

**BOROUGH OF CHAMBERSBURG
REQUEST FOR PROPOSALS FOR
PROFESSIONAL
CONSULTANT SERVICES FOR
STORM SEWER UTILITY RATE STRUCTURE AND CREDIT PROGRAM**

I. INTRODUCTION

The Borough of Chambersburg (Borough) is soliciting proposals (RFP's) from highly experienced and professional consulting firms (Consultant) to: (1) analyze and calculate impervious coverage throughout the Borough, in an effort to develop a storm sewer utility rate structure based on the actual impervious coverage for each parcel in the Borough relating to the demand for stormwater management services, (2) establish a program to monitor and model stormwater system flow and recommend strategies to implement BMP's to address problem areas, (3) account for and anticipate necessary or desirable capital improvements over the next ten (10) years for the stormwater system, and (4) develop a credit program for the Borough's storm sewer utility to encourage Borough rate payers to help manage stormwater at the point it is generated. As a possible alternative add-on, please include qualifications and pricing for stormwater management plan review and capital improvement project design, cost estimates and management services.

A. Background Information

The Borough – located in the Conococheague Creek Watershed which includes the Falling Spring Creek – regulates stormwater according to a Stormwater Management Ordinance adopted by Town Council on June 20, 2004, and amended on July 14, 2014. The Stormwater Management Ordinance was originally drafted and adopted according to the Act 167 Conococheague Creek Watershed Plan as approved by the Pennsylvania Department of Environmental Protection (DEP) on November 10, 2003.

The Borough's municipal separate storm sewer system (MS4) operates under NPDES General Permit No. PAG 133704, of which coverage commenced on August 1, 2013, and will expire at midnight on July 31, 2018. The Borough storm sewer system is comprised of the following:

- Number of inlets: 2,533
- Total length (feet or miles) of storm sewer pipes: 337,867 feet or 63.99 miles
- Total length (feet or miles) of storm sewer open channels: 77,109 feet or 14.60 miles
- Number of detention basins or rain gardens: 108
- Number of subsurface detention areas: 60
- Number of outfalls to Conococheague Creek and Falling Spring Creek: 128
- Number of pervious parking lots and/or sidewalks: 35

The Borough encompasses 4,434.99 acres with approximately 2,555.47 acres (57.62%) of pervious area and approximately 1,879.52 acres (42.38%) of impervious cover. Of the impervious cover, approximately 571.67 acres (30.42%) is covered with buildings, approximately 401.62 acres (21.36%) is covered with streets (Borough, State Routes and private) and approximately 417.11 acres (22.19%) is covered with parking lots. The remaining 489.12 acres (26.03%) is covered with items such as sidewalks, concrete slabs, swimming pools and decks that were not incorporated into the previously noted categories.

The Borough's Storm Sewer Utility (Utility) was created in January 2015, and operates on a separate fund to manage the infrastructure, rules, policies, local laws, and environmental responsibilities of the Borough's storm sewer system.

II. SCOPE OF WORK

A. SERVICES REQUIRED

The Consultant shall provide the following services as part of the proposal.

1. **Stormwater Management Program Review** – The Consultant shall examine documentation developed by the Borough outlining existing drainage and stormwater facilities, the Borough's existing/proposed level of service, associated utility budgets and capital plans outlining revenue needs, ordinances, policies and the like. The Consultant shall address each of the following tasks in its proposal:
 - a. *Stormwater Infrastructure Review* – Review the Borough's GIS mapping and stormwater infrastructure inventory database to gain an understanding of the scale of publically vs. privately owned stormwater facilities for the purpose of reviewing budgets and staffing needs, recommending ordinances and policies, etc. If any further mapping is required, include the cost of mapping in the proposal.
 - b. *Stormwater Problem Identification* – Identify infrastructure needs and any deficiencies in existing drainage and/or stormwater facilities as well as define additional services and/or facilities planned to address these needs.
 - c. *Regulatory Requirement Determination* – Review current Borough stormwater management regulatory requirements under existing state/federal permits and regulations, as well as current local and county regulations that affect stormwater management, and review additional service and/or facilities planned for regulatory compliance and associated costs.
 - d. *Review of Desired Level of Service* – Review the proposed level of service in comparison to the stormwater infrastructure, proposed functions and activities of the system, identified problems and regulatory requirements outlined above.
 - e. *Cost of Service Review* – Evaluate the annual administrative and capital budgets deriving revenue needs provided by the Borough, including operations and maintenance, administrative and capital costs as compared to the proposed level of service and operational and regulatory needs of the system. The Consultant shall develop a budget and determine estimated annual revenue needs for the Utility over a five (5) year planning period.
 - f. Consultant shall develop a capital improvements program, outlining necessary and/or desirous capital improvements to the stormwater system over a five (5) year planning period.

2. **Evaluation and Development of Rate Structures** – The Consultant shall develop a rate structure whereby the revenue brought in fully sustains the monetary demands of the Utility. The Consultant shall address each of the following tasks in its proposal:
- a. *Impervious Area Development* – Analyze impervious coverage in the Borough using GIS software or a similar software or other appropriate means. The Consultant shall specifically state, in the proposal, the methodology for said analyzation.
 - b. *Characterize Imperviousness of Each Parcel/Review of Equivalent Runoff Unit (ERU) Rate Structure* – Develop impervious area estimates to determine if an ERU method is recommended for the Borough. If an ERU method is not recommended for the Borough, the Consultant shall propose alterative rate structures.
 - c. *Develop a Cost Allocation Model* – Develop a cost allocation model relating services provided by the utility to user rate charges. The model should be centered on the principal of establishing a utility rate structure that relates rates and charges to the benefits provided to each customer. Cost allocation should depend upon the level of service implemented and may include identifying stormwater services directly related to the quantity and quality of runoff discharged from a property (impervious surfaces directly related to runoff), the number of utility accounts (such as billing), storm sewer extensions and related facilities that provide services to a small subset of the community, and associated allocations.
 - d. *Develop Preliminary Rates, Revenue Projections and Bill Analysis* – Develop a rate model spreadsheet to define the billing rate necessary to raise adequate revenue from utility customers to fund identified cash flow needs. The Consultant shall also develop a five (5) year schedule of stormwater utility rates.
 - e. *Stakeholder Advisory Committee Formation* – Consultant should include as a service the provision of technical assistance to the Borough’s grant and public outreach consultant for the establishment of a Stakeholder Advisory Committee made up of potential ratepayer groups benefitting from the stormwater system.
 - f. *Collaboration with other Consultants* - Collaborate with the Borough’s grant and public outreach consultant by providing technical assistance in identifying and/or securing potential grant funding and/or low interest loan programs.
3. **Evaluation and Recommendation for a Credit Program; Appeals Process; Prepare Credit and Appeal Manual** – The credit system should be designed in such a way as to incentivize property owners to reduce the amount and improve the quality of stormwater generated on their property. It should also include for credits for

those property owners currently managing their stormwater not just those who make improvements after the rate structure is in place.

Assist the Borough in developing criteria for adjustment, creating an appeal form and developing a process for reviewing customer requests and responding to appeals. The Consultant should propose how the appeals process will utilize the Borough and Borough Staff to define critical issues that shall be addressed by a credit policy. The Consultant shall also prepare a guidance document for rate payers seeking to obtain new credits, appeal the denial of credits, and provide information as to the criteria needed for a successful credit application.

4. **Monitor and Model Stormwater System Flow** – Develop a program to monitor and model stormwater system flow and recommend strategies to implement BMP's within the Borough.
5. **Provide Technical Assistance with Pollutant Control Measures and Pollutant Reduction Plans** – The Borough is a MS4 permittee with a storm sewer system that discharges to surface waters within the Chesapeake Bay watershed and must, as part of a MS4 Permit Notice of Intent, submit to the Pennsylvania Department of Environmental Project (DEP) no later than September 16, 2017 a Chesapeake Bay Pollutant Reduction Plan to reduce the load of nutrients and sediment to surface waters. The Consultant shall examine the Chesapeake Bay Pollutant Reduction Plan (“PRP”) that was filed with DEP on July 28, 2014 and address in its proposal any revisions necessary to update the plan along with the tasks required to make those updates no later than September 16, 2017, including a methodology to establish pollutant load reduction(s) and associated Best Management Practices for the Borough, a strategy for soliciting public involvement and participation in the planning process, such as a stakeholder committee, assisting the Borough, where necessary, with drafting the requisite reports associated with the PRP and reporting criteria for the Borough to file necessary reports with DEP.
6. **Add-on Alternative: Stormwater Management Plan Review** – The Consultant shall be responsible for providing professional engineering/consulting services to the Borough by reviewing stormwater management plans submitted as part of land development plans for property located within the Borough. The Consultant shall provide the services identified below:
 - a. Review stormwater management plans to ensure compliance with the Borough's adopted ordinances and prepare review comment letters.
 - b. Review and provide recommendations to the Borough regarding development escrow funds associated with stormwater management features including determination of the amount to escrow and reductions.
 - c. Furnish technical opinions in response to telephone inquiries from the Borough staff and others referred by the Borough staff including developers, developer's engineers, and agency officials.

- d. Attend meetings when requested by the Borough.
 - e. Perform field inspections and/or construction observation, as requested by the Borough, to determine compliance of stormwater features with the Borough ordinances and approved stormwater management plans.
 - f. Review the Borough ordinances associated with stormwater, as requested by the Borough, and provide recommendations for updates to consider by the Borough.
7. **Add-on Alternative: Design, Cost Estimate, and Management Services** – The Consultant shall be responsible for providing design, cost estimate and management services for stormwater system capital improvement projects as directed by the Utility and/or provide other assistance as deemed necessary by the Borough for special projects related to stormwater management.

B. AVAILABLE BACKGROUND INFORMATION

The Consultant may access the following background information for use in preparing its proposal via the Borough website (www.borough.chambersburg.pa.us)

- 1. The Borough's current MS4 Permit,
- 2. The Borough Stormwater Management Ordinance,
- 3. The Borough Storm Sewer Utility Feasibility Report, October 13, 2014.
- 4. The Borough Chesapeake Bay Pollutant Reduction Plan, July 28, 2014.
- 5. All available mapping, GIS or otherwise, the Borough already has regarding the stormwater management system throughout the Borough.

III. PROPOSAL SUBMITTALS

A. QUALIFICATIONS AND TECHNICAL PROPOSALS

- 1. *Required Technical Proposal Content.* The Borough will be contracting the work under this RFP with one consulting firm that will be responsible for all Work in the proposal and the work of its Consulting Team, which shall include all employees and/or Borough approved subcontractors. The Consultant is required to complete and submit a response including the information outlined in this request. The response under this section shall include the following:
 - a. *Consulting Team:* Organizational charts, description of staff project roles, description of sub-consultant roles and capsule experience information; a resume/curriculum vitae ("CV") shall be included in the appendix and shall be limited to 2 pages each.

- b. *Relevant Experience:* Description of the lead Consultant and key Consulting Team members' similar experience implementing the services required in Section II, Subsection A of this RFP on similar size, type, and complexity projects. Preference will be given to those consultants having demonstrated experience with GIS based software or similar software to determine the amount of impervious coverage in a certain area.
 - c. *Project Staff Loading Analysis:* This section shall contain spreadsheet summaries of the person-hours required to implement the scope of work. Loading shall be by labor classification and task. The loading analysis shall be subdivided into the projects in the scope of work. Costs of supplemental services may be separately requested from the top three Consultant candidates.
 - d. *Schedule:* Propose a progress schedule to complete each Task in Section II, Subsection A.
2. *Key Project Staff and Experience and Commitments.* The Consultant shall provide resumes/CVs for all personnel and an organizational chart of key staff who will be assigned to each project. The resume/CV for each person shall be limited to two (2) pages and describe the individual's previous experience applicable to the project. Each resume/CV shall clearly indicate the office from which said individual principally works. Additionally, the Consultant shall identify the offices which will handle the work and assign a percentage of work that is being done at each office.

The Consulting Team shall also describe its current project commitments and the availability of their respective staff and equipment. The Consultant shall include an explanation of how these Projects and its schedule will fit into that of the Consulting Team and describe any foreseeable conflicts for staff or equipment.

The Consultant shall also provide a list of at least three (3) references for the Consultant and/or any entity part of the Consulting Team. The Consultant and all members of the Consulting Team, by submitting a proposal to the Borough, authorize the Borough and its representatives to contact former clients and/or references to discuss the qualifications and performance of the Consultant and/or Consulting Team.

The Consulting Team, by submitting a proposal to the Borough, agrees to expressly release the Borough, its employees, agents, attorneys, representatives, Council members, and assigns as well as the former client and/or reference and their agents, attorneys, heirs and assigns from any and all rights, losses, damages, claims, actions or causes of action, whether in contract or tort, law or equity, whether known or unknown, suspected or unsuspected, which Consultant ever had, now has, or ever will have against the Borough, former clients and/or references related to the discussion in any manner of any member of the Consulting Team's performance and/or qualifications.

The Borough reserves the right to approve key staff such as Project Manager and key consulting personnel. If and when the Borough accepts the proposal from the

Consultant, the Consulting Team cannot change without the express written consent of the Borough.

3. *Litigation/Arbitration.* The Consultant shall identify any litigation or arbitration involving any member of the Consulting Team relating to any projects that any member of the Consulting Team has been involved with in the last five (5) years.
4. *Reservation of Rights.* The Borough reserves the right to waive any irregularities in the proposals and to reject any and all proposals or to waive any informality in the proposals. The Borough reserves the right to reject any and all proposals or to accept no proposals. Further, the Borough reserves the right to accept any proposal which the Borough deems to be in its best interest of the residents of the Borough, and not necessarily the proposal with the lowest cost. The Borough reserves the right to require any Consultant or Consulting Team to submit additional information that the Borough deems necessary in evaluating the proposals. The Borough reserves the right to negotiate final contract, scope of work, and the schedule of fees with the Consultant or Consulting Team whose proposal the Borough accepts.

B. PRICE PROPOSAL

1. *Required Price Proposal Content with Proposal Submission.* All proposals shall include a general schedule of proposed hourly rates for all members of the Consulting Team.
2. *Cost, Time & Expense Summary.* The Consultant is required to submit a detailed spreadsheet showing the time, cost and expenses for each Task in Section II, Subsection A.
3. *Insurance.* The Consultant shall obtain and continue in force, during the term of the contract, all insurance stated below. Each insurance policy shall not be canceled or changed without thirty (30) days prior written notice by registered mail, given by the insurance carrier to the Borough. Concurrent with execution of the Agreement, the Consultant shall provide the Borough with certificates evidencing the insurance as follows:
 - a. Worker's Compensation and Occupational Disease Disability Insurance as required by the laws of the Commonwealth of Pennsylvania.
 - b. Professional Liability Insurance: minimum coverage \$5,000,000.
 - c. Comprehensive Automobile Liability Insurance for vehicles furnished by the Consultant with a combined single limit of at least \$1,000,000 for each occurrence.
 - d. General Liability Insurance: Bodily Injury, \$1,000,000 per occurrence and \$2,000,000 in the aggregate. Property Damage, \$1,000,000 per occurrence and \$2,000,000 in the aggregate.
4. The Consultant shall cause the aforesaid insurance policies to be duly and properly endorsed by insurance underwriters as follows:
 - a. To provide that the Borough, its employees and elected/appointed officials are endorsed as additional insured on the General Liability Insurance policy.
 - b. To contain a standard and cross liability and severability clause.

- c. To provide that aforesaid insurance shall be primary in all instances with respect to the Borough insurance, which shall be considered secondary or excess at all times, but only to the extent necessary to implement the indemnity obligations contained herein.
 - d. To provide contractual liability coverage for liability assumed under the terms of the contract.
 - e. To provide thirty (30) days' prior written notice of cancellation or change in coverage, sent by registered mail to the Borough.
5. *Responsibility.* The Consultant shall be solely responsible for correcting errors, omissions and ambiguities of and providing clarification regarding technical aspects of their work at no cost to the Borough.
6. *Licensing.* The Consultant's key personnel approving all submittals, designs, plans and permit applications shall be, as necessary, professional engineers licensed to practice engineering within the Commonwealth of Pennsylvania.
7. *Conflict of interest.* No conflicts of interest shall be permitted on this Project. Any potential conflict of interest that may exist if any member of the Consulting Team has any interest that would conflict, or has the appearance of conflicting, in any manner with the performance of the work on this Project must be disclosed and addressed.
8. *Validity.* The proposals must be valid for at least ninety (90) days from the required date of submission. Selection of the top three (3) Consultant candidates shall occur within forty-five (45) days of the required submission date. Updated price proposals for the top three (3) Consultant candidates shall be due within ten (10) days of the date of their selection. The Borough, at its option, can extend the date for selection of the top three Consultant candidates, however, the final selection, if any selection is made, shall occur not later than ninety (90) days from the date of required submission of proposals.
9. *Telephonic/Telegraphic Proposals.* No telegraphic or telephonic proposal or modification shall be considered. Proposals submitted after the time fixed for receiving them may not be considered.
10. *Withdrawal of Proposals.* Any proposal may be withdrawn, either personally or by written request, at any time prior to the scheduled time for submission of the proposals.
11. *Indemnification.* The Consultant shall indemnify and hold harmless the Borough and its officials, employees, elected/appointed officials, and agents from and against all liabilities, judgments, settlements, losses, costs or charges (including attorney's fees) incurred by the Borough or any of its officials, employees, elected/appointed officials, or agents as a result of any claim, demand, action or suit relating to any bodily injury (including death), loss or property damage caused by, or arising out of, related to or associated with any act, omission, or default of the Consultant, its employees or subcontractors, in the performance of or in connection with, any Work required by, contemplated or performed under the contract.

12. *Assignment.* The successful consulting firm is prohibited from assigning, transferring, conveying, subletting, or otherwise disposing of its agreement with the Borough or its rights, title, or interest therein, or its power to execute such agreement to any other person, company, or corporation without the prior, express written consent of the Borough.

IV. SELECTION PROCESS

Proposals submitted to the Borough shall be evaluated by the Borough Staff/Borough Council selection committee for initial selection of potential, acceptable Consultant candidates. Once the selection committee has selected of the top two (2) candidates, the Borough will then initiate contract negotiations with those two (2) candidate Consultants utilizing their price proposals to begin the process. The criteria used for selection includes, but is not limited to:

- A. Experience, qualifications, and commitment of key project personnel,
- B. Experience and past performance of the Consultant and Consulting Team members on similar projects,
- C. Method of accomplishing the Scope of Work,
 1. Proposed organization of the work;
 2. Alternatives, innovations and enhancements to fulfill Scope of Work, and likelihood of success of meeting Project goals;
 3. Unique capabilities that influence the project;
 4. Understanding of the appropriate levels of effort required (hours) for various tasks;
 5. Appropriate project financial and management controls including
 - a. Clear method and effort level of meeting and tracking progress of schedule milestones, intended outcomes and deliverables for each task
 - b. Quality assurance
 - c. Project financial controls and invoicing systems; and
- D. Any other experience and/or criteria the committee deems relevant.

