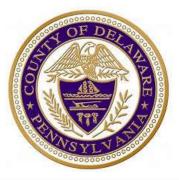
## Delaware County Stormwater Management Ordinance Update







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## Reason for the Update



- Increased rainfall event frequency and intensity
- Protection and improvement of water quality
- NPDES MS4 Permit requirement





## **Outline**

- 1. 2022 DEP Model Stormwater Management Ordinance
- 2. Act 167 Stormwater Management Plans
- 3. Delaware County Stormwater Management Ordinance Updates
- 4. Ordinance Update Timeline



## Background

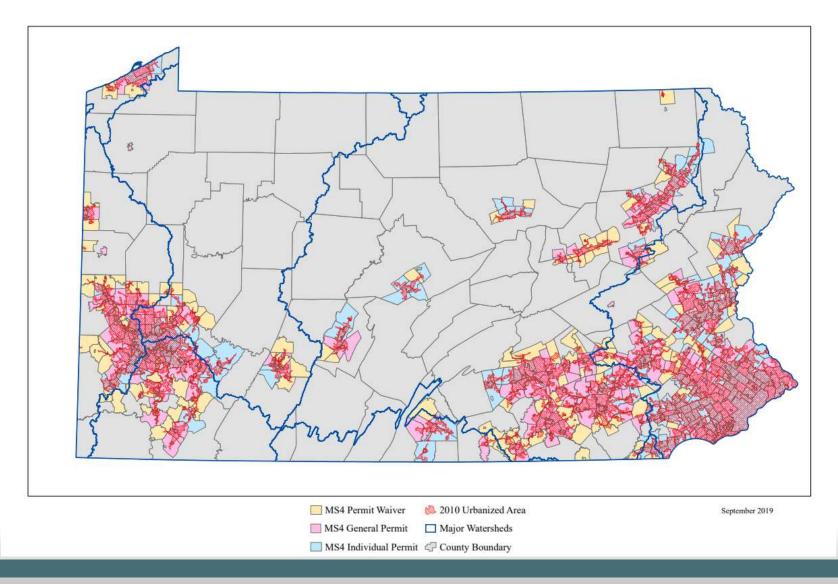


- DEP is directed under Act 167 to develop a model stormwater ordinance.
- Existing MS4s must update existing ordinances to be consistent with the model ordinance by September 30, 2022.
- New MS4s must adopt an ordinance consistent with the model ordinance by September 30, 2022 or with 4<sup>th</sup> Annual MS4 Status Report.
- The Model Stormwater Management Ordinance satisfies **DEP's Act 167** requirements, and, for **MS4s**, regulatory requirements as implemented through **NPDES permits**.
- MS4s should consider requirements unique to specific county-wide or watershed-wide Act 167 Plans.



# es

## Pennsylvania MS4 Municipalities







### 2022 DEP Model Stormwater Management Ordinance

#### **Article I – General Provisions**

Section 101. Short Title

Section 102. Statement of Findings

Section 103. Purpose

Section 104. Statutory Authority

Section 105. Applicability

Section 106. Repealer

Section 107. Severability

Section 108. Compatibility with Other Requirements

Section 109. Erroneous Permit

Section 110. Waivers

#### **Article II - Definitions**

#### **Article III – Stormwater Management Standards**

Section 301. General Requirements

Section 302. Exemptions

Section 303. Volume Controls

Section 304. Rate Controls

Section 305. Riparian Buffers (OPTIONAL)





