of the Commonwealth at a controlled rate.

DEVELOPER

A person, company, or organization who seeks to undertake any regulated activities at a Site in the Municipality.

DIAMETER AT BREAST HEIGHT (DBH)

The outside bark diameter of a tree at breast height, which is defined as 4.5 feet (1.37 m) above the forest floor on the uphill side of the tree.

DISTURBED AREA

Land area disturbed by or where an Earth Disturbance activity is occurring or has occurred.

DRAINAGE AREA

That land area contributing Runoff to a single point (including but not limited to the point/line of interest used for hydrologic and hydraulic calculations) and that is enclosed by a natural or man-made ridgeline.

EARTH DISTURBANCE (or EARTH DISTURBANCE ACTIVITY)

A construction or other human activity which disturbs the surface of the land, including, but not limited to, clearing and grubbing; Grading; excavations; embankments; road Maintenance; Land Development; building construction; and the moving, depositing, stockpiling or storing of soil, rock or earth materials.

EASEMENT

A right of use granted by a Landowner to allow a grantee the use of the designated portion of land for a specified purpose, such as for Stormwater management or other drainage purposes.

EROSION

The process by which the surface of the land, including water/Stream channels, is worn away by water,

wind or chemical action.

EROSION AND SEDIMENT (E&S) CONTROL PLAN

A plan required by the Conservation District or the Township to minimize accelerated Erosion and Sedimentation and that must be prepared and approved per the applicable requirements.

EVAPOTRANSPIRATION (ET)

The combined processes of evaporation from the water or soil surface and transpiration of water by plants.

FEMA

Federal Emergency Management Agency.

FLOOD

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

FLOODPLAIN

Any land area susceptible to inundation by water from any natural source or delineated by applicable FEMA maps and studies as being a special Flood hazard area.

FLOODWAY

The channel of the Watercourse and those portions of the adjoining Floodplains that are reasonably required to carry and discharge the one-hundred-year Flood (also called the base Flood or one percent (1%) annual chance 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 Floodway, it is assumed, absent evidence to the contrary, that the Floodway extends from the center line of the Stream and to 50 feet beyond the top of the bank of the Stream on both sides.

FOREST MANAGEMENT/TIMBER OPERATIONS

Planning and activities necessary for the management of forest lands. These include timber inventory, preparation of Forest Management plans, silvicultural treatment, cutting budgets, logging road design and construction, timber harvesting, Site preparation, and reforestation.

FREEBOARD

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

GEOTEXTILE

A fabric manufactured from synthetic fiber that is used to achieve specific objectives, including Infiltration, separation between different types of media (i.e., between soil and stone), or filtration.

GOVERNING BODY

The Board of Supervisors of the Township of West Vincent.

GRADE/GRADING

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

GREEN INFRASTRUCTURE

Systems and practices that use or mimic natural processes to infiltrate, evapotranspire, or reuse Stormwater on the Site where it is generated.

GROUNDWATER

Water that occurs in the subsurface and fills or saturates the porous openings, fractures and fissures of underground soils and rock units.

GROUNDWATER RECHARGE

The replenishment of existing natural Groundwater supplies from Infiltration of rain or overland flow.

HEC-1

The U.S. Army Corps of Engineers, Hydrologic Engineering Center (HEC) hydrologic Runoff model.

HEC-HMS

The U.S. Army Corps of Engineers, Hydrologic Engineering Center (HEC) - Hydrologic Modeling System (HMS).

HIGH TUNNEL

A structure which meets the following:

A. is used for the production, processing, keeping, storing, sale or shelter of an agricultural commodity as defined in section 2 of the Act of December 19, 1974 (P.L. 973, No. 319), known as the "Pennsylvania Farmland and Forrest Land Assessment Act of 1974," or for the storage of agricultural equipment or supplies; and

B. is constructed with all the following:

(1) has a metal, wood, or plastic frame;

(2) when covered, has a plastic, woven textile, or other flexible covering; and

(3) has a floor made of soil, crushed stone, matting, pavers, or a floating concrete slab.

HOT SPOTS

Areas where prior or existing land use or activities can potentially generate highly contaminated Runoff with concentrations of pollutants in excess of those typically found in Stormwater.

HYDROLOGIC REGIME

The hydrologic system, cycle or balance that sustains the quality and quantity of Stormwater, Stream Baseflow, storage and Groundwater supplies under natural conditions.

HYDROLOGIC SOIL GROUP (HSG)

A classification of soils by the Natural Resources Conservation Service (NRCS) into four Runoff potential groups. The groups range from A soils, which are very permeable and produce little Runoff, to D soils, which are not very permeable and produce much more Runoff.

IMPERVIOUS SURFACE

A surface that has been compacted or covered with a layer of material so that it prevents or is resistant to Infiltration of water, including but not limited to: structures such as roofs, buildings, storage sheds, other solid, paved or concrete areas such as streets, driveways, sidewalks, parking lots, patios, swimming pools, tennis or other paved courts, or athletic play fields comprised of synthetic turf materials. For the purposes of determining compliance with this Chapter, compacted soils or stone surfaces used for vehicle parking and movement shall be considered impervious. Uncompacted gravel areas with no vehicular traffic, such as gardens, walkways, or patio areas, shall be considered pervious per review by the Municipal Engineer. Surfaces that were designed to allow Infiltration (i.e., pavers and areas of porous pavement) are not to be considered Impervious Surface if designed to function as a BMP per review by the Municipal Engineer. Additionally, for the purposes of determining compliance with this Ordinance, the total horizontal projection area of all ground-mounted and free-standing solar collectors, including solar photovoltaic cells, panels, and arrays, shall be considered

pervious so long as the designs note that natural vegetative cover will be preserved and/or restored underneath the solar photovoltaic cells, panels, and arrays, and the area disturbed is planned as a vegetated Pervious Surface.

INFILTRATION

Movement of surface water into the soil, where it is absorbed by plant roots, evaporated into the atmosphere, or percolated downward to Recharge Groundwater.

INFILTRATION FACILITY

A Stormwater BMP designed to collect and discharge Runoff into the subsurface in a manner that allows Infiltration into underlying soils and Groundwater (e.g., french drains, seepage pits, or seepage trenches, etc.).

INTERMITTENT STREAM

A defined channel in which surface water is absent during a portion of the year in response to seasonal variations in precipitation or Groundwater discharge.

INVERT

The lowest surface, the floor or bottom of a culvert, pipe, drain, sewer, channel, basin, BMP or orifice.

KARST

A type of topography that is formed over limestone or other carbonate rock formations by dissolving or solution of the rock by water, and that is characterized by closed depressions, sinkholes, caves, a subsurface network of solution conduits and fissures through which Groundwater moves, and no perennial surface drainage features.

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:

   (a) 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

   (b) The division or allocation of land or space, whether initially or cumulatively, between or among two or more existing or prospective occupants by means of, or for the purpose of, streets, common areas, leaseholds, condominiums, building groups, or other features.

B. A Subdivision of land;

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

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 they are authorized under the lease to exercise the rights of the Landowner, or other person having a proprietary interest in the land.

LICENSED PROFESSIONAL

A Pennsylvania registered professional engineer, registered landscape architect, registered professional land surveyor, or registered professional geologist, or any person licensed by the Pennsylvania Department of State or qualified by law to perform the work required by the Chapter within the Commonwealth of Pennsylvania.

LIMITING ZONE

A soil horizon or condition in the soil profile or underlying strata that includes one of the following:

A. A seasonal high-Water Table, whether perched or regional, determined by direct observation of the Water Table or indicated by other subsurface or soil conditions.

B. A rock with open joints, fracture or solution channels, or masses of loose rock fragments, including gravel, with insufficient fine soil to fill the voids between the fragments.

C. A rock formation, other stratum, or soil condition that is so slowly permeable that it effectively limits downward passage of water.

LOW IMPACT DEVELOPMENT (LID)

Site design approaches and small- scale Stormwater management practices that promote the use of natural systems for Infiltration, evapotranspiration, and reuse of rainwater. LID can be applied to New Development, urban retrofits, and revitalization projects. LID utilizes design techniques that infiltrate, filter, provide evapotranspiration and store Runoff close to its source. Rather than rely on costly large-scale Conveyance and treatment systems, LID addresses Stormwater through a variety of small, cost-effective landscape features located on-site.

MAINTENANCE

The action taken to restore or preserve the As-Built functional design of any Stormwater Management Facility or system.

MFEMP

Mushroom farm environmental management plan.

MPC

Act of July 31, 1968, P.L. 805, No. 247, 53 P.S. § 10101 et seq., as amended, the Pennsylvania Municipalities Planning Code, Act 247.

MS4

Municipal separate storm sewer system.

MUNICIPAL ENGINEER

A professional engineer licensed as such in the Commonwealth of Pennsylvania, duly appointed as the engineer for a Municipality, planning agency, or joint Planning Commission.

MUNICIPALITY

Township of West Vincent, Chester County, Pennsylvania.

NEW DEVELOPMENT

Any Regulated Activity involving placement or construction of new Impervious Surface or Grading over existing pervious land areas not classified as Redevelopment, as defined in this Chapter.

NOAA

National Oceanic and Atmospheric Administration.

NONPOINT SOURCE POLLUTION

Pollution that enters a water body from diffuse origins in the Watershed and does not result from discernible, confined or discrete Conveyances.

NONSTORMWATER DISCHARGES

Water flowing in Stormwater collection facilities, such as pipes or Swales, which is not the result of a

rainfall event or snowmelt.

NONSTRUCTURAL BEST MANAGEMENT PRACTICE (BMP)
See "best management practice (BMP)."

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

NRCS
Natural Resources Conservation Service (previously Soil Conservation Service, SCS), an agency of the United States Department of Agriculture.

PADEP
Pennsylvania Department of Environmental Protection.

PARENT TRACT
The parcel of land from which a Land Development or Subdivision originates, determined from the date of municipal adoption of this Chapter.

PEAK DISCHARGE
The maximum rate of Stormwater Runoff from a specific storm event.

PENNDOT
Pennsylvania Department of Transportation.

PENNSYLVANIA STORMWATER BEST MANAGEMENT PRACTICES MANUAL (PA BMP MANUAL)
Document Number 363-0300-002 (December 2006, and as subsequently amended).

PERVIOUS SURFACE (or PERVIOUS AREA)
Any surface area not defined as Impervious Surface.

PET
A domesticated animal (other than a disability assistance animal) kept for amusement or companionship.

PLANNING COMMISSION
The Planning Commission of the Township of West Vincent.

POINT SOURCE
Any discernible, confined and discrete Conveyance, including, but not limited to, any pipe, ditch, channel, tunnel or conduit from which Stormwater is or may be discharged, as defined in state regulations at 25 Pa. Code § 92a.2.

POST-CONSTRUCTION
Period after construction during which Disturbed Areas are stabilized, Stormwater controls are in place and functioning, and all proposed improvements approved by the Municipality are completed.

PREDEVELOPMENT
Ground cover conditions assumed to exist within the proposed Disturbed Area prior to commencement of the Regulated Activity for the purpose of calculating the Predevelopment water quality volume, Infiltration volume, and peak flow rates as required in this Chapter.

PRETREATMENT

Techniques employed in Stormwater BMPs to provide storage or filtering, or other methods to trap or remove coarse materials and other pollutants before they enter the Stormwater system, but may not necessarily be designed to meet the entire water quality volume requirements of this Chapter.

PROPOSED IMPERVIOUS SURFACE

All new, additional and Replacement Impervious Surfaces.

RAINFALL INTENSITY

The depth of accumulated rainfall per unit of time.

RECHARGE

The replenishment of Groundwater through the Infiltration of rainfall, other surface waters, or land application of water or treated wastewater.

REDEVELOPMENT

Any Regulated Activity that involves demolition, removal, reconstruction, or Replacement of existing Impervious Surface(s).

REGULATED ACTIVITY

Any Earth Disturbance activity(ies) or any activity that involves the alteration or development of land in a manner that may affect Stormwater Runoff.

REGULATED EARTH DISTURBANCE ACTIVITY

Any activity involving Earth Disturbance subject to regulation under 25 Pa. Code Chapter 92.a or Chapter 102, or the Clean Streams Law.

REGULATED IMPERVIOUS SURFACE

Proposed Impervious Surface as part of a current proposed activity and all existing Impervious Surfaces installed after June 23, 2014 as part of previous activity.

REPLACEMENT

The act of putting back into a former position or place or the act of filling the place of something in identical fashion.

RESURFACING

The act of covering a preexisting Impervious Surface with a new surface.

RETENTION or TO RETAIN

The prevention of direct discharge of Stormwater Runoff into surface waters or water bodies during or after a storm event by permanent containment in a pond or depression; examples include systems which discharge by percolation to Groundwater, exfiltration and/or evaporation processes and which generally have residence times of less than three days.

RETENTION BASIN

An impoundment that is designed to temporarily detain a certain amount of Stormwater from a catchment area and which may be designed to permanently Retain Stormwater Runoff from the catchment area; Retention Basins always contain water.

RETENTION VOLUME/REMOVED RUNOFF

The volume of Runoff that is captured and not released directly into the surface Waters of the Commonwealth during or after a storm event.

RETURN PERIOD

The average interval, in years, within which a storm event of a given magnitude can be expected to occur one time. For example, the twenty-five-year Return Period rainfall would be expected to occur

on average once every 25 years; or stated in another way, the probability of a twenty-five-year storm occurring in any one year is 0.04 (i.e., a four-percent chance).

RIPARIAN
Pertaining to anything connected with or immediately adjacent to the banks of a Stream or other body of water.

RIPARIAN BUFFER
An area of land adjacent to a body of water and managed to maintain vegetation to protect the integrity of Stream channels and shorelines; to reduce the impact of upland sources of pollution by trapping, filtering, and converting Sediments, nutrients and other chemicals; and to supply food, cover and thermal protection to fish and other aquatic species and wildlife.

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

SALDO
See "Subdivision and Land Development Ordinance."

SCS
Soil Conservation Service, now known as the "Natural Resources Conservation Service."

SEDIMENT
Soil or other materials transported by, suspended in or deposited by surface water as a product of Erosion.

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

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

SITE
Total area of land in the Municipality where any proposed Regulated Activity, as defined in this Chapter, is planned, conducted, or maintained or that is otherwise impacted by the Regulated Activity.

SOIL-COVER-COMPLEX METHOD
A method of Runoff computation developed by NRCS that is based on relating soil type and land use/cover to a Runoff parameter called curve number (CN).

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

STORM FREQUENCY
See "Return Period."

STORMWATER
Drainage Runoff from the surface of the land resulting from precipitation or snow or ice melt.

STORMWATER CONTROL MEASURE

Physical features used to effectively control, minimize, and treat Stormwater Runoff. [See Best Management Practice (BMP)].

STORMWATER MANAGEMENT (SWM) SITE PLAN

The plan prepared by the Applicant or its representative in accordance with the requirements of Article IV of this Chapter, indicating how Stormwater Runoff will be managed at a particular Site in accordance with this Chapter, and including all necessary design drawings, calculations, supporting text, and documentation to demonstrate that ordinance requirements have been met, herein referred to as "SWM Site Plan." All references in this Chapter to "final" or "approved" SWM Site Plans shall incorporate the approved SWM Site Plan and all subsequent approved revisions thereto.

STORMWATER MANAGEMENT FACILITY

Any feature, natural or man-made, that, due to its condition, design or construction, conveys, stores or otherwise affects Stormwater Runoff quality, rate or quantity, including Best Management Practices and Stormwater Control Measures. Typical Stormwater Management Facilities include, but are not limited to, Detention and Retention Basins, open channels, storm sewers, pipes and Infiltration facilities.

STREAM

A natural Watercourse.

STRUCTURAL BEST MANAGEMENT PRACTICES

See "BMP (best management practices)."

SUBDIVISION

The division or redivision of a lot, tract or parcel of land as defined in the Pennsylvania Municipalities Planning Code, Act of July 31, 1968, P.L. 805, No. 247 (as amended).

SUBDIVISION AND LAND DEVELOPMENT ORDINANCE

The Subdivision and Land Development Ordinance of West Vincent Township, Chester County, Pennsylvania, as amended. (See Chapter 315 of the Code.)

SWALE

An artificial or natural waterway or low-lying stretch of land that gathers and conveys Stormwater or Runoff and is generally vegetated for soil stabilization, Stormwater pollutant removal, and Infiltration.

SWM SITE PLAN

See "Stormwater Management Site Plan."

TIMBER OPERATIONS

See "Forest Management."

TOP-OF-BANK

Highest point of elevation of the bank of a Stream or channel cross section at which a rising water level just begins to flow out of the channel and into the Floodplain.

USDA

United States Department of Agriculture.

WATER TABLE

The uppermost level of saturation of pore space or fractures by Groundwater. "Seasonal High-Water Table" refers to a Water Table that rises and falls with the seasons due either to natural or man-made causes.

WATERCOURSE

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

WATERS OF THE COMMONWEALTH

Any and all rivers, Streams, creeks, rivulets, 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 the Commonwealth.

WATERSHED

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

WETLANDS

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. Wetlands generally include swamps, marshes, bogs, fens, and similar areas.

WOODS

Any land area of at least 0.25 acre with a natural or naturalized ground cover (excluding manicured turf grass) and that has an average density of two or more viable trees per 1,500 square feet with a DBH of six inches or greater and where such trees existed at any time within three years of the time of Land Development application submission of the proposed project. The land area to be considered Woods shall be measured from the outer driplines of the outer trees.

Article III
Stormwater Management Standards

§ 302-13 General Requirements.

A. Applicants proposing regulated activities in the Municipality which are not exempt under § 302-6 shall submit a Stormwater Management Site Plan (SWM Site Plan) to the Municipality for review and approval in accordance with Articles III and IV. SWM Site Plans approved by the Municipality shall be on Site throughout the duration of the Regulated Activity.