V. PROPOSAL SUBMISSIONS AND SCHEDULE

- A. Responses Due:
All Proposals shall be submitted no later than January 20, 2017 at 5:00 p.m.

B. Submit to:

All proposals shall be addressed as follows:

Borough of Chambersburg
Attn: Andrew Stottlemyer, Storm Sewer System Manager
100 S. Second Street
Chambersburg, PA 17201

All proposals shall be clearly labeled: Proposal for Professional Consultant Services for Storm Sewer Utility Rate Structure and Credit Program

C. Contact: All correspondence shall be addressed to:

Borough of Chambersburg
Attn: Andrew Stottlemyer, Storm Sewer System Manager
100 S. Second Street
Chambersburg, PA 17201

With a copy to:

Salzmann Hughes, PC
Attn: G. Bryan Salzmann, Esquire
Borough Solicitor
79 St. Paul Drive
Chambersburg, PA 17201

D. Format of Submittals: All submittal packages shall be submitted with:

Seven (7) copies of Volume 1 - Qualifications and Technical Proposal, and Seven (7) copies of Volume 2 - Price Proposal (hourly rate sheet only) shall be in a sealed envelope.

E. Pre-submittal Meeting:

The Borough shall conduct a pre-submittal meeting at the Borough Office Building, 100 South Second Street, on December 9, 2016 at 10:00 a.m.

F. Interviews:

The Borough reserves the right to interview any of the candidates or none of the candidates. Interviews, if deemed necessary, shall tentatively be conducted beginning the week of February 6, 2017. Interviews shall be a maximum of one hour in duration with up to 1/2 an hour for presentations followed by a question and answer period.

G. An award of the contract is anticipated by February 27, 2017.

H. Tentative Milestones Dates are as follows:

Pre-submittal meeting:	December 9, 2016
Submittals due:	January 20, 2017
Interviews:	Beginning week of February 6, 2017
Tentative selection:	February 15, 2017
Contract negotiation:	February 15-February 24, 2017
Award contract:	February 27, 2017
Start project:	March 1, 2017



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

Southcentral Regional Office

JUL 09 2013

Phil Wolgemuth
Chambersburg Borough
100 S 2nd Street
Chambersburg, PA 17201-2515

Re: PAG-13 General Permit Approval
Chambersburg Borough MS4
NPDES Permit No. PAG133704
Authorization ID No. 946867
Chambersburg Borough, Franklin County

Dear Mr. Wolgemuth:

The Department of Environmental Protection (DEP) has reviewed your Notice of Intent (NOI) to operate under the PAG-13 General NPDES Permit and has determined that you are eligible for coverage under the statewide General Permit. Your permit is enclosed.

The statewide General Permit expires on March 15, 2018. Your coverage under the General Permit expires on the date identified on page 1 of the permit. A renewal application must be submitted to this office 180 days prior to the coverage expiration date, if a discharge is expected to continue past the expiration date of permit coverage. When the statewide General Permit is renewed, the permit will be published in the Pennsylvania Bulletin. Following publication of the final renewed General Permit, you must comply with the terms and conditions of the renewed General Permit or otherwise submit an application for an individual NPDES permit.

Please note the reporting requirements of the NPDES permit. First term permittees and all permittees with any portion of a regulated small MS4 discharging stormwater into the Chesapeake Bay Watershed must submit all required information in annual reports. Renewal permittees with no portion of a regulated small MS4 discharging stormwater into the Chesapeake Bay Watershed must provide all required information in periodic progress reports submitted in permit years one (1), three (3), and with the renewal NOI in year five (5). See Part B 3.d of the General Permit for specific requirements.

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717.787.3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800.654.5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal

909 Elmerton Avenue | Harrisburg, PA 17110-8200

717.705.4707 | Fax 717.705.4760



www.depweb.state.pa.us

Mr. Phil Wolgemuth

- 2 -

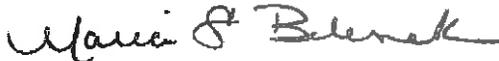
form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717.787.3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST REACH THE BOARD WITHIN 30 DAYS. YOU DO NOT NEED A LAWYER TO FILE AN APPEAL WITH THE BOARD.

IMPORTANT LEGAL RIGHTS ARE AT STAKE, HOWEVER, SO YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD (717.787.3483) FOR MORE INFORMATION.

If you have any questions, please contact J. Michael Hickman at 717.705.6640 or johickman@pa.gov.

Sincerely,



Maria D. Bebenek, P.E.
Program Manager
Clean Water Program

Enclosures

cc: Shawn Arbaugh, Environmental Group Manager
Central Office, Division of Operations, Monitoring and Data Systems



APPROVAL OF GENERAL PERMIT COVERAGE

UNDER THE NPDES GENERAL PERMIT (PAG-13) STORMWATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)

NPDES PERMIT NO: PAG133704

In compliance with the provisions of the Clean Water Act, 33 U.S.C. Sections 1251 *et seq.* ("the Act") and Pennsylvania's Clean Streams Law, *as amended*, 35 P.S. Section 691.1 *et seq.*, the Pennsylvania Department of Environmental Protection (DEP) hereby approves coverage for the Notice of Intent (NOI) submitted by:

APPLICANT(S) (NAME AND ADDRESS):

WATERSHED(S):

Chambersburg Borough
100 S 2nd Street
Chambersburg, PA 17201-2515

13-C and 18-B

to discharge stormwater to surface waters of the Commonwealth.

This approval to discharge is made subject to DEP's enclosed Authorization to Discharge Under the NPDES General Permit for Discharges of Stormwater from Small MS4s (PAG-13). The Authorization is granted based, in part, on information the permittee provided in the Notice Of Intent (NOI). The information provided by the person seeking the authorization, including all appendices, attachments, plans and supporting documentation, is incorporated by reference as a part of this Approval of General Permit Coverage and is enforceable as a condition of the authorization. If there is a conflict between the permit and the NOI, including any appendices, attachments, plans and other supporting documentation, the more environmentally stringent provisions apply.

APPROVAL FOR COVERAGE TO DISCHARGE UNDER THE GENERAL NPDES PERMIT WILL COMMENCE
AUGUST 1, 2013 AND WILL EXPIRE AT MIDNIGHT JULY 31, 2018

OR UPON TERMINATION OF THE GENERAL PERMIT IN WRITING BY DEP. TO CONTINUE DISCHARGING AFTER THE EXPIRATION DATE FOR COVERAGE UNDER THIS GENERAL PERMIT, AN ADMINISTRATIVELY COMPLETE AND ACCEPTABLE NOI MUST BE RECEIVED BY DEP NO LATER THAN 180 DAYS PRIOR TO THE COVERAGE EXPIRATION DATE. (SEE ITEM #6 ON PAGE 2 FOR FURTHER INFORMATION).

Approval of the General Permit Coverage authorized by:

Signature

JUL 09 2013

Date

Maria D. Bebenek, P.E.
Southcentral Regional Office
Department of Environmental Protection



AUTHORIZATION TO DISCHARGE

UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR DISCHARGES OF STORMWATER FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s) PAG-13

GENERAL PROVISIONS:

Dischargers of stormwater from regulated small municipal separate storm sewer systems (small MS4s), as defined in 40 CFR § 122.26(b)(16), are required under the federal stormwater regulations (40 CFR Part 122) and state regulations incorporating those federal requirements by reference (25 Pa. Code § 92a.3), to submit an application and obtain a National Pollutant Discharge Elimination System (NPDES) permit to discharge stormwater into surface waters of the Commonwealth of Pennsylvania.

This General Permit authorizes stormwater discharges subject to the provisions of the Clean Water Act, 33 U.S.C. Sections 1251 *et seq.*, Pennsylvania's Clean Streams Law, as amended, 35 P.S. Sections 691.1 *et seq.*, and 25 Pa. Code Chapter 92a.

Municipalities operating under this general permit have been either automatically designated as regulated by EPA pursuant to 40 CFR § 122.32(a)(1) or designated as regulated by DEP under 40 CFR § 122.32(a)(2).

The authorization to discharge stormwater is subject to the terms and conditions set forth in Parts A, B and C herein. This permit authorizes discharges from regulated small MS4s, as defined herein, to surface waters of the Commonwealth, when such discharges are composed entirely of stormwater as defined in this General Permit, except as otherwise provided herein. The permittee is required to submit reports to document the implementation of the Stormwater Management Program (SWMP), as set forth in Appendix A hereto, designed to reduce the discharge of pollutants from the regulated small MS4 to the Maximum Extent Practicable (MEP); and when required, progress with the development, implementation, and enforcement of an MS4 TMDL Plan consistent with an applicable wasteload allocations in an approved TMDL; and when required, progress with the development, submission to DEP for approval, and ensuring implementation of a Chesapeake Bay Pollutant Reduction Plan.

THE AUTHORITY GRANTED BY THIS GENERAL PERMIT IS SUBJECT TO THE FOLLOWING CONDITIONS:

1. DEP may, upon written notification, require any permittee authorized by this General Permit to apply for and obtain an Individual NPDES MS4 Permit. The notice from DEP shall include the following: (1) a brief statement of the reasons for this action, (2) an application form, (3) a statement setting a deadline for the permittee to file the application and (4) a statement that on the effective date of the Individual NPDES permit, coverage under this General Permit shall automatically terminate. If a permittee fails to submit, in a timely manner, an Individual NPDES MS4 Permit application required by DEP under this paragraph, then the applicability of this permit to the permittee is automatically terminated at the end of the day specified for submittal of the application. Any Interested person may petition DEP to take action under this paragraph.
2. Any permittee authorized to discharge by this General Permit may be excluded from the coverage of this General Permit by applying for an Individual NPDES MS4 Permit. The permittee shall submit to DEP an Individual NPDES MS4 Permit application on approved Pennsylvania Individual NPDES MS4 Permit application forms.
3. When an Individual NPDES MS4 Permit is issued to an owner or operator of a regulated small MS4 otherwise subject to this General Permit, the applicability of this General Permit to the Individual NPDES MS4 Permit is automatically terminated on the effective date of the Individual NPDES MS4 Permit.
4. This General Permit may be modified or revoked and reissued by DEP.
5. This General Permit shall expire 5 years from the date of its issuance. DEP shall publish a notice in the *Pennsylvania Bulletin* of the draft, renewed or reissued General Permit or of any amendments to this General Permit, and after a comment period, notice of the final, renewed, reissued or amended General Permit shall be published in the *Pennsylvania Bulletin*. The permittee shall be responsible for complying with the final renewed, reissued or amended General Permit

6. An NOI for renewal of coverage under this General Permit shall be received by DEP at least 180 days prior to the Coverage Expiration Date on the Approval for Coverage (unless written permission has been granted by DEP for submission at a later date). A request for renewal of coverage is to be made using the NOI form provided by DEP.
7. Permittees who submit a timely renewal application in accordance with paragraph 6 may continue to operate pursuant to the terms and conditions of this permit until this General Permit is renewed, modified or revoked and reissued.
8. DEP shall publish a notice in the Pennsylvania Bulletin of the draft renewed, modified or revised General Permit before it expires. After a comment period specified in the notice of draft permit, a notice of final renewal, modification, or reissuance of the General Permit shall be published in the Pennsylvania Bulletin.
9. No condition of this General Permit shall release the permittee from any responsibility or requirements under other federal or Pennsylvania environmental statutes or regulations.
10. Approval of coverage under this General Permit may be revoked by DEP if monitoring data indicate one or more toxic pollutants are, or are expected to be, discharged by the permittee. If there is evidence indicating potential or realized adverse impacts on water quality due to any stormwater discharge from a regulated small MS4 covered by this permit, the operator of such a discharge may be required to obtain an individual NPDES MS4 permit.
11. Timely submission of the Notice of Intent (NOI) and, if applicable, the MS4 TMDL Plan.
12. By agreeing to participate in this General Permit, the permittee agrees to enact and implement; either an appropriate MS4 Stormwater Management Ordinance; an Ordinance from an applicable Act 167 Stormwater Management Plan approved by DEP in 2005 or later; or an ordinance(s) that satisfies all applicable requirements in a completed and signed MS4 Stormwater Management Ordinance Checklist.
13. By agreeing to participate in this General Permit, the permittee agrees to fully implement and enforce to the Maximum Extent Practicable the Stormwater Management Program (outlined in Part A, Section 2 below), and if required an MS4 TMDL Plan (outlined in Part C below) consistent with the conditions, assumptions and any applicable Waste Load Allocation defined in TMDLs, that is designed to reduce the discharge of pollutants from the permittee's regulated small MS4 to meet applicable requirements, to protect water quality, and to satisfy the appropriate water quality requirements of the federal Clean Water Act, the Pennsylvania Clean Streams Law, and regulations promulgated thereto.

GENERAL PERMIT ELIGIBILITY:

This permit authorizes the discharge of stormwater from eligible small MS4s defined at 40 CFR §122.28(b)(16). This includes small MS4s designated as regulated under 40 CFR §122.32(a)(1) and 40 CFR §122.32(a)(2). The operator of the regulated small MS4 is eligible to discharge under this permit if all of the following conditions are met:

1. The regulated MS4 is not large or medium MS4s as defined in 40 CFR §122.26(b)(4) or (7);
2. The regulated MS4 is located fully or partially in an urbanized area as determined by the latest Decennial Census by the Bureau of Census at the time this General Permit is issued;
3. The permittee submits an administratively complete and acceptable Notice of Intent and obtains written authorization from the Department.
4. The permittee is not implementing a local or tribal Qualifying Local Program (QLP) pursuant to 40 CFR § 122.44(s). Permittees currently operating under this general permit that wish to propose a QLP shall submit a complete written application for an Individual NPDES MS4 Permit together with complete documentation of their proposed Qualifying Local Program.
5. The permittee has no discharges from its regulated small MS4s to or is not located in waters of the Commonwealth, including wetlands, that have an existing or designated use that is classified as "Special Protection" under 25 Pa. Code Chapter 93 of DEP's regulations.
6. The regulated MS4 does not, and shall not, discharge hazardous pollutants, toxics or any other substance which, because of its quantity, concentration or physical, chemical or infectious characteristics, may cause or contribute to an increase in mortality or morbidity in either an individual or the total population or pose a substantial present

or future hazard to human health or the environment when discharged into waters of the Commonwealth.

7. Individually, or in combination with other similar discharges, the regulated MS4 does not, and shall not, have the potential to be contributors to pollution which DEP determines is more appropriately controlled under an individual permit to ensure compliance with the Clean Water Act, the Clean Streams Law or regulations promulgated thereunder.

GENERAL PERMIT COVERAGE AND LIMITATIONS:

1. The following are authorized discharges:

- a. **Stormwater discharges.** This permit authorizes stormwater discharges to surface waters of the Commonwealth from regulated small MS4s, except as excluded in Section 2 below.
- b. **Non-stormwater discharges.** The following categories of non-stormwater discharges or flows are authorized by this permit unless the permittee or DEP has identified them as significant contributors of pollutants to the regulated small MS4 or its discharges:
 - i. discharges or flows from fire fighting activities;
 - ii. discharges from potable water sources including dechlorinated water line and fire hydrant flushing;
 - iii. Irrigation water and landscape drainage;
 - iv. diverted stream flows;
 - v. uncontaminated pumped ground water;
 - vi. uncontaminated water from foundation and footing drains;
 - vii. air conditioning condensation;
 - viii. springs;
 - ix. water from crawl space pumps;
 - x. water from lawn watering;
 - xi. individual residential car washing;
 - xii. flows from riparian habitats and wetlands; and
 - xiii. dechlorinated swimming pool discharges. (clean, no filter backwash)

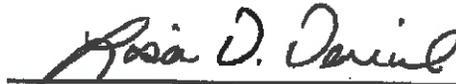
2. **Limitations on Coverage:** This permit does not authorize any of the following:

- a. Discharges that are mixed with sources of non-stormwater unless such non-stormwater discharges are in compliance with a separate NPDES permit, or are determined not to be a significant contributor of pollutants to surface waters of the Commonwealth (as per section 1(b) herein).
- b. Stormwater discharges associated with industrial activity as defined in 40 CFR §122.26(b)(14)(i)-(ix) and (xi).
- c. Stormwater discharges associated with construction activity as defined in 40 CFR §122.26(b)(14)(x) or 40 CFR §122.26(b)(15).
- d. Stormwater discharges currently covered under another NPDES permit.
- e. Discharges that contain hazardous pollutants, toxics or any other substance which, because of its quantity, concentration or physical, chemical or infectious characteristics, may cause or contribute to an increase in mortality or morbidity in either an individual or the total population or pose a substantial present or future hazard to human health or the environment when discharged into waters of the Commonwealth.
- f. Discharges that, individually or in combination with other similar discharges, are or have the potential to be, a contributor to pollution, which is more appropriately controlled under an individual permit.
- g. MS4 systems where any portion of the discharges would be to impaired waters with an applicable and approved TMDL wasteload allocation (WLA) unless the permittee has an approved MS4 TMDL Plan.
- h. Discharges that are not, or shall not be, in compliance with the terms or conditions of this General Permit.

- i. Discharges where the applicant has failed and continues to fail to comply, or has shown a lack of ability or intention to comply, with a regulation, permit, schedule of compliance, or order issued by DEP.
- j. Discharges that do not, or shall not, result in compliance with applicable effluent limitations or water quality standards.
- k. Discharges from an MS4 which DEP determines require an individual NPDES permit to ensure compliance with the Clean Water Act, the Clean Streams Law or regulations promulgated there under.
- l. Discharges that may adversely affect a Pennsylvania or federal endangered or threatened species, or its critical habitat.
- m. Discharges from an MS4 where an NPDES permit has been terminated or denied.

COVERAGE UNDER THIS GENERAL PERMIT (PAG # 13) IS ISSUED: 3/16/13, AND SHALL EXPIRE ON: 3/15/18.

STORMWATER
NPDES GENERAL PERMIT
(PAG-13) ISSUED BY



DIRECTOR
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

PART A

STORMWATER MANAGEMENT PROGRAM

The Stormwater Management Program is contained at Appendix A hereto, which is incorporated by reference herein. The permittee shall implement, enforce and report on such activities related to the Stormwater Management Program which is designed to reduce the discharge of pollutants from its regulated small MS4 to the Maximum Extent Practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the federal Clean Water Act, the Pennsylvania Clean Streams Law, and regulations promulgated thereto.