### 2022 DEP Model Stormwater Management Ordinance

#### **Article IV – Stormwater Management Site Plan Requirements**

Section 401. Plan Requirements

Section 402. Plan Submission

Section 403. Plan Review

Section 404. Modification of Plans

Section 405. Resubmission of Disapproved SWM Site Plans

Section 406. Authorization to Construct and Term of Validity

Section 407. As-Built Plans, Completion Certificate and Final

Inspection

#### **Article V – Operation and Maintenance**

Section 501. Responsibilities of Developers and Landowners

Section 502. Operation and Maintenance Agreements

#### **Article VI – Fees and Expenses**

Section 601. General

#### **Article VII - Prohibitions**

Section 701. Prohibited Discharges and Connections

Section 702. Roof Drains and Sump Pumps

Section 703. Alteration of SWM BMPs





### 2022 DEP Model Stormwater Management Ordinance

#### **Article VIII – Enforcement and Penalties**

Section 801. Right-of-Entry

Section 802. Inspection

Section 803. Enforcement

Section 804. Suspension and Revocation

Section 805. Penalties

Section 806. Appeals

**Article IX – References** 

**Appendix A – Operation and Maintenance Agreement** 





	CHECKLIST		
	Ordinance Provision	2013 Requirement	2022 Requirement
1.	Article I – General Provisions. Does the ordinance contain sections for Short Title, Statement of Findings, Purpose, Statutory Authority, Applicability, Repealer, Severability, Compatibility with Other Requirements, Erroneous Permit, or otherwise these concepts are addressed in the ordinance in a manner generally consistent with DEP's Model Stormwater Management Ordinance?		
	Does the ordinance contain a section for Waivers?		
	Comments:		
2.	Article II – Definitions. Does the ordinance include definitions for all critical terms used in the ordinance, including but not limited to Earth Disturbance Activity, Land Development, Stormwater, Best Management Practice, Municipality, and Waters of the Commonwealth?		
	Comments:	2	





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		Ordinance Provision	2013 Requirement	2022 Requirement
3.	Arti	cle III - Stormwater Management Standards. Does the ordinance require or ide:		
	a.	Preparation and implementation of a stormwater management site plan, unless exempted, and regulated activities may not commence until written approval is issued?		
	b.	BMPs consistent with DEP's Chapter 102 and E&S Manual?		
	C.	Notification of adjacent property owners when stormwater flows may be altered on adjacent property?		
	d.	Design standards directly or by reference, including the design storm volumes to be used in the analysis of peak flows.		
	e.	A standard earth disturbance area, no greater than one acre, for which E&S requirements including rate and volume controls consistent with Chapter 102 apply?		
	f.	Exemptions for certain activities and an explanation of the municipality's authority to deny or revoke exemptions?		
	g.	Use of green infrastructure and low impact development practices?		
	h.	Acceptable methods to determine pre- and post-development runoff volumes?		
	i.	Specification of the post-development peak discharge rates for areas covered and not covered by a release rate map in an approved Act 167 Plan?		





		Ordinance Provision	2013 Requirement	2022 Requirement	
4.		cle IV - Stormwater Management Site Plan Requirements. Does the nance require or include:			
	a.	Specification of minimum requirements for a satisfactory stormwater management site plan consistent with DEP's Model Stormwater Management Ordinance?			
	b.	Submission of an E&S control plan to the appropriate state or county approval authority?			
	C.	The number of site plans needed and to whom the plans need to be submitted?			
	d.	Procedures for municipal review of site plans, modifications of plans, and resubmission of disapproved plans?			
	e.	Specification of the term of approval for site plans?			
	f.	Submission of as-built plans and certificates of completion for BMPs?			





		Ordinance Provision	2013 Requirement	2022 Requirement			
5.	Arti	Article V - Operation and Maintenance. Does the ordinance require or include:					
	a.	Enumeration of stormwater BMPs as permanent real estate appurtenances that must be recorded as deed restrictions or conservation easements that run with the land?					
	b.	Recording of the O&M Plan as a restrictive deed covenant that runs with the land?					
	C.	Enforcement by the municipality for failure to perform O&M?					
	d.	Prior to final approval of the Site Plan, the property owner must sign and record an O&M agreement?					
	e.	If the owner fails to maintain the BMPs, the municipality may conduct the maintenance and charge the owner fees?					
	f.	A financial guarantee for timely installation and proper construction of BMPs or facilities specified in the Site Plan?					
	Con	nments:					
6.	may	cle VI – Fees and Expenses. Does the ordinance indicate that a review fee be required for a Site Plan to include administrative costs, review costs, indance at meetings and inspections?					
	Con	nments:					