B. The Stormwater management and Runoff control criteria and standards in this Chapter shall apply to the total proposed Regulated Activity, even if it is to take place in stages. The measurement of Impervious Surfaces shall include all of the Impervious Surfaces in the total proposed Regulated Activity even if the development is to take place in stages.

C. No Regulated Activity within the Municipality shall commence until:

(1) The Municipality issues approval of a SWM Site Plan which demonstrates compliance with the requirements of this Chapter; and

(2) The Applicant has received a letter of adequacy or approval for the Erosion and Sediment Control Plan review by the Municipality and the Conservation District (if required), and has received all other local, state and federal permit approvals required for the project involving the Regulated Activity.

D. Neither submission of a SWM Site Plan under the provisions herein nor compliance with the provisions of this Chapter shall relieve any person from responsibility for damage to any person or property otherwise imposed by law.

E. The Applicant shall design the Site to minimize disturbances to land, Site hydrology, and natural resources, and to maintain the natural Hydrologic Regime, drainage patterns and flow conditions. The Applicant shall apply the procedures set forth in § 302-16 for the overall Site design and for selection,

location and design of features and BMPs to be used to comply with the requirements of this Chapter.

F. To the maximum extent practicable, Post-Construction Stormwater shall be discharged within the Drainage Area of the same Stream or water body receiving the Runoff prior to construction of the proposed Regulated Activity.

G. Existing drainage peak rate discharges up to and including the one-hundred-year storm and the volume of runoff up to and including the two-year storm onto or through adjacent property(ies) or downgradient property(ies), including diffuse drainage discharge, shall not be altered in any manner by Regulated Activities under this Chapter without written permission from and, where applicable as determined by the Municipality, an Easement and agreement with the affected Landowner(s) for Conveyance of discharges onto or through their property(ies). Altered Stormwater discharges shall be subject to any applicable discharge criteria specified in this Chapter.

H. Areas located outside of the Site (i.e., areas outside of the Regulated Activity) that drain through a proposed Site are not subject to water quality and volume control, Infiltration, Stream channel protection, or peak flow rate control requirements (as presented in §§ 302-17, 302-18, 302-19 and 302-20). Drainage facilities located on the Site shall be designed to safely convey flows from outside of the Site through the Site.

I. If Site conditions preclude capture of Runoff from limited portions of the Disturbed Area for achieving water quality volume control standards, Stream channel protection standards, and the two-year, five-year, and 10-year storm event peak Runoff rate reduction standards for New Development required by this Chapter, the Applicant shall propose alternate methods to mitigate the bypass of the BMPs, subject to the approval of the Municipal Engineer. In no case shall resulting peak rate be greater than the Predevelopment peak rate for the equivalent Design Storm.

J. For all regulated activities, Erosion, and Sediment Control BMPs shall be designed, implemented, operated and maintained during the regulated activities (i.e., during construction) as required to meet the purposes and requirements of this Chapter; to meet the Erosion and Sediment Control requirements of the Municipality, if applicable; and to meet all requirements under Title 25 of the Pennsylvania Code and the Clean Streams Law.

K. For all regulated activities, permanent BMPs and Conveyances 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, the Clean Streams Law, and the Storm Water Management Act.

L. The design of all BMPs and Conveyances shall incorporate sound engineering principles and practices in a manner that does not aggravate existing Stormwater problems as identified by the Municipality. The Municipality reserves the right to disapprove any design that would result in construction in an area affected by existing Stormwater problem(s) or continuation of an existing Stormwater problem(s).

M. Existing Wetlands, either on the Site or on an adjacent property, shall not be used to meet the minimum design requirements for Stormwater management or Stormwater Runoff quality treatment. Stormwater discharges to existing Wetlands shall not degrade the quality or hydrologic integrity of the wetland.

N. Hot Spots Runoff controls. Specific structural or pollution prevention practices may be required, as determined to be necessary by the Municipal Engineer, to pretreat Runoff from Hot Spots prior to Infiltration. Following is a list of examples of Hot Spots:

(1) Vehicle salvage yards and recycling facilities;

(2) Vehicle fueling stations;

(3) Vehicle service and Maintenance facilities;

(4) Vehicle and equipment cleaning facilities;

(5) Fleet storage areas (bus, truck, etc.);

(6) Industrial Sites based on Standard Industrial Classification Codes;

(7) Marinas (service and Maintenance areas);

(8) Outdoor liquid container storage;

(9) Outdoor loading/unloading facilities;

(10) Public works storage areas;

(11) Facilities that generate or store hazardous materials;

(12) Commercial container nursery;

(13) Contaminated Sites/brownfields;

(14) Other land uses and activities as designated by the Municipality.

O. Contaminated and brownfield Sites. Where BMPs may contribute to the migration of contaminants in Groundwater, the water quality and Runoff volume, Stream channel protection, and peak rate control standards shall be met; however, at the Municipal Engineer's discretion, the minimum Infiltration requirement may be reduced or eliminated commensurate with the contaminated area and the required water quality and Runoff control measures may be increased to mitigate the reduced Infiltration requirement for the contaminated area.

P. Additional water quality requirements. The Municipality may require additional Stormwater control measures for Stormwater discharges to special management areas, including, but not limited to:

(1) Water bodies listed as "impaired" by PADEP.

(2) Any water body or Watershed with an approved total maximum daily load (TMDL).

(3) Areas of known existing Flooding problems.

(4) Critical areas with sensitive resources (e.g., state-designated special protection waters, cold water fisheries, carbonate geology or other Groundwater Recharge areas that may be highly vulnerable to contamination, Drainage Areas to water supply reservoirs, etc.).

Q. Applicants shall utilize the Pennsylvania Stormwater Best Management Practices Manual (PA BMP Manual), as amended, or other sources acceptable to the Municipal Engineer, for testing and design standards for BMPs; and where there is a conflict with the provisions of this Chapter, the most restrictive applies.

R. For areas underlain by Karst or carbonate geology that may be susceptible to the formation of sinkholes and other Karst features, the location, type and design of Infiltration BMPs shall be based on a Site evaluation conducted by a qualified Licensed Professional and based on the PA BMP Manual (as amended) or other design guidance acceptable to the Municipal Engineer.

S. All regulated activities located within a special Flood hazard area designated by the Federal Emergency Management Agency (FEMA) shall comply with Article XVI, Floodplain Conservation Overlay District, of Chapter 390, Zoning, of the Township's Code, and shall be designed to maintain the Flood-carrying capacity of the Floodway such that the base Flood elevations are not increased, either upstream or downstream. The natural Conveyance characteristics of the Site and the receiving Floodplain shall be incorporated into the Stormwater management practices proposed for the Site.

T. All Regulated Activity shall comply with Chapter 390, Zoning, of the Township's Code, with respect to Stream buffers.

§ 302-14 Permit Requirements by Other Governmental Entities.

The following permit or other regulatory requirements may apply to certain regulated activities and shall be met prior to (or as a condition of) final approval by the Municipality of the SWM Site Plan and prior to commencement of any regulated activities, as applicable:

A. All regulated activities subject to permit or regulatory requirements by PADEP under regulations at Title 25 Pa. Code Chapter 102, or Erosion and Sediment Control requirements of the Municipality.

B. Work within natural drainageways subject to permit by PADEP under Title 25 Pa. Code Chapter 105.

C. Any BMP or Conveyance that would be located in or adjacent to surface Waters of the Commonwealth, including Wetlands, subject to permit by PADEP under Title 25 Pa. Code Chapter 105.

D. Any BMP or Conveyance that would be located on or discharge to a state highway right-of-way, or require access to or from a state highway and be subject to approval by PennDOT.

E. Culverts, bridges, storm sewers, or any other facilities which must pass or convey flows from the tributary area and any facility which may constitute a dam subject to permit by PADEP under Title 25 Pa. Code Chapter 105.

§ 302-15 Erosion and Sediment Control.

A. No Regulated Activity within the Municipality shall commence until:

(1) The Municipality receives documentation that the Applicant has received:

(a) A letter of adequacy from the Conservation District or other approval from PADEP in compliance with Title 25 Chapter 102 of the Pennsylvania Code of an Erosion and Sediment Control Plan for construction activities for projects where the area of disturbance exceeds one acre, where pond dredging is involved, or when the disturbance is associated with activities described under Title 25 Chapter 105 of the Pennsylvania Code permits;

(b) A PADEP NPDES Permit for Stormwater Discharges Associated with Construction Activities as required under Title 25 Pa. Code Chapter 92.a, if applicable;

(c) Evidence of any other permit(s) or approvals required for the regulated activities; and

(2) An Erosion and Sediment Control Plan has been approved by the Municipality, if required.

B. A copy of the Erosion and Sediment Control Plan and any required permit(s), as required by PADEP regulations, shall be available on the Site at all times.

C. Additional Erosion and Sediment Control measures shall be applied where Infiltration BMPs are proposed, at a minimum including those required in § 302-18M.

D. An Erosion and Sediment Control Plan shall be submitted with the Preliminary and Final Plan Subdivision and Land Development applications and with applications for Grading Permits for Regulated Activities that are not exempt under § 302-6. Such plan shall be submitted in accordance with the standards of the Pennsylvania Department of Environmental Protection Erosion and Sediment Pollution Control Manual, as amended, and the Special Protection Waters Implementation Handbook, as amended, and in compliance with the most current review requirements of the Chester County Conservation District, and in compliance with the following provisions:

(1) Upon recommendation from the Municipal Engineer, the Municipality may require the submission

of plans, regardless of their size or other outside review requirements, to the Chester County Conservation District for review and approval. In such a case, approval by the Chester County Conservation District shall be required before final approval of a subdivision or land development; the issuance of a Grading Permit in the case of a minor subdivision; or the issuance of a Grading Permit for a Regulated Activity that is not exempt under § 302-6.

(2) Measures to minimize soil Erosion and sedimentation shall meet the standards and specifications contained in the Pennsylvania Department of Environmental Protection, Soil Erosion and Sediment Pollution Control Manual, as amended and the Pennsylvania Clean Streams Law, Chapter 102, Erosion and Sedimentation Control Rules and Regulations, as amended and the specifications contained herein. The Municipal Engineer or other duly authorized agent shall ensure compliance with the appropriate specifications.

(3) The Municipality may require measures to be incorporated into the plan for Erosion and Sediment Pollution Control in addition to and/or more stringent than those required by the PADEP Manual, or by the Chester County Conservation District.

(4) The disturbed area and the duration of exposure shall be kept to a practical minimum and the disturbed soils shall be stabilized within four (4) days after earth disturbances cease.

(a) The Erosion control and stormwater management structures and systems shall be installed in accordance with the approved sequence of construction and shall be completed as quickly as possible; and

(b) If runoff from a project area discharges to a stream that is classified as Special Protection (High Quality or Exceptional Value) as designated by Pennsylvania Code 25, Chapter 93; Water Quality Standards, as amended, more stringent criteria shall be used to design best management practices for that Site in accordance with the Erosion and Sediment Pollution Control Program Manual. All graded surfaces shall be stabilized immediately upon completion of an earth disturbance activity, or any stage or phase of an activity, and, shall be watered, tended, and maintained as necessary until growth is well established.

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

(6) Sediment laden water shall be trapped by the use of Erosion and sediment control best management practices (BMP) such as inlet protection, sediment basins, sediment traps, or similar measures until the disturbed area is permanently stabilized and BMP removal is approved by the Chester County Conservation District. Accumulated sediment shall be removed to ensure continued adequate capacity in the BMPs in accordance with the PADEP Manual.

(7) There shall be no increase in discharge of sediment or other solid material from the Site as a result of stormwater runoff.

(8) Erosion and Sedimentation Control BMPs, whether temporary or permanent, such as vegetation and mulch, earthen berms, waterbars, diversion terraces, rock filter berms, rock construction entrances, sediment basins, silt fences, and the like, appropriate to the scale of operations, shall be constructed, stabilized and functional before Site disturbance (other than the minimal Site disturbance necessary to install the BMPs) begins within the tributary areas of those BMPs, and whenever any situation is created which would contribute to increased soil Erosion.

(9) Earthmoving operations shall be minimized where possible and practicable to preserve desirable natural features and the topography of the Site.

(10) Stripping of vegetation, re-grading or other development shall be done in such a way that will minimize soil Erosion.

(11) Land disturbance shall be limited to the actual construction Site and an access strip. The amount of disturbed area and the duration of exposure shall be kept to a practical minimum. Disturbed areas shall be stabilized immediately upon completion of an earth disturbance activity or any stage or phase of an activity with an appropriate BMP.

(12) Temporary vegetation and/or mulching shall be used to protect critical areas during development (Critical areas shall be construed to mean those portions of a Site which are extremely vulnerable to soil Erosion);

(13) Until the Site is stabilized, all best management practices for Erosion and sediment pollution control must be maintained properly. Maintenance must include inspections of all best management practices after each run-off event, and on a weekly basis. All preventive and remedial maintenance work, including clean out, repair, replacement, regrading, reseeding, re-mulching and re-netting must be performed immediately.

(14) If Erosion and sediment pollution control best management practices fail to perform as expected, replacement best management practices or modifications of those installed will be required as determined by the Municipal Engineer.

(15) Should it be necessary, any pumping of sediment laden water shall be through a sediment control BMP, such as a sediment basin or a pumped water filter bag discharging over non-disturbed areas.

(16) All earth disturbance activities shall proceed in accordance with the approved sequence of construction or staging of earth moving activities as it may be called. Each stage shall be completed before any following stage is initiated. Clearing and grubbing shall be limited to only those areas described in each stage.

(17) Responsibility.

(a) Whenever sedimentation is caused by the removal of vegetation, regrading or other development, it shall be the responsibility of the Applicant or Applicant's agent causing such sedimentation to remove it from all adjoining surfaces, drainage systems and watercourses and to repair any damage at his or her expense within a time period acceptable to the Township.

(b) All required drainage and Erosion control improvements, whether temporary or permanent, shall be installed by the Applicant or Applicant's agent, at their expense, and in accordance with applicable requirements.

(18) Erosion and Sediment Control Plan Contents. An Erosion and Sediment Control Plan shall accompany Preliminary and Final Plan subdivision and land development applications and applications for Grading Permits for Regulated Activities that are not exempt under Section 106. It shall be prepared by a design professional experienced in stormwater management and soil Erosion control, and in accordance with federal, state, county and Township requirements and regulations.

(a) The Erosion and Sediment Control Plan shall contain, at a minimum, the following information:

(1) A description of proposed earthmoving, grading, temporary Erosion and Sedimentation Control facilities, and the relationship to permanent Stormwater Management Facilities;

(2) Proposed alterations to the project area, including changes to the surface and vegetative cover, areas of cut and fill, structures, roads, paved areas and buildings;

(3) A description of the staging of earthmoving activities, including the staging of cover removal and all cuts and fill, and installation of Erosion and Sediment Control facilities and practices;

(4) Details and specifications for all Erosion and sediment control measures to be utilized in

conjunction with the installation of improvements, including streets, storm sewers, underground utilities, sewer and water lines, buildings, driveways, parking areas, recreational facilities and other structures shall be described; and

(5) The program of operations to convert Erosion and Sedimentation Controls to permanent Stormwater Management Facilities, along with a schedule of the relative time sequence of activities.

(b) A narrative description and a map illustrating temporary and permanent control measures and facilities to be used during earthmoving. The description shall include the following information:

(1) The type, location and dimensions of each measure and/or facility to be used, along with its purpose;

(2) Design considerations and calculations of control measures and facilities;

(3) Facilities or measures to be used to protect trees and existing vegetation;

(4) Facilities or measures to prevent tracking of mud by construction vehicles.

(c) A narrative description of the maintenance procedures for temporary control facilities and the ownership arrangements, including the methods and frequency of removal and ultimate disposal Site for sediments and other material removed from control facilities both during and upon completion of the project.

(d) The Soil Erosion and Sediment Control Plan shall be available at all times on the construction Site. The Applicant or Applicant's agent shall be responsible for correcting any stormwater runoff problems that arise from the subdivision or land development, even if final approval has been granted. The Township reserves the right to order a cease and desist of all construction where runoff problems arise.

(e) The following practices shall be required for all subdivisions, land developments, and/or grading plan where applicable, as determined by the Township Engineer:

(1) Silt fence or compost filter socks shall be installed on each graded lot down-slope of the disturbed area prior to any lot disturbance. Straw bale barriers shall not be used.

(2) The appropriate E & S BMPs shall be placed at all inlets, headwalls, basin outlets and similar drainage structures during the construction period in order to prevent sediment from entering any watercourse, storm drainage system, or system that does not discharge to an E & S BMP, adjoining property, or other areas downstream.

(3) Each individual lot or unit within a subdivision, or each building within a land development shall incorporate temporary on lot berms designed to act as sediment traps and to capture and reduce runoff. These shall be located to protect environmentally sensitive areas and downstream properties, and shall be required during construction. The top width of the berms shall be a minimum of three (3) feet, with side slopes of a 3:1 maximum.

(4) Rock construction entrances shall be placed at all entrances to construction areas. Rock construction entrances shall be of sufficient width and length to prevent transportation of sediment off of the construction Site or shall incorporate other features to do so.

(5) Temporary and permanent seeding and mulch specifications shall be noted on all plans. The specifications shall include lime and fertilizer rates of application, as well as other provisions regarding procedures and materials. All locations where earthmoving has ceased for more than four (4) days shall be stabilized with temporary seeding or mulch.

(6) During roadway grading, water bars shall be installed on all roadway sub-grades to prevent Erosion of the sub-grades. The water bars shall divert stormwater runoff to an appropriate best management practice.

(7) The crushed stone base course for driveways, roadways and parking areas shall be applied immediately after grading procedures, in order to prevent Erosion of the sub-grade. All construction and trade vehicles must access a Site by the crushed stone driveway and not across the unstabilized earth area. Construction vehicles shall not track mud onto paved drives or roads.

(8) Drainage swales and ditches, and all slopes greater than three (3) to one (1) shall be protected against erosive velocities with E & S BMPs, such as Erosion control blanket or other material, as determined by the Township Engineer.