The Stormwater Management Program in Appendix A requires enactment and implementation of one of the following: (1) adoption of the MS4 Stormwater Management Ordinance; (2) adoption of an Ordinance from an applicable Act 167 Stormwater Management Plan approved by DEP in 2005 or later; or (3) an ordinance(s) that satisfies all applicable requirements in a completed and signed MS4 Stormwater Management Ordinance Checklist.

1. DEFINITIONS

Applicant: Refers to the owner or operator of a regulated small municipal separate storm sewer system seeking to discharge under, and pursuant to, the terms of this General Permit.

Best Management Practices (BMPs): Schedules of activities, prohibitions of practices, structural controls (e.g., infiltration trenches), design criteria, maintenance procedures, and other management practices to prevent or reduce pollution to the waters of the Commonwealth. BMPs include Erosion and Sedimentation Control Plans, Post Construction Stormwater Management Plans, MS4 TMDL Plans, Stormwater Management Act Plans, and other treatment requirements, operating procedures and practices to control runoff, spillage or leaks, sludge or waste disposal, drainage from raw material storage, and methods to reduce pollution, to recharge groundwater, to enhance stream base flow and to reduce the threat of flooding and stream bank erosion.

Better Site Design (BSD): An approach to residential and commercial development that, when properly conducted, can simultaneously reduce pollutant loads, conserve natural areas, save money, and increase property values. BSD promotes three main goals for new development sites: (1) to reduce the amount of impervious cover, (2) to increase the amount of natural lands set aside for conservation, and (3) to better integrate stormwater treatment systems on-site. Green infrastructure techniques like green roofs, rain gardens, and vegetated swales can be used in BSD to manage stormwater runoff and increase the amount of local green space. Also, reducing the overall scale of streets, driveways, setbacks, parking spaces, and lot sizes are effective methods of reducing impervious cover.

<http://cfpub.epa.gov/npdes/greeninfrastructure/information.cfm#glossary>

Clean Water Act: The Federal Water Pollution Control Act, also known as the Clean Water Act (CWA), as amended, 33 U.S.C. §§ 1251, et. seq.

Control Measure: As used in this permit refers to any BMP in the MS4 Stormwater Management Program, the MS4 TMDL Plan or any other method used to prevent or reduce the discharge of pollutants to waters of the Commonwealth.

Consistent with the TMDL: Implementing measures as soon as practicable to make measurable progress in substantially reducing the applicable pollutant loads specified in the applicable WLA of the TMDL, and ultimately achieving the pollutant reductions required in the WLA through implementation of measures in accordance with an implementation timeline contained in the MS4 TMDL Plan.

Department: The Department of Environmental Protection (DEP)

Designated uses: Those uses specified in 25 Pa. Code §§ 93.4(a) and 93.9a – 93.9z for each water body or segment whether or not they are being attained.

Director: The Secretary of the Department of Environmental Protection or any authorized employee thereof.

Dry Weather: For required outfall inspections, dry weather is a continuous time interval without stormwater producing events that immediately follows an initial 48 hour period with no stormwater producing events. (NOTE: For additional information regarding dry weather, see Chapter 11 of *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments* [CWP, October 2004]. <http://cfpub.epa.gov/NPDES/stormwater/iddde.cfm>.)

Existing uses: Those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards.

Illicit Connection: Any physical connection to a separate stormwater drainage system that conveys illicit discharges into the system and/or is not authorized or permitted by the local authority.

Illicit Discharge: Any discharge (or seepage) to a municipal separate storm sewer that is not composed entirely of stormwater. This does not refer to discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the regulated small MS4); certain allowable non-stormwater discharges described in the EPA regulations, NPDES MS4 permit or the MS4 permittee's ordinance; and discharges resulting from fire fighting activities. Examples of illicit discharges include dumping of motor vehicle fluids, household hazardous wastes, grass clippings, leaf litter, animal wastes, or unauthorized discharges of sewage, industrial waste, restaurant wastes, or any other non-stormwater waste into a separate stormwater drainage system. Illicit discharges can be accidental or intentional.

Load Allocation (LA): The portion of a surface water's loading capacity that is assigned or allocated to existing and future nonpoint sources and natural quality (25 Pa Code § 96.1).

Low Impact Development (LID): A set of 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, evaporate, 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. <http://cfpub.epa.gov/npdes/greeninfrastructure/information.cfm#glossary>

Maximum Extent Practicable (MEP): A technology-based discharge standard established in the CWA at §402(p)(3)(B)(iii) that requires NPDES MS4 permittees to optimize reductions in stormwater pollutants on a location-by-location basis by minimizing pollutant loads in stormwater discharges and maximizing technically achievable and cost-effective water quality improvements. MEP as used in this program also includes the requirement under the Pennsylvania Clean Streams Law to prevent pollution from changes in stormwater rate, volume, and temperature associated with alteration of the land. The MEP standard requires the development, implementation, and enforcement of measures including BMPs, control techniques, system design, engineering methods, and other provisions that DEP determines to be appropriate for the control of such pollutants. MEP is an iterative, dynamic, flexible standard that the permittee shall evaluate and update continuously, as necessary, to better tailor or expand the program based on its effectiveness in reducing pollutant discharge load.

Measurable Goals: Best Management Practice design objectives or goals that quantify the progress of program implementation and the performance of the chosen BMPs. They are objective markers or milestones that can be used to track the progress and effectiveness of BMPs in reducing pollutants to the MEP.

Municipal Separate Storm Sewer: A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains), which is all of the following:

- (1) owned or operated by a state, city, town, borough, township, county, district, association or other public body (created under state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater or other wastes,
- (2) designed or used for collecting or conveying stormwater,
- (3) not a combined sewer, and
- (4) not part of a Publicly Owned Treatment Works as defined at 40 CFR § 122.2.

Municipal Separate Storm Sewer System (MS4): All separate storm sewers that are defined as "large" or "medium" or "small" municipal separate storm sewer systems pursuant to 40 CFR §§ 122.26(b)(18), or designated as regulated under 40 CFR § 122.26(a)(1)(v).

Municipality: Any county, city, borough, town, township, school district, or any institution or any authority created by one or more of the aforementioned.

MS4 TMDL Plan: A plan that is required for a regulated small MS4 that discharges stormwater into a waterbody with an approved applicable wasteload allocation (WLA) in a TMDL. The MS4 TMDL Plan shall detail measures that will be implemented to make measurable progress in substantially reducing the applicable pollutant loads specified in the applicable WLA of the TMDL, as soon as practicable, consistent with the TMDL. In addition, the

MS4 TMDL Plan shall include a timeline, with milestones, that specifies when the pollutant load reductions set forth in the WLA will be attained. Implementation of the MS4 TMDL Plan may be phased, in accordance with the timeline, and can be adaptive, iterative and dynamic. The MS4 TMDL Plan shall be evaluated and updated by the permittee continuously, as necessary. The term "implement" includes any action that may be necessary for the permittee to ensure the proper operation and maintenance of all pollutant control measures identified in, or associated with, the MS4 TMDL Plan.

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

New Permittee: Any municipality that has been designated as a regulated small MS4 and has not previously obtained coverage under PAG-13 or obtained an Individual NPDES MS4 Permit.

NOI: The Notice of Intent for Coverage under the NPDES General Permit for Discharges from Small Municipal Separate Storm Sewer Systems.

Non-structural BMP: Actions that involve management and source controls such as: (1) Policies and ordinances that provide requirements and standards to direct growth to identified areas, protect areas such as wetlands and riparian areas, maintain and/or increase open space, provide buffers along water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; (2) policies or ordinances that encourage infill development in higher density urban areas, and areas with existing storm sewer infrastructure; (3) education programs for developers and the public about minimizing water quality impacts; (4) other measures such as minimizing the percentage of impervious area after development, use of measures to minimize directly connected impervious areas, and source control measures often thought of as good housekeeping, maintenance, and spill prevention.

Outfall: A "Point Source" as defined by 40 CFR § 122.2 is the point where an MS4 discharges stormwater to other surface waters of this Commonwealth. This does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream and are used to convey waters of the Commonwealth (40 CFR § 122.26 (b) (9)).

Owner or operator: The owner or operator of any "facility" or "activity" subject to regulation under the NPDES program.

Permittee: Refers to the owner or operator of a regulated small municipal separate storm sewer system seeking to discharge under, and pursuant to, the terms of this General Permit, and thereby agreeing to fully comply with all terms set forth therein. Permittees assume all responsibility for meeting conditions of coverage under this General Permit.

Point Source: As defined by 25 Pa. Code § 92a.2, any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated aquatic animal production facility, concentrated animal feeding operation, vessel or other floating craft, from which pollutants are or may be discharged.

Pollutant: Any contaminant or other alteration of the physical, chemical, biological, or radiological integrity of surface water which causes or has the potential to cause pollution as defined in section 1 of The Clean Streams Law, 35 P.S. § 691.1.

Pollution: Shall be construed to mean contamination of any waters of the Commonwealth such as will create or is likely to create a nuisance or to render such waters harmful, detrimental or injurious to public health, safety or welfare, or to domestic, municipal, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life, including but not limited to such contamination by alteration of the physical, chemical or biological properties of such waters, or change in temperature, taste, color or odor thereof, or the discharge of any liquid, gaseous, radioactive, solid or other substances into such waters. The department shall determine when a discharge constitutes pollution, as herein defined, and shall establish standards whereby and wherefrom it can be ascertained and determined whether any such discharge does or does not constitute pollution as herein defined. The Clean Streams Law, 35 P.S. § 691.1.

Regulated Small MS4: Any small MS4 that is covered by the federal Phase II stormwater program, either through automatic nationwide designation under 40 CFR § 122.32(a)(1) (via the Urbanized Area criteria) or by designation on a case-by-case basis by DEP pursuant to 40 CFR § 122.32(a)(2). "Regulated small MS4s" are a sub-set of "small MS4s."

Riparian Forest Buffer (Riparian Buffer): An area of permanent vegetation consisting of native trees, shrubs, forbs and grasses along surface water that is maintained in a natural state or sustainably managed to protect and enhance water quality, stabilize stream channels and banks, and buffer land use activities from surface waters.

Section 303(d) Listed Waters: Stream segments placed on a list when, based on existing and readily available data and/or information, the technology-based effluent limitations required by the federal Clean Water Act, more stringent effluent limitations, and other pollution control requirements are not sufficient to implement an applicable water quality standard and a TMDL is needed.

Small Municipal Separate Storm Sewer System (Small MS4): All separate storm sewers that are:

- (1) Owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity.
- (2) Not defined as "large" or "medium" municipal separate storm sewer systems pursuant to 40 CFR §§122.26(b)(4) and (7), or designated under 40 CFR § 122.26(a)(1)(v).
- (3) This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospitals or prison complexes, and highways and other thoroughfares.

Storm Sewershed: The catchment area that drains into the storm sewer system based on the surface topography in the area served by the storm sewer.

Stormwater: Runoff from precipitation, snow melt runoff and surface runoff and drainage. "Stormwater" has the same meaning as "Storm Water."

Stormwater Management Program (SWMP): A comprehensive program prepared by the applicant and approved by DEP to manage the quality of stormwater discharged from the municipal separate storm sewer system. Permittees are required to develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from the regulated small MS4s to the MEP, to protect water quality and quantity, and to satisfy the appropriate water quality requirements of the Pennsylvania Clean Streams Law and the CWA and regulations promulgated thereto. Permittees using the NPDES MS4 General Permit (PAG-13) are required to implement the SWMP in Appendix A of the Authorization to Discharge.

Structural BMP: Storage practices including, but not limited to, wet ponds and extended-detention outlet structures; filtration practices such as grassed swales, sand filters and filter strips; and infiltration practices such as infiltration basins and infiltration trenches.

Surface Waters: Perennial and intermittent streams, rivers, lakes, reservoirs, ponds, wetlands, springs, natural seeps and estuaries, excluding water at facilities approved for wastewater treatment such as wastewater treatment impoundments, cooling water ponds and constructed wetlands used as part of a wastewater treatment process.

Total Maximum Daily Load (TMDL): The sum of individual wasteload allocations for point sources, load allocations for nonpoint sources, a margin of safety, and natural background. TMDLs can be expressed in terms of mass per time, toxicity or other appropriate measures.

Urbanized Area (UA): Land area comprising one or more places (central place(s)) and the adjacent densely settled surrounding area (urban fringe) that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile, as defined by the United States Bureau of the Census and as determined by the latest available decennial census. The UA outlines the extent of automatically regulated areas. UA maps are available at: <http://www.epa.gov/npdes/stormwater/urbanmaps> or at <http://www.epa.gov/enviro/html/em/index.html>.

Wasteload Allocation (WLA): The portion of a surface water's loading capacity that is allocated to existing and future point source discharges.

Water Quality Criteria: Numeric concentrations, levels or surface water conditions that need to be maintained or attained to protect existing and designated uses.

Water Quality Standards: The combination of water uses to be protected and the water quality criteria necessary to protect those uses.

Waters of the Commonwealth: Any and all rivers, streams, creeks, rivulets, impoundments, ditches, water courses, storm sewers, lakes, dammed water, 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 this Commonwealth.

2. EFFLUENT LIMITATIONS AND OTHER REQUIREMENTS FOR PAG-13

- a. The permittee shall implement, enforce and report on the Stormwater Management Program (SWMP) as set forth in Appendix A, designed to reduce the discharge of pollutants from the regulated small MS4s to the MEP, to protect water quality and quantity, and to satisfy the appropriate water quality requirements of the Clean Water Act, the Pennsylvania Clean Streams Law, and regulations promulgated thereto.
- b. The SWMP shall include Best Management Practices (BMPs) to comply with the following six minimum control measures (MCMs) in the following areas:
 1. Public Education and Outreach on Stormwater Impacts
 2. Public Involvement/Participation
 3. Illicit Discharge Detection and Elimination
 4. Construction Site Stormwater Runoff Control
 5. Post-Construction Stormwater Management (PCSM) in New and Re-Development Activities
 6. Pollution Prevention/Good Housekeeping for Municipal Operations
- c. The SWMP as set forth in Appendix A of this permit contains DEP's approved approach for satisfying each of the six MCMs. The SWMP in Appendix A describes each MCM and the permit requirements, including BMPs and measurable goals. Permittees operating under this General Permit shall implement the SWMP in Appendix A in its entirety. Any permittee that chooses not to use the SWMP in Appendix A shall submit an Individual NPDES MS4 Permit application that contains a proposed written SWMP that meets the regulatory requirements.
- d. New permittees shall enact and implement within the first year of permit coverage, either an appropriate MS4 Stormwater Management Ordinance; an Ordinance from an applicable Act 167 Stormwater Management Plan approved by DEP in 2005 or later; or an ordinance(s) that satisfies all applicable requirements in a completed and signed MS4 Stormwater Management Ordinance Checklist. The permittee must satisfy these requirements in accordance with the information provided by the permittee in the Notice of Intent.
Renewal permittees must continue to maintain, update, implement, and enforce a Stormwater Management Ordinance that satisfies all applicable requirements.
- e. The permittee shall ensure that its SWMP, including its stormwater management ordinance(s), is designed to prevent increased loadings of pollutants and to not cause or contribute to a violation of water quality standards by any discharges from its regulated small MS4s (40 CFR 122.4(i) and 40 CFR 122.44(d)(1)).
- f. The permittee shall develop and maintain adequate legal authorities to implement all parts of this general permit, including the attached SWMP.
- g. The permittee shall maintain adequate funding and staffing to implement and manage all provisions of the attached SWMP.
- h. Sharing responsibility
 1. Implementation of one or more of the minimum control measures may be shared with another entity, or the other entity may fully take over implementation of the measure. Because the permittee is responsible for meeting all permit conditions regardless of its delegations to other entities, the permittee should take steps to ensure that
 - i. The other entity, in fact, implements the control measures in the regulated small MS4 area;
 - ii. The particular control measures as implemented by the other entity, or components of control measures, are at least as protective of water quality as the corresponding permit requirement.
 - iii. The other entity agrees to implement the control measures on behalf of the permittee. The agreement between the parties shall be documented in writing and retained by the permittee with the SWMP and records for this general permit.

2. The permittee shall perform reasonable oversight and the permittee remains responsible for compliance with the obligations of this General Permit if any other entity fails to implement any of the control measures (or any components thereof).
 - i. The permittee shall submit reports to the Department as described in Part B, Section 3.d. below.

PART B
STANDARD CONDITIONS

1. RESPONSIBILITIES

- a. **Duty to Comply.** The permittee shall comply with all terms and conditions of this General Permit. Any permit non-compliance constitutes a violation of the Pennsylvania Clean Streams Law and the federal Clean Water Act and is grounds for enforcement action, permit termination, revocation and reissuance, modification or denial of a permit or permit renewal. Financial distress does not relieve the permittee of the terms and conditions of this General Permit.
- b. **Penalties for Violations of Permit.** The permittee may be subject to criminal and/or civil penalties for violations of the terms and conditions of this General Permit under Section 602 and 605 of the Clean Streams Law, 35 P.S. Sections 691.602 and 691.605, and under the Clean Water Act as specified in 40 CFR Sections 122.41(a)(2) and (3).
- c. **Need to Halt or Reduce Activity Not a Defense.** The permittee may not use as a defense in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this General Permit.
- d. **Penalties and Liability.** Nothing in this General Permit may be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the CWA (33 U.S.C. §1321) or Section 106 of the Comprehensive Environmental response, Compensation, and Liability Act, 42 U.S.C. § 9606.
- e. **Periodic report (periodic reports, periodically report):** First term permittees and all permittees with any portion of a regulated small MS4 discharging stormwater into the Chesapeake Bay Watershed shall submit all required information in annual reports. Renewal permittees with no portion of a regulated small MS4 discharging stormwater into the Chesapeake Bay Watershed shall provide all required information in periodic progress reports submitted in permit years one (1), three (3), and with the renewal NOI or renewal application in year five (5) (also see Part B.3.d).
- f. **Property Rights.** The issuance of this General Permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.
- f. **Severability.** The provisions of this General Permit are severable. If any provision of this General Permit or the application of any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected thereby.
- g. **Other Laws.** Nothing in this General Permit may be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Clean Water Act.
- h. **Right of Entry.** Pursuant to Sections 5(b) and 305 of the Pennsylvania Clean Streams Law (35 P.S. §§ 691.5(b) and 691.305), 25 Pa. Code Chapter 92a, section 1917-A of the Administrative Code, section 308 of the CWA and 40 CFR § 122.41 (i), the permittee shall allow an authorized representative of EPA or DEP, upon the presentation of credentials and other documents, as may be required by law, to:
 - i. Enter upon the permittee's premises where a regulated activity is located or conducted or where records must be kept under the conditions of this General Permit;
 - ii. Have access to and copy at reasonable times, any records that must be kept under the terms and conditions of this General Permit;
 - iii. Inspect any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required under this General Permit;
 - iv. Sample or monitor any substances or parameters, including the discharge of stormwater, at any location within the regulated small MS4.
- i. **Penalties for Falsification of Reports.** Section 309(c)(4) of the Clean Water Act provides that any person who knowingly makes any false material statement, representation, or certification in any record or other

document submitted or required to be maintained under this General Permit, including reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years or by both. In addition, criminal sanctions are set forth for false swearing and unsworn falsification at 18 Pa. C.S. §§ 4903-4904.