		Ordinance Provision	2013 Requirement	2022 Requirement
7.	Arti	cle VII - Prohibitions. Does the ordinance require or include:		
	a.	A general prohibition on non-stormwater discharges from entering the municipal separate storm sewer system.		
	b.	Authorized and Non-Authorized Stormwater Discharges:	. ,	
		Consistent with the PAG-13 General Permit effective on March 16, 2013 ("General Permit Coverage and Limitations")		
		Consistent with the PAG-13 General Permit effective on March 16, 2018 ("Discharges Authorized by this General Permit")		
	C.	A statement that roof drains and sump pumps shall discharge to infiltration or vegetative BMPs wherever feasible?		
	d.	A prohibition on altering BMPs, facilities or structures that were installed under the ordinance without written approval of the municipality?		
	Con	nments:	*	i





		Ordinance Provision	2013 Requirement	2022 Requirement
8.	Arti	cle VIII - Enforcement and Penalties. Does the ordinance require or include:		
	a.	A provision authorizing right-of-entry to inspect BMPs and facilities regulated by the ordinance?		
	b.	A specification of inspection frequencies of BMPs and facilities regulated by the ordinance by the landowner, owner's designee or municipality?		
	C.	Transmission of written reports concerning inspections to the municipality?	,	
	d.	A statement that it is unlawful for a person to undertake any regulated activity except as provided in an approved Site Plan or otherwise exempted?		
	e.	Identification of reasons for a municipality's suspension or revocation of any approval or permit, and procedures to reinstate a suspended approval?		
	f.	Specification of penalties for violations of the ordinance?		
	g.	Appeal procedures?		





## Summary of Changes

- Waivers
- Authorized Discharges
- Written Inspection Reports
- Optional Riparian Buffer Provisions
- Green Infrastructure and Low Impact Development



## Act 167 Stormwater Management Plans



- PA Act 167 of 1978
- Purpose: Reduce flooding and stormwater impacts of future development and redevelopment
- Mandates counties to prepare stormwater management plans and standards
- Mandates municipalities to adopt the stormwater management standards





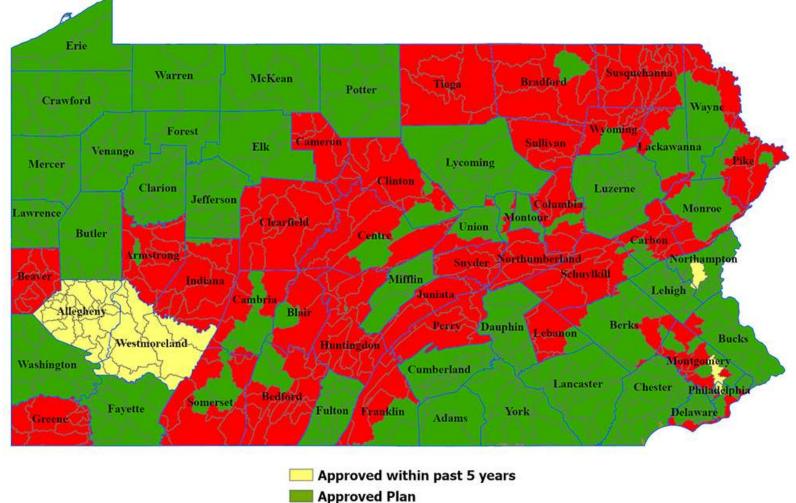
# Act 167 Stormwater Management Plans

- Countywide or Watershed-based plans
- Counties required to submit plans to DEP for approval
- Municipalities must enact ordinances consistent with Plans
- Counties required to update every 5 years
- Specific public and stakeholder input requirements









No Plan





## Delaware County Act 167 Plans

- Ridley Creek (1988)
- Chester Creek (2002)
- Darby-Cobbs Creek (2005)
- Crum Creek (2011)
- Brandywine Creek/Chester Countywide Plan (2013, currently being updated)









- Crum Creek Model Ordinance was updated in 2013
- Compliance with 2013 MS4 permit requirements
- Renamed the Crum Creek Generic Model Ordinance
- Not part of an Act 167 plan update