§ 302-16 Site Design Process.

The Applicant shall design the Site to minimize the disturbances to land, Site hydrology, and natural resources, and to maintain the natural Hydrologic Regime, drainage patterns and flow conditions. For regulated activities with 10,000 or more square feet of proposed Earth Disturbance or 2,000 or more square feet of Proposed Impervious Surfaces, the Applicant shall demonstrate in its SWM Site Plan (as required in § 302-25C) that the design sequence, objectives and techniques described below were applied to the maximum extent practicable in the Site design of the Regulated Activity while complying with all other requirements of this Chapter. The Site design shall:

A. First, identify and delineate all existing natural resources and natural and man-made hydrologic features listed in § 302-25B(8) that are located within the Site, or receive discharge from, or may be impacted by the proposed Regulated Activity.

B. Second, provide a prioritized listing of these resources and features to identify:

(1) Those to be incorporated into the Site design in a manner that provides protection from any disturbance or impact from the proposed Regulated Activity;

(2) Those to be protected from further disturbance or impact but for which the proposed Regulated Activity will provide improvement to existing conditions;

(3) Those that can be incorporated into and utilized as components of the overall Site design in a manner that protects or improves their existing conditions while utilizing their hydrologic function within the limits of their available capacity (e.g., for Infiltration, evapotranspiration, or reducing pollutant loads, Runoff volume or Peak Discharge rates, etc.) to reduce the need for or size of constructed BMPs; and

(4) Those that may be considered for alteration, disturbance or removal.

C. Third, develop the Site design to achieve the following:

(1) Recognize and incorporate the priorities identified in Subsection B of this section as the basis for the proposed Site layout, Grading, construction, and permanent ground cover design;

(2) Minimize Earth Disturbance (both surface and subsurface);

(3) Maximize protection of or improvement to natural resources and special management areas;

(4) Minimize the disturbance of natural Site hydrology, in particular natural drainage features and patterns, discharge points and flow characteristics, natural Infiltration patterns and characteristics, and natural channel and Floodplain Conveyance capacity;

(5) Incorporate natural hydrologic features and functions identified in Subsection B of this section into the Site design to protect and utilize those features and their hydrologic functions to reduce the need for or size of constructed BMPs;

(6) Maximize Infiltration and the use of natural Site Infiltration features, patterns and conditions, and evapotranspiration features;

(7) Apply selective Grading design methods to provide final Grading patterns or preserve existing topography in order to evenly distribute Runoff and minimize concentrated flows;

(8) Minimize the cumulative area to be covered by Impervious Surfaces and:

(a) Minimize the size of individual Impervious Surfaces;

(b) Separate large Impervious Surfaces into smaller components;

(c) Disconnect Runoff from one Impervious Surface to another; and

(d) Utilize porous materials in place of Impervious wherever practicable.

(9) Minimize the volume and Peak Discharge rates of Stormwater generated;

(10) Avoid or minimize Stormwater Runoff pollutant loads and receiving Stream channel Erosion;

(11) Locate Infiltration and other BMPs:

(a) At or as near to the source of generation as possible; and

(b) At depths that are as shallow as possible.

(12) Prioritize the selection and design of BMPs as follows:

(a) Nonstructural and vegetation BMPs, then;

(b) Structural (surface and subsurface) BMPs.

(13) For flow volumes requiring Conveyance from the source of generation to a BMP for management, give preference to open-channel Conveyance techniques that provide Infiltration and water quality benefits and landscaped-based management in common open space areas, where practicable; and

(14) Consider additional guidance for incorporating natural hydrology into the Site and BMP designs, methods and techniques that support the objectives of Subsections B and C of this section. Appendix B presents additional discussion of "Conservation Design" and "Low Impact Development."

D. The procedures set forth above shall be utilized to the maximum extent practicable for the overall Site design and selection, location and design of features and BMPs to be used to comply with the requirements of §§ 302-17, 302-18, 302-19 and 302-20.

§ 302-17 Water Quality and Runoff Volume Requirements.

To control Post-Construction Stormwater impacts from regulated activities and meet State Water Quality Requirements, BMPs shall be provided in the Site design that replicate Predevelopment Stormwater Infiltration and Runoff conditions, such that Post-Construction Stormwater discharges do not degrade the physical, chemical or biological characteristics of the receiving waters. The green infrastructure and Low Impact Development (LID) practices provided in the PA BMP Manual, as well as the guidance on green infrastructure, LID and Conservation Design (CD) provided in Appendix B, shall be utilized for all

regulated activities wherever possible. The Applicant shall comply with the following water quality and Runoff volume requirements for all regulated activities, including all New Development and Redevelopment activities:

A. The Post-Construction total Runoff volume shall not exceed the Predevelopment total Runoff volume for all storms equal to or less than the two-year, twenty-four-hour duration precipitation (Design Storm). The water quality and Runoff volume to be managed shall consist of any Runoff volume generated by the proposed Regulated Activity over and above the Predevelopment total Runoff volume and shall be captured and permanently Retained or infiltrated on the Site. Permanent Retention options may include, but are not limited to, reuse, evaporation, transpiration, and Infiltration.

B. For modeling purposes, the Predevelopment ground cover conditions shall be determined using the corresponding ground cover assumptions presented in § 302-21D of this Chapter.

C. The design of the Stormwater Management Facility outlet shall provide for protection from clogging and unwanted Sedimentation.

D. BMPs that moderate the temperature of Stormwater shall be used to protect the temperature of receiving waters.

E. Water quality improvement shall be achieved in conjunction with achieving the Infiltration requirements of § 302-18. The Infiltration volume required under § 302-18 may be included as a component of the water quality volume. If the calculated water quality and Runoff volume is greater than the volume infiltrated, then the difference between the two volumes shall be managed for water quality and Runoff volume control through other techniques or practices but shall not be discharged from the Site.

F. Runoff from the Disturbed Area shall be treated for water quality prior to entering existing waterways or water bodies. If a Stormwater management practice does not provide water quality treatment, then water quality BMPs shall be utilized to provide Pretreatment prior to the Runoff entering the Stormwater management practice.

G. The Municipality may require additional water quality and Runoff control measures for Stormwater discharging to special management areas such as those listed in § 302-13P.

H. When the Regulated Activity contains or is divided by multiple Drainage Areas, the water quality and Runoff volume shall be separately addressed for each Drainage Area.

I. Weighted averaging of Runoff coefficients shall not be used for manual computations or input data for water quality and Runoff volume calculations.

J. Areas located outside of the Site (i.e., areas outside of the Regulated Activity) may be excluded from the calculation of the water quality and Runoff volume requirements.

K. Water quality and volume control practices shall be selected and designed to meet the criteria of § 302-16C that apply to water quality and volume control.

L. Evapotranspiration may be quantified and credited towards meeting volume requirements according to the PADEP Post Construction Stormwater Management (PCSM) Spreadsheet and Instructions (December 2020) or the most recent guidance from PADEP.

M. Infiltration which occurs during a rainfall event shall not be credited toward meeting infiltration volume requirements.

§ 302-18 Infiltration Requirements.

Providing for Infiltration consistent with the natural Hydrologic Regime is required to compensate for the reduction in the Recharge that occurs when the ground surface is disturbed or Impervious Surface is created or expanded. The Applicant shall achieve the following Infiltration requirements:

A. For Regulated Activities involving both New Development and Redevelopment, Infiltration should be designed to accommodate the entire water quality and Runoff volume required in § 302-17. Infiltration BMPs should be consistent with design and Infiltration period guidelines included in the PA BMP Manual or other PA DEP design guidance. If the runoff volume required by § 302-17 cannot be infiltrated, then alternative methods consistent with the PA BMP Manual (as amended) or other PA DEP guidance, such as the Managed Release Concept, may be used to manage this volume with approval from the Municipal Engineer.

B. For regulated activities involving both New Development and Redevelopment, the volume as specified in § 302-17A from all Regulated Impervious Surfaces shall be infiltrated.

C. If the requirements of Subsection § 302-18A or § 302-18B of this section cannot be physically accomplished, then the Applicant shall be responsible for demonstrating with data or calculations to the satisfaction of the Municipal Engineer why this Infiltration volume cannot be physically accomplished on the Site (e.g., shallow depth to bedrock or Limiting Zone, open voids, steep slopes, etc.) and what alternative volume can be infiltrated.

D. Only if a minimum Infiltration of the first 0.5-inch of runoff volume cannot be physically accomplished on the Site, shall a waiver from this § 302-18 be considered by the Municipality, in accordance with § 302-9 Waivers.

E. If Site conditions preclude capture of Runoff from portions of the Impervious Surfaces, the Infiltration volume for the remaining area shall be increased an equivalent amount to offset the loss.

F. When a project contains or is divided by multiple Watersheds, the Infiltration volume shall be separately addressed for each Watershed.

G. Existing Impervious Surfaces located in areas outside of the Site (i.e., outside of the Regulated Activity) may be excluded from the calculation of the required Infiltration volume.

H. A detailed soils evaluation of the Site shall be conducted by a qualified professional and, at a minimum, shall address soil permeability, depth to bedrock, and subgrade stability. The general process for designing the Infiltration BMP shall be conducted by a qualified Licensed Professional and shall be consistent with the PA BMP Manual (as amended) (or other guidance acceptable to the Municipal Engineer) and, in general, shall:

(1) Analyze Hydrologic Soil Groups as well as natural and man-made features within the Site to determine general areas of suitability for Infiltration practices. In areas where development on fill material is under consideration, conduct geotechnical investigations of subgrade stability; Infiltration may not be ruled out without conducting these tests.

(2) Provide field tests such as double-ring infiltrometer or other hydraulic conductivity tests (at the elevation of the proposed Infiltration surface) to determine the appropriate hydraulic conductivity rate. Standard septic/sewage percolation tests are not acceptable for design purposes.

(3) Design the Infiltration Facility for the required Retention (Infiltration) volume based on field-determined Infiltration capacity (and apply safety factor as per applicable design guidelines) at the elevation of the proposed Infiltration surface.

(4) On-lot Infiltration features are encouraged; however, it shall be demonstrated to the Municipal Engineer that the soils are conducive to Infiltration on the identified lots.

(5) Tests shall be conducted at the proposed bottom elevation of an Infiltration BMP. At a minimum, 2 tests per Infiltration BMP or 1 test per 1,000 square feet of Infiltration area, whichever is greater, shall be provided.

(6) Soil analysis and Infiltration test methods and test locations shall be submitted to the Township Engineer for review and approval prior to testing. The Township Engineer shall observe all testing

and will require that specific test pits and percolation data be obtained in order to approve test result data and ensure that the proposed Infiltration systems will function as designed.

I. Infiltration BMPs shall be selected based on suitability of soils and Site conditions and shall be constructed on soils that have the following characteristics:

(1) A minimum depth of 24 inches between the bottom of the BMP and the top of the Limiting Zone. Additional depth may be required in areas underlain by Karst or carbonate geology (see Subsection §302-18M of this section).

(2) An Infiltration rate sufficient to accept the additional Stormwater volume and drain completely as determined by field tests conducted by the Applicant.

(3) The Infiltration Facility shall completely drain the Retention (Infiltration) volume within three days (72 hours) from the end of the Design Storm.

J. All Infiltration practices shall:

(1) Be selected and designed to meet the criteria of § 302-16C that are applicable to Infiltration;

(2) Be set back at least twenty-five (25) feet from all buildings and features with sub-grade elements (e.g., basements, foundation walls, etc.), and at least 10 feet from property lines or right-of-way boundaries, unless otherwise approved by the Municipal Engineer;

(3) For any Infiltration practice that collects Runoff from shared or multiple features and that is located within fifty (50) feet of a building or feature with sub-grade elements (e.g., basements, foundation walls, etc.), the bottom elevation shall be set below the elevation of the sub-grade element.

K. Infiltration facilities shall, to the maximum extent practicable, be located to avoid introducing contaminants to Groundwater:

(1) When a hot spot is located in the area draining to a proposed Infiltration Facility, an evaluation of the potential of Groundwater contamination from the proposed Infiltration Facility shall be performed, including a hydrogeologic investigation (if necessary) by a qualified Licensed Professional to determine what, if any, Pretreatment or additional design considerations are needed to protect Groundwater quality.

(2) When located within a wellhead protection area of a public water supply well, Infiltration practices shall be in conformance with the applicable approved source water protection assessment or source water protection plan.

(3) The Applicant shall provide appropriate safeguards against Groundwater contamination for land uses that may cause Groundwater contamination should there be a mishap or spill.

L. During Site construction, all Infiltration practice components shall be protected from compaction due to heavy equipment operation or storage of fill or construction material. Infiltration areas shall also be protected from Sedimentation. Areas that are accidentally compacted or graded shall be remediated to restore soil composition and porosity. Adequate documentation to this effect shall be submitted to the Municipal Engineer for review. All areas designated for Infiltration shall not receive Runoff until the contributory Drainage Area has achieved final stabilization.

M. Consideration of Infiltration BMPs for areas underlain by Karst or carbonate geology is encouraged, but only where the design, supporting calculations, results of soils or other Site investigations or other documentation are provided to the Municipality demonstrating that the potential or likelihood of subsidence or sinkholes is minimal. Evaluation of Site conditions and Infiltration design shall rely on guidance in the PA BMP Manual (as amended) or other guidance acceptable to the Municipal Engineer.

N. Groundwater quality of the carbonate aquifer shall be protected from Infiltration of pollutants. At a minimum, Stormwater runoff from Hotspots (i.e., sources of significant pollutant runoff) shall first be discharged through a water quality BMP(s) to remove pollutants prior to Infiltration. Where soil characteristics are insufficient to provide removal of pollutants from sources other than Hotspots, Stormwater runoff shall first be discharged though a water quality BMP(s) to remove pollutants prior to Infiltration.

O. Where Sediment transport in the Stormwater Runoff is anticipated to reach the Infiltration system, appropriate permanent measures to prevent or collect Sediment shall be installed prior to discharge to the Infiltration system.

P. Where roof drains are designed to discharge to Infiltration practices, they shall have appropriate measures to prevent clogging by unwanted debris (for example, silt, leaves and vegetation). Such measures shall include but are not limited to leaf traps, gutter guards and cleanouts.

Q. All Infiltration practices shall have appropriate positive overflow controls.

R. No sand, salt or other particulate matter may be applied to a porous surface material for winter ice conditions.

S. The following procedures and materials shall be required during the construction of all subsurface facilities:

(1) Excavation for the Infiltration Facility shall be performed with equipment that will not compact the bottom of the seepage bed/trench or like facility.

(2) The bottom of the bed and/or trench shall be scarified prior to the placement of aggregate.

(3) Only clean aggregate with documented porosity, free of fines, shall be allowed.

(4) The tops, bottoms and sides of all seepage beds, trenches, or like facilities shall be covered with drainage fabric. Fabric shall be nonwoven fabric acceptable to the Municipal Engineer.

(5) Stormwater shall be distributed throughout the entire seepage bed/trench or like facility. and provisions for the collection of debris shall be provided in all facilities.

(6) Perforated distribution pipes connected to centralized catch basins and/or manholes with provision for the collection of debris shall be provided in all facilities. The perforated pipes shall distribute Stormwater throughout the entire seepage bed/trench, or like facility.

(7) Recharge facilities shall be designed in accordance with Infiltration system guidelines of DEP BMP Manual Appendix C Protocol 2, as amended.

(8) The Municipal Engineer shall be permitted to inspect construction methods. Shop drawings shall be submitted for all materials utilized in Recharge facilities.

T. All Infiltration facilities which service more than one lot and are considered a common facility shall have an easement provided to the Township for future access if necessary.

§ 302-19 Stream Channel Protection Requirements.

For regulated activities involving New Development with one or more acres of Earth Disturbance, the Applicant shall comply with the following Stream channel protection requirements to minimize Stream channel Erosion and associated water quality impacts to the receiving waters:

A. The peak flow rate of the Post-Construction two-year, twenty-four-hour Design Storm shall be reduced to the Predevelopment peak flow rate of the one-year, twenty-four-hour duration precipitation, using the SCS Type II distribution.

B. To the maximum extent practicable, and unless otherwise approved by the Municipal Engineer, the Post-Construction one-year, twenty-four-hour storm flow shall be detained for a minimum of 24 hours and a maximum not to exceed 72 hours from a point in time when the maximum volume of water from the one-year, twenty-four-hour storm is stored in a proposed BMP (i.e., when the maximum water surface elevation is achieved in the facility). Release of water can begin at the start of the storm (i.e., the Invert of the orifice is at the Invert of the proposed BMP).

C. For modeling purposes, the Predevelopment ground cover conditions shall be determined using the corresponding ground cover assumptions presented in § 302-21D of this Chapter.

D. The minimum orifice size in the outlet structure to the BMP shall be three inches in diameter unless otherwise approved by the Municipal Engineer, and a trash rack shall be installed to prevent clogging. For Sites with small Drainage Areas contributing to the BMP that do not provide enough Runoff volume to allow a twenty-four-hour attenuation with the three-inch orifice, the calculations shall be submitted showing this condition.

E. When the calculated orifice size is below three inches, gravel filters (or other methods) are recommended to discharge low-flow rates subject to the Municipal Engineer's satisfaction. When filters are utilized, Maintenance provisions shall be provided to ensure filters meet the design function.

F. All proposed Stormwater Management Facilities shall make use of measures to extend the flow path and increase the travel time of flows in the facility.

G. When a Regulated Activity contains or is divided by multiple Drainage Areas, the peak flow rate control shall be separately addressed for each Drainage Area.

§ 302-20 Stormwater Peak Rate Control Requirements.
The Applicant shall comply with the following peak flow rate control requirements for all regulated activities including those that involve New Development and Redevelopment.

A. Post-Construction peak flow rates from any Regulated Activity shall not exceed the Predevelopment peak flow rates as shown for each of the Design Storms specified in Table 308.1.