- j. Penalties for Falsification of Monitoring Systems.** The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this General Permit shall, upon conviction, be punished by fines and imprisonment described in Section 309 of the Clean Water Act. In addition, criminal sanctions are set forth for false swearing and unsworn falsification at 18 Pa. C.S. §§ 4903-4904.
- k. Test Procedures.** With the exception of the field screening conducted under the Illicit Discharge Detection and Elimination measure, wherever monitoring or sampling may be required, it shall be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in the Authorization to Discharge or have been approved by DEP in writing.
- i. Removed Substances.** Solids, sludge, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters or drinking water, implementation of BMPs, or operating or maintaining the regulated small MS4, shall be managed and disposed of in accordance with the requirements of the Solid Waste Management Act, 35 P.S. § 6018.101, *et seq.*, and the Clean Streams Law, 35 P.S. §§ 691.1 *et seq.*, and in a manner such as to prevent any pollutant in such materials from adversely affecting the environment.
- m. BMP Implementation and Facilities Construction, Operation and Maintenance.** The permittee shall properly design, build, operate, and maintain all facilities and systems of treatment and control, including BMPs and any stormwater pollution prevention or management plans, which are installed or used by the permittee to achieve compliance with the conditions of this General Permit. The permittee shall ensure that BMPs are planned, designed, implemented, and maintained to minimize or eliminate the impacts of stormwater runoff to the maximum extent practicable for BMPs associated with the Stormwater Management Program and to reduce the discharge of pollutants consistent with applicable TMDLs for BMPs associated with approved MS4 TMDL Plans. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures and requires the operation of backup or auxiliary facilities, BMPs, or similar systems, installed or implemented by a permittee only when necessary to achieve compliance with the conditions of this General Permit.
- n. Adverse Impact.** The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this General Permit that has a reasonable likelihood of adversely affecting human health or the environment.
- o. Monitoring Requirement.** The Department may require monitoring of an individual discharge as may be reasonably necessary in order to characterize the nature, volume or other attributes of that discharge or its sources. If the permittee is required to develop, submit to DEP for approval, and ensure implementation of an MS4 TMDL Plan pursuant to Condition C.1. herein, the permittee shall conduct monitoring of the BMPs and other measures undertaken pursuant to such section in order to demonstrate that measurable progress toward meeting the pollutant load reductions is being achieved consistent with the TMDL.

2. MANAGEMENT REQUIREMENTS

a. Permit Modification, Termination, or Revocation and Reissuance

1. This General Permit may be modified, suspended, revoked, reissued, or terminated during its term for any of the causes specified in 25 Pa. Code Chapters 92a and 102, as applicable.
2. The Department may modify, revoke, suspend, or terminate previously issued coverage under this General Permit and require the stormwater discharger to apply for and obtain an Individual NPDES MS4 Permit in accordance with 25 Pa. Code Chapters 92a and 102, as applicable.
3. The filing of a request by the permittee or co-permittee for a permit or coverage modification, revocation, reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not eliminate any existing permit conditions.
4. Permit modification or revocation shall be conducted according to 25 Pa. Code Chapters 92a and 102, as applicable.

b. Duty to Provide Information

1. The permittee shall furnish to DEP, within a reasonable time, any information that DEP may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this General Permit or coverage approved under this General Permit or to determine compliance with this General Permit.
2. The permittee shall furnish to DEP, upon request, copies of records that are required to be kept under the conditions of this General Permit.
3. When the permittee becomes aware of a failure to submit any relevant facts; of the existence of incorrect information in the Notice of Intent, or in any other report to DEP; the permittee shall promptly submit documents to correct such facts or information.
4. The permittee shall give advance notice to DEP of any planned physical alterations or additions to the regulated small MS4 which could, in any way, substantially affect the quality and/or quantity of stormwater discharged from the regulated small MS4.

- c. Operation and Maintenance Requirements.** The Stormwater Management Program (Appendix A), MS4 stormwater management ordinance(s), and MS4 TMDL Plan, if required, shall include provisions to ensure that proper operation and maintenance is performed on all stormwater BMPs and all pollutant reduction BMPs that discharge through the regulated small MS4. The requirement to perform proper operation and maintenance of BMPs that discharge through the regulated small MS4s applies to the owners and operators of all such BMPs, including the permittee.

3. MONITORING, REPORTING, AND RECORD KEEPING

The permittee shall evaluate program compliance, the appropriateness of identified BMPs, and progress toward achieving identified measurable goals.

- a. Records of field investigations.** When the permittee conducts monitoring of illicit discharges pursuant to MCM #3, samples and measurements taken shall be representative of the monitored activity. Records of monitoring information shall include:

1. The date, exact place, and time of sampling, measurements, or observations;
2. The name(s) of the individual(s) who performed the sampling, measurements, or observations;
3. The date(s) when sample analyses were performed;
4. The names of the individuals who performed the analyses;
5. The analytical techniques or methods used; and
6. The results of such analysis.

- b. Retention of Records.** The permittee shall retain copies of the documentation related to the SWMP developed in accordance with this General Permit for a minimum of three years, and until at least one year after coverage under this General Permit terminates. The permittee shall retain all records of all monitoring information, copies of all reports required by this General Permit, and records of all data used to complete the NOI until at least one year after coverage under this General Permit terminates. In addition, the permittee shall retain on site, at all times, a complete copy of the NOI, this General Permit, and any authorizations received from DEP pursuant to this General Permit, until at least one year after coverage under this General Permit terminates. This period may be explicitly modified by alternative provisions of this General Permit or extended by request of DEP at any time.

c. Signatory Requirements

1. All reports and NOI applications required by the permit and other information requested by DEP shall be signed and certified by a principal executive officer or ranking elected official or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - i. The authorization is made in writing by a person described above and submitted to DEP with the reports.
 - ii. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator,

superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the organization. (A duly authorized representative may be either a named individual or any individual occupying a named position).

2. **Changes In Authorized Individuals or Positions.** If an authorization for an individual or a position to submit reports to DEP is no longer accurate because a different individual or position has responsibility for the overall operation of the regulated small MS4, a new authorization satisfying the above requirements shall be submitted to DEP prior to, or together with, any reports, information, or applications to be signed by the newly authorized representative.

3. **Progress Reports Shall Include the Following Signed and Dated Certification:**

"I certify under penalty of law that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

- d. **Periodic Reports (Annual Reports and Progress Reports)**

1. New permittees and all permittees with any portion of a regulated small MS4 discharging stormwater into the Chesapeake Bay Watershed shall submit annual reports to DEP reporting on SWMP activities, Chesapeake Bay Pollutant Reduction Plan activities, and MS4 TMDL Plan activities performed during the preceding permit year. The report shall be in the format provided by the Department. Report Forms are available on DEP's website at <http://www.dep.state.pa.us/>, Keyword: Stormwater.
2. Renewal permittees with no portion of a regulated small MS4 discharging stormwater into the Chesapeake Bay Watershed shall submit Progress Reports to DEP documenting the SWMP and MS4 TMDL Plan activities that were performed during the preceding reporting time interval.
3. Permittees shall submit the appropriate report form, available on the DEP's website.
4. The reports shall include information regarding (but not limited to):
 - i. Status of compliance with the conditions of this General Permit and progress towards meeting the measurable goals of each MCM;
 - ii. Status of progress towards achieving the statutory requirements of reducing the discharge of pollutants to the MEP and complying with water quality standards.
 - iii. Assessment of the appropriateness of the BMPs;
 - iv. Steps to be taken to address any deficiencies in the BMPs or other aspects of the SWMP developed by the permittee;
 - v. Results of information collected and analyzed during the reporting period;
 - vi. Summary of stormwater activities planned during the next reporting cycle;
 - vii. Any proposed changes to the permittee's SWMP, including changes to BMPs, measurable goals, or responsible parties;
 - viii. Notices, intergovernmental agreements, and other relevant documents if the permittee is relying on another governmental entity to satisfy any of its permit obligations;
 - ix. Progress with implementation of the MS4 TMDL Plan, including a summary of implementation and monitoring data of all control measures and of all BMPs implemented in connection with the MS4 TMDL Plan;
 - x. For new permittees, a letter signed by a municipal official, municipal engineer or the municipal solicitor as an attachment to the first year report certifying the enactment of either an ordinance from an Act 167 Plan approved by the Department in 2005 or later, enactment of the appropriate MS4 Stormwater Management Ordinance; or enactment of an ordinance(s) that satisfies all applicable requirements in a completed and signed MS4 Stormwater Management Ordinance Checklist.
5. All Reports shall be submitted to the appropriate DEP Regional Office.
6. The deadlines for submission of Annual Reports and Progress Reports are as follows:
 - a. Annual Reports no later than 90 days following the end of each permit year.

- b. Progress Reports no later than 60 days following the end of permit years one (1) and three (3). In year five (5) the report shall be submitted with the NOI for renewal of this general permit or with an application for renewal in the case of individual permits.

4. TRANSFER OF OWNERSHIP OR CONTROL

This General Permit is not transferable to any person except after notice to DEP.

- a. In the event of any pending change in control or ownership of the regulated small MS4 from which the authorized discharges emanate, the permittee shall notify DEP by letter of such pending change at least 30 days prior to the change in ownership or control. The letter shall be accompanied by the NOI and a written agreement between the existing permittee and the new owner or operator stating that the existing permittee shall be liable for violations of the General Permit up to and including the date of coverage transfer and that the new owner or operator shall be liable for permit violations under the General Permit after that date.
- b. After receipt of the required documentation, DEP shall notify the existing permittee and the new owner or controller of its decision concerning approval of the transfer. Such requests shall be deemed approved unless DEP notifies the applicant otherwise within 30 days.
- c. DEP may require the new operator to apply for and obtain an Individual NPDES MS4 Permit.

5. TERMINATION OF COVERAGE

- a. **Notice of Termination.** Where all stormwater discharges from a regulated small MS4 that are authorized by this General Permit are eliminated, the operator of the regulated small MS4 may submit a letter that is signed in accordance with Part B.3.c. (signatory requirements) of this General Permit certifying that:

"Under penalty of law, I hereby certify that all MS4 discharges that are authorized by this NPDES General Permit have been eliminated. I understand that by submitting this notice of termination I am no longer authorized to discharge stormwater from the regulated small MS4 under this General Permit, and that discharging stormwater or pollutants to surface waters of the Commonwealth is unlawful under the Clean Water Act and Clean Streams Law where the discharge is not authorized by an NPDES MS4 permit."
- b. **Addresses.** All letters certifying discharge termination are to be sent to the appropriate regional office of DEP.

PART C
OTHER CONDITIONS

1. TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS:

If the regulated small MS4 discharges stormwater into any portion of a receiving water with applicable wasteload allocations (WLAs) in approved TMDLs, the permittee shall implement an approved MS4 TMDL Plan that is designed to achieve pollutant reductions consistent with the applicable wasteload allocations (WLAs) in the TMDLs. When an MS4 TMDL Plan is required, that MS4 TMDL Plan must be implemented according to the schedule in the approved plan.

For each regulated small MS4 that discharges stormwater into any portion of a receiving water with applicable wasteload allocations in approved TMDLs, permittees shall develop, submit to DEP for approval, and ensure implementation of a written MS4 TMDL Plan that is designed to achieve pollutant reductions consistent with the conditions and assumptions of the applicable wasteload allocations in the approved TMDLs. An MS4 TMDL Plan consists of two components: an MS4 TMDL Strategy and MS4 TMDL Design Details. The MS4 TMDL Strategy must include a narrative discussion of how the MS4 TMDL Plan will satisfy the requirements in Subsections a through c below. MS4 TMDL Design Details must be submitted to DEP within one year of the effective date of the approval of coverage under this permit for written approval by DEP. The complete MS4 TMDL Plan must satisfy the requirements in Subsections a through d below, including final design details for the BMPs that will be implemented during the term of this permit. MS4 TMDL Plans must include a timeline (schedule) with milestones and upon approval the plan must be implemented as soon as practicable, and no later than according to the approved timeline.

a. MS4 TMDL Plan for Impaired Waters with a TMDL

The MS4 TMDL Plan must be consistent with the conditions and assumptions of any applicable waste load allocation(s) (WLAs) in approved TMDLs, and it must include implementation of pollutant control measures that reduce pollutants in discharges from the regulated small MS4s as required by the wasteload allocations in the TMDLs. (Note: The MS4 TMDL Plan is in addition the Stormwater Management Program (SWMP) in Appendix A required to satisfy the six mandatory MCMs).

The permittee's progress with implementation of the MS4 TMDL Plan must be fully described in every periodic report (see Part B.3.d of the Authorization to Discharge).

b. MS4 TMDL Plan, Required Contents

The MS4 TMDL Plan shall reduce pollutants in discharges from the regulated small MS4 as required by applicable wasteload allocations in approved TMDLs. The permittee must develop, submit to DEP for approval, and ensure implementation of the MS4 TMDL Plan in accordance with the approved timeline.

MS4 TMDL Plans shall include:

- i. The Title of TMDL or TMDL(s);
- ii. A list of the watershed name(s) and the eight-digit Hydrologic Unit Code (HUC) for the areas that discharge through the regulated MS4s to water bodies with TMDLs;
- iii. A list of the pollutant(s) and Waste Load Allocations (WLAs) assigned to each regulated small MS4 in each municipality covered by the NOI;
- iv. For each applicable TMDL, a list all of the municipalities subject to the TMDL within the area of the same eight digit HUC;
- v. For each applicable TMDL, a list of all the counties subject to the TMDL within the area of the same eight digit HUC;
- vi. Allocated pollutant loadings established in each applicable TMDL;
- vii. Reductions in pollutant loads (pounds or percent) necessary to meet each applicable TMDL or WLA;
- viii. For each regulated small MS4 outfall that discharges to waters with TMDLs, and for each TMDL, list all of the control measures and BMPs that will be implemented and reported to meet the TMDL.

Include a brief analysis to explain and justify the control measures and BMPs that were selected for implementation.

- ix. Permittees must include an analysis to show that implementation of the MS4 TMDL Plan, including the selected control measures and BMPs, will reduce the pollutant loads consistent with the applicable WLAs established in approved TMDLs. Permittees must include a timeline with milestones. Implementation of the MS4 TMDL Plan may be phased, in accordance with the timeline, and can be adaptive, iterative, and dynamic to show measurable progress toward meeting pollutant load reductions. Permittees must evaluate and update MS4 TMDL Plans as necessary, based on effectiveness in reducing pollutant discharge loads to meet approved TMDLs and applicable WLAs. MS4 TMDL Plans must include a process for evaluating control measures and BMPs, implementation efforts undertaken to date, and any changes made to the control measures or BMPs to obtain greater reductions in pollutant loadings from the outfalls of the regulated MS4s.
- x. Additional information deemed necessary by DEP or by the permittee for addressing the TMDL.

Information for TMDLs (including HUC numbers) can be found at www.depweb.state.pa.us, keyword: TMDL.

c. Signature and Seal by Professional Engineer for MS4 TMDL Plans

MS4 TMDL Strategies and an MS4 TMDL Plans must be signed and sealed by a professional engineer holding a valid license in good standing from the Pennsylvania Department of State.

d. Implementation Requirements

Permittees shall develop, submit to DEP for approval, and ensure implementation of an MS4 TMDL Plan that is consistent with the applicable WLAs in approved TMDLs and that is designed to achieve the pollutant reductions established by applicable WLAs in the TMDLs. The term "implement" includes any action that may be necessary for the permittee to ensure the proper operation and maintenance of all pollutant control measures identified in, or associated with, the MS4 TMDL Plan. Permittees shall report on implementation of the MS4 TMDL Plan in each periodic report submitted under this General Permit. All pollutant control measures needed to reduce the pollutant load consistent with the TMDL shall be implemented as soon as practicable, in accordance with the MS4 TMDL Plan's timeline, to make measurable progress in substantially reducing the applicable pollutant loads. Implementation of all measures can be adaptive, iterative, and dynamic. The MS4 TMDL Plan shall be evaluated and updated by the permittee as necessary, based on its effectiveness in reducing pollutant loads in discharges from the regulated small MS4s.

The MS4 TMDL Plan shall demonstrate that the required pollutant load reductions will be achieved, consistent with the TMDL, and the Plan must be implemented as soon as practicable. The MS4 TMDL Plan can demonstrate this by showing how measurable implementation progress will be made in substantially reducing applicable pollutant loads specified in the WLA, in accordance with the implementation timeline, including attainment of applicable milestones, along with the proposed end date for ultimate attainment of the pollutant load reductions set forth in the WLA.

Permittees shall report on progress with implementation of the MS4 TMDL Plan in all periodic reports and in the final report submitted with the next renewal application. Permittees must include the reductions in pollutant loads attained by implementation of control measures or BMPs, broken down measure by measure or BMP by BMP. Permittees must have physical pollutant removal measures installed on-the-ground in time for their successful operation to be documented in the periodic report or the progress report submitted at the end of the third year of coverage under this permit. Additional measurable substantial progress with installation of physical pollutant removal measures must be documented in the reports submitted with the next successive renewal NOI or application for a renewal permit.

2. DISCHARGES TO IMPAIRED WATERS WITHOUT A TMDL:

For each regulated small MS4 that discharges stormwater into any portion of a receiving water that is impaired, but does not have an approved TMDL, permittees shall ensure that new discharges from the permittee's regulated small MS4s do not cause or contribute to exceedances of water quality standards. Permittees must:

- a. Identify outfalls that discharge to impaired waters;

- b. identify additional or modified BMPs in the SWMP to ensure that new discharges do not cause or contribute to the impairment; and
- c. implement such BMPs and report on the status of each.

Permittees shall report on progress with implementation of the additional or modified BMPs in the each periodic report.