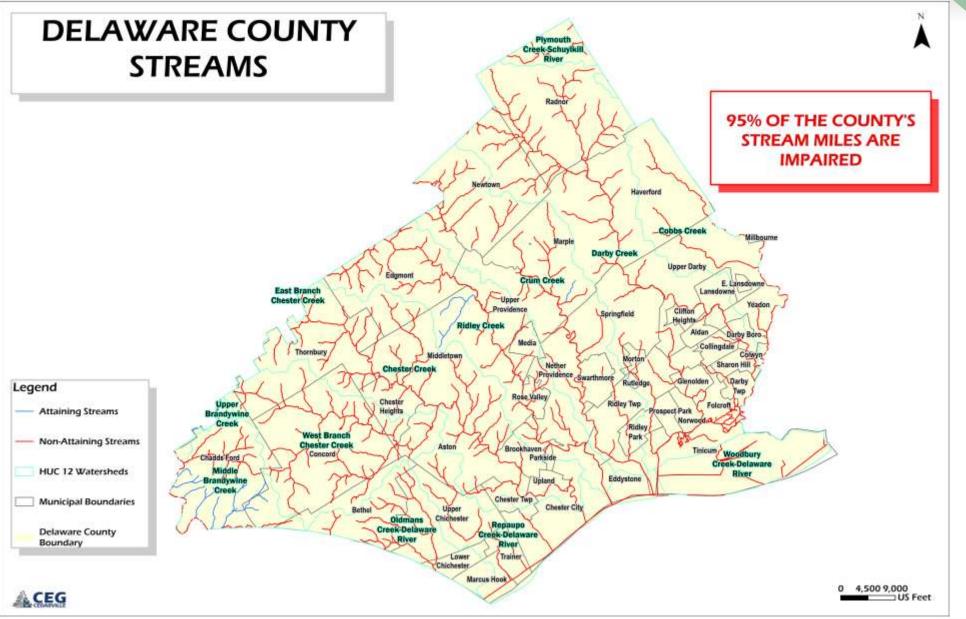




## The Need for an Update

- Compliance with PA DEP's 2022 Model Stormwater
   Management Ordinance to assist MS4 municipalities with implementing MS4 permit requirements
- Increased prevalence of intense storm events
- Continued infill development and redevelopment
- Opportunity to incorporate municipal and public input











## Public and Stakeholder Input

- February 11, 2022: Announced update at Delaware County Sustainability Commission meeting
- March 22, 2022: Announced update at Delaware County Consortium of Governments (COG) meeting
- April 19, 2022: Presenting draft updates at Ordinance Stakeholder meeting
- Will accept comments until the end of April
- Will be distributing an online stormwater management survey.
   Stay tuned....





# **Ordinance Components**

Component	Name	Updates
Ordinance	Delaware County-wide Stormwater Management Ordinance	Yes
Appendix A	District Watershed Map	No
Appendix B	Simplified Approach to SWM for Small Projects	No
Appendix C-1	Sample SWM Site Plan Application and Proposed Schedule of Fees	No
Appendix C-2	SWM Site Plan Checklist	No
Appendix D	Implementation Flow Charts	No
Appendix E	Low Impact Development (LID) Practices	No
Appendix F	SWM Design Criteria	No
Appendix G	References	No
Appendix H	West Nile Virus Guidance	No
Appendix I	Stormwater Controls and BMPs Operations & Maintenance Agreement	Yes
Appendix J	Riparian Buffer Trail Guidelines	No





#### **Minimum Applicability**

- Regulated Activity- any earth disturbance that alters runoff
- Regulated Impervious Surfaces- proposed new impervious surfaces and existing impervious surfaces installed after adoption of first ordinance that regulated impervious surface
- 500-999 sq. ft. of Regulated Impervious Surface- Simplified Approach
- ≥1000 sq. ft. of Regulated Impervious Surface- full ordinance applies
- <1,000 sq. ft.- prohibited from causing pollution or altering runoff from property</p>

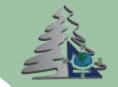




#### **Added Sections**

- Erroneous Permit
- Waivers
- High Tunnel Exemption
- Riparian Buffers
- Removed Optional BMP Maintenance Fund section and added Inspection and BMP O&M Requirements
- Pet Waste