Table 308.1

Peak Rate Control Standards

(Peak flow rate of Post-Construction Design Storm shall be reduced to the peak flow rate of corresponding Predevelopment Design Storm shown in the table.)

	Predevelopment Design Storm	
Post-Construction Design Storm Frequency (24-hour duration)	**New Development Regulated Activities**	**Redevelopment Regulated Activities**
1-year	75% (.75) of the year	1-year
2-year	1-year	2-year
5-year	2-year	5-year
10-year	2-year	10-year

25-year	25-year	25-year
50-year	50-year	50-year
100-year	100-year	100-year

B. For modeling purposes, the Predevelopment ground cover conditions shall be determined using the corresponding ground cover assumptions presented in § 302-21D of this Chapter.

C. For regulated activities involving only Redevelopment, no peak flow rate controls are required when and only if the total Regulated Impervious Surface area is at least 20% less than the total existing Impervious Surface area to be disturbed by the Regulated Activity. In all cases where this requirement is not met, the Redevelopment Regulated Activity shall achieve the peak flow rate controls presented in Table 308.1, using the Redevelopment ground cover assumptions presented in § 302-21D. This design criterion for Redevelopment is only permitted with approval of Municipal Engineer. It shall result in no impact on downstream properties.

D. Only the area of the proposed Regulated Activity shall be subject to the peak flow rate control standards of this Chapter. Undisturbed Areas for which the discharge point has not changed are not subject to the peak flow rate control standards.

E. Areas located outside of the Site (i.e., areas outside of the Regulated Activity) that drain through a proposed Site are not subject to peak flow rate control requirements. Drainage facilities located on the Site shall be designed to safely convey flows from outside of the Site through the Site.

F. When a Regulated Activity contains or is divided by multiple Drainage Areas, the peak flow rate controls shall be separately addressed for each Drainage Area.

G. The effect of structural and nonstructural Stormwater Management Practices implemented as part of the overall Site design may be taken into consideration when calculating total storage volume and peak flow rates.

§ 302-21 Calculation Methodology.

A. Stormwater Runoff from all Regulated Activity Sites with a Drainage Area of greater than one (1) acres shall be calculated using a generally accepted calculation technique(s) that is based on the NRCS Soil-Cover-Complex Method. Table 309.1 summarizes acceptable computation methods. The method selected for use shall be based on the individual limitations and suitability of each method for a particular Site. The use of the Rational Method to estimate Peak Discharges for Drainage Areas greater than one (1) acre shall be permitted only upon approval by the Municipal Engineer.

Table 309.1

Acceptable Computation Methodologies for SWM Site Plan

Method	Developed by	Applicability
TR-20 (or commercial computer package based on TR-20)	USDA NRCS	Applicable where use of full hydrology computer model is desirable or necessary.
TR-55 (or commercial computer	USDA NRCS	Applicable for Land Development plans where limitations described in TR-55 are met.

package based on TR-55)		
HEC-1/HEC-HMS	US Army Corps of Engineers	Applicable where use of a full hydrologic computer model is desirable or necessary.
Rational Method (or commercial computer package based on Rational Method)	Emil Kuichling (1889)	For Sites up to one (1) acre, or as approved by the Municipality.
Other methods	Varies	Other computation methodologies approved by the Municipality.

B. All calculations using the Soil-Cover-Complex Method shall use the appropriate design rainfall depths for the various Return Period storms consistent with this Chapter. Rainfall depths used shall be obtained from the latest version of the Precipitation-Frequency Atlas of the United States, National Oceanic and Atmospheric Administration (NOAA), National Weather Service, Hydrometeorological Design Studies Center, Silver Spring, Maryland, (NOAA Atlas 14) values consistent with a partial duration series. When Stormwater calculations are performed for routing procedures or Infiltration, water quality and Runoff volume functions, the duration of rainfall shall be 24 hours.

C. All calculations using the Rational Method shall use rainfall intensities consistent with appropriate times-of-concentration (duration) and storm events with rainfall intensities obtained from NOAA Atlas 14 partial duration series estimates, or the latest version of the PennDOT Drainage Manual (PDM Publication 584). Times-of-concentration shall be calculated based on the methodology recommended in the respective model used. Times of concentration for channel and pipe flow shall be computed using Manning's equation.

D. The Applicant shall utilize the following ground cover assumptions for all Predevelopment water quality and Runoff volume, Infiltration volume and peak flow rate calculations:

(1) For regulated activities involving New Development, the following ground cover assumptions shall be used:

(a) For areas that are Woods (as defined in Article II of this Chapter), Predevelopment calculations shall assume ground cover of "Woods in good condition."

(b) For all other areas (including all Impervious Surfaces and areas of cultivation), Predevelopment calculations shall assume ground cover of "meadow."

(2) For regulated activities involving Redevelopment, the following ground cover assumptions shall be used:

(a) For areas that are Woods (as defined in Article II of this Chapter), Predevelopment calculations shall assume ground cover of "Woods in good condition."

(b) For areas that are not Woods or not Impervious Surfaces, Predevelopment calculations shall assume ground cover of "meadow."

(c) For areas that are Impervious Surfaces, Predevelopment calculations shall assume at least forty percent (40%) of the existing Impervious Surface area to be disturbed as "meadow" ground cover.

(3) The Applicant shall determine which Stormwater standards apply to the proposed Regulated Activity as follows:

(a) Stormwater standards for New Development shall apply to all proposed regulated activities that involve only New Development activities as defined in this Chapter.

(b) Stormwater standards for Redevelopment shall apply to all proposed regulated activities that involve only Redevelopment activities as defined in this Chapter.

(c) At the discretion of the Municipal Engineer, regulated activities that involve a combination of both New Development and Redevelopment activities, as defined in this Chapter, may either:

[1] Apply the Stormwater standards (Redevelopment or New Development) that are associated with the activity that involves the greatest amount of land area; or

[2] Apply the Redevelopment and New Development Stormwater standards to the corresponding Redevelopment and New Development portions of the proposed Regulated Activity.

E. Runoff curve numbers (CN) for both Predevelopment and proposed (Post-Construction) conditions to be used in the Soil-Cover-Complex Method shall be obtained from Table C-1 in Appendix C of this Chapter. All those areas to be disturbed during construction shall be assumed to be reduced one Hydrologic Soil Group Category level during post-development runoff calculations (i.e., HSG B is reduced to HSG C and so forth). This requirement does not apply to Regulated Activities involving Redevelopment.

F. Runoff coefficients (C) for both Predevelopment and proposed (Post-Construction) conditions for use in the Rational Method shall be obtained from Table C-2 in Appendix C of this Chapter. All those areas to be disturbed during construction shall be assumed to be reduced one Hydrologic Soil Group Category level during post-development runoff calculations (i.e., HSG B is reduced to HSG C and so forth). This requirement does not apply to Regulated Activities involving Redevelopment.

G. Weighted averaging of Runoff coefficients shall not be used for manual computations or input data for water quality and Runoff volume calculations.

H. Hydraulic computations to determine the capacity of pipes, culverts and storm sewers shall be consistent with methods and computations contained in the Federal Highway Administration Hydraulic Design Series Number 5 (Publication No. FHWA-NHI-01-020 HDS No. 5, as amended). Hydraulic computations to determine the capacity of open channels shall be consistent with methods and computations contained in the Federal Highway Administration Hydraulic Engineering Circular Number 15 (Publication No. FHWA-NHI-05-114 HEC 15, as amended). Values for Manning's roughness coefficient (n) shall be consistent with Table C-3 in Appendix C of the Chapter.

I. Runoff calculations shall include the following assumptions:

(1) Average antecedent moisture conditions (for the Soil-Cover-Complex Method only for example, TR-55, TR-20).

(2) A Type II distribution storm (for the Soil-Cover-Complex Method only for example, TR-55, TR-20).

§ 302-22 Other Requirements.

A. Any BMP intended to hold standing water for four days or longer shall be designed to incorporate biologic controls consistent with the West Nile Guidance found in Appendix D, PADEP document 363-0300-001 "Design Criteria – Wetlands Replacement/Monitoring" (as amended), or contact the Pennsylvania State Cooperative Wetland Center or the Penn State Cooperative Extension Office for design information.

B. Any Stormwater basin required or regulated by this Chapter, designed to store Runoff and requiring a berm or earthen embankment, shall be designed to provide an emergency spillway to safely convey flow up to and including the one-hundred-year proposed conditions. At the discretion of the Municipal

Engineer, the requirement to provide an emergency spillway may be waived for Stormwater Basins on residential lots with a drainage area less than one (1) acre. The height of embankment shall provide a minimum one (1.0) foot of Freeboard above the maximum pool elevation computed when the facility functions for the one-hundred-year proposed conditions inflow. Should any BMP require a dam safety permit under Title 25 Pa. Code Chapter 105 regulations, the facility shall be designed in accordance with and meet the regulations of Chapter 105 concerning dam safety. Title 25 Pa. Code Chapter 105 may require the safe Conveyance of storms larger than one-hundred-year event.

C. Any drainage Conveyance facility and/or channel not governed by Title 25 Pa. Code Chapter 105 regulations shall be designed to convey, without damage to the drainage facility or roadway, Runoff from the twenty-five-year storm event. Larger storm events (fifty-year and one-hundred-year storms) shall also be safely conveyed in the direction of natural flow without creating additional damage to any drainage facilities, nearby structures, or roadways.

D. Conveyance facilities to or exiting from Stormwater Management Facilities (i.e., Detention Basins) shall be designed to convey the design flow to or from the facility.

E. Roadway crossings or structures located within designated Floodplain areas shall be able to convey Runoff from a one-hundred-year Design Storm consistent with Federal Emergency Management Agency National Flood Insurance Program Floodplain management requirements.

F. Any Stormwater Management Facility located within a PennDOT right-of-way shall comply with PennDOT minimum design standards and permit submission and approval requirements.

G. Adequate Erosion protection and energy dissipation shall be provided along all open channels and at all points of discharge. Design methods shall be consistent with the Federal Highway Administration Hydraulic Engineering Circular Number 11 (Publication No. FHWA-IP-89-016, as amended) and the PADEP Erosion and Sediment Pollution Control Program Manual (Publication No. 363-2134-008, as amended), or other design guidance acceptable to the Municipal Engineer.

§ 302-23 Other Conveyance and System Design Standards.
Any design must also comply with any other existing Township ordinances, including, but not limited to, the West Vincent Township Subdivision and Land Development Ordinance (see Chapter 315 of the Township's Code).

A. Detention and Retention Facility Design Requirements.

(1) All detention/retention basins shall be designed to detain the peak rate of water resulting from the Site for all design storms up to and including the fifty-year (50 year) frequency rainfall. Design storms shall be routed through the basin facilities, excluding in the design calculations, the volume of the basin required for stormwater Infiltration/Recharge.

(2) The following setbacks are required for Stormwater Management Facilities:

(a) Stormwater retention or detention basins shall be located at least 25 feet from any structure, whether existing or proposed.

(b) Stormwater retention or detention basins shall be located at least 25 feet from any property boundary or right-of-way.

(c) Stormwater retention or detention basins shall be located at least 50 feet from existing Wetlands, or the banks of existing streams.

(d) Recharge systems shall be located at least 25 feet from any basement wall and 25 feet from wastewater treatment areas.

(e) Any Recharge system designed to handle runoff from any commercial or industrial impervious

parking or outside storage area shall be a minimum of 50 feet from any water supply well or any wastewater treatment area.

(3) Riser. A riser or other acceptable outfall shall be provided at the outlet of all detention basins. The riser shall be constructed of precast or poured in place concrete with controlled orifices. A trash rack or similar appurtenance shall be provided to prevent debris from entering the riser. All risers shall have a concrete base attached with a watertight connection. The base shall be of sufficient weight to prevent flotation of the riser.

(4) Landscaping. All stormwater control systems, whether existing or proposed, shall be planted to effectively naturalize areas so as to become an integral and harmonious element in the local landscape. No trees shall be planted in the earthfill of berms or dams.

(5) Emergency spillway. Whenever possible, the emergency spillway for detention basins shall be constructed on undisturbed ground. All emergency spillways shall be constructed so that the detention basin berm is protected against Erosion with a permanent Erosion control blanket. The minimum capacity of all emergency spillways shall be such that the capacity of the emergency spillway equals the peak flow rate from the one-hundred (100) year design storm. Emergency spillway linings shall extend along the upstream and downstream berm embankment slopes. The upstream edge of the emergency spillway lining shall extend to a minimum of two (2) feet below the spillway crest elevation. The downstream edge of the spillway lining shall, at minimum, extend

to a distance of ten (10) feet beyond the toe of the berm embankment. The emergency spillway shall not discharge over earthen fill and/or easily erodible material.

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

(7) Freeboard. Any stormwater basin required or regulated by this Ordinance designed to store runoff and requiring a berm or earthen embankment shall be designed to provide an emergency spillway to safely convey flow up to and including the one hundred (100) year proposed conditions. The height of embankment shall provide a minimum one (1) foot of Freeboard above the design flow depth of the emergency spillway. Should any BMP require a dam safety permit under PA Chapter 105 regulations, the facility shall be designed in accordance with and meet the regulations of PA Chapter 105 concerning dam safety. PA Chapter 105 may require the safe Conveyance of storms larger than one hundred (100) year event.

(8) Slope of detention basin embankment. The maximum slope of earthen detention basin embankments shall meet the requirements contained in this subsection. Whenever possible, the side slopes and basin shape shall be amenable to the natural topography. Straight side slopes and rectangular basins shall be avoided.

(9) Width of berm. For dams less than ten (10) feet high, a minimum top width of six (6) feet is required. For dams ten (10) feet to fifteen (15) feet in height, a top width of 10 feet is required. For dams greater than fifteen (15) feet in height, the top width shall be designed by a professional engineer.

(10) Slope of basin bottom. In order to ensure proper drainage of the detention basin, a minimum grade of 2% shall be maintained for all sheet flow. A minimum grade of 1% shall be maintained for all channel flow. The Township Engineer may approve the use of a flat (0%) bottom accompanied with appropriate water tolerant landscape plantings to promote water quality and groundwater Recharge.

(11) Energy dissipaters. Energy dissipating devices (rip-rap, end sills, etc.) shall be placed at all basin

outlets. Any pipe or other component which discharges directly into the basin shall be equipped with energy dissipating devices and shall outlet into the bottom of the basin.

(12) Landscaping and grading of detention basin. All landscaping and grading standards shall be as follows:

(a) Cuts. No excavation shall be made with a cut face steeper than three (3) horizontal to one (1) vertical, except under the condition that the material in which the excavation is made is sufficiently stable to sustain a slope of steeper than three (3) horizontal to one (1) vertical. A written statement to that effect is required from an engineer and must be submitted and approved by the Municipal Engineer. The statement shall affirm that the Site has been inspected and that the deviation from the slope should not result in injury to persons or damage to property. Retaining walls shall be required if a stable slope cannot be maintained. Any retaining wall design must be signed and sealed by a Professional Engineer. The toe of the slope or headwall of any cut must be located a minimum of five (5) feet from property lines.

(b) Fills. No fills shall be made which creates any exposed surfaces steeper in slope than three (3) horizontal to one (1) vertical, except where the fill is located so that settlement, sliding, or Erosion will not result in property damage or be a hazard to adjoining property, streets, or buildings. A written statement is required from an engineer certifying that s/he has inspected the Site and that any proposed deviation from the slope specified above should not endanger any property or result in property damage, and must be submitted to and approved by the Municipal Engineer.

[1] A concrete or stone masonry wall designed and constructed in accordance with these specifications and standards may be required to support the face of the fill where the above specified slopes are exceeded.

[2] The top of any fill or toe of the slope of any fill shall be located twenty-five (25) feet from any property line with the exception of a downstream property line where the toe of the embankment shall be placed a sufficient distance to allow for energy dissipating devices, but in no case less than forty (40) feet unless approved otherwise by the Township.

(c) Planting requirements. All areas proposed for recreational use, whether active or passive, shall be planted to effectively naturalize the areas to become an integral and harmonious element in the natural landscape.

(d) Drainage channels and retention areas. All storm drainage channels and retention areas, whether existing or proposed, shall be graded and planted to effectively naturalize areas so as to become an integral and harmonious part of the landscape by contour and type of plant material employed.

(13) Easements for all basins and storm pipes not located within the public street right-of-way shall be provided in accordance with § 302-37.

(14) Any BMP intended to hold standing water for four (4) days or longer shall be designed to incorporate biologic controls consistent with the West Nile Guidance found in PADEP document 363-0300-001 "Design Criteria - Wetlands Replacement/Monitoring" (as amended), (or contact the Pennsylvania State Cooperative Wetland Center or the Penn State Cooperative Extension Officer for design information).

(15) A profile, shall be provided on the plan, of the berm embankment and outlet structure indicating the embankment top elevation, embankment side slopes, top width embankment emergency spillway elevation, riser dimensions, pipe barrel dimensions, and dimensions and spacing of anti-seep collars.

B. Drainage and Conveyance System Design Requirements.

(1) Design flow rate. The storm drain system shall be designed to carry a twenty-five (25) year peak flow rate, and a fifty (50) year peak flow rate at the sump area. The design twenty-five (25) year peak flow rate into each inlet shall be indicated on the Stormwater Management Plan. The twenty-five (25) year flow rate shall be determined by the rational formula, Q = CIA.

Where:

- Q = Peak runoff rate, cubic feet per second (CFS);
- C = Runoff coefficient equal to the ratio of the runoff rate to the average rate of rainfall over a time period equal to the time of concentration;
- I = Average rainfall intensity to inches per hour for a time equivalent to the time of concentration;
- A = Drainage area in acres.

Approximate values for the runoff coefficient and runoff intensity can be found in the Commonwealth of Pennsylvania, Department of Transportation, PennDOT Drainage Manual Publication 584, as amended.

(2) Overflow system. An overflow system shall be provided to carry flow to the detention basin when the capacity of the storm drain pipe system is exceeded. The overflow system shall be of sufficient capacity to carry the difference between the one-hundred (100) year and the twenty-five (25) year

peak flow rates without creating additional damage to any drainage facilities, structures or roadways.