3. CHESAPEAKE BAY POLLUTANT REDUCTION PLANS:

Permittees with regulated small MS4s located in and discharging to receiving watersheds draining to the Chesapeake Bay:

- a. Shall within 12 months of the effective date of your Approval of General Permit Coverage, develop and submit to the Department for approval a Chesapeake Bay Pollutant Reduction Plan, including a schedule, to implement BMPs to reduce nitrogen, phosphorus, and sediment associated with existing stormwater discharges into regulated small MS4s discharging to receiving waters tributary to the Chesapeake Bay;
- b. The Chesapeake Bay Pollutant Reduction Plan required under this permit shall include a narrative description of the estimated area, including impervious cover, draining to the regulated small MS4, which may be based upon existing documents or data, such as zoning maps. This narrative description should identify areas where municipal infrastructure upgrades are planned and include an evaluation of the suitability for incorporation of green infrastructure, ESD, or LID BMPs into the planned municipal infrastructure upgrades. Where feasible, such practices should be incorporated into the municipal infrastructure upgrades and the included in the Chesapeake Bay Pollutant Reduction Plan BMP implementation schedule.
- c. The Chesapeake Bay Pollutant Reduction Plan required under this permit shall include BMPs that are designed to achieve reductions of nitrogen, phosphorus, and sediment consistent with the goals and objectives of the Pennsylvania Chesapeake Watershed Implementation Plan and must be signed and sealed by a professional engineer holding a valid license in good standing from the Pennsylvania Department of State;
- d. In the development of the Chesapeake Bay Pollutant Reduction Plan, the permittee shall evaluate and incorporate into the plan a combination of TMDL control measures listed in Section II.F of the NOI Instructions;
- e. Upon approval by DEP, the permittee shall ensure implementation of the Chesapeake Bay Pollutant Reduction Plan consistent with the approved schedule; and
- f. In the annual report to the Department required under Part B of this permit, the permittee shall include a list of BMPs implemented and associated reductions and a narrative description of the progress with development, submission to DEP for approval, and ensuring implementation of the Chesapeake Bay Pollutant Reduction Plan.
- g. Where the permittee is required to develop, submit to DEP for approval, and ensure implementation of an MS4 TMDL Plan to meet a WLA for nitrogen, phosphorus, or sediment as described in Part C(1) of this permit, the permittee may rely on and incorporate the portions of such MS4 TMDL Plan that address nitrogen, phosphorus, and sediment associated with existing stormwater discharges into the Chesapeake Bay Pollutant Reduction Plan.



PAG-13 Appendix A Stormwater Management Program

This Appendix A contains the specific Best Management Practices (BMPs) and Measurable Goals that make up each permittee's Stormwater Management Program (SWMP) and that are required for the permittee to comply with this NPDES Municipal Separate Storm Sewer System (MS4) General Permit. There are six Minimum Control Measures (MCMs), which are required by Federal Regulations. Within each MCM, Pennsylvania is requiring the implementation of several BMPs under this General Permit. Associated with each BMP are Measurable Goals, which represent the means by which the permittees' accomplishments shall be reported and evaluated. For supplemental information on the six MCMs, permittees are encouraged to refer to www.depweb.state.pa.us, keyword: Stormwater. For a national perspective on guidance for setting measurable goals, please refer to EPA's publication "Measurable Goals Guidance for Phase II Small MS4s," available from EPA's website: <http://cfpub.epa.gov/npdes/stormwater/measurablegoals/index.cfm>.

Permittees implementing an approved local or tribal Qualifying Local Program (QLP) pursuant to 40 CFR 122.44(s) are not eligible to use General Permit (PAG-13). Permittees currently operating under this General Permit who wish to propose a local or tribal QLP shall submit a complete written application for an Individual NPDES MS4 Permit together with complete documentation of their proposed local or tribal QLP.

MCM #1: Public Education and Outreach on Stormwater Impacts

The following are the requirements for MCM #1 that are included in the Federal Regulations:

- *Implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff (40 CFR Part 122.34(b)(1)(i)).*

The following requirements, Best Management Practices (BMPs) and Measurable Goals are to be implemented and achieved:

BMP #1: Develop, implement and maintain a written Public Education and Outreach Program.

Measurable Goal: For new permittees a Public Education and Outreach Program (PEOP) shall be developed and implemented during the first year of coverage under this General Permit and shall be re-evaluated each permit year thereafter and revised as needed. For renewal permittees, the existing PEOP shall be reviewed and revised as necessary. The permittee's PEOP shall be designed to achieve measurable improvements in the target audience's understanding of the causes and impacts of stormwater pollution and the steps they can take to prevent it.

Recommendation: Refer to the EPA document, "[Getting In Step: A Guide for Conducting Watershed Outreach Campaigns](#)" (EPA 841-B-03-002, December, 2003), for guidance on developing and implementing the PEOP.

BMP #2: Develop and maintain lists of target audience groups that are present within the areas served by your regulated small MS4s. In most communities, the target audiences shall include residents, businesses (including commercial, industrial and retailers), developers, schools, and municipal employees.

Measurable Goal: For new permittees, the lists shall be developed within the first year of coverage under the permit and reviewed and updated as necessary every year thereafter. For renewal permittees, the lists shall continue to be reviewed and updated annually.

Recommendation: Utilize databases or spreadsheets to record and track this information and to allow for easy identification and creation of mailing lists easily retrievable.

BMP #3: You must annually publish at least one issue of a newsletter, a pamphlet, a flyer, or a web site that includes general stormwater educational information, a general description of your Stormwater Management Program, and/or information about your stormwater management activities. The list of publications and the content of the publications must be reviewed and updated at least once during each year of permit coverage. Publications should include a list of references (or links) to refer the reader to additional information (e.g., PA DEP and US EPA stormwater websites, and any other sources that will be helpful to readers). You must implement at least one of the following alternatives:

- a. Publish and distribute in printed form a newsletter, a pamphlet or a flyer containing information consistent with this BMP.
- b. Publish educational and informational items including links to DEP's and EPA's stormwater websites on your municipal website.

Measurable Goals: For new permittees, stormwater educational and informational items shall be produced and published in print and/or on the Internet within the first year of permit coverage. In subsequent years (and for renewal permittees), the list of items published and the content in these items shall be reviewed, updated, and maintained annually. Your publications shall contain stormwater educational information that addresses one or more of the 6 MCMs.

Recommendation: There are numerous example educational resources available from the sources listed at www.depweb.state.pa.us, keyword: Stormwater. Periodically you should review and consider distributing or republishing stormwater information available from DEP, EPA and other sources. Your stormwater materials can be published in print format or electronically on the internet. Permittees can partner with other MS4s to meet this BMP.

BMP #4: Distribute stormwater educational materials and/or information to the target audiences using a variety of distribution methods, including but not limited to: displays, posters, signs, pamphlets, booklets, brochures, radio, local cable TV, newspaper articles, other advertisements (e.g., at bus and train stops/stations), bill stuffers, posters, presentations, conferences, meetings, fact sheets, giveaways, storm drain stenciling.

Measurable Goal: All permittees shall select and utilize at least two distribution methods in each permit year. These are in addition to the newsletter and website provisions of BMPs #3 and #4.

Recommendations: Abundant educational resources and examples are available from numerous sources (see www.depweb.state.pa.us, keyword: Stormwater) that can be adapted for use, including the DEP brochure titled "When It Rains, It Drains." Since school districts frequently cross MS4 boundaries, seek out watershed groups or other qualified service providers to help assist and/or implement school education on behalf of the group of permittees. Permittees also can partner with other permittees to jointly arrange for school education.

MCM #2: Public Involvement / Participation

The following are the requirements for MCM #2 that are included in the Federal Regulations:

- *Comply with applicable state and local public notice requirements when implementing a public involvement / participation program (40 CFR Part 122.34(b)(2)(i)).*

The following requirements, Best Management Practices (BMPs) and Measurable Goals are to be implemented and achieved by MS4 permittees in Pennsylvania:

BMP #1: Develop, implement and maintain a written Public Involvement and Participation Program (PIPP) which describes various types of possible participation activities and describes methods of encouraging the public's involvement and of soliciting the public's input.

Measurable Goal: New permittee's PIPP shall be developed and implemented during the first year of coverage under this General Permit. All permittees shall re-evaluate the PIPP each permit year and revise as needed. Your PIPP shall include, but not be limited to:

- a. Opportunities for the public to participate in the decision-making processes associated with the development, implementation, and update of programs and activities related to this General Permit.
- b. Methods of routine communication to groups such as watershed associations, environmental advisory committees, and other environmental organizations that operate within proximity to the permittee's regulated small MS4s or their receiving waters.
- c. Making your periodic reports available to the public on your website, at your municipal offices, or by US Mail upon request.

BMP #2: Prior to adoption of any ordinance required by this General Permit, provide adequate public notice and opportunities for public review, input, and feedback.

Measurable Goal: Advertise any proposed MS4 Stormwater Management Ordinance, provide opportunities for public comment, evaluate any public input and feedback, and document the comments received and the municipality's response.

BMP #3: Regularly solicit public involvement and participation from the target audience groups. This should include an effort to solicit public reporting of suspected illicit discharges. Assist the public in their efforts to help implement your SWMP. Conduct public meetings to discuss the on-going implementation of your SWMP.

Measurable Goals: Conduct at least one public meeting per year to solicit public involvement and participation from target audience groups. The public should be given reasonable notice through the usual outlets a reasonable period in advance of each meeting. During the meetings, you should present a summary of your progress, activities, and accomplishments with implementation of your SWMP, and you should provide opportunities for the public to provide feedback and input. Your presentation can be made at specific MS4 meetings or during any other public meeting. Under this MCM, you should document and report instances of cooperation and participation in your activities; presentations you made to local watershed organizations and conservation organizations; and similar instances of participation or coordination with organizations in your community. You also should document and report activities in which members of the public assisted or participated in your meetings and in the implementation of your SWMP, including education activities or organized implementation efforts such as cleanups, monitoring, storm drain stenciling, or others.

MCM #3: Illicit Discharge Detection and Elimination (IDD&E)

The following are the requirements for MCM #3 that are included in the Federal Regulations:

- *Develop, implement, and enforce a program to detect and eliminate illicit discharges into the MS4 (40 CFR Part 122.34(b)(3)(i)).*
- *Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and locations of all surface waters of the Commonwealth that receive discharges from those outfalls (40 CFR Part 122.34(b)(3)(ii)(A)).*
- *To the extent allowable under State or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-stormwater discharges into your storm sewer system and implement appropriate enforcement procedures and actions (40 CFR Part 122.34(b)(3)(ii)(B)).*
- *Develop and implement a plan to detect and address non-stormwater discharges, including illegal dumping, to your system (40 CFR Part 122.34(b)(3)(ii)(C)).*
- *Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste (40 CFR Part 122.34(b)(3)(ii)(D)).*

The following requirements, Best Management Practices (BMPs) and Measurable Goals are to be implemented and achieved:

BMP #1: You shall develop and implement a written program for the detection, elimination, and prevention of illicit discharges into your regulated MS4s. Your program shall include dry weather field screening of outfalls for non-stormwater flows, and sampling of dry weather discharges for selected chemical and biological parameters. Test results shall be used as indicators of possible discharge sources. The program shall include the following:

- Procedures for identifying priority areas. These are areas with a higher likelihood of illicit discharges, illicit connections or illegal dumping. Priority areas may include areas with older infrastructure, a concentration of high-risk activities, or past history of water pollution problems.
- Procedures for screening outfalls in priority areas during varying seasonal and meteorological conditions.
- Procedures for identifying the source of an illicit discharge when a contaminated flow is detected at a regulated small MS4 outfall.
- Procedures for eliminating an illicit discharge.
- Procedures for assessing the potential for illicit discharges caused by the interaction of sewage disposal systems (e.g., on-lot septic systems, sanitary piping) with storm drain systems.
- Mechanisms for gaining access to private property to inspect outfalls (e.g., land easements, consent agreements, search warrants).
- Procedures for program documentation, evaluation and assessment.

Measurable Goal: For new permittees, the IDD&E program shall be developed during the first year of coverage under this General Permit and shall be implemented and evaluated each year thereafter. For renewal permittees, the existing IDD&E program shall continue to be implemented and evaluated annually. Records shall be kept of all outfall inspections, flows observed, results of field screening and testing, and other follow-up investigation and corrective action work performed under this program.

Recommendation: For information on development and implementation of an IDD&E program, refer to: *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments* (CWP, October 2004). <http://cfpub.epa.gov/NPDES/stormwater/iddde.cfm>

BMP #2: Develop and maintain a map of your regulated small MS4. The map must also show the location of all outfalls and the locations and names of all surface waters of the Commonwealth (e.g., creek, stream, pond, lake, basin, swale, channel) that receive discharges from those outfalls.

Measurable Goals: For new permittees, develop the map(s) of your regulated small municipal separate storm sewer systems and the information on all outfalls from your regulated small MS4 by the end of the fourth (4th) year of permit

coverage. For renewal permittees, the existing map(s) of your regulated small MS4 shall be updated and maintained as necessary during each year of coverage under the permit.

BMP #3: In conjunction with the map(s) created under BMP #2 (either on the same map or on a different map), new permittees shall show, and renewal permittees shall update, the entire storm sewer collection system, including roads, inlets, piping, swales, catch basins, channels, basins, and any other features of the permittee's storm sewer system including municipal boundaries and/or watershed boundaries.

Measurable Goals: For new permittees, develop the map(s) by the end of the fourth (4th) year of coverage under the permit and update and maintain the map(s) as necessary each year of permit coverage thereafter. For renewal permittees, update and maintain the map(s) as necessary during each year of permit coverage.

BMP #4: Following the IDD&E program created pursuant to BMP #1, the permittee shall conduct outfall field screening, identify the source of any illicit discharges, and remove or correct any illicit discharges using procedures developed under BMP #1.

Measurable Goals: For new permittees, all of the identified regulated small MS4 outfalls shall be screened during Dry Weather on at least two different occasions during the permit coverage term. In each permit coverage year, at least forty percent of the total number of outfalls should be screened.

For renewal permittees, each of the identified regulated small MS4 outfalls shall be screened at least once during each permit coverage term. For areas where past problems have been reported or known sources of dry weather flows occur on a continual basis, outfalls shall be screened annually.

For each outfall, if the screening reveals dry weather flow, the discharge from the outfall and the area around the outfall shall be inspected visually for color, turbidity, sheen, floating or submerged solids; for adverse effects on plants or animals in proximity to the outfall; and for odor. If the outfall produces any odor, or if the visual inspection shows any indication that the discharge may contain pollutants, then samples of the discharge shall be collected for field and / or lab testing of selected chemical and biological parameters as part of a process to determine if the dry weather flow is illicit. Common parameters include pH, conductivity, E. Coli bacteria, fecal coliform bacteria, metals, suspended solids, dissolved solids, oils, ammonia, surfactants; chlorine; and fluoride.

You shall implement the IDD&E plan that you developed to address any non-storm water discharges. If an outfall does not have any dry weather flow, then sampling and testing are not needed.

For all permittees, outfall inspections need to be prioritized according to the perceived chance of illicit discharges within the outfall's contributing drainage area. Observations of each outfall shall be recorded each time an outfall is screened, regardless of the presence of dry weather flow. Proper quality assurance and quality control procedures shall be followed when collecting, transporting or analyzing water samples. All outfall inspection information shall be recorded on the Outfall Reconnaissance Inventory/Sample Collection field sheet (attached below) excerpted from the *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments* (CWP, October 2004). Adequate written documentation shall be maintained to justify a determination that an outfall flow is not illicit. If an outfall flow is illicit, the actions taken to identify and eliminate the illicit flow also shall be documented.

The results of outfall inspections and actions taken to remove or correct illicit discharges shall be summarized in periodic reports.

Recommendation: All permittees should consider conducting some outfall screenings during varying seasonal and meteorological conditions since it is possible for illicit discharges/connections to occur during different times of the year and during or just after rain events. Seasonal outfall screenings conducted during periods of both low and high groundwater conditions can be beneficial in identifying illicit discharges that can occur during these times.

BMP #5: Enact a stormwater management ordinance to implement and enforce a stormwater management program that includes prohibition of non-stormwater discharges to the regulated small MS4.

Measurable Goal: Within the first year of coverage under the permit, new permittees shall enact and implement an ordinance from an Act 167 Plan approved by the Department in 2005 or later, the MS4 Stormwater Management Ordinance; or an ordinance that satisfies all applicable requirements in a completed and signed MS4 Stormwater Management Ordinance Checklist.

Renewal permittees must continue to maintain, update, implement, and enforce a Stormwater Management Ordinance that satisfies all applicable requirements.

Measurable Goal: New permittees shall submit a letter signed by a municipal official, municipal engineer, or the municipal solicitor as an attachment to their first year report certifying the enactment of an ordinance that meets all applicable requirements of this permit. Renewal permittees shall update their existing ordinances, if necessary, and submit documentation of completion to the Department.

BMP #6: Provide educational outreach to public employees, business owners and employees, property owners, the general public and elected officials (i.e., target audiences) about the program to detect and eliminate illicit discharges.

Educational outreach should include:

- Distribution of brochures and guidance for target audiences including schools;
- Programs to encourage and facilitate public reporting of illicit discharges;
- Organizing volunteers to locate and visually inspect outfalls and to stencil storm drains; and
- Implement and encourage recycling programs for common wastes such as motor oil, antifreeze and pesticides.

Measurable Goals: During each year of permit coverage, appropriate educational information concerning illicit discharges shall be distributed to the target audiences using methods outlined under MCM #1. If not already established, set up and promote a stormwater pollution reporting mechanism (e.g., a complaint line with message recording) by the end of the first year of permit coverage for the public to use to notify you of illicit discharges, illegal dumping or outfall pollution. Respond to all complaints in a timely and appropriate manner. Document all responses, include the action taken, the time required to take the action, whether the complaint was resolved successfully.

MCM #4: Construction Site Stormwater Runoff Control

If you checked Option MCM #4.A in Section E(4)-(5) of the NOI, then you are relying on DEP's statewide QLP for issuing NPDES Permits for Stormwater Discharges Associated with Construction Activities to satisfy all requirements under this MCM #4 and under BMPs #1 through #3 of MCM #5; therefore, all requirements are met for both this MCM #4 and BMPs #1 through #3 of MCM #5.

If you checked Option MCM #4.B in Section E(4)-(5) of the NOI, you are not relying on DEP's QLP for issuing NPDES Permits for Stormwater Discharges Associated with Construction Activities to satisfy this MCM #4 and BMPs #1 through #3 of MCM #5; therefore, you must implement and achieve all of the requirements in this MCM #4 and all of the requirements in MCM #5, including the Best Management Practices (BMPs) and the Measurable Goals.