#### **Definitions**

Definition	Added/Updated		
BMP (Best Management Practice)	Updated		
Evapotranspiration	Added		
Floodplain and Floodway	Updated		
Green Infrastructure	Added		
High Tunnel	Added		
Impervious Surface	Updated		
Low Impact Development (LID)	Added		
Pet	Added		
Regulated Impervious Surface	Added		
Stormwater Control Measure (SCM)	Added		
Stormwater Management Facility	Updated		





Increased Emphasis on
Low Impact Development
(LID) and Green
Infrastructure (GI)







#### **Riparian Buffers**

- Moved requirements to stand alone section.
- Added optional provisions from the DEP 2022 Model Ordinance.







#### **O&M Inspection Requirements**

#### **Three Options:**

- 1. Municipal Inspection covered by a Stormwater BMP Maintenance Fund (included in original ordinance)
- 2. Landowner or Owner's Designee Inspection Requirements
- 3. Municipalities can include both options in their ordinance

#### **Inspection Frequencies:**

- Annually for the first 5 years.
- Once every 3 years thereafter.
- During or immediately after the cessation of a 25-year or greater storm (optional)







#### **Pet Waste Management**

- MS4 municipalities that have outfalls that discharge to streams impaired by pathogens
- Requires all pet owners to properly dispose of pet waste on property that is not owned by that person





## Miscellaneous Updates

- Minor clarifications to design criteria throughout
- Incorporated references to PA Stormwater BMP Manual (or latest design guidance as amended)
- Evapotranspiration can be quantified and credited towards meeting Water Quality requirements
- NPDES Permit Notice of Termination (NOT) requirement





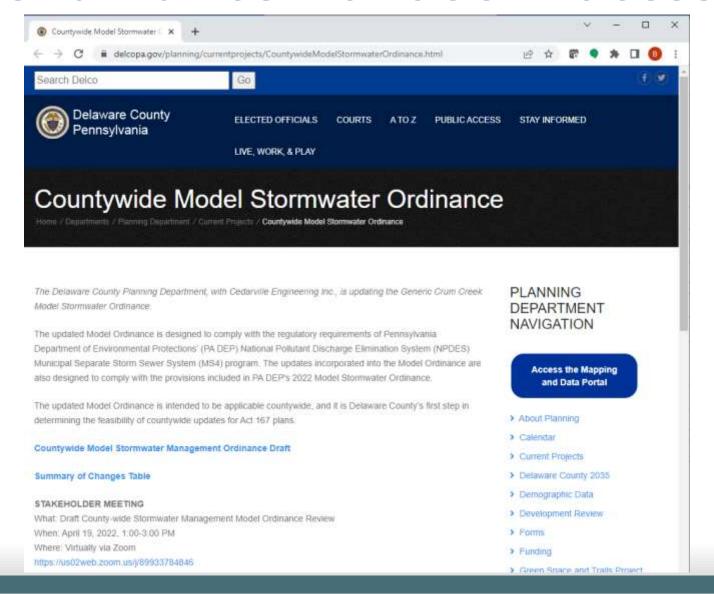
## **Benefits of Updated Ordinance**

- Satisfies municipal MS4 requirements
- Provides a consistent framework for stormwater management across the County
- Increased focus on utilizing green infrastructure and low impact development practices to control runoff
- Enhanced long-term O&M measures for Post Construction Stormwater Management (PCSM) Best Management Practices (BMPs)
- Promotes the protection of the County's streams, riparian areas, wetlands, and floodplains





### **Ordinance Rollout Process**





### **Tools**

Release of water can begin at the start of the storm (i.e., the invert of the water quality orifice is at the invert of the facility). The design of the facility shall provide for protection from clogging and unwanted sedimentation.

 The temperature of receiving waters shall be protected through the use of BMPs that moderate temperature.