(3) Inlet capacity. All inlets must be designed to accommodate the twenty-five-year (25 year) peak flow rate. The designer must submit capture/bypass calculations for each inlet and include these calculations in the stormwater report. As a minimum, the storm drainage system serving a street shall be designed to collect water at any point where three (3) to five (5) cubic feet per second is accumulated, and at the bottom of all vertical grades, and immediately upgrade of all street intersections. The system shall discharge any collected water into the nearest practical drainage channel or storm system. The capacity of each inlet shall be indicated on the Stormwater Plan. The capacity of all C, M, or S type inlets shall be determined from the following source:

- Commonwealth of Pennsylvania
- Department of Transportation
- Design Manual, Part 2
- Highway Design, Chapter 10.

(4) Summary Table. A table shall be provided on the plan summarizing storm sewer information including; inlet numbers, inlet pipes, elevation of all grates and pipe inverts, pipe diameters and lengths, pipe material, etc. A similar table shall be provided summarizing the design information for all temporary and permanent drainage channels.

(5) Roadway crossings or structures located within designated floodplain areas shall be able to convey runoff from a 100-year design storm consistent with Federal Emergency Management Agency National Flood Insurance Program – Floodplain Management Requirements.

(6) Any facility located within a PennDOT right-of-way shall comply with PennDOT minimum design standards and permit submission and approval requirements.

(7) Adequate Erosion protection and energy dissipation shall be provided along all open channels and at all points of discharge. Design methods shall be consistent with the Federal Highway Administration Hydraulic Engineering Circular Number 11 (Publication No. FHWA-IP-89-016, as amended) and the PADEP Erosion and Sediment Pollution Control Program Manual (Publication No. 363-2134-008, as amended), or other design guidance acceptable to the Municipal Engineer.

(8) Straight pipe selections. Wherever possible, all storm drain pipes shall be designed to follow straight courses. No angular deflections of storm sewer pipe sections in excess of 5° shall be permitted. No vertical curves shall be permitted in the storm drain pipe system.

(9) Minimum grade and size. All storm drain pipes shall be designed to maintain a minimum grade of 1/2%. All storm pipes shall have a minimum inside diameter of 15 inches, except that pipes under a 25 foot deep or greater fill shall not be less than 24 inches, or a cross-sectional area of 453 square inches.

(10) Pipe material and thickness. All storm sewers shall meet PennDOT standards for service life and proper class and thickness to support the above fill material. Pipe type and joint specifications shall be noted on the plans and shall be in accordance with PennDOT standards.

(11) Pipe capacity. The capacity of all pipe culverts shall, as a minimum, provide the required carrying capacity as determined by the following source:

- United States Department of Transportation
- Federal Highway Administration

- Hydraulic Design Series Number 5
- Hydraulic Design of Highway Culverts, 3rd Edition.

(12) Pipe arches. Where headroom is restricted, equivalent pipe arches may be used in lieu of circular pipes.

(13) Allowable headwater depth. At all inlets or manholes, the maximum allowable headwater depth shall be one (1) foot below the top of the inlet grate of the manhole cover.

(14) Horizontal pipe deflections. A manhole or inlet shall be provided at all horizontal deflections in the storm pipe system exceeding five (5) degrees.

(15) Inlet boxes shall conform to PennDOT Standard Drawings and Publication 408, latest edition. Inlets shall be permanently marked with the phrase "NO DUMPING - DRAINS TO CREEK" with metal medallion style signs or other method approved by the Municipal Engineer.

(16) Minimum and maximum cover. A minimum of eighteen (18) inches of cover shall be maintained over all storm drain pipes, unless the pipe manufacturer allows less cover for the specific location and expected loading. The top of storm drain pipes shall be at least one-half (½) foot below subgrade elevation.

(17) Culverts and drainage channels.

(a) Design flow standards. All culverts and drainage channels shall be designed to carry a flow rate equal to a fifty (50) year, twenty-four (24) hour storm (NRCS, Technical Release No. 55).

(b) Erosion prevention. All drainage channels shall be designed to prevent the Erosion of the bed and bank areas. The flow velocity in all vegetated drainage channels shall not exceed three (3) feet per second to prevent Erosion unless special provisions approved by the Municipal Engineer

are made to protect banks and channel bottoms against Erosion. Suitable bank stabilization shall be provided where required to prevent Erosion of the drainage channels. Where storm sewers discharge into existing drainage channels at an angle greater than 30° from parallel with the downstream channel flow, the far side bank shall be stabilized by the use of rip-rap or masonry, and/or concrete walls. The stabilization shall be designed to prevent Erosion and frost heave under and behind the stabilizing media.

(c) Maximum side slope. Any vegetated drainage channel requiring mowing of the vegetation shall have a maximum grade of three (3) horizontal to one (1) vertical of those areas to be mowed.

(d) Design standard. Because of the critical nature of the vegetated drainage channels, the design of all vegetated channels shall, at a minimum, conform to the design procedures outlines in the PADEP manuals. Several acceptable sources outline procedures for non-vegetated drainage channels, including the following:

- Bureau of Public Roads
- Hydraulic Engineering Circular No. 5
- Hydraulic Charts for the Selection of Highway Culverts
- Federal Highway Administration
- Hydraulic Engineering Circular No. 13
- Hydraulic Design of Improved Inlets for Culverts.

(e) Reference to publications and source documents in this section shall be deemed to include any amendments and revisions thereof.

(18) Easements for all drainage and Conveyance systems, existing or proposed, not located within the public street right-of-way, shall be provided per Section 804.

(19) Residential Subdivisions or Development. Drainage channels shall be provided to intercept Stormwater along property lines at locations where runoff from a lot would drain onto an adjacent lot. These channels shall be designed to convey Stormwater to a suitable discharge point or the storm sewer system. Storm inlets shall be designed and located in new residential developments to capture Stormwater that drains from one lot to another lot. Stormwater drainage channels shall not convey Stormwater across more than two (2) adjacent lots without being captured by a storm inlet and piping.

Article IV
Stormwater Management (SWM) Site Plan Requirements

§ 302-24 General Requirements.
For any Regulated Activity, unless exempt per the provisions of § 302-6:

A. Preparation and implementation of an approved SWM Site Plan is required.

B. No Regulated Activity shall commence until the Municipality issues written approval of a SWM Site Plan which demonstrates compliance with the requirements of this Chapter and, if required, a letter of adequacy has been issued by the Conservation District for an Erosion and Sediment Control Plan.

C. The preliminary or final approval of Subdivision and/or Land Development plans, and the issuance of any building or occupancy permit shall not proceed until the Applicant has received written approval of a SWM Site Plan from the Municipality.

D. The SWM Site Plan approved by the Municipality shall be on Site throughout the duration of the Regulated Activity.

§ 302-25 SWM Site Plan Contents.
The SWM Site Plan shall consist of a general description of the project, including items described in § 302-

16, calculations, maps and plans. A note on the maps shall refer to the associated computations and Erosion and Sediment Control Plan by title and date. The cover sheet of the computations and Erosion and Sediment Control Plan shall refer to the associated maps by title and date. All SWM Site Plan materials shall be submitted to the Municipality in a format that is clear, concise, legible, neat and well-organized; otherwise, the SWM Site Plan shall not be accepted for review and shall be returned to the Applicant. The following items shall be included in the SWM Site Plan:

A. General.

(1) A general description of the proposed project;

(2) A listing of all regulatory approvals required for the proposed project and the status of the review and approval process for each. Final approval or adequacy letters must be submitted to the Municipality prior to (or as a condition of) the Municipality's issuing final approval of the SWM Site Plan. Proof of application or documentation of required permit(s) or approvals for the programs listed below shall be part of the SWM Site Plan, if applicable:

(a) NPDES permit for Stormwater Discharges associated with Construction Activities.

(b) PADEP permits, as needed:

[1] PADEP joint permit application.

[2] Chapter 105 (Dam Safety and Waterway Management).

[3] Chapter 106 (Floodplain Management).

(c) PennDOT highway occupancy permit.

(d) Erosion and Sediment Control Plan letter of adequacy.

(e) Any other permit under applicable state or federal regulations.

(3) A statement, signed by the Applicant, acknowledging that any revision to the approved SWM Site Plan shall be submitted to and approved by the Municipality, and that a revised Erosion and Sediment Control Plan shall be submitted to, and approved by, the Conservation District or Municipality (as applicable) for a determination of adequacy prior to construction of the revised features.

(4) The following signature block signed and sealed by the qualified Licensed Professional responsible for the preparation of the SWM Site Plan:

(a) "I (name), on this date (date of signature), hereby certify to the best of my knowledge that the SWM Site Plan meets all design standards and criteria of the West Vincent Township Code Chapter 302 Stormwater Management Grading and Erosion Control." [Note: Include signature, name, discipline of professional license, and license stamp or seal here.]

(5) The following signature block for the Municipality:

On behalf of West Vincent Township, (municipal official or designee), on this date [Signature date], has reviewed and hereby certifies to the best of my knowledge that the SWM Site Plan meets all design standards and criteria of the Municipal Ordinance West Vincent Code Chapter 302 Stormwater Management Grading and Erosion Control.

(6) The written narrative report summary of the project shall include:

(a) General description of the project, including: Description of how the proposed project complies with all requirements of federal, state, county and Township agencies with regard to stormwater management. Description of existing and proposed man-made features, including planned

temporary and permanent stormwater management and soil Erosion control measures on Site. Plans and specifications of the stormwater management and soil Erosion measures and facilities.

(b) The overall stormwater management design concept for the project, both during and after construction, and how the Site design achieves the requirements of Article IV;

(c) Date project is to begin and expected date final stabilization will be completed;

(d) A suitable map of the total watershed (a USGS quadrangle map is sufficient);

(e) General description of On-Site stormwater flows and their effect on neighboring properties;

(f) A table of contents for the stormwater management report and complete design calculations. All report pages shall be numbered and referenced in the Table of Contents.

(g) Seal and signature of the registered professional responsible for preparation of the plan and report.

(h) Existing features, conditions, natural resources, hydrologic features, and special management areas (as listed in Subsection § 302-25B);

(i) A description of how the Site design achieves the requirements of § 302-16, and, if applicable, where they could not be achieved and why;

(j) Proposed features and conditions, proposed Erosion and sediment control features, proposed BMPs, Conveyances, and any other stormwater facilities;

(k) A description of the effect of the project (in terms of flow alteration and runoff volumes, water quality and peak flows, etc.) on existing natural resources, hydrologic features and special management areas, adjacent and downgradient properties, and any existing municipal or other stormwater Conveyance system(s), that may be affected by or receive runoff from the Regulated Activity (whether located within or outside of the area of the Regulated Activity), and specifics of how Erosion, water quality and flow impacts will be avoided or otherwise mitigated;

(l) Proposed nonpoint source pollution controls and justification and confirmation that the proposed project will not result in any increased pollutant loadings to any existing stream or stream impairment identified by PADEP, or to any receiving water body; and

(m)Description of construction stages or project phases, if so proposed.

(7) Design information. As part of the Stormwater Management Site Plan and report, complete design calculations and analysis, as well as supplemental information, shall be submitted. The information shall show compliance with applicable federal, state, county and Township standards and regulations. The information shall include, but is not limited to the following:

(a) Analysis of the percentage of all predevelopment and post development stormwater that is Recharged to groundwater, and all supporting material.

(b) A design drawing of the berm embankment and outlet structure indicating the embankment top elevation, embankment side slopes, top width embankment emergency spillway elevation, perforated riser dimensions, pipe barrel dimensions, and dimensions and spacing of anti-seep collars.

(c) Hydraulic computer model design computations for the pipe barrel and riser.

(d) A plot of the stage-storage (acre-feet vs. elevations) and all supporting computations.

(e) Design storm hydraulic computer model routing computations for before, during, and after development.

(f) A detailed plan of the trash rack.

(g) Design computations for energy dissipater devices located at pipe outfalls.

(h) Storm sewer and storm inlet design, capacity, efficient and other related calculations.

(i) Design computations for all swales, waterways, channels or diversions.

(j) An analysis of all pre-development and post-development stormwater flows to and from the project area, including flows to all inlets, headwalls, swales, channels, Recharge components, basins, and other system facilities and all supporting material.

(k) All calculations shall be submitted as a formal report. It shall include as a minimum a cover, the signature and seal of the responsible design professional, a preparation date, a table of contents and a number on each page.

B. Maps or plan sheets. Map(s) or plan sheets of the Site shall be submitted on minimum twenty-four-inch by thirty-six-inch sheets and shall be prepared in a form that meets the requirements for recording at the Chester County Office of the Recorder of Deeds and the requirements of the operation and Maintenance (O&M) plan and O&M agreement (Article VII). If the Subdivision and Land Development Ordinance has additional or more stringent criteria than this Chapter, then the SALDO criteria shall also apply. Unless otherwise approved by the Municipal Engineer, the contents of the maps or plan sheets shall include, but not be limited to:

(1) A location map, with a scale of one-inch equals 2,000 feet or greater, showing the Site location relative to highways, municipal boundaries, or other identifiable landmarks.

(2) The name of the project, tax parcel number(s), and the names, addresses and phone numbers of the owner of the property, the Applicant, and the firm preparing the plan.

(3) Signature and seal of the qualified Licensed Professional(s) responsible for preparation of the maps and plan sheets.

(4) The date of SWM Site Plan submission and revision dates, as applicable.

(5) A graphic and written scale of one-inch equals no more than 50 feet.

(6) A North arrow.

(7) Legal property boundaries, including:

(a) The total project property boundary and size with distances marked to the nearest foot and bearings to the nearest degree.

(b) Boundaries, size and description of purpose of all existing Easements and deed-restricted areas of the project property, with distances marked to the nearest foot and bearings to the nearest degree.

(8) Existing natural resources and natural or man-made hydrologic features that are located within the Site or receiving discharge from, or that may otherwise be impacted by, the proposed Regulated Activity, including but not limited to:

(a) All existing natural resources, hydrologic features and drainage patterns, including natural waterways, water bodies, Wetlands, Streams (intermittent and perennial), ponds, lakes, vernal pools, etc., natural Infiltration areas and patterns, areas of significant natural evapotranspiration, and other water features and aquatic resources.

(b) Any existing man-made drainage features, BMPs, Conveyances, facilities, open channels, Swales, drainage patterns, or other Flood, Stormwater or drainage control features.

(c) For the Site, discharge points and locations of concentrated flows and their Drainage Areas.

(d) For named waters, show names and their Watershed boundaries within the Site.

(e) Special management areas (as per § 302-13P).

(f) For the water bodies, Streams and Wetlands label or otherwise show the following attributes, if applicable:

[1] The designated use as determined by PADEP (25 Pa. Code Chapter 93);

[2] Impairments listed on the PADEP "Integrated List" (as updated) and the listed source and cause of impairment;

[3] Name, date, and target pollutant(s) for any approved total maximum daily load (TMDL); and

[4] Drainages to water supply reservoirs.

(g) Areas that are part of the Pennsylvania Natural Diversity Inventory (PNDI) and a list of potential impacts and clearances received (for regulated activities involving one acre or more of proposed Earth Disturbance).

(h) Woods, vegetated Riparian Buffers and other areas of natural vegetation.

(i) Topography using contours (with elevations based on established bench marks) at intervals of two feet. The datum used and the location, elevation and datum of any bench marks used shall be shown.

(j) Areas classified by the Municipality as steep slopes.

(k) Soil names and boundaries; general type of soils with Hydrologic Soil Group noted and, in particular, note areas most conducive to Infiltration BMPs, such as groups A and B, etc.; estimated permeabilities in inches per hour; and location and other results of all soil tests and borings.

(l) If present, areas with underlying carbonate geologic units, existing sinkholes, subsidence or other Karst features, and any associated Groundwater Recharge areas with increased vulnerability to contamination.

(m) Any contaminated surface or subsurface areas of the Site.

(n) Water supply wells.

[1] Location of existing well(s) on the project property and delineation of the(ir) Recharge area(s) (if known), or a fifty-foot diameter assumed Recharge area.

[2] Location of existing well(s) within 50 feet beyond the boundary of the project property boundary (if public water supply is proposed for the Regulated Activity).

(o) Current FEMA one-hundred-year Floodplain boundaries, elevations, and Floodway boundaries for any special Flood hazard areas on or within 100 feet of the property.

(p) Boundaries of Riparian Buffer(s) as required by the West Vincent Township Zoning Ordinance

in Chapter 390, Zoning, of the Township's Code.

(9) Location of the proposed Regulated Activity, limits of Earth Disturbance (Disturbed Area), and BMPs and Conveyances relative to the location of existing natural resources and hydrologic features and special management areas resulting from the Site design process of § 302-16.

(10) A description of existing and proposed ground cover and land use, including the type and total area.

(11) Existing and proposed structures, including roads, paved areas, buildings, and other Impervious and Pervious Surfaces on the project property (or an appropriate portion of the property, as determined in consultation with the Municipal Engineer) and within the proposed Disturbed Area, and including the type and total area of the following:

(a) Existing Impervious Surfaces [must differentiate Existing Impervious Surfaces installed after June 23, 2014];

(b) Existing Impervious Surfaces proposed to be replaced;

(c) Existing Impervious Surfaces to be permanently removed and replaced with pervious ground cover;

(d) New or additional Impervious Surfaces; and

(e) Percent of the Site covered by Impervious Surfaces for both the existing and proposed Post-Construction conditions.

(12) The total extent of the upstream area draining through the Site.

(13) All BMPs, Conveyances and other Stormwater Management Facilities shall be located on the plan sheets, including design drawings, profile drawings, construction details, materials to be used, description of function, etc. Details shall be provided to define how the facilities are to be constructed and installed. Specifications shall be provided for all materials, methods, and workmanship based on PennDOT standards unless stricter Township standards exist. Details may be shown on separate sheets but shall be carefully cross-referenced.