The following are the requirements for MCM #4 that are included in the Federal Regulations:

- *Develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to your small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale that equals one acre or more (40 CFR Part 122.34(b)(4)(i)).*
- *Develop and implement an ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State or local law (40 CFR Part 122.34(b)(4)(ii)(A)).*
- *Require construction site operators to implement appropriate erosion and sediment control best management practices (BMPs) (40 CFR Part 122.34(b)(4)(ii)(B)).*
- *Develop and implement requirements for construction site operators to control waste at the construction site that may cause adverse impacts to water quality. These wastes can include discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste (40 CFR Part 122.34(b)(4)(ii)(C)).*
- *Develop and implement procedures for site plan review which incorporate consideration of potential water quality impacts (40 CFR Part 122.34(b)(4)(ii)(D)).*
- *Develop and implement procedures for receipt and consideration of information submitted by the public (40 CFR Part 122.34(b)(4)(ii)(E)).*
- *Develop and implement procedures for site inspections and enforcement of control measures (40 CFR Part 122.34(b)(4)(ii)(F)).*

Under 25 Pa. Code, Chapter 102 of Department regulations issued under the authority of the Pennsylvania Clean Streams Law, the permittee (a municipality or a county) may not issue a building or other permit or final approval to those proposing or conducting earth disturbance activities requiring a DEP permit until the DEP has issued an individual NPDES Permit, or DEP or a delegated county conservation district (CCD) has approved coverage under the general NPDES Permit for Stormwater Discharges Associated With Construction Activities.

BMP #1: Develop your program consisting of all procedures necessary to comply with the requirements of this MCM. Your program shall provide for construction stormwater permitting, construction inspection, and enforcement of installation and maintenance of the necessary E&S control measures. Your program shall describe clearly how your program will be coordinated with DEP's NPDES Construction Stormwater Permitting program.

Measurable Goals: For new permittees, the written program for this MCM shall be developed during the first year of permit coverage; nevertheless, you are responsible for implementation of this MCM during entire term of this permit, including the time you are developing your program.

For all permittees, your program shall be reviewed and updated during each year of permit coverage. The purpose of the written program is to establish clear roles and responsibilities for the implementation of the MCM #4 requirements. An agreement between the permittee, the CCD, and any other resources to be used by the permittee that clearly defines roles for each entity is recommended. If an agreement is made, you shall place and keep a written copy in your file, consistent with the Retention of Records requirements in this Permit. Please note that in accordance with Section A.2.h in Part A of the Authorization to Discharge, as the permittee you are responsible to ensure that implementation of all requirements under this Permit are fulfilled.

Recommendation: Develop a tracking system that summarizes your actions to comply with this BMP (e.g., number of active construction sites, inspections, enforcement actions, etc.) and which can be described in a summary report format.

BMP #2: The permittee shall enact, implement, and enforce an ordinance to require the implementation of erosion and sediment control BMPs, as well as sanctions to ensure compliance.

Measurable Goal: Within the first year of coverage under the permit, new permittees shall enact and implement an ordinance that meets all applicable requirements of this permit.

Measurable Goal: Permittees shall submit a letter signed by a municipal official, municipal engineer or the municipal solicitor as an attachment to their first periodic report certifying the enactment and implementation of a stormwater management ordinance that meets all requirements of this permit.

BMP #3: Develop and implement requirements for construction site operators to control waste at the construction site that may cause adverse impacts to water quality. While sediment is the most common pollutant of concern for MCM #4, there are other types of pollutants that also can be a concern and the intent of this BMP is to address these other types of pollutants, such as, but not limited to, discarded building materials, washout from concrete trucks, chemicals, litter, and sanitary waste.

Measurable Goal: New permittees shall establish requirements to address this BMP by the end of the first year of permit coverage. Renewal permittees shall continue to implement existing requirements and update as necessary. This could be implemented by written municipal ordinance/code provisions, by standard notes on the site plans, by any other written format that accomplishes the objectives of this BMP, or by any combination of these measures. The goal of this BMP shall be communicated to construction site operators during pre-construction meetings. This BMP shall be implemented during each year of the MS4 permit. Permittees must prepare and maintain records of site inspections, including dates and results and you must maintain these records in accordance with the Retention of Records requirements in this Permit.

Recommendation: Verification of proper waste handling procedures can be determined at the same time that site E&S control inspections are conducted under BMP #1, described above.

BMP #4: Develop and implement procedures for the receipt and consideration of public inquiries, concerns, and information submitted by the public (to the permittee) regarding local construction activities. The permittee shall demonstrate acknowledgement and consideration of the information submitted, whether submitted verbally or in writing.

Measurable Goal: Permittees shall establish and implement a tracking system to keep a record of any submitted public information as well as your response, actions, and results. This BMP shall be implemented during each year of coverage under this General Permit and information should be submitted with the each periodic report.

Recommendation: Develop a tracking system that can keep a record of information submitted by the public as well as your responses to such public inquiries. The tracking system should be capable of producing periodic summary reports.

MCM #5: Post-Construction Stormwater Management (PCSM) In New and Re-Development Activities

If you checked Option MCM #4.A in Section E(4)-(5) of the NOI, then you are relying on DEP's statewide QLP for issuing NPDES Permits for Stormwater Discharges Associated with Construction Activities to satisfy all requirements under BMPs #1 through #3 of this MCM #5; therefore, all requirements are met for BMPs #1 through #3 of this MCM #5 and for all requirements under MCM #4.

If you checked Option MCM #4.B in Section E(4)-(5) of the NOI, you are not relying on DEP's QLP for issuing NPDES Permits for Stormwater Discharges Associated with Construction Activities to satisfy the requirements in BMPs #1 through #3 of this MCM #5; therefore, you must implement and achieve all of the requirements in this MCM #5 and all of the requirements in MCM #4, including the Best Management Practices (BMPs) and the Measurable Goals.

The following are the requirements for MCM #5 that are included in the Federal Regulations:

- *Develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into your small MS4. Your program shall ensure that controls are in place that would prevent or minimize water quality impacts (40 CFR Part 122.34(b)(5)(i)).*
- *Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for your community (40 CFR Part 122.34(b)(5)(ii)(A)).*
- *Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal or local law (40 CFR Part 122.34(b)(5)(ii)(B)).*
- *Ensure adequate long-term operation and maintenance of BMPs (40 CFR Part 122.34(b)(5)(ii)(C)).*

The following requirements, Best Management Practices (BMPs) and Measurable Goals are to be implemented and achieved:

Note: Please refer to the definitions section of this PAG-13 permit for clarification of terms used in this MCM. In the following language, the term "BMPs" refers to post-construction stormwater management controls and best management practices.

BMP #1: Develop a written procedure that describes how the permittee shall address all required components of this MCM. Guidance can be found in the Pennsylvania Stormwater Best Management Practices Manual. This plan shall include the following components:

- Minimum requirements for use of structural and/or non-structural BMPs in plans for development and redevelopment;
- Criteria for selecting and standards for sizing stormwater BMPs;
- Implementation of an inspection program to ensure that BMPs are properly installed;

Measurable Goal: The written procedure shall be developed by the end of the first year of permit coverage and be reviewed and updated every permit year thereafter, as needed. The intent of BMP #1 is for the permittee to describe how the listed tasks will be accomplished.

BMP #2: Require the implementation of a combination of structural and/or non-structural BMPs that are appropriate to the local community, that minimize water quality impacts, and that are designed to maintain pre-development runoff conditions. This requirement can be met by ensuring that the selected BMPs comply with the municipal Stormwater Management Ordinance that meets the requirements of this General Permit.

Measurable Goal: All qualifying development or redevelopment projects shall be reviewed to ensure that their post-construction stormwater management plans and selected BMPs conform to the applicable requirements. A tracking

system (e.g., database, spreadsheet, or written list) shall be maintained to record qualifying projects and their associated BMPs. In your records, you shall note if there are no qualifying projects in a calendar year.

BMP #3: Ensure that controls are installed that shall prevent or minimize water quality impacts.

Measurable Goal: All qualifying development or redevelopment projects shall be inspected during the construction phase to ensure proper installation of the approved structural PCSM BMPs. A tracking system (e.g., database, spreadsheet, or written list) shall be implemented to track the inspections conducted and to track the results of the inspections (e.g., BMPs were, or were not, installed properly). Permittees not relying on DEP's statewide QLP to satisfy requirements under this BMP shall summarize construction inspections and results in periodic reports. See BMP #6 for requirements related to post-construction inspection and tracking of PCSM BMPs to ensure that the operation and maintenance plan is being implemented.

BMP #4: The permittee shall enact, implement, and enforce an ordinance or other regulatory mechanism to address post-construction stormwater runoff from new development and redevelopment projects, as well as sanctions and penalties associated with non-compliance, to the extent allowable under State or local law.

Measurable Goal: Within the first year of coverage under this permit, new permittees shall enact and implement a stormwater management ordinance that meets the requirements of this General Permit.

Measurable Goal: All permittees shall submit a letter signed by a municipal official, municipal engineer or the municipal solicitor as an attachment to their first periodic report certifying the enactment of a stormwater management ordinance that meets the requirements of this General Permit.

BMP #5: Develop and implement measures to encourage and expand the use of Low Impact Development (LID) in new and redevelopment. Measures also should be included to encourage retrofitting LID into existing development. DEP's Pennsylvania Stormwater Best Management Practices Manual provides guidance on implementing LID practices.

Measurable Goal: In your inventory of development and redevelopment projects authorized for construction since March 10, 2003, that discharge stormwater to your regulated MS4s, indicate which projects incorporated LID practices and for each project list and track the BMPs that were used.

Measurable Goal: Enact ordinances consistent with LID practices and repeal sections of ordinances that conflict with LID practices. Progress with enacting and updating your ordinances to enable the use of LID practices shall be summarized in the periodic reports.

Recommendations: The U.S. EPA website provides publications on LID, including Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices Publication Number EPA 841-F-07-006, December 2007 at <http://www.epa.gov/owow/nps/lid/costs07/>. The Pennsylvania Standards for Residential Site Development, Pennsylvania Housing Research/Resource Center, The Pennsylvania State University, April 2007 at <http://www.engr.psu.edu/phrc/>.

BMP #6: Ensure adequate operation and maintenance of all post-construction stormwater management BMPs installed at all qualifying development or redevelopment projects (including those owned or operated by the permittee).

Measurable Goal: Within the first year of coverage under this permit, new permittees shall develop and implement a written inspection program to ensure that stormwater BMPs are properly operated and maintained. The program shall include sanctions and penalties for non-compliance. All permittees shall review and update the inspection program annually and shall continue to implement this BMP.

Measurable Goal: An inventory of PCSM BMPs shall be developed by permittees and shall be continually updated during the term of coverage under the permit as development projects are reviewed, approved, and constructed. This inventory shall include all PCSM BMPs installed since March 10, 2003 that discharge directly or indirectly to your regulated small MS4s. The inventory also should include PCSM BMPs discharging to the regulated small MS4 system that may cause or contribute to violation of water quality standard. The inventory shall include:

- all PCSM BMPs that were installed to meet requirements in NPDES Permits for Stormwater Discharges

Associated with Construction Activities approved since March 10, 2003.

- the exact location of the PCSM BMP (e.g., street address);
- information (e.g., name, address, phone number(s)) for BMP owner and entity responsible for BMP Operation and Maintenance (O&M), if different from BMP owner;
- the type of BMP and the year it was installed;
- maintenance required for the BMP type according to the Pennsylvania Stormwater BMP Manual or other manuals and resources;
- the actual inspection/maintenance activities for each BMP;
- an assessment by the permittee if proper operation and maintenance occurred during the year and if not, what actions the permittee has taken, or shall take, to address compliance with O&M requirements

Recommendation: Develop a single system that supports recording and tracking the information specified in BMPs #3, #4 and #5.

MCM #6: Pollution Prevention/Good Housekeeping for Municipal Operations

The following are the requirements for MCM #6 that are included in the Federal Regulations:

- *Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations (40 CFR Part 122.34(b)(6)(i)).*
- *Provide employee training to prevent and reduce stormwater pollution from activities such as parks and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance (40 CFR Part 122.34(b)(6)(i)).*

The following requirements, Best Management Practices (BMPs) and Measurable Goals are to be implemented and achieved:

BMP #1: Identify and document all facilities and activities that are owned or operated by the permittee and have the potential for generating stormwater runoff to the regulated small MS4. This includes activities conducted by contractors for the permittee. Activities may include the following: street sweeping; snow removal/deicing; inlet/outfall cleaning; lawn/grounds care; general storm sewer system inspections and maintenance/repairs; park and open space maintenance; municipal building maintenance; new construction and land disturbances; right-of-way maintenance; vehicle operation, fueling, washing and maintenance; and material transfer operations, including leaf/yard debris pickup and disposal procedures. Facilities can include streets; roads; highways; parking lots and other large paved surfaces; maintenance and storage yards; waste transfer stations; parks; fleet or maintenance shops; wastewater treatment plants; stormwater conveyances (open and closed pipe); riparian buffers; and stormwater storage or treatment units (e.g., basins, infiltration/filtering structures, constructed wetlands, etc.).

Measurable Goal: By the end of the first year of permit coverage, new permittees shall identify and document all types of municipal operations, facilities and activities and land uses that may contribute to stormwater runoff within areas of municipal operations that discharge to the regulated small MS4. Renewal permittees should have completed this list during the previous permit term. For all permittees, this information shall be reviewed and updated each year of permit coverage, as needed. Part of this effort shall include maintaining a basic inventory of various municipal operations and facilities.

BMP #2: Develop, implement and maintain a written operation and maintenance (O&M) program for all municipal operations and facilities that could contribute to the discharge of pollutants from the regulated small MS4s, as identified under BMP #1. This program (or programs) shall address municipally owned stormwater collection or conveyance systems, but could include other areas (as identified under BMP #1). The O&M program(s) should stress pollution prevention and good housekeeping measures, contain site-specific information, and address the following areas:

- Management practices, policies, procedures, etc. shall be developed and implemented to reduce or prevent the discharge of pollutants to your regulated small MS4s. You should consider eliminating maintenance-area discharges from floor drains and other drains if they have the potential to discharge to storm sewers.
- Maintenance activities, maintenance schedules, and inspection procedures to reduce the potential for pollutants to reach your regulated small MS4s. You also should review your procedures for maintaining your stormwater BMPs.
- Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, and salt / sand (anti-skid) storage locations and snow disposal areas.
- Procedures for the proper disposal of waste removed from your regulated small MS4s and your municipal operations, including dredge spoil, accumulated sediments, trash, household hazardous waste, used motor oil, and other debris.

Measurable Goal: During the first year of permit coverage, new permittees shall develop and implement a written O&M program that complies with BMPs #1 and #2. Renewal permittees shall continue to implement their existing program. All permittees shall review the O&M program annually, edit as necessary, and continue to implement during every year of permit coverage.

Guidance: Permittees may develop a single all encompassing written O&M program or they may develop separate programs for their stormwater system and for their vehicles.

BMP #3: Develop and implement an employee training program that addresses appropriate topics to further the goal of preventing or reducing the discharge of pollutants from municipal operations to your regulated small MS4s. The program may be developed and implemented using guidance and training materials that are available from federal, state or local agencies, or other organizations. Any municipal employee or contractor shall receive training. This could include public works staff, building / zoning / code enforcement staff, engineering staff (on-site and contracted), administrative staff, elected officials, police and fire responders, volunteers, and contracted personnel. Training topics should include operation, inspection, maintenance and repair activities associated with any of the municipal operations / facilities identified under BMP #1. Training should cover all relevant parts of the permittee's overall stormwater management program that could affect municipal operations, such as illicit discharge detection and elimination, construction sites, and ordinance requirements.

Measurable Goal: During the first year of permit coverage, new permittees shall develop and implement a training program that identifies the training topics that will be covered, and what training methods and materials will be used. Renewal permittees shall continue to operate under their existing program. All permittees shall review the training program annually, edit it as necessary, and continue to implement it during every year of permit coverage.

Measurable Goal: Your employee training shall occur at least annually (i.e., during each permit coverage year) and shall be fully documented in writing and reported in your periodic reports. Documentation shall include the date(s) of the training, the names of attendees, the topics covered, and the training presenter(s).

Guidance: The training requirements of this BMP can be met in various ways. Training can be:

- formal or informal;
- conducted on-site or off-site;
- conducted on-the-job or during dedicated training periods;
- conducted one-on-one or in a group setting (including with staff from other MS4s);
- conducted by municipal staff or consultants/volunteers;
- conducted via oral presentations/instructions and/or via written materials (e.g., SOP's, guidance manuals, tests).

Recommendation: For efficiency and cost savings, you may wish to arrange and schedule joint training events with other nearby operators of regulated small MS4s.

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID:	
Today's date:		Time (Military):	
Investigators:		Form completed by:	
Temperature (°F):	Rainfall (in.):	Last 24 hours:	Last 48 hours:
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED	
<input type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: _____ Depth: _____ Top Width: _____ Bottom Width: _____	In Water: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____		
<input type="checkbox"/> In-Stream	(applicable when collecting samples)				
Flow Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, Skip to Section 3</i>				
Flow Description (if present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial				

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
<input type="checkbox"/> Flow #2	Flow depth		In	Tape measure
	Flow width	____' ____"	Ft, In	Tape measure
	Measured length	____' ____"	Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? Yes No (If No, Skip to Section 5)

INDICATOR	CHARACTERISTICS	SEVERITY INDEX (1-3)
Odor	<input type="checkbox"/> Sewage <input type="checkbox"/> Sulfide <input type="checkbox"/> Clear <input type="checkbox"/> Green <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Petrochemical (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint <input type="checkbox"/> 2 - Easily detected <input type="checkbox"/> 3 - Noticeable from a distance
Color	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Grey <input type="checkbox"/> Red <input type="checkbox"/> Yellow <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint colors in sample bottle <input type="checkbox"/> 2 - Clearly visible in sample bottle <input type="checkbox"/> 3 - Clearly visible in outfall flow
Turbidity	See severity	<input type="checkbox"/> 1 - Slight cloudiness <input type="checkbox"/> 2 - Cloudy <input type="checkbox"/> 3 - Opaque
Flocculables -Does Not Include Trash!!!	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Sludge <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint/light origin not obvious <input type="checkbox"/> 2 - Some indications of origin (e.g., possible muds or oil sheen) <input type="checkbox"/> 3 - Some; origin clear (e.g., obvious oil sheen, mud, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? Yes No (If No, Skip to Section 6)

INDICATOR	CHARACTERISTICS	SEVERITY INDEX
Outfall Damage	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Corrosion	<input type="checkbox"/> Peeling Paint
Deposits/Stains	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Lines <input type="checkbox"/> Paint <input type="checkbox"/> Other:	<input type="checkbox"/> Other:
Abnormal Vegetation	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/> Odors <input type="checkbox"/> Sludge <input type="checkbox"/> Excessive Algae	<input type="checkbox"/> Flocculables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Other:
Pipe berms/ growth	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	<input type="checkbox"/> Other:

Section 6: Overall Outfall Characterization

Unlikely Potential (presence of two or more indicators) Suspect (one or more indicators with a severity of 3) Obvious

Section 7: Data Collection

1. Sample for the lab?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. If yes, collected from:	<input type="checkbox"/> Flow <input type="checkbox"/> Pool
3. Intermittent flow temp set?	<input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Crank dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

§ 251-0. Short title. [Added 7-14-2014 by Ord. No. 2014-04]

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

§ 251-1. Statement of findings. [Amended 7-14-2014 by Ord. No. 2014-04]

The Borough of Chambersburg finds that:

- A. Inadequate management of accelerated stormwater runoff resulting from development throughout a watershed increases flood flows and velocities, contributes to erosion and sedimentation, overtaxes the carrying capacity of existing streams and storm sewers, greatly increases the cost of public facilities to convey and manage stormwater, undermines floodplain management and flood reduction efforts in upstream and downstream communities, reduces groundwater recharge, threatens public health and safety, and increases pollution of water resources.
- B. A comprehensive program of stormwater management, including reasonable regulation of development, connections and discharges to municipal separate storm sewer systems (MS4), and activities causing accelerated erosion, is fundamental to the public health, safety, welfare, and the protection of the people of the municipality and all the people of the commonwealth, their resources and the environment.
- C. Stormwater is an important water resource, which provides groundwater recharge for water supplies and base flow of streams, which also protects and maintains surface water quality.
- D. Federal and state regulations require the Borough of Chambersburg to obtain a permit for stormwater discharges from its MS4 under the National Pollutant Discharge Elimination System (NPDES). Permittees are required to enact, implement, and enforce a prohibition of nonstormwater discharges to the Borough's regulated small MS4.