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present on the site, the Applicant shall create a marrian buffer extending a minimum of 1/th, 1/50) so one hardered ifth 1/50 subject to federal and state buffer policies and regulations test to either side of the top of bank of the channel, take, or watand. The buffer area shall be alanted with native vegetation and maintained in a vegetated state (Refer to Appendix B. Pannophania Native Plant List, contained in the PA BMP Menual).

1. The following provisions also apply to repartion buffers on lots in extintence at the time of adoption of this Ordinance.

1. The applicable read or side yard setbock is less than [fife 1/50 1/50] fort) the buffer width may be reduced to twenty five (25) percent of the setbock or twenty five (25) feet witchever is greater.

1. If a stream traverses a site in a manner that significantly reduces the use of the rife, the buffer may be either.

1. Reduced to twenty five (25) feet an either side with municipal approval, of a Reduced to ten (10) feet with municipal waves.

2. Permitted uses within the buffer include the following subject to municipal approval and provided that they compily with all federal state, and local regulations.

2. Permitted uses within the buffer include the following subject to municipal approval and provided that they compily with all federal state, and local regulations.

2. Permitted uses within the buffer include the following subject to municipal approval.

2. Permitted uses within the buffer include the following subject to municipal approval.

3. Permitted uses within the buffer include the following subject to municipal approval.

3. Permitted uses within the buffer include the following subject to municipal approval.

3. Permitted uses within the buffer include the following subject to municipal approval.

4. Other uses subject to municipal approval.
```

#### Section 307. Stream Bank Erosion Requirements

A. In addition to controlling the water quality volume (in order to minimize the impact of stormwater runoff on downstream stream bank erosion), the primary requirement to control stream bank erosion is to design a BMP to detain the proposed conditions 2-year, 24-hour design storm to the existing conditions 1-year flow using the SCS Type II distribution. Additionally, provisions shall be made (such as adding a small orifice at the bottom of the outlet structure) to release the proposed conditions 1-year storm for a minimum of twenty-four (24) hours from a point in time when the maximum volume of water from the 1-year storm is stored

structions (December 2020) or the most recent guidance from PADEP.

Evapotranspiration may be quantified and credited towards meeting volume requirements according to the PADEP Post Construction Stormwater Management (PCSM) Spreadsheet and

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in a proposed BMP (i.e., 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 water quality orifice is at the invert of the facility).

### **Tools**

#### NOTES TO MUNICIPAL EDITOR:

- 1) This County-wide Model Stormwater Management Ordinance was developed by Delaware County to provide municipalities with assistance in complying with the 2022 Pennsylvania Department of Environmental Protection (PADEP) Model Stormwater Management Ordinance as required by the National Pollutant Discharge Elimination System (NPDES) Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s). The base of this Model Ordinance is the Crum Creek Watershed Generic Model Stormwater Management Ordinance which is the 2011 Crum Creek Watershed Model Stormwater Management Ordinance which was updated for compliance with the 2012 PADEP Model Stormwater Management Ordinance and modified for use by all Delaware County municipalities for assistance in complying with NPDES Permit for Stormwater Discharges from Small MS4s.
- 2) It is recommended that municipalities enact the Model Ordinance as a stand-alone ordinance. In addition, it is recommended that municipalities review existing subdivision and land development and zoning ordinances and consider amending them to refer to and coordinate with the new stormwater management ordinance. Enactment in this manner is anticipated to provide maximum flexibility and authority for enforcement.
- Municipality may, at its option, replace the term "Municipal Engineer" with "Municipality" in any or all places where "Municipal Engineer" currently appears throughout the Ordinance.
- 4) The text highlighted in blue indicates the Municipal Editor should enter in municipal-specific information. The text highlighted in green indicates additions to the original Crum Creek Watershed Generic Model Stormwater Management Ordinance. The text highlighted in with a strikethrough indicates deletions from the original Crum Creek Watershed Generic Model Stormwater Management Ordinance.