(14) Complete delineation of the flow paths used for calculating the time of concentration for the Predevelopment and Post-Construction conditions shall be included.

(15) The locations of all existing and proposed utilities, sanitary sewers, on-lot wastewater facilities (including subsurface tanks and leach fields), and water supply lines within the Site and within 50 feet beyond the proposed limits of Earth Disturbance.

(16) A Grading plan, including all areas of proposed Earth Disturbance and the proposed Regulated Activity and delineating the boundary or limits of Earth Disturbance of the Site. The total Disturbed Area of the Site shall be noted in square feet and acres.

(17) Proposed final Grade elevations and contours at intervals of two feet.

(18) For each proposed BMP and Conveyance included in the SWM Site Plan (including any to be located on any property other than the property being developed by the Applicant), the following shall be included on the SWM Site Plan map or plan sheets:

(a) Identification of the person responsible for ongoing inspections, operation, repair and Maintenance of the BMP or Conveyance after completion of construction.

(b) Delineation of the land area, structures, Impervious Surfaces, and Conveyances draining to and from the BMP or Conveyance.

(c) Easements, as per the requirements of Article VII, that shall include:

[1] Boundaries labeled with distances shown in feet and bearings to the nearest degree;

[2] Notes or other documentation, as needed, to grant the Municipality the right of access to all BMPs and Conveyances for the purposes of inspection and enforcement of the requirements of this Chapter, and any applicable O&M plans and O&M agreements;

[3] Notes or other documentation, as needed, to grant the Municipality the right of access to all roadways necessary to access all BMPs and Conveyances, where roadways are not to be dedicated to the Municipality;

[4] Notes or other documentation as needed to grant the owner of any BMP or Conveyance the right of access for the purpose of inspection, operation, Maintenance, and repair of the BMP or Conveyance that is to be owned, operated and maintained by a person other than the Municipality, and other than the owner of the property on which the BMP or Conveyance is located;

[5] A minimum twenty-foot-wide perimeter (or other width as determined in consultation with the Municipal Engineer) around all BMPs and Conveyances;

[6] Sufficient vehicular ingress to and egress from a public right-of-way or roadway, as determined in consultation with the Municipal Engineer; and

[7] Accompanying notes or other documentation as needed, and in accordance with Article VII, describing the type, purpose and total area of Easements, who the Easement is granted to, and the rights, duties and obligations of the parties with respect to every BMP or Conveyance.

(d) Boundaries of land areas (if any) for which deed restrictions are required for the purpose of protecting and prohibiting disturbance to a BMP or Conveyance, indicating the area to which the restriction applies, with distances shown in feet and bearings to the nearest degree, and a written description of the type, purpose and nature of the restriction.

(e) Other items that may be needed to comply with all other requirements of Article VII.

C. A written description of the following information shall be included in the SWM Site Plan:

(1) Existing features, conditions, natural resources, hydrologic features, and special management areas (as listed in Subsection § 302-25B of this section);

(2) How the Site design achieves the requirements of § 302-16 and, if applicable, where they could not be achieved and why;

(3) The overall Stormwater management design concept for the project and how the Site design achieves the requirements of Article III;

(4) Proposed features and conditions, proposed Erosion and Sediment Control features, proposed BMPs, Conveyances, and any other Stormwater facilities;

(5) A description of the effect of the project (in terms of flow alteration and Runoff volumes, water quality and peak flows, etc.) on existing natural resources, hydrologic features and special management areas, adjacent and downgradient properties, and any existing municipal or other Stormwater Conveyance system(s), that may be affected by or receive Runoff from the Regulated Activity (whether located within or outside of the area of the Regulated Activity), and specifics of how Erosion, water quality and flow impacts will be avoided or otherwise mitigated;

(6) Proposed Nonpoint Source Pollution controls and justification and confirmation that the proposed project will not result in any increased pollutant loadings to any existing Stream or Stream impairment identified by PADEP, or to any receiving water body;

(7) Expected project time schedule; and

(8) Description of construction stages or project phases, if so proposed.

D. A detailed Site evaluation conducted by a qualified Licensed Professional for projects proposed in areas of carbonate geology or Karst topography and other environmentally sensitive areas, such as contaminated Sites and brownfields, as described in §302-13O and R of this Chapter.

E. Stormwater Runoff design computations and documentation, such as hydrologic, hydraulic, and structural computations, assumptions, BMP-loading ratios, etc., consistent with the guidelines and criteria presented in the PA BMP Manual (as amended) or other guidance acceptable to the Municipal Engineer, and used in the design of the BMPs, Conveyances and other features proposed to be utilized for Stormwater management, or as otherwise necessary to demonstrate that the requirements of this Chapter have been met, specifically including the requirements in §§ 302-13 and 302-16 through 302-21.

F. Inspections, Operation and Maintenance Requirements. The following documents shall be prepared and submitted to the Municipality for review and approval as part of the SWM Site Plan, in accordance with the requirements of Article VII, for each BMP and Conveyance included in the SWM Site Plan (including any to be located on any property other than the property being developed by the Applicant):

(1) An O&M plan;

(2) An O&M agreement;

(3) Any Easement agreements that are needed to ensure access, inspection, Maintenance, operation, repair and permanent protection of any permanent BMP(s) and Conveyances associated with the Regulated Activity;

(4) Any written deed, deed amendment or equivalent document (if needed) to be recorded against a subject property, as shown on the SWM Site Plan maps or plan sheets, or recorded plan sheets for the purpose of protecting and prohibiting disturbance to a BMP or Conveyance; and

(5) Written approval, Easement agreements, or other documentation for discharges to adjacent or downgradient properties when required to comply with § 302-13G and Article VII of this Chapter.

G. An Erosion and Sediment Control Plan, where applicable, as prepared for and submitted to the Conservation District and/or Municipality. A letter of adequacy from the Conservation District, if applicable, must be submitted to the Municipality prior to (or as a condition of) the Municipality's final approval of the SWM Site Plan.

H. A highway occupancy permit from the Pennsylvania Department of Transportation (PennDOT) District Office must be submitted to the Municipality prior to (or as a condition of) the Municipality's final approval of the SWM Site Plan when utilization of a PennDOT storm drainage system is proposed.

§ 302-26 SWM Site Plan Submission.

A complete SWM Site Plan that complies with all applicable provisions of § 302-25 shall be submitted to the Municipality for review and approval, as follows:

A. The SWM Site Plan shall be coordinated with the applicable state and federal permit process and the municipal SALDO review process. All permit approvals or letters of adequacy not yet received by the Applicant at the time of submittal of the SWM Site Plan to the Municipality must be submitted to the Municipality prior to (or as a condition of) the Municipality's final approval of the SWM Site Plan.

B. For projects that require SALDO approval, the SWM Site Plan shall be submitted by the Applicant as part of the preliminary plan submission where applicable for the Regulated Activity.

C. For regulated activities that do not require SALDO approval, the SWM Site Plan shall be submitted by

the Applicant for review in accordance with instructions from the Municipality.

D. The number of copies of the SWM Site Plan to be submitted by the Applicant for review shall be in accordance with instructions from the Municipality.

E. The corresponding review fee shall be submitted to the Municipality simultaneously with the SWM Site Plan, per the Municipality's fee schedule, as revised from time to time.

F. Any submissions to the Municipality that are found to be incomplete shall not be accepted for review and shall be returned to the Applicant within 15 days with a notification in writing of the specific manner in which the submission is incomplete.

G. Financial security, per the requirements of § 302-8, shall be submitted to the Municipality prior to approval of the SWM Site Plan.

§ 302-27 SWM Site Plan Review.

A. The SWM Site Plan shall be submitted to the Municipality for review by the Municipal Engineer for consistency with this Chapter and the respective Pennsylvania Act 167 Stormwater management plan(s). The Municipal Engineer will review the SWM Site Plan for compliance with this Chapter and the municipal SALDO provisions not otherwise superseded by this Chapter.

B. If applicable, the Applicant shall have received a letter of adequacy from the Conservation District or other PADEP approval for the proposed Regulated Activity prior to (or as a condition of) final approval by the Municipality.

C. The Municipal Engineer will notify the Applicant and the Municipality in writing, within 45 calendar days, whether the SWM Site Plan is consistent with the requirements of this Chapter. If the SWM Site Plan involves a Subdivision and Land Development plan, the notification shall occur within the time period allowed by the MPC (as amended). If a longer notification period is provided by other statute, regulation or ordinance, the Applicant will be so notified by the Municipality.

(1) If the Municipal Engineer determines that the SWM Site Plan is consistent with this Chapter, the Municipal Engineer shall forward a letter of consistency to the Municipality, which shall then forward a copy to the Applicant.

(2) The Municipality may approve the SWM Site Plan with conditions reasonably defined to make the SWM Site Plan compliant with the terms of this Chapter and, if so, shall provide the conditions for approval in writing.

(3) If the Municipal Engineer determines that the SWM Site Plan is inconsistent or noncompliant with this Ordinance, the Municipal Engineer will forward a letter to the Municipality, with a copy to the Applicant citing the reason(s) and specific Ordinance sections for the inconsistency or noncompliance. Inconsistency or noncompliance may be due to inadequate information to make a reasonable judgement as to compliance with this Ordinance. Any SWM Site Plans that are inconsistent or noncompliant may be revised by the Applicant and resubmitted in accordance with § 302-29 when consistent with this Ordinance. Resubmission will commence a new municipal review and notification time period.

D. The Municipality will not grant final approval to any proposed Subdivision, Land Development, or Regulated Activity specified in this Chapter if the SWM Site Plan has been found to be inconsistent with this Chapter.

E. All required permits from PADEP shall be obtained and submitted to the Municipality prior to (or as a condition of) final approval of any proposed Subdivision, Land Development, or other Regulated Activity by the Municipality.

F. No building permits for any Regulated Activity will be approved by the Municipality if the SWM Site Plan has been found to be inconsistent with this Chapter, as determined by the Municipal Engineer. All required permits from PADEP shall be obtained prior to issuance of a building permit.

G. The Municipality's approval of a SWM Site Plan shall be valid for a period not to exceed five years, commencing on the date that the Municipality approved the SWM Site Plan. If Stormwater Management Facilities included in the approved SWM Site Plan have not been constructed or, if constructed, As-Built plans of these facilities have not been approved within this five-year time period, then the Applicant may seek reinstatement of approval of the expired SWM Site Plan. If the Municipality determines that the expired SWM Site Plan is consistent and compliant with current regulations and requirements, then the expired SWM Site Plan will be reinstated; otherwise, it will be rejected. The Applicant will be prohibited from conducting any Regulated Activity until a reinstated or newly approved SWM Site Plan is obtained in accordance with § 302-29 of this Chapter.

H. All or portions of the final approved SWM Site Plan shall be recorded (as "record plans") per the instructions of the Municipality.

I. Upon completion of construction, the Applicant shall be responsible for completing final As-Built plans of all BMPs, Conveyances, or other Stormwater Management Facilities included in the approved SWM Site Plan as per the requirements of § 302-31 of this Chapter.

§ 302-28 Revision of SWM Site Plans.

A. Submitted plans.

(1) An unapproved SWM Site Plan under review by the Municipality shall be revised and resubmitted for any of the following reasons:

(a) A change in Stormwater management BMPs, Conveyances, facilities or techniques;

(b) Relocation or redesign of Stormwater management BMPs, Conveyances, or facilities; or

(c) Soil or other Site conditions are not as stated on the SWM Site Plan as determined by the Municipal Engineer, and the new conditions necessitate design changes.

(2) The revised SWM Site Plan shall be resubmitted in accordance with § 302-26 and subject to review as specified in § 302-27 of this Chapter.

B. A revision to an approved SWM Site Plan shall be submitted to the Municipality, accompanied by the applicable municipal review fee.

§ 302-29 Resubmission of Inconsistent or Noncompliant SWM Site Plans.

Any SWM Site Plan deemed inconsistent or noncompliant may be revised and resubmitted with the revisions addressing the Municipal Engineer's concerns documented in writing. The submission shall be addressed to the Municipality in accordance with § 302-26 of this Chapter, distributed accordingly, and be subject to review as specified in § 302-27 of this Chapter. The applicable municipal review fee shall accompany a resubmission of a SWM Site Plan previously determined to be inconsistent or noncompliant.

Article V

Performance and Inspection of Regulated Activities; Final As-Built Plans

§ 302-30 Performance and Inspection of Regulated Activities.

A. All regulated activities shall be conducted, operated and maintained in accordance with the requirements set forth in Articles III, VII, and VIII of this Chapter. When a SWM Site Plan is required by this Chapter, all regulated activities shall be performed in accordance with the requirements of the final approved SWM Site Plan.

B. The Municipal Engineer or other municipal designee shall be provided access to the Site to inspect all phases of the Erosion and Sediment Control measures and installation of the permanent BMPs and Conveyances at such times as deemed appropriate by the Municipal Engineer or other municipal designee.

C. Periodic inspections may be made by the Municipal Engineer or other designee during construction. A set of design plans approved by the Municipality shall be on file and available for viewing at the Site throughout the duration of the construction activity.

D. Inspections, including but not limited to a final inspection, of all constructed BMPs, Conveyances or other Stormwater facilities, and related improvements may be conducted by the Municipal Engineer or other designee to confirm compliance with this Chapter and with the final approved SWM Site Plan prior to the issuance of any occupancy permit, use permit, or other form of final approval of the project by the Municipality.

E. If an NPDES Permit for Stormwater Discharges Associated with Construction Activities was required for the Regulated Activity, a Notice of Termination (NOT) approval must be obtained upon completion of construction prior to final approval of the project by the Municipality.

F. Upon completion of construction, every permanent Stormwater BMP, Conveyance or other Stormwater Management Facility constructed or used as part of the Regulated Activity shall be operated, maintained and inspected by the Landowner, or other designated person, in accordance with the O&M plan and O&M agreement approved by the Municipality.

G. The Municipality or its designee may periodically inspect any permanent Stormwater BMP, Conveyance or Stormwater Management Facility for compliance with this Chapter, an approved O&M plan, or an approved O&M agreement, per the provisions of Article IX. The Municipality may inspect at any time it has reason to believe a violation exists. The Municipality may pursue enforcement for violations consistent with the provisions of Article IX.

§ 302-31 Final As-Built Plans.

A. For regulated activities involving one (1) acre or more of Earth Disturbance, the Applicant shall provide to the Municipality final As-Built plans (signed and sealed by a qualified Licensed Professional) of all BMPs, Conveyances, other Stormwater facilities, and related improvements shown in the final approved SWM Site Plan.

B. The final As-Built plans shall include the following for all BMPs, Conveyances, other Stormwater facilities and related improvements:

(1) The location, elevations, dimensions, and As-Built conditions of all BMPs, Conveyances, other Stormwater facilities, and related improvements, including topographic contours and all typical details for storm drainage and Conveyance systems, Stormwater Management Facilities and Impervious Surfaces (existing, proposed or constructed) included in the approved SWM Site Plan. The latitude and longitude coordinates for all permanent SWM BMPs must also be submitted at the central location of the BMPs; and

(2) Explanation of any discrepancies or variations from the final approved SWM Site Plan, other related approved construction plans, calculations and specifications (and approved revisions thereto).

C. The final As-Built Plans shall include a certification of completion signed and sealed by a qualified Licensed Professional verifying that all permanent BMPs and Conveyances have been constructed according to the final approved SWM Site Plan and related approved construction plans, calculations, and specifications.

D. All areas of the Regulated Activity draining to BMPs must be stabilized prior to submittal of the As-

Built plans.

E. After receipt of the As-Built plans by the Municipality, the Municipality or its designee may review the As-Built plans for consistency with this Chapter, the final approved SWM Site Plan, other related approved construction plans, and subsequent approved revisions thereto, as well as actual conditions at the Site, and the Municipality may conduct a final inspection, as per § 302-30D.

F. The As-Built plans must be received, reviewed and determined to be acceptable by the Municipality prior to:

(1) Closeout of the drainage permit or other closeout of the project by the Municipality;

(2) Release of the financial security or other performance guarantee; and

(3) Dedication of the Stormwater facilities to the Municipality, or Conveyance to a homeowners' association, or other person responsible for operation, Maintenance and repair.

G. Final occupancy permit(s) or use permit or other final approval to use or operate the constructed improvement may not be issued by the Municipality until the final As-Built plans have been accepted.

H. Upon final acceptance of the final As-Built plans by the Municipality, the Applicant shall review and, if required by the Municipality, revise and re-record the O&M plan and the O&M agreement to reflect the final As-Built conditions and information for each permanent BMP or Conveyance, in accordance with the requirements of Article VII.

I. All or portions of the final As-Built plans shall be recorded if required by the Municipality.

Article VI
Fees and Expenses

§ 302-32 Municipality SWM Site Plan Review and Inspection Fees.

A. Fees have been established by the Municipality as adopted by resolution or as otherwise allowed by law to defray plan review and construction inspection costs incurred by the Municipality. All fees listed in § 302-33A shall be paid by the Applicant at the time of SWM Site Plan submission.

B. A review and inspection fee schedule has been established by resolution of the municipal governing body based on the size of the Regulated Activity and based on the Municipality's costs for reviewing SWM Site Plans, O&M plans and agreements and As-Built plans, and conducting inspections pursuant to § 302-30. The Municipality shall periodically update the review and inspection fee schedule to ensure that review costs are adequately reimbursed.

§ 302-33 Expenses Covered by Fees.

A. The fees required of the Applicant by this Chapter shall at a minimum cover:

(1) Administrative costs;

(2) The review of the SWM Site Plan by the Municipality, the Municipal Engineer and other municipal consultants;

(3) Coordination and meetings with the Applicant;

(4) The inspection of Erosion and Sediment Control measures, BMPs, Conveyances and other related improvements during construction;

(5) Review of project communications, reports and additional supporting information;

(6) Other Site inspections;

(7) The final inspection upon completion of the BMPs, Conveyances, and other Stormwater

Management Facilities and related improvements presented in the SWM Site Plan; and

(8) Review of final As-Built plan submission and revised calculations and inspections as needed.