§ 251-2. Purpose. [Amended 7-14-2014 by Ord. No. 2014-04]

The purpose of this chapter is to promote the health, safety and welfare within the Borough of Chambersburg, it being part of the Conococheague Creek Watershed, by minimizing the damages described in § 251-1A of this chapter through provisions designed to:

- A. Manage accelerated runoff, erosion and sedimentation, scour, aggradation, and degradation problems at their source by regulating activities that cause these problems.
- B. Utilize and preserve the existing natural drainage systems.

- C. Encourage recharge of groundwater where appropriate and prevent degradation of groundwater quality.
- D. Maintain existing flows and quality of streams and watercourses in the watershed.
- E. Preserve and restore the flood-carrying capacity of streams.
- F. Provide proper operation and maintenance of all stormwater management facilities and all stormwater management BMPs that are implemented within the Borough.
- G. Provide performance standards and design criteria for watershed-wide stormwater management and planning.
- H. Provide standards to meet NPDES permit requirements.
- I. Meet water quality requirements under state law, including regulations at 25 Pa. Code § 93, to protect, maintain, reclaim, and restore the existing and designated uses of the waters of this commonwealth.

§ 251-3. Statutory authority.

The Borough is empowered to regulate land use activities that affect runoff by the authority of the Pennsylvania Municipalities Planning Code, Act of 1968, P.L. 805, No. 247, as amended, and the Act of October 4, 1978, 32 P.S., P.L. 864, No. 167, Section 680.1 et seq., as amended, the "Stormwater Management Act."

§ 251-4. Applicability. [Amended 7-14-2014 by Ord. No. 2014-04]

- A. This chapter shall only apply to permanent stormwater management facilities constructed as part of any of the regulated activities listed in this section. Stormwater management and erosion and sedimentation control during construction activities are specifically not regulated by this chapter, but shall continue to be regulated under existing laws and ordinances.
- B. This chapter contains only the stormwater management performance standards and design criteria that are necessary or desirable from a watershed-wide perspective. Local stormwater management 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 ordinances.
- C. The following activities are defined as "regulated activities" and shall be regulated by this chapter:
 - (1) Land disturbance or development.
 - (2) Subdivision.
 - (3) Construction of new or additional impervious or semipervious surfaces (driveways, parking lots, etc.).

- (4) Construction of new buildings or additions to existing buildings.
 - (5) Diversion or piping of any natural or man-made stream channel.
 - (6) Installation of stormwater management facilities or appurtenances thereto.
- D. Any stormwater conveyance facilities located outside of the publicly ordained right-of-way shall remain the sole responsibility of the property owner.

§ 251-5. Repealer.

Any ordinance or ordinance provision of the Borough inconsistent with any of the provisions of this chapter is hereby repealed to the extent of the inconsistency only.

§ 251-6. Severability.

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

§ 251-7. Compatibility with other ordinance requirements.

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

§ 251-8. Modification.

- A. The Borough may grant a modification if literal enforcement of the requirements of one or more provisions of this chapter 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 health, safety and welfare, and may permit a modification of the requirements of this chapter subject to conditions necessary to assure adequate management of stormwater.
- B. All requests for modification shall be in writing and shall accompany and be a part of the application for stormwater management plan approval. The request shall state in full the grounds and facts of unreasonableness or hardship on which the request is made, the provision or provisions of this chapter involved and the minimum modification necessary.
- C. After receipt of a request for modification, the Borough shall forward the same to the Planning Commission for advisory comments.

§ 251-8.1. Erroneous permit. [Added 7-14-2014 by Ord. No. 2014-04]

Any permit or authorization issued or approved based on false, misleading, or erroneous information provided by an applicant is void without the necessity of any proceedings for revocation. Any work undertaken or use established pursuant to such an erroneous

permit or other authorization is unlawful and shall be enforced in accordance with Article VII, "Enforcement and Penalties." No action may be taken by a board, agency, or employee of the Borough purporting to validate such a violation.

§ 251-9. Definitions and word usage.

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, firm, association, organization, partnership, trust, company, corporation or any other similar entity.
- D. The words "shall" and "must" are mandatory; the words "may" and "should" are permissive.
- E. The words "used or occupied" include the words "intended, designed, maintained or arranged to be used, occupied or maintained."
- F. Definitions.

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

AGRICULTURAL ACTIVITIES — The work of producing crops and raising livestock, including tillage, plowing, disking, harrowing, pasturing and installation of conservation measures. Construction of new buildings or impervious area is not considered an agricultural activity.

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

APPLICANT — A landowner or developer who has filed an application for approval to engage in any regulated activities as defined in § 251-4 of this chapter.

BMP (BEST MANAGEMENT PRACTICE) — Activities, structures, facilities, designs, measures, procedures, and techniques used to control, maintain or improve the quantity and quality of surface runoff; to manage stormwater impacts from regulated activities; to meet state water quality requirements; to promote

groundwater recharge; and to otherwise meet the purposes of this chapter. See also "structural BMP" and "nonstructural BMP." [Amended 7-14-2014 by Ord. No. 2014-04]

CHANNEL EROSION — The widening, deepening and headward cutting of small channels and waterways due to erosion caused by moderate to large floods.

CISTERN — An underground reservoir or tank for storing rainwater.

CONSERVATION DISTRICT — The Franklin County Conservation District.

CULVERT — A structure with appurtenant works which carries a stream under or through an embankment or fill.

DAM — An artificial barrier, together with its appurtenant works, constructed for the purpose of impounding or storing water or another fluid or semifluid, or a refuse bank, fill or structure for highway, railroad or other purposes which does or may impound water or another fluid or semifluid.

DEP (or PA DEP or PADEP) — The Pennsylvania Department of Environmental Protection, or any agency successor to the Pennsylvania Department of Environmental Protection. [Added 7-14-2014 by Ord. No. 2014-04]

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.

DESIGNEE — The agent of the Office of the Borough Engineer of the Borough of Chambersburg or other authorized representative of the Borough involved with the administration, review or enforcement of any provisions of this chapter by contract or memorandum of understanding.

DETENTION BASIN — An impoundment structure designed to manage stormwater runoff by temporarily storing the runoff and releasing it at a predetermined rate.

DETENTION DISTRICT — Those subareas in which some type of detention is required to meet the plan requirements and the goals of Act 167.

DEVELOPER — A person, partnership, association, corporation or other entity, or any responsible person therein or agent thereof, that undertakes any regulated activity of this chapter.

DEVELOPMENT SITE — The specific tract of land for which a regulated activity is proposed.

DIFFUSED DRAINAGE DISCHARGE — Drainage discharge not confined to a single point location or channel, such as sheet flow or shallow concentrated flow.

DOWNSLOPE PROPERTY LINE — That portion of the property line of the lot, tract or parcels of land being developed located such that all overland or pipe flow from the site would be directed towards it.

DRAINAGE CONVEYANCE FACILITY — A stormwater management facility designed to transmit stormwater runoff and shall include streams, channels, swales, pipes, conduits, culverts, storm sewers, etc.

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

DRAINAGE PERMIT — A permit issued by the Borough of Chambersburg after the drainage plan has been approved. Said permit is issued prior to or with the final Borough approval.

DRAINAGE PLAN — The documentation of the stormwater management system, if any, to be used for a given development site, the contents of which are established in § 251-22. **[Amended 7-14-2014 by Ord. No. 2014-04]**

EARTH DISTURBANCE — Any activity including, but not limited to, construction, mining, timber harvesting and grubbing which alters, disturbs and exposes the existing land surface.

EROSION — The movement of soil particles by the action of water, wind, ice or other natural forces.

EROSION AND SEDIMENT POLLUTION CONTROL PLAN — A plan that is designed to minimize accelerated erosion and sedimentation.

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

EXISTING CONDITIONS — The initial condition of a project site prior to the proposed construction. If the initial condition of the site is undeveloped land, the land use shall be considered as "meadow" unless the natural land cover is proven to generate lower curve numbers or Rational "C" value, such as forested lands.

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

FLOODPLAIN — Any land area susceptible to inundation by water from any natural source or delineated by applicable Department of Housing and Urban Development, Federal Insurance Administration Flood Hazard Boundary -- mapped as being a special flood hazard area. Also included are areas that comprise Group 13 Soils, as listed in Appendix A of the Pennsylvania Department of Environmental Protection (PADEP) Technical Manual for Sewage Enforcement Officers (as amended or replaced from time to time by PADEP). **[Amended 7-14-2014 by Ord. No. 2014-04]**

FLOODWAY — The channel of the watercourse and those portions of the adjoining floodplains which are reasonably required to carry and discharge the one-hundred-year frequency flood. Unless otherwise specified, the boundary of the floodway is as indicated on maps and flood insurance studies provided by FEMA.

In an area where no FEMA maps or studies have defined the boundary of the one-hundred-year frequency floodway, it is assumed, absent evidence to the contrary, that the floodway extends from the stream to 50 feet from the top of the bank of the stream.

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

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

GRADE — A slope, usually of a road, channel or natural ground, specified in percent and shown on plans as specified herein.

(1) **(TO) GRADE**—To finish the surface of a roadbed, top of embankment or bottom of excavation.

GRASSED WATERWAY — A natural or constructed waterway, usually broad and shallow, covered with erosion-resistant grasses, used to conduct surface water from cropland.

GROUNDWATER RECHARGE — Replenishment of existing natural underground water supplies.

HEC-HMS — The United States Army Corps of Engineers, Hydrologic Engineering Center (HEC) — Hydrologic Modeling System (HMS).

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

IMPERVIOUS SURFACE — A surface that prevents the percolation of water into the ground.

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

INFILTRATION STRUCTURES — A structure designed to direct runoff into the ground (e.g., french drains, seepage pits, seepage trench).

INLET — A surface connection to a closed drain; a structure at the diversion end of a conduit; the upstream end of any structure through which water may flow.

LAND DEVELOPMENT —

(1) The improvement of one lot or two or more contiguous lots, tracts or parcels of land for any purpose involving a group of two or more buildings or the

division or allocation of land or space 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;

- (2) Any subdivision of land;
- (3) Development in accordance with Section 503(1.1) of the Pennsylvania Municipalities Planning Code.

LAND EARTH DISTURBANCE — Any activity involving grading, tilling, digging or filling of ground or stripping of vegetation or any other activity that causes an alteration to the natural condition of the land.

LOT — A designated parcel, tract or area of land established by a plat or otherwise as permitted by law and to be used, developed or built upon as a unit. **[Added 7-14-2014 by Ord. No. 2014-04]**

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

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

MUNICIPALITY — Borough of Chambersburg, Franklin County, Pennsylvania.

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.

NONSTRUCTURAL BMP — Planning and design approaches, operational and/or behavior-related practices that minimize stormwater runoff generation resulting from an alteration of the land surface or limit contact of pollutants with stormwater runoff. **[Added 7-14-2014 by Ord. No. 2014-04]**

NRCS — Natural Resource Conservation Service (previously SCS).

OPEN CHANNEL — A drainage element in which stormwater flows with an open surface. Open channels include, but shall not be limited to, natural and man-made drainageways, swales, streams, ditches, canals and pipes flowing partly full.

OUTFALL — Point where water flows from a conduit, stream or drain.

OUTLET — Points of water disposal from a stream, river, lake, tidewater or artificial drain.

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

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

PENN STATE RUNOFF MODEL (CALIBRATED) — The computer-based hydrologic modeling technique adapted to the Conococheague Creek watershed for the Act 167 Plan. The model has been "calibrated" to reflect actual recorded flow values by adjoining key model input parameters.

PERSON — An individual, partnership, corporation, trust, unincorporated association, or other similar entity. **[Added 7-14-2014 by Ord. No. 2014-04]**

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

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

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

QUALIFIED DESIGN PROFESSIONAL — A Pennsylvania registered professional engineer, registered landscape architect or a registered professional land surveyor trained and certified to develop stormwater management plans.

RATIONAL FORMULA — A rainfall-runoff relation used to estimate peak flow.

REGULATED ACTIVITIES — Actions or proposed actions that may have an impact on stormwater runoff or may contribute nonstormwater discharges to a regulated small MS4. Any redirection of an existing discharge shall constitute a regulated activity. **[Amended 7-14-2014 by Ord. No. 2014-04]**

REGULATED EARTH DISTURBANCE ACTIVITIES — Activity involving earth disturbance subject to regulation under 25 Pa. Code § 92a, 20 Pa. Code § 102, or the Clean Streams Law.¹ **[Added 7-14-2014 by Ord. No. 2014-04]**

RELEASE RATE — The percentage of predevelopment peak rate of runoff from a site or subarea to which the postdevelopment peak rate of runoff must be reduced to protect downstream areas.

RETENTION BASIN — An impoundment in which stormwater is stored and not released during the storm event. Stored water may be released from the basin at some time after the end of the storm.

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

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

1. Editor's Note: See 35 P.S. § 691.1 et seq.

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

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

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

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

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

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

SHEET FLOW — Runoff that flows over the ground surface as a thin, even layer, not concentrated in a channel.

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

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

SPELLWAY — A depression in the embankment of a pond or basin which is used to pass peak discharge greater than the maximum design storm controlled by the pond.

STATE WATER QUALITY REQUIREMENTS — The regulatory requirements to protect, maintain, reclaim, and restore water quality under Title 25 of the Pennsylvania Code and the Clean Streams Law.²[Added 7-14-2014 by Ord. No. 2014-04]

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

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

2. Editor's Note: See 35 P.S. § 691.1 et seq.

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

STORMWATER — Drainage runoff from the surface of the land resulting from precipitation or snow or ice melt. **[Amended 7-14-2014 by Ord. No. 2014-04]**

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

STORMWATER MANAGEMENT PLAN — The plan for managing stormwater runoff in the Borough of Chambersburg consistent with the plan adopted by Franklin County as required by the Act of October 4, 1978, P.L. 864, (Act 167), and known as the "Conococheague Creek Watershed Action Act 167 Stormwater Management Plan."

STORMWATER MANAGEMENT SITE PLAN — The plan prepared by the developer or his representative indicating how stormwater runoff will be managed at the particular site of interest according to this chapter.

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

STRUCTURAL BMP — Physical devices and practices that capture and treat stormwater runoff. Structural BMPs are permanent appurtenances to the development site. **[Added 7-14-2014 by Ord. No. 2014-04]**

SUBAREA — The smallest drainage unit of a watershed for which stormwater management criteria have been established in the stormwater management plan.

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

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

TIMBER OPERATIONS — See "forest management."

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

WATERCOURSE — A stream of water; river; brook; creek; or a channel or ditch for water, whether natural or man-made.

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

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

§ 251-10. General requirements.

- A. All regulated activities in the Borough of Chambersburg which do not fall under the exemption criteria shown in § 251-20 shall submit a drainage plan consistent with the Conococheague Creek Watershed Stormwater Management Plan to the Borough for review. This criteria shall apply to the total proposed development even if development is to take place in stages. Impervious cover shall include, but not be limited to, any roof, parking or driveway areas and any new streets and sidewalks. Any areas designed to initially be gravel or crushed stone shall be assumed to be impervious for the purposes of comparison to the exemption criteria.
- B. Stormwater drainage systems shall be provided in order to permit unimpeded flow along natural watercourses, except as modified by stormwater management facilities or open channels consistent with this chapter.
- C. The existing points of concentrated drainage that discharge onto adjacent property shall not be altered without permission of the affected property owner(s) and shall be subject to any applicable discharge criteria specified in this chapter.
- D. Areas of existing diffused drainage discharge shall be subject to any applicable discharge criteria in the general direction of existing discharge, whether proposed to be concentrated or maintained as diffused drainage areas, except as otherwise provided by this chapter. If diffused drainage discharge is proposed to be concentrated and discharged onto adjacent property, the developer must document that adequate downstream conveyance facilities exist to safely transport the concentrated discharge, or otherwise prove that no erosion, sedimentation, flooding or other harm will result from the concentrated discharge.
- E. Where a development site is traversed by watercourses, drainage easements shall be provided conforming to the line of such watercourses. The terms of the easement shall prohibit excavation, the placing of fill or structures and any alterations that may adversely affect the flow of stormwater within any portion of the easement. Also, maintenance, including mowing of vegetation within the easement, shall be required, except as approved by the appropriate governing authority.