- 5) To ensure applicability of this Ordinance to your Municipality, be sure to insert your Municipality's name in each of the following locations:
  - a) Ordinance Title
  - b) Section 101
  - c) Article II, within the definitions of the following terms -
  - i. Governing Body
  - ii. Municipality
  - iii. Planning Commission
  - iv. Subdivision and Land Development Ordinance.
- 6) Where more than one Act 167 stormwater management plan applies to any given Municipality, it is recommended that the Municipality prepare and adopt one composite stormwater management ordinance that applies to the entire Municipality. If this County-wide Model Ordinance is used as the basis for a composite ordinance, then the following must be included:
  a) The peak runoff release rate standards from the previously approved Act 167





### **Tools**



#### Delaware County-wide Model Stormwater Management Ordinance Updates - Summary of Changes

This table was created to document significant changes made to the Crum Creek Watershed Generic Stormwater Management Model Ordinance which previously served as the informal Delaware County-wide Ordinance. The Ordinance has been updated to for consistency with the Pennsylvania Department of Environmental Protection's (PA DEP) 2022 Model Stormwater Management (SWM) Ordinance, as well as general updates for clarity. This table summarizes the changes and does not include minor administrative updates. For complete documentation of the updates, please reference the Model Ordinance document itself. The Ordinance has been renamed the Delaware County-wide Model Stormwater Management Ordinance.

No.	Topic	Change	Reason for Update	Location Reference	Comments
1	Title	Revised ordinance title from "Crum Creek Watershed Stormwater Management Model Ordinance" to "Delaware County-wide Model Stormwater Management Ordinance."	General Update	Cover Page	Update to Cover Page.
2	Table of Contents	Added new sections that were inserted into the ordinance to the table of contents: Erroneous Permit, Waivers, and Riparian Buffers.	2022 MS4 Requirements	Table of Contents	Update to Table of Contents.
3	Notes to Municipal Editor	Added this section as instructions to whomever is editing the ordinance and customizing for the municipality.	General Update	Notes to Municipal Editor	Added to provide additional instruction to editor.
4	Green Infrastructure and Low Impact Development	Added statement regarding the intentions of Green Infrastructure (GI) and Low Impact Development (LID) use.	2022 MS4 Requirement	Subsection 102.H	Inserted language directly from PA DEP 2022 Model SWM Ordinance.
5	TMDLs	Added statement regarding the implementation of Total Maximum Daily Load (TMDL) requirements.	General Update	Subsection 103.S	Added for consistency with state and federal regulations.
6	Statutory Authority	Added reference to the Third Class City Code.	General Update	Subsection 104.E	Added language for clarification.
7	Exemptions	Added High Tunnels language.	Act 167 Requirement	Subsection 106.A.3	Inserted language directly from Act 167 amendment.
8	Erroneous Permit	Added this section for consistency with the PA DEP 2022 Model Ordinance.	2022 MS4 Requirement	Section 110	Inserted language directly from PA DEP 2022 Model SWM Ordinance
9	Waivers	Added this section as required by the PA DEP 2022 Model SWM Ordinance.	2022 MS4 Requirement	Section 111	Inserted language directly from PA DEP 2022 Model SWM Ordinance
10	Conservation District	Updated from the Crum Creek Model Ordinance to specify Delaware County.	General Update	Section 202	Inserted Delaware County.
11	Department	Added references to DEP, PA DEP, and PADEP.	General Update	Section 202	Inserted references to DEP, PA DEP, and PADEP.
12	Designee	Updated from the Crum Creek Model Ordinance to be specific to Delaware County.	General Update	Section 202	Inserted Delaware County Planning Department and Delaware County Conservation District.





## **Next Steps**



- 1. Draft Updated Ordinance and Summary of Changes are **posted on website**.
- 2. Comments will be accepted until the end of April.
- 3. Submitting to DEP for review **mid-May**. Will make final ordinance documents available to municipalities shortly at the same time.
- 4. Municipal Ordinance Information Workshop May 17, 2022 at 1:00pm.
- 5. Municipalities to review, edit, and adopt updated ordinance.
- 6. Submit to DEP with Annual MS4 Status Report due September 30, 2022.





## **Next Steps**

- The County-wide Model Ordinance is first step in determining feasibility of County-wide updates to the Act 167 plans.
- ➤ A survey will be distributed via email in the beginning of May for input on pursuing County-wide Act 167 planning.









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