B. The Applicant shall also reimburse all expenses incurred by the Municipality for any additional work or municipal consultant fees required to enforce any permit provisions regulated by this Chapter, correct violations, and ensure proper completion of remedial actions.

C. To the extent that the Applicant disputes the amount of any of the above-referenced fees, the procedures set forth in Section 510(g) of the Pennsylvania Municipalities Planning Code shall be utilized to resolve the same.

Article VII
Operation and Maintenance (O&M) Responsibilities and Easements

§ 302-34 General Requirements for Protection, Operation and Maintenance of Stormwater BMPs and Conveyances.

The following shall apply to all regulated activities in accordance with the requirements of the subsequent sections of this Article VII.

A. Continuing operations and Maintenance responsibilities of all permanent BMPs, Conveyances, or other Stormwater Management Facilities shall be reviewed and approved by the Municipality along with the SWM Site Plan. The Applicant may offer for dedication such facilities as part of the requirements for approval of the SWM Site Plan. Such an offer is not an indication that the Municipality will accept the facilities. The Municipality reserves the right to accept or reject the operations and Maintenance responsibility for any portion of or all of the BMPs, Conveyances or other Stormwater controls and facilities.

B. An operation and Maintenance (O&M) plan shall be submitted to the Municipality for review and approval for all existing and proposed permanent BMPs and man-made Conveyances or other Stormwater facilities identified in the SWM Site Plan. Multiple BMPs or Conveyances may be addressed by a combined O&M plan where all such facilities are similar in O&M requirements and ownership.

C. The O&M plan(s) and O&M agreement(s) shall name the person identified in the SWM Site Plan who shall be the owner of and be responsible for ongoing inspections, operation, repair and Maintenance of each BMP or Conveyance following completion of construction.

D. For any BMP or man-made Conveyance (including any to be located on any property other than the property being developed by the Applicant) to be owned by a person other than the Municipality:

(1) An O&M agreement shall be submitted to the Municipality for review and approval; and

(2) The O&M plan shall be attached to, incorporated within, and recorded as a public record along with a fully executed O&M agreement, all of which shall be recorded as a restrictive covenant that runs with the land and shall be binding upon the Landowner and any heirs, administrators, successors in interest or assigns of the Landowner.

E. The following shall be provided for all BMPs and Conveyances (including any to be located on any property other than the property being developed by the Applicant) by an O&M or other agreement or by otherwise establishing covenants, Easements, deed restrictions, or by dedication to the Municipality:

(1) Permanent protection of the BMP or Conveyance from disturbance or alteration;

(2) Right of entry and access for the Municipality for inspection and enforcement of this Chapter (including § 302-46G) and any applicable O&M plan or O&M agreement; and

(3) Right of entry and access for the person owning the BMP or Conveyance and responsible for fulfilling the O&M requirements when that person is not the Municipality and is different from the owner of the property on which the BMP or Conveyance is located (such as may be applicable for § 302-13G of this Chapter).

F. All O&M and other agreements, covenants, Easements and deed restrictions shall:

(1) Be submitted to the Municipality for review and approval;

(2) Be recorded as a public record, upon approval, against each parcel(s) which is part of the SWM Site Plan or otherwise contains any BMP or Conveyance comprising part of the Regulated Activity which is the subject of an O&M agreement; and

(3) Run with the land and be binding upon the Landowner, its heirs, administrators, successors in interest, and assigns.

G. The materials, documents and content required by this Article VII may be prepared in conjunction with and incorporated with similar materials, documents and content required for other permit or approval applications, such as those required by PADEP for the Post-Construction Stormwater management plan.

§ 302-35 Operation and Maintenance Plans.
The following items shall be included in the O&M plan, unless otherwise approved by the Municipal Engineer:

A. A plan sheet(s) or map(s) showing each BMP and man-made Conveyance, and which shall include but not be limited to:

(1) Property(ies) identification (owner name and address; property address and/or lot and/or tax parcel number, etc.), property boundaries and tax parcel number of the land parcel on which the BMP or Conveyance is located.

(2) Name, address, phone number, date prepared, signature and seal of the Licensed Professional responsible for preparation of the plan sheet or map.

(3) Clear identification of the location, dimensions and function of each BMP or Conveyance covered by the O&M plan.

(4) The location of each BMP and Conveyance relative to roadways, property boundaries, or other identifiable landmarks and existing natural drainage features such as Streams, lakes, ponds or other bodies of water within the immediate vicinity of, or receiving discharge from, the BMP or Conveyance.

(5) Delineation of the land area, structures, Impervious Surfaces and Conveyances draining to and from the BMP.

(6) Representative elevations and/or topographic contours at intervals of two feet or other as acceptable to the Municipal Engineer.

(7) Other features including FEMA Floodplain and Floodway boundaries, sinkholes, etc., located within the immediate proximity of each BMP and Conveyance.

(8) Locations of areas of vegetation to be managed or preserved that function as a BMP or Conveyance.

(9) The locations of all surface and subsurface utilities, on-lot wastewater facilities, sanitary sewers, and water lines within 20 feet of each BMP or Conveyance.

(10) The following as it pertains to any Easements, covenants and deed restrictions established for each applicable BMP or Conveyance:

(a) Boundaries delineated with bearings and distances shown that encompass the BMP or Conveyance and that includes a twenty-foot perimeter area surrounding these features and sufficient vehicular ingress to and egress from a public right-of-way and roadway;

(b) Labels specifying the type and purpose of the Easement, covenant or deed restriction and who it benefits; and

(c) Labels with reference to any corresponding Easement agreement, covenant, deed restriction or other document to be recorded.

(11) The plan sheet or map shall be prepared at sufficient scale for municipal review, and ultimately for the use by the person responsible for operation and Maintenance, and shall also be prepared at a legible scale that meets the requirements for recordation along with (and as an attachment to) the O&M agreement and O&M plan at the Chester County Office of the Recorder of Deeds.

B. The following information shall be included in the O&M plan and written in a manner consistent with the knowledge and understanding of the person who will be responsible for the Maintenance activities:

(1) The name and address of the following:

(a) Property(ies) on which each BMP or Conveyance is located;

(b) Owner of the property;

(c) Owner of each Stormwater BMP or Conveyance who is responsible for implementation of the O&M plan;

(d) Person responsible for maintaining adequate liability insurance and payment of taxes; and

(e) Person preparing the O&M plan.

(2) A description of each BMP and Conveyance and how the BMPs and Conveyances are intended to function.

(3) A description of actions necessary to operate, inspect and maintain each BMP or Conveyance, including but not limited to:

(a) Lawn care, vegetation Maintenance, landscaping and planting;

(b) Cleanout of accumulated debris and Sediment (including from grates, trash racks, inlets, etc.); and

(c) Other anticipated periodic Maintenance and repair.

(4) The following statement shall be included:

"The Landowner acknowledges that, per the provisions of the Municipality's Stormwater Management Ordinance, it is unlawful to modify, remove, fill, landscape, alter or impair the effectiveness of, or place any structure, other vegetation, yard waste, brush cuttings, or other waste or debris into any permanent Stormwater management BMP or Conveyance described in this O&M

plan or to allow the BMP or Conveyance to exist in a condition which does not conform to this O&M plan, without written approval from the Municipality."

(5) Inspection and Maintenance schedules.

(6) Explanation of the purpose and limitations of any Easements, covenants or deed restrictions associated with any BMP or Conveyance that are to be recorded against the property.

C. A statement that no BMP or man-made Conveyance may be used by the owner or others for any purpose other than its intended Stormwater control function or, if approved by the Municipal Engineer, a statement of specific allowable uses of the BMP (i.e., recreational benefits that maybe associated with certain BMPs owned by a homeowners' association, or allowable uses by an individual residential Landowner).

D. A statement that establishes a reasonable time frame for remedy of deficiencies found by the owner during their inspections.

E. Language needed to fulfill the requirements of § 302-38B, C and D of this Chapter.

§ 302-36 Operation and Maintenance Agreements.

A. An O&M agreement shall be required for any BMP or man-made Conveyance to be owned by a person other than the Municipality, and the agreement shall:

(1) Be between the owner of the BMP or Conveyance and the Municipality and shall be substantially the same as the O&M agreement in Appendix E;

(2) Incorporate the approved O&M plan(s) for all BMPs or Conveyances to be covered by the O&M agreement;

(3) Set forth the rights, duties and obligations of the owner of the BMP or Conveyance and the Municipality, and be consistent with the approved O&M plan(s);

(4) Be recorded as a deed restriction or restrictive covenant that runs with the land and shall be binding upon the Landowner, its heirs, administrators, successors in interest, and assigns;

(5) Be submitted to the Municipality for review prior to approval of the SWM Site Plan;

(6) Upon approval by the Municipality, be signed by the designated owner of the BMP or Conveyance and submitted for signature by the Municipality; and

(7) When fully executed, be recorded by the Landowner at the Chester County Office of the Recorder of Deeds following municipal approval of the O&M plan and prior to the start of construction.

B. Other items or conditions may be required by the Municipality to be included in the O&M agreement where determined necessary by the Municipality to guarantee the satisfactory operation and Maintenance of all permanent BMPs and Conveyances.

C. After approval of the final As-Built plans per the requirements of Article V, the Applicant shall review and, if necessary and if required by the Municipality, revise and re-record the O&M plan and O&M agreement to reflect the final As-Built conditions of each BMP and Conveyance if different from the information included in the original recorded documents.

§ 302-37 Easements and Deed Restrictions.

A. Easements shall be established in connection with any Regulated Activity for all permanent BMPs and Conveyances that will not be dedicated to or otherwise owned by the Municipality (including any to be located on any property other than the property being developed by the Applicant), and shall:

(1) Include all land area occupied by each BMP or Conveyance;

(2) Include a twenty-foot-wide perimeter (or other width as determined in consultation with the Municipal Engineer) surrounding the feature(s);

(3) Provide sufficient vehicular ingress and egress from a public right-of-way and roadway;

(4) Permanently protect every BMP and Conveyance from disturbance or alteration where not otherwise protected by a recorded O&M agreement, covenant, deed restriction or other means;

(5) Grant the Municipality the right, but not the duty, to access every BMP and Conveyance from a public right-of-way or public roadway to conduct periodic inspections and to undertake other actions that may be necessary to enforce the requirements of this Chapter or of any applicable O&M plan or O&M agreement; where roadways will not be dedicated to the Municipality, the Municipality shall be granted access to the private roadways as necessary to access every BMP and Conveyance;

(6) Grant the owner of each BMP and Conveyance the right to access, inspect, operate, maintain and repair the BMP or Conveyance when the feature is to be owned, operated and maintained by a person other than the Municipality and other than the owner of the parcel on which it is located;

(7) Be shown, with bearings and distances noted, on the SWM Site Plan map/plan sheets, O&M plan map/plan sheets, final As-Built plans, and be signed and sealed by a qualified Licensed Professional;

(8) Include language legally sufficient to ensure that the Easement shall run with the land and bind the Landowner granting the Easement, its heirs, administrators, successors in interest and assigns, into perpetuity; and

(9) Be recorded at the Chester County Office of the Recorder of Deeds following municipal approval and prior to the start of construction.

B. For any BMP or Conveyance to be owned by a person other than the Municipality or the Landowner owning the parcel upon which a BMP or Conveyance is located, an Easement agreement shall be prepared and executed between the Landowner and the owner of the BMP or Conveyance, which shall:

(1) Describe the ownership interests of all parties to the Easement agreement, including the ownership of the BMP or Conveyance;

(2) Include a written legal (metes and bounds) description of the Easement area, with reference to a recorded plan sheet showing the legal boundaries of the Easement area (or an accompanying plan sheet/map), signed and sealed by a qualified Licensed Professional;

(3) Grant an Easement from the Landowner to the owner of each BMP and Conveyance, establishing the right and obligation to occupy, access, inspect, operate, maintain and repair the BMP or Conveyance;

(4) Include a description of the purpose of the Easement and the responsibilities of the parties involved;

(5) Incorporate by reference or be recorded with the corresponding O&M plan and O&M agreement;

(6) Restrict the Landowner's use of the Easement area of the parcel on which the BMP or Conveyance is located, consistent with the rights granted to the owner of the BMP or Conveyance;

(7) Be submitted to the Municipality for review and approval prior to approval of the SWM Site Plan;

(8) Upon approval by the Municipality, be signed by the owner of the BMP(s) or Conveyance(s) and the Landowner and submitted for signature by the Municipality;

(9) Include language legally sufficient to ensure that the Easement will run with the land affected by the Easement and that the Easement agreement is binding upon the parties to the Easement agreement, their heirs, administrators, successors in interest and assigns into perpetuity;

(10) Contain additional provisions or information as required by the Municipality; and

(11) When fully executed, be recorded by the Landowner at the Chester County Office of the Recorder of Deeds against all parcels affected by the terms of the Easement agreement, within 30 days of the

Municipality's approval of the corresponding O&M plan.

C. For any BMP or Conveyance which is designed to receive Runoff from another parcel or parcels and which is owned by the Landowner of the parcel upon which the BMP or Conveyance is located, in addition to any Easement or Easement agreement required pursuant to Subsection § 302-37A or B of this section, an Easement agreement shall be prepared and executed between the Landowner of the parcel or parcels draining to the BMP or Conveyance and the owner of the BMP or Conveyance. This Easement agreement shall:

(1) Describe the ownership interests of all parties to the Easement agreement, including the ownership of all affected parcels and of the BMP or Conveyance;

(2) Provide for the grant of a drainage Easement from the owner of the BMP or Conveyance to the Landowner of the parcel(s) draining to the BMP, which shall extend from the shared parcel boundary(ies) to the receiving BMP and shall include the connecting flow path(s) or Conveyance;

(3) Include a written legal (metes and bounds) description of the Easement area, with reference to a recorded plan sheet showing the legal boundaries of the Easement area (or an accompanying plan sheet/map), signed and sealed by a Licensed Professional.

(4) Incorporate by reference or be recorded with the corresponding O&M plan and O&M agreement;

(5) State that the purpose of the Easement agreement is to ensure the continuous right of the discharging parcel to discharge onto the parcel containing the BMP and into the BMP or Conveyance;

(6) Restrict the BMP or Conveyance owner's use of the Easement area of the parcel upon which the BMP or Conveyance is located, consistent with the purpose of the Easement granted;

(7) Establish the duty and responsibility of the Landowner of the parcel or parcels draining to the BMP or Conveyance to maintain the existing drainages on the discharging parcel or parcels as designed and constructed to discharge to the receiving BMP;

(8) Include language legally sufficient to ensure that the Easement will run with the land and will bind all parties to the Easement agreement, their heirs, administrators, successors in interest and assigns into perpetuity;

(9) Be submitted to the Municipality for review and approval prior to approval of the SWM Site Plan;

(10) Contain all additional provisions or information as the Municipality may require upon review; and

(11) Be executed by the parties to the Easement agreement and recorded at the Chester County Recorder of Deeds Office against the draining parcel(s) and the parcel upon which the BMP or Conveyance is located within 30 days of the Municipality's approval of the corresponding O&M plan.

D. For any area(s) shown on the SWM Site Plan maps/plan sheets or As-Built plan sheets as requiring, or area(s) that is otherwise determined to require, deed restriction(s) for the purpose of protecting and prohibiting disturbance to a BMP or Conveyance, such deed restrictions will be incorporated into a written deed, restrictive covenant, or equivalent document. The deed or other document shall:

(1) Include a clear and understandable description of the purpose, terms and conditions of the restricted use;

(2) Include the written legal description (metes and bounds description) of the area to which the restrictions apply that is consistent with the boundary shown on the O&M plan sheets and SWM Site Plan maps/plan sheets;

(3) Make reference to any corresponding O&M plan(s) and O&M agreement(s);

(4) Include language legally sufficient to ensure that the terms of the restriction run with the land and

shall be binding upon the Landowner, its heirs, administrators, successors in interest, and assigns;

(5) Be submitted to the Municipality for review and approval prior to approval of the SWM Site Plan;

(6) Upon approval by the Municipality, be signed by the Landowner and owner of the BMP or Conveyance and submitted to the Municipality; and

(7) Be fully executed and recorded at the Chester County Office of the Recorder of Deeds within 30 days of the Municipality's approval of the O&M plan.

§ 302-38 Other Post-Construction Responsibilities.

A. The provisions of § 302-43 of this Chapter shall apply to any permanent BMP or Conveyance that is constructed as part of an approved SWM Site Plan or covered by an approved O&M plan.

B. The person responsible for the operation and Maintenance of a BMP or Conveyance shall make records of the installation and of all Maintenance and repairs and shall Retain the records for at least 10 years. These records shall be submitted to the Municipality.

C. Upon final inspection, the Municipality shall inform the person responsible for the operation and Maintenance whether the submission of periodic (annual or other frequency) inspection and Maintenance reports will be required.

D. The owner of each BMP and Conveyance shall keep on file with the Municipality the name, address and telephone number of the person responsible for Maintenance activities and implementation of the O&M plan. In the event of a change, new information shall be submitted by the BMP or Conveyance owner to the Municipality within 30 working days of the change.

§ 302-39 Inspection and BMP Operation and Maintenance Requirements (Landowner or Owner's Designee) and BMP O&M Fund.

A. The landowner or the owner's designee shall inspect SWM BMP's, facilities and/or structures installed under this Chapter according to the following frequencies, at a minimum, to ensure the BMPs, facilities and/or structures continue to function as intended:

(1) Annually for the first 5 years.

(2) Once every 3 years thereafter.

(3) During or immediately after the cessation of a 10-year or greater storm, as determined by the Municipal Engineer. Inspection reports for inspections during or after the cessation of a 10-year or greater storm event are only required to be submitted if requested by the Municipality or the Municipal Engineer.