- F. When it can be shown that, due to topographic conditions, natural drainageways on the site cannot adequately provide for drainage, open channels may be constructed conforming substantially to the line and grade of such natural drainageways. Work within natural drainageways shall be subject to approval by PaDEP through the joint permit application process, or, where deemed appropriate by PaDEP, through the general permit process.
- G. Any stormwater management facilities regulated by this chapter that would be located in or adjacent to waters of the commonwealth or wetlands shall be subject to approval by PaDEP through the joint permit application process, or, where deemed appropriate by PaDEP, the general permit process. When there is a question whether wetlands may be involved, it is the responsibility of the developer or his agent to show that the land in question cannot be classified as wetlands, otherwise approval to work in the area must be obtained from PaDEP.
- H. Any stormwater management facilities regulated by this chapter that would be located on state highway rights-of-way shall be subject to approval by the Pennsylvania Department of Transportation (PENNDOT).
- I. Minimization of impervious surfaces and infiltration of runoff through seepage beds, infiltration trenches, etc., are encouraged strongly, where soil conditions permit, to reduce the size or eliminate the need for detention facilities.
- J. Roof drains must not be connected to streets, sanitary or storm sewers or roadside ditches to promote overland flow and infiltration/ percolation of stormwater where advantageous to do so. When it is more advantageous to connect directly to streets or storm sewers, then it shall be permitted on a case-by-case basis by the municipality.
- K. Special requirements for watersheds draining to high-quality (HQ) and exceptional value (EV) waters. The temperature and quality of water and streams that have been declared as exceptional value and high quality are to be maintained as defined in Chapter 93, Water Quality Standards, Title 25 of Pennsylvania Department of Environmental Protection Rules and Regulations. Temperature-sensitive BMP's and stormwater conveyance systems are to be used and designed with storage pool areas and supply outflow channels and should be shaded with trees. This will require modification of berms for permanent ponds and the relaxation of restrictions on planting vegetation within the facilities, provided that capacity for volumes and rate control is maintained. At a minimum, the southern half on pond shorelines shall be planted with shade or canopy trees within 10 feet of the pond shoreline. In conjunction with this requirement, the maximum slope allowed on the berm area to be planted is 10 to one. A long-term maintenance schedule and management plan for the thermal control BMP's is to be established and recorded for all development sites.

§ 251-11. Stormwater management districts. [Amended 7-14-2014 by Ord. No. 2014-04]

- A. Conococheague Creek Watershed has been divided into stormwater management districts as shown on the Watershed Map in Appendix D.³ The Borough of Chambersburg is located entirely within District A.
- B. In addition to the requirements specified below, the groundwater recharge (§ 251-16), water quality (§ 251-17), and streambank erosion (§ 251-18), requirements shall be implemented.
- C. Standards for managing runoff are shown below. Development sites located in the Borough of Chambersburg must control postdevelopment runoff rates to predevelopment runoff rates for the design storms as follows:

Design Storm Postdevelopment	Design Storm Predevelopment
Two-year	One-year
Five-year	Five-year
Ten-year	Ten-year
Twenty-five-year	Twenty-five-year
Fifty-year	Fifty-year
One-hundred-year	One-hundred-year

§ 251-12. Stormwater management district implementation provisions (performance standards).

- A. **General.** Postdevelopment peak rates of runoff from any regulated activity shall meet the peak release rates of runoff prior to development for the design storms specified on the Stormwater Management District Watershed Map (Appendix D)⁴ and § 251-11, of the Ordinance.
- B. **Off-site areas.** Off-site areas that drain through a proposed development site are not subject to release rate criteria when determining allowable peak runoff rates. However, on-site drainage facilities shall be designed to safely convey off-site flows through the development site.
- C. **Site areas.** Where the site area to be impacted by a proposed development activity differs significantly from the total site area, only the proposed impact area utilizing stormwater management measures shall be subject to the management district criteria. In other words, unimpacted areas bypassing the stormwater management facilities would not be subject to the management district criteria.

3. Editor's Note: Appendix D is on file in the Borough offices.

4. Editor's Note: Appendix D is on file in the Borough offices.

- D. No Harm option. For any proposed development site not located in a provisional direct discharge district, the developer has the option of using a less restrictive runoff control (including no detention) if the developer can prove that no harm would be caused by discharging at a higher runoff rate than that specified by the plan. The no harm option is used when a developer can prove that the postdevelopment hydrographs can match predevelopment hydrographs, or if it can be proved that the postdevelopment conditions will not cause increases in peaks at all points downstream. Proof of no harm would have to be shown based upon the following downstream impact evaluation which shall include a downstream hydraulic capacity analysis consistent with § 251-12G to determine if adequate hydraulic capacity exists. The land developer shall submit to the municipality this evaluation of the impacts due to increased downstream stormwater flows in the watershed.
- (1) The downstream impact evaluation shall include hydrologic and hydraulic calculations necessary to determine the impact of hydrograph timing modifications due to the proposed development upon a dam, highway, structure, natural point of restricted streamflow or any stream channel section, established with the concurrence of the municipality.
 - (2) The evaluation shall continue downstream until the increase in flow diminishes due to additional flow from tributaries and/or stream attenuation.
 - (3) The peak flow values to be used for downstream areas for the design return period storms (two-, five-, ten-, twenty-five-, fifty- and one-hundred-year) shall be the values from the calibrated model for the Conococheague Creek Watershed. These flow values can be obtained from the watershed plan.
 - (4) Developer-proposed runoff controls which would generate increased peak flow rates at storm drainage problem areas would, by definition, be precluded from successful attempts to prove no-harm, except in conjunction with proposed capacity improvements for the problem areas consistent with § 251-12F.
 - (5) A financial distress shall not constitute grounds for granting a no harm exemption.
 - (6) Capacity improvements may be provided as necessary to implement the no harm option which proposes specific capacity improvements to provide that a less stringent discharge control would not create any harm downstream.
 - (7) Any no harm justifications shall be submitted by the developer as part of the drainage plan submission per Article IV.
- E. Downstream hydraulic capacity analysis. Any downstream capacity hydraulic analysis conducted in accordance with this chapter shall use the following criteria for determining adequacy for accepting increased peak flow rates:

- (1) Natural or man-made channels or swales must be able to convey the increased runoff associated with a two-year return period event within their banks at velocities consistent with protection of the channels from erosion. Acceptable velocities shall be based upon criteria included in the DEP Erosion and Sediment Pollution Control Program Manual.
 - (2) Natural or man-made channels or swales must be able to convey increased twenty-five-year return period runoff without creating any hazard to persons or property.
 - (3) Culverts, bridges, storm sewers or any other facilities which must pass or convey flows from the tributary area must be designed in accordance with DEP Chapter 105 regulations (if applicable) and, at minimum, pass the increased twenty-five-year return period runoff.
- F. Regional detention alternatives. For certain areas within the study area, it may be more cost effective to provide one control facility for more than one development site than to provide an individual control facility for each development site. The initiative and funding for any regional runoff control alternatives are the responsibility of prospective developers. The design of any regional control basins must incorporate reasonable development of the entire upstream watershed. The peak outflow of a regional basin would be determined on a case-by-case basis using the hydrologic model of the watershed consistent with protection of the downstream watershed areas. "Hydrologic model" refers to the calibrated model as developed for the stormwater management plan.
- G. Hardship option. The development of the plan and its standards and criteria was designed to maintain existing peak flows throughout the Conococheague Creek Watershed as the watershed becomes developed. There may be certain instances, however, where the standards and criteria established are too restrictive for a particular landowner or developer. The existing drainage network in some areas may be capable of safely transporting slight increases in flows without causing a problem or increasing flows elsewhere. If a developer or homeowner may not be able to possibly meet the stormwater standards due to lot conditions or if conformance would become a hardship to an owner, the hardship option may be applied. The landowner would have to plead his/her case to the Borough with the final determination made by the Borough in accord with the provisions of Article I, § 251-8 of this chapter. Any landowners pleading the hardship option will assume all liabilities that may arise due to exercising this option.

§ 251-13. Design criteria for stormwater management facilities.

- A. Any stormwater facility located on state highway rights-of-way shall be subject to approval by the Pennsylvania Department of Transportation (PENNDOT).
- B. Any stormwater management facility (i.e., detention basin) designed to store runoff and requiring a berm or earthen embankment required or regulated by this chapter

shall be designed to provide an emergency spillway to handle flow up to and including the one-hundred-year postdevelopment conditions. The height of embankment must be set as to provide a minimum 1.0 foot of freeboard above the maximum pool elevation computed when the facility functions for the one-hundred-year postdevelopment inflow. Should any stormwater management facility require a dam safety permit under PaDEP Chapter 105, the facility shall be designed in accordance with Chapter 105 and meet the regulations of Chapter 105 concerning dam safety which may be required to pass storms larger than one-hundred-year event.

- C. Any facilities that constitute water obstructions (e.g., culverts, bridges, outfalls or stream enclosures), and any work involving wetlands as directed in PaDEP Chapter 105 regulations (as amended or replaced from time to time by PaDEP), shall be designed in accordance with Chapter 105 and will require a permit from PaDEP. Any other drainage conveyance facility that does not fall under Chapter 105 regulations must be able to convey, without damage to the drainage structure or roadway, runoff from the twenty-five-year design storm with a minimum 1.0 foot of freeboard measured below the lowest point along the top of the roadway. Roadway crossings located within designated floodplain areas must be able to convey runoff from a one-hundred-year design storm with a minimum 1.0 foot of freeboard measured below the lowest point along the top of roadway. Any facility that constitutes a dam as defined in PaDEP chapter 105 regulations may require a permit under dam safety regulations. Any facility located within a PENNDOT right of way must meet PENNDOT minimum design standards and permit submission requirements.
- D. Any drainage conveyance facility and/or channel that does not fall under Chapter 105 regulations must be able to convey, without damage to the drainage structure or roadway, runoff from the ten-year design storm. Conveyance facilities to or exiting from stormwater management facilities (i.e., detention basins) shall be designed to convey the design flow to or from that structure. Roadway crossings located within designated floodplain areas must be able to convey runoff from a one-hundred-year design storm. Any facility located within a PENNDOT right-of-way must meet PENNDOT minimum design standards and permit submission requirements.
- E. Storm sewers must be able to convey postdevelopment runoff from a twenty-five-year design storm without surcharging inlets, where appropriate.
- F. Adequate erosion protection shall be provided along all open channels and at all points of discharge.
- G. The design of all stormwater management facilities shall incorporate sound engineering principles and practices. The Borough shall reserve the right to disapprove any design that would result in the occupancy or continuation of an adverse hydrologic or hydraulic condition within the watershed.

§ 251-14. Calculation methodology.

Stormwater runoff from all development sites shall be calculated using either the rational method or a soil-cover complex methodology.

- A. Any stormwater runoff calculations shall use generally accepted calculation technique that is based on the NRCS soil-cover complex method. Table 305-1 summarizes acceptable computation methods.⁵ It is assumed that all methods will be selected by the design professional based on the individual limitations and suitability of each method for a particular site. The municipality may allow the use of the rational method to estimate peak discharges from drainage areas that contain less than 200 acres. The soil complex method is recommended for drainage areas greater than 200 acres.
- B. All calculations consistent with this chapter using the soil-cover complex method shall use the appropriate design rainfall depths for the various return period storms according to the region for which they are located as presented in Table B-1 in Appendix B of this chapter.⁶ If a hydrologic computer model such as HEC-HMS or HEC-1 is used for stormwater runoff calculations, then the duration of rainfall shall be 24 hours. The alternating block method to develop design hyetographs described in Figure B-1, Appendix B of this chapter shall be used for the rainfall distribution.⁷
- C. For the purposes of predevelopment flow rate determination, undeveloped land shall be considered as "meadow" in good condition, unless the natural ground cover generates a lower curve number or rational "C" value (i.e., forest), as listed in Table B-2 or B-3 in Appendix B of this document.⁸
- D. All calculations using the rational method shall use rainfall intensities consistent with appropriate times of concentration for overland flow and return periods from the design storm curves from Pennsylvania Department of Transportation Design Rainfall Curves (1986) (Figures B-3 to B-4). Times of concentration for overland flow shall be calculated using the methodology presented in Chapter 3 of Urban Hydrology for Small Watersheds, NRCS, TR-55 (as amended or replaced from time to time by NRCS). Times of concentration for channel and pipe flow shall be computed using Manning's equation. Overland flow path lengths may not exceed 100 linear feet. **[Amended 7-14-2014 by Ord. No. 2014-04]**
- E. Runoff curve numbers (CN) for both existing and proposed conditions to be used in the soil-cover complex method shall be obtained from Table B-2 in Appendix B of this chapter.
- F. Runoff coefficients (c) for both existing and proposed conditions for use in the rational method shall be obtained from Table B-3 in Appendix B of this chapter.

5. Editor's Note: Table 305-1 is included at the end of this chapter.

6. Editor's Note: Table B-1 is included at the end of this chapter.

7. Editor's Note: Figure B-1 is included at the end of this chapter.

8. Editor's Note: Tables B-2 and B-3 are included at the end of this chapter.

- G. Where uniform flow is anticipated, the Manning equation shall be used for hydraulic computations and to determine the capacity of open channels, pipes and storm sewers. Values for Manning's roughness coefficient (n) shall be consistent with Table B-4 in Appendix B of the Ordinance.⁹ Outlet structures for stormwater management facilities shall be designed to meet the performance standards of this chapter using any generally accepted hydraulic analysis technique or method.
- H. The design of any stormwater detention facilities intended to meet the performance standards of this chapter shall be verified by routing the design storm hydrograph through these facilities using the storage-indication method. For drainage areas greater than 200 acres in size, the design storm hydrograph shall be computed using a calculation method that produces a full hydrograph. The Borough may approve the use of any generally accepted full hydrograph approximation technique that shall use a total runoff volume that is consistent with the volume from a method that produces a full hydrograph.

TABLE 305-1

Acceptable Computation Methodologies For Stormwater Management Plans

Method	Method Developed by	Applicability
TR-20 (or commercial computer package based on TR-20)	USDA NRCS	Applicable where use of full hydrology computer model is desirable or necessary
TR-55 (or commercial computer package based on TR-55)	USDA NRCS	Applicable for land development plans within limitations described in TR-55
HEC-1/HEC-HMS	United States Army Corps of Engineers	Applicable where use of full hydrologic computer model is desirable or necessary
PSRM	Penn State University	Applicable where use of a hydrologic computer model is desirable or necessary; simpler than TR-20 or HEC-1
Rational method (or commercial computer package based on rational method)	Emil Kuichling (1889)	For sites less than 200 acres or as approved by the Borough and/or Borough Engineer

9. Editor's Note: Table B-4 is included at the end of this chapter.

TABLE 305-1

Acceptable Computation Methodologies For Stormwater Management Plans

Method	Method Developed by	Applicability
Other methods	Varies	Other computation methodologies approved by the Borough and/or Borough Engineer

§ 251-15. Erosion and sedimentation requirements.

- A. Whenever the vegetation and topography are to be disturbed, such activity must be in conformance with Chapter 102, Title 25, Rules and Regulations, Part I, Commonwealth of Pennsylvania, Department of Environmental Protection, Subpart C, Protection of Natural Resources, Article II, Water Resources, Chapter 102, Erosion Control, and in accordance with the Franklin County Conservation District.
- B. Additional erosion and sedimentation control design standards and criteria that must be or are recommended to be applied where infiltration BMPs are proposed shall include the following:
 - (1) Areas proposed for infiltration BMPs shall be protected from sedimentation and compaction during the construction phase so as to maintain their maximum infiltration capacity.
 - (2) Infiltration BMPs shall not be constructed nor receive runoff until the entire contributory drainage area to the infiltration BMP has received final stabilization.

§ 251-16. Groundwater recharge (infiltration/ recharge/retention).

- A. The ability to retain and maximize the groundwater recharge capacity of the area being developed is encouraged strongly. Design of the infiltration/recharge stormwater management facilities shall give consideration to providing groundwater recharge to compensate for the reduction in the percolation that occurs when the ground surface is paved and roofed over. These measures are encouraged, particularly in hydrologic soil groups A and B and should be utilized wherever feasible. Soils used for the construction of basins shall have low-erodibility factors ("K" factors).
- B. Infiltration BMPs shall meet the following minimum requirements:
 - (1) Infiltration BMPs intended to receive runoff from developed areas shall be selected based on suitability of soils and site conditions and shall be constructed on soils that have the following characteristics:

- (a) A minimum depth of 24 inches between the bottom of the facility and the seasonal high water table and/or bedrock (limiting zones) is required for areas of non-hot spot runoff (parking lots, access roads, truck bays, and similar). In areas of hot spot runoff, a minimum depth of 48 inches between the bottom of the facility and the seasonal high water table and/or bedrock (limiting zones) is required. **[Amended 7-14-2014 by Ord. No. 2014-04]**
- (b) An infiltration and/or percolation rate sufficient to accept the additional stormwater load and drain completely as determined by field tests conducted by the owner's professional designer or as otherwise approved by the Municipal Engineer.
- (c) Infiltration BMPs receiving only roof runoff may be placed in soils having a minimum depth of 24 inches between the bottom of the facility and the limiting zone.
- (d) The size of the recharge facility shall be based upon the following equation (DEP):

$$Rev = [(S) (Rv) (A)] / 12$$

Where:

- Rev = Recharge Volume (acre-feet)
- S = Soil specific recharge factor (inches)
- Rv = Volumetric runoff coefficient
- A = Site area contributing to the recharge facility (acres)

And:

$$Rv = 0.05 + 0.009 (I)$$

Where:

- I = percent impervious area

And:

S may be obtained based upon hydrologic soil group based upon the table below recommended as general values by DEP. More site specific data may be utilized to determine recharge if justified by the design engineer and approved by the Borough engineer.

Hydrologic Soil Group	Soil Specific Recharge Factor (S)
	(inches)
A	0.38 inches
B	0.25 inches

Soil Specific Recharge Factor (S)

Hydrologic Soil Group	(inches)
C	0.13 inches
D	0.06 inches

- (2) If more than one hydrologic soil group (HSG) is present at a site, a composite recharge volume shall be computed based upon the proportion of total site area within each HSG.
 - (a) The recharge volume provided at the site shall be directed to the most permeable HSG available, if feasible.
 - (b) The recharge facility shall be capable of completely infiltrating the recharge volume within three days (72 hours). **[Amended 7-14-2014 by Ord. No. 2014-04]**
 - (c) Infiltration areas should be located a minimum of 10 feet from a building foundation.

- C. A detailed soils evaluation of the project site may be required to determine the suitability of recharge facilities. The evaluation shall be performed by a qualified design professional, and at a minimum, address soil permeability, depth to bedrock, susceptibility to sinkhole formation and subgrade stability. The general process for designing the infiltration BMP shall be:
 - (1) Analyze hydrologic soil groups as well as natural and man-made features within the watershed to determine general areas of suitability for infiltration practices.
 - (2) Provide field test to determine appropriate percolation rate and/or hydraulic conductivity.
 - (3) Design infiltration structure for required storm volume based on field determined capacity at the level of the proposed infiltration surface.

- D. Extreme caution shall be exercised where infiltration is proposed in geologically susceptible areas such as strip mine or limestone areas. Extreme caution shall also be exercised where salt or chloride would be a pollutant since soils do little to filter this pollutant and it may contaminate the groundwater. It is also extremely important that the qualified design professional evaluate the possibility of groundwater contamination from the proposed infiltration/recharge facility and recommend a hydrogeologic justification study be performed if necessary. Whenever a basin will be located in an area underlain by limestone, a geological evaluation of the proposed location shall be