B. Inspections should be conducted during or immediately following precipitation events or in dry weather conditions if the BMP design parameters include dewatering within a specified period of time. A written inspection report shall be created to document each inspection. The individual(s) who completed the inspection, the location of the BMP, Stormwater Management Facility, or structure inspection, observations on performance, and recommendations for improving performance, if applicable. Inspection reports for annual and triennial inspections shall be submitted to the Municipality within 30 days following completion of the inspection.

C. Persons installing Stormwater controls or BMPs for projects that involve more than 2,000 square feet of Regulated Impervious Surfaces, shall be required to pay an amount specified by resolution to the Municipal Stormwater Control and BMP Operation and Maintenance Fund to help cover the costs of the Municipal administration of the above referenced inspection program.

Prohibitions

§ 302-40 Prohibited Discharges.

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 the Municipality's separate storm sewer system, Riparian Buffers, Wetlands, or other Waters of the Commonwealth is prohibited.

B. No person shall allow, or cause to allow, discharges into the Municipality's separate storm sewer system or the Waters of the Commonwealth that are not composed entirely of Stormwater, except:

(1) As provided in Subsection § 302-40C below; and

(2) Discharges allowed under a state or federal permit.

C. The following discharges are authorized unless they are determined by the Municipality to be significant contributors to pollution to the Municipality's separate storm sewer system or to the Waters of the Commonwealth:

(1) Discharges from firefighting activities;

(2) Potable water sources, including waterline and fire hydrant flushing, if such discharges do not contain detectable concentrations of Total Residual Chlorine (TRC);

(3) Non-contaminated Irrigation drainage water;

(4) Non-contaminated HVAC condensation and water from geothermal;

(5) Springs;

(6) Water from crawl space pumps;

(7) 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;

(8) Diverted Stream flows;

(9) Flows from Riparian habitats and Wetlands;

(10) Uncontaminated water from foundations or from footing drains;

(11) Lawn watering;

(12) Uncontaminated Groundwater;

(13) Residential (i.e., not commercial) vehicle wash water where cleaning agents are not utilized;

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

(15) Non-contaminated hydrostatic test water discharges, if such discharges do not contain detectable concentrations of TRC.

D. In the event that the Municipality determines that any of the discharges identified in Subsection C of this section significantly contribute pollutants to the Municipality's separate storm sewer system or to the Waters of the Commonwealth, or is notified of such significant contribution of pollution by PADEP, the Municipality will notify the responsible person to cease the discharge.

E. Upon notice provided by the Municipality under Subsection D of this section, the discharger shall, within a reasonable time period, as determined by the Municipality, consistent with the degree of pollution caused by the discharge, cease the discharge.

F. Nothing in this section shall affect a discharger's responsibilities under state law.

§ 302-41 Prohibited Connections.
The following connections are prohibited, except as provided in § 302-40C above:

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 separate storm sewer system, and any connections to the separate storm sewer system from indoor drains and sinks. Any drain or Conveyance that delivers Nonstormwater Discharges directly into Wetlands, Riparian Buffers, or other Waters of the Commonwealth is prohibited.

B. Any drain or Conveyance connected from a commercial or industrial land use to a separate storm sewer system, which has not been documented in plans, maps or equivalent records and approved by the Municipality.

§ 302-42 Roof Drains and Sump Pumps.
A. Roof drains and sump pump discharges shall not be connected to sanitary sewers.

B. Roof drain, sump pump, foundation and footing drain discharges:

(1) To the maximum extent practicable, shall discharge to Infiltration or vegetative BMPs or to vegetated or other areas with adequate capacity;

(2) May be connected to streets, storm sewers, or roadside ditches only if determined necessary or acceptable by the Municipal Engineer; and

(3) Shall be considered in Stormwater management calculations to demonstrate that Conveyance and receiving facilities have adequate capacity.

§ 302-43 Alteration of BMPs.
A. No person shall modify, remove, fill, landscape, alter, or impair the effectiveness of any Stormwater BMPs, Conveyances, Stormwater Management Facilities, areas or structures unless the activity is part of an approved Maintenance program, without the written approval of the Municipality.

B. No person shall place any structure, fill, landscaping, additional vegetation, yard waste, brush cuttings, or other waste or debris into a BMP or Conveyance or within a Stormwater Easement that would limit or alter the functioning of the Stormwater BMP or Conveyance, without the written approval of the Municipality.

Article IX
Enforcement and Penalties

§ 302-44 Public Nuisance.
A. Any Regulated Activity conducted in the violation of any provision of this Chapter is hereby deemed a public nuisance.

B. Each day that a violation continues shall constitute a separate violation.

C. A separate violation will be found to exist for each section of this Chapter found to have been violated.

D. To the extent that the Municipality does not enforce any provision of this Chapter, such action or inaction shall not constitute a waiver by the Municipality of its rights of future enforcement hereunder.

§ 302-45 Right of Entry.

A. Upon presentation of proper credentials, duly authorized officers or agents of the Municipality may request to enter at reasonable times upon any property within the Municipality to inspect the implementation, condition, or operation and Maintenance of all Erosion and Sediment Controls and permanent Stormwater BMPs, Conveyances, or other Stormwater Management Facilities both during and after completion of a Regulated Activity, or for compliance with any requirement of this Chapter. Nothing herein shall abrogate the right of the Municipality to enter onto such property as authorized by law. To the extent that a Landowner refuses to grant such access, the Municipality may take all necessary actions to obtain lawful access or pursue enforcement per §§ 302-46 and 302-47 below.

B. Subject to Subsection A above, persons working on behalf of the Municipality shall have the right to temporarily locate on or in any BMP, Conveyance or other Stormwater Management Facility in the Municipality such devices as are necessary to conduct monitoring and/or sampling of the discharges from such BMP or Conveyance, or other Stormwater facilities.

C. Failure of the Landowner or representative to grant access to the Municipality within 24 hours of notification, verbal or written, is a violation of this Ordinance.

§ 302-46 Enforcement.

A. The Municipal Engineer or other municipal designated official is hereby authorized and directed to enforce all of the provisions of this Chapter. The municipal governing body may delegate enforcement duties, including the initial determination of ordinance violation and service of notice, if notice is given, to such other officers or agents as the Municipality shall deem qualified for that purpose.

B. It shall be the responsibility of the Landowner of the real property on which any Regulated Activity is proposed to occur, is occurring, or has occurred to comply with the applicable terms and conditions of this Chapter.

C. All municipal inspections for compliance with the approved SWM Site Plan shall be the responsibility of the Municipality or its designee.

D. During any stage of the work of any Regulated Activity, if the Municipal Engineer or other designee determines that the Erosion and Sediment Control measures, permanent BMPs, Conveyances or other Stormwater facilities are not being installed or maintained in accordance with the approved SWM Site Plan, the Municipality may suspend or revoke any existing permits or other approvals until the

deficiencies are corrected or until a revised SWM Site Plan is submitted and approved, if and as determined to be necessary by the Municipal Engineer or other designee.

E. In the event that the Municipal Engineer or other designee finds that a person has violated a provision of this Chapter, or fails to conform to the requirements of any permit or approval issued by the

Municipality, or any O&M plan or O&M agreement approved by the Municipality, the Municipality may order compliance by written notice of the violation to the Landowner.

F. Such notice may, without limitation, require the following remedies:

(1) Performance of monitoring, analyses and reporting;

(2) Elimination of prohibited connections or discharges;

(3) Cessation of any violating discharges, practices or operations;

(4) Abatement or remediation of Stormwater pollution or contamination hazards and the restoration of any affected property;

(5) Payment of a fine to cover administrative and remediation costs and/or forfeiture of financial security;

(6) Implementation of Stormwater controls, BMPs and Conveyances; and

(7) Operation, Maintenance or repair of BMPs, Conveyances or other Stormwater facilities.

G. Such notice shall set forth the nature of the violation(s), citing to specific sections of this Chapter which have not been met, and establish a time limit for commencement of correction and completion of correction of the violations(s). The notice shall provide for a right of the Landowner's appeal to the municipal governing body in accordance with § 302-49 of this Chapter. Said notice shall further advise that, if applicable, should the violator fail to take the required action within the established deadline, possible sanctions, clearly described, may be imposed, or the work may be done by the Municipality or designee, and the expense thereof shall be charged to the violator.

H. Failure to comply within the time specified in such notice shall also subject such person to the penalty provisions of this Chapter. All such penalties shall be deemed cumulative and shall not prevent the Municipality from pursuing any and all other remedies available in law or equity.

§ 302-47 Suspension and Revocation of Permits and Approvals.

A. Any building, Land Development, or other permit or approval issued by the Municipality may be suspended or revoked by the Municipality for:

(1) Noncompliance with or failure to implement any provision of the permit or approved SWM Site Plan or O&M agreement;

(2) A violation of any provision of this Chapter or any other law or regulation applicable to the Regulated Activity;

(3) The creation of any condition or the commission of any act during the Regulated Activity that constitutes or creates a hazard or nuisance, or endangers the life, health, safety or property of others; or

(4) Failure to correct a violation within the allowed time period allowed per notice given by the Municipality.

B. Prior to revocation or suspension of a permit, unless there is immediate danger or threat of such danger to life, public health or property, at the request of the Applicant the Municipality's governing body shall schedule a hearing on the violation and proposed revocation or suspension, pursuant to public notice. The expense of a hearing shall be the Applicant's responsibility.

C. A suspended permit or approval may be reinstated by the Municipality when:

(1) The Municipal Engineer or other designee has inspected and approved the corrections to the BMPs, Conveyances or other Stormwater Management Facilities, or the elimination of the hazard or nuisance; and

(2) The Municipality is satisfied that the violation has been corrected.

D. A permit or approval that has been revoked by the Municipality cannot be reinstated. The Applicant may apply for a new permit or approval in accordance with this Chapter.

§ 302-48 Violations and Penalties.

A. Any person violating or permitting the violation of the provisions of this Chapter shall be subject to a fine of not more than $500 for each violation, recoverable with costs. The establishment of a violation for purposes of setting fines or penalties for such violation shall be in accordance with a citation to a Magisterial District Judge with jurisdiction and venue over the location of the violation, and such an action will be subject to the procedures provided for the enforcement of summary offenses under the Pennsylvania Rules of Criminal Procedure. A separate offense shall arise for each day or portion thereof

a violation is found to exist and may be determined for each section of this Chapter which is found to have been violated.

B. In addition, the Municipality may, through its Solicitor, institute injunctive, mandamus, or any other appropriate action or proceeding at law or in equity for the enforcement of this Chapter. Any court of competent jurisdiction shall have the right to issue restraining orders, temporary or permanent injunctions, mandamus, or other legal or equitable forms of remedy or relief. Such relief may include costs, fees and charges, including the Municipality's attorneys' fees (charged at the hourly rate approved by the governing body of the Municipality) and costs, as may be permitted by law.

C. Notwithstanding any other provision of this Chapter, the Municipality shall have the right at any or all times deemed necessary by the Municipal Engineer or designee to enter upon any property within the Municipality to inspect and, upon determination of a violation of this Chapter, to correct the violation, with all expenses associated with correcting the violation to be charged to the property owner responsible for the violation.

§ 302-49 Appeals.

A. Any person aggrieved by any action of the Municipal Engineer or other designee relative to the provisions of this Chapter may appeal to the Municipality's governing body within 30 days of that action.

B. Any person aggrieved by any decision of the Municipality's governing body relative to the provisions of this Chapter may appeal to the County Court of Common Pleas in the county where the activity has taken place within 30 days of the Municipality's decision.

§ 302-50 Repealer.

Any Chapter or Chapter provision of the Municipality inconsistent with any of the provisions of the Chapter are hereby repealed to the extent of the inconsistency only.

§ 302-51 Severability.

If any sentence, clause, section, or part of this Chapter is for any reason found to be unconstitutional, illegal, or invalid, such unconstitutionality, illegality, or invalidity shall not affect or impair any of the remaining provisions, sentences, clauses, sections, or parts of this Chapter. It is hereby declared the intent of the Governing Body of the Municipality that this Chapter would have adopted had such unconstitutional, illegal, or invalid provision, sentence, clause, section, or part of thereof not been included herein.

Article X
Grading Requirements

§ 302-52 Standards for Grading, Excavation and Fill Requirements, and Retaining Walls.

A. Retaining Walls - All retaining walls shall be designed and approved in accordance with the following:

(1) Retaining walls to support the face of excavation shall not exceed a maximum height of five (5) feet or a stepped level or terraced retaining wall system with a combined maximum height of ten (10) feet.

(2) Retaining walls greater than four (4) feet in height shall have a protective pedestrian guard fence meeting the specification of the Township Building Code.

(3) Retaining walls greater than four (4) feet in height shall be designed by a Pennsylvania registered professional engineer whose signature and seal shall appear on the Final Plan. In-lieu-of a seal on the final plan, final plans may contain a note deferring the professional design to a later Shop Drawing submittal to be reviewed and considered for approval by the Municipal Engineer.

(4) Developers or Applicants shall be required to retain the services of a professional geotechnical engineer to inspect construction of all retaining walls, greater than four (4) feet in height, for

compliance with the Township approved design drawings. This geotechnical engineer shall provide a written certification to the Municipality that all retaining walls were constructed in accordance with the design plans prior to final Municipality approval of the improvements.

B. No excavation or fill shall be made with an exposed face steeper in slope than three horizontals to one vertical, except under one or more of the following conditions:

(1) The material in which the excavation or fill is to be made is sufficiently stable to sustain a slope of steeper than three horizontals to one vertical, and a written statement to that effect by a licensed professional engineer experienced in Erosion control is submitted and approved by the Township Engineer. The statement shall certify that the Site has been inspected and that the deviation from the slope specified will not result in injury to persons or damage to property or increased Erosion and resulting sedimentation.

(2) The Municipal Engineer may require a flatter slope when it is found that the material in which the excavating is to be made is unusually subject to Erosion or if other conditions exist which make such a shallower slope necessary for stability and safety.

C. The top or bottom edge of slopes shall be located at least five (5) feet from property lines or from any ultimate right-of-way, whichever is more restrictive, in order to permit a gradual rounding of the edge without encroaching onto the abutting property.

D. Excavation shall not exceed below the angle of repose or natural slope of the soil under the nearest point of any footing or foundation or any existing building or structure unless such footing or foundation is first properly underpinned or protected against settlement.

E. Grading shall not redirect or concentrate surface water onto an adjacent property without written approval of the property owner.

F. During grading operations, necessary measures for dust control to prevent particulate matter from becoming airborne shall be followed. These measures shall include, but not be limited to the following:

(1) A tire cleaning area shall be provided at each point of egress from the development areas;

(2) Use, where possible, of water or other method approved by the Township Engineer for control of dust during any land disturbance activity; and

(3) Prompt removal of earth or other material from paved streets.

G. Grading equipment shall not be allowed to cross permanent or intermittent streams without first obtaining appropriate permits or approvals from the Pennsylvania Department of Environmental Protection.

H. No Applicant shall engage in land disturbance activities that endanger any adjoining property, public street, sidewalk, alley or other property from settling, cracking or other damage which might result from such land disturbance. If, in the opinion of the Township Engineer, the land disturbance would create a hazard to life or property unless adequately safeguarded, the Applicant shall construct walls, fences, guard rails, or other structures to safeguard the adjoining property, public street, sidewalk, alley, or other property and persons.

I. Excavations or fills shall not encroach on natural watercourses, floodplain areas, constructed channels, or Wetlands without the necessary state and federal permits. Excavations or fills located adjacent to natural watercourses or constructed channels shall have suitable protection against Erosion. Excavation and fill shall comply with the maximum disturbance standards contained in the Zoning Ordinance.

J. All fill shall be compacted to provide stability of material and to prevent undesirable settlements. The fill shall be spread in a series of layers, not exceeding twelve (12) inches in thickness, and be compacted by a sheepsfoot roller or other approved method after each layer is spread. The Municipal Engineer may

require compaction tests and reports.

K. Adequate provisions shall be made to prevent surface waters from damaging the cut face of an excavation or the sloping surface or a fill within the area of a proposed subdivision or land development. Slopes of more than ten (10) feet in vertical height shall be separated by level berms of at least four (4) feet in width within which ditches shall be constructed where necessary to prevent Erosion and as a safe place to deposit and receive such water. The Municipal Engineer may require such drainage structures or pipes to be constructed or installed which are perceived necessary to prevent Erosion damage and to satisfactorily carry off surface waters.

L. When excavation or fill is proposed, all retaining walls, cribbing, drainage structures, fences or other protective devices shall be maintained in good condition and repair.

M. All lots, tracts or parcels shall be graded to provide property drainage away from buildings, and to dispose of water without ponding. All land within a development shall be graded to drain and dispose of surface water without ponding, except where ponding as in the case of detention basins, is part of the stormwater management system for the proposed subdivision or land development.

N. All drainage provisions shall be of such design to adequately handle the surface runoff and carry it to the nearest suitable outlet. Where drainage swales are used to direct surface waters away from buildings, they shall be sodded or planted as required.

§ 302-53 Stripping, Replacement of Removal of Topsoil.

A. Initial construction on the subdivision Site shall consist of stripping and stockpiling of topsoil from all areas to be disturbed. Upon completion of other construction, the entire amount of topsoil stripped shall be replaced on the Subdivision or Land Development Site as follows:

(1) No topsoil shall be disposed of, by sale or otherwise, off the site of the subdivision or land development, unless approved otherwise by the Supervisors.

(2) Subsoil may be disposed of at the option of the Applicant or Applicant's agent.

(3) Topsoil and subsoil shall be separately piled and not intermixed.

§ 302-54 Effective Date.

This ordinance shall take effect on _____.

Attachments:

Attachment 1 - Appendix A, Simplified Approach to Stormwater Management for Small Projects

Attachment 2 - Appendix B, Conservation Design and Low Impact Development Site Design

Attachment 3 - Appendix C, Runoff Coefficients and Curve Numbers

Attachment 4 - Appendix D, West Nile Virus Design Guidance

Attachment 5 - Appendix E, Sample Agreement - Stormwater Best Management Practices and Conveyances Operation and Maintenance Agreement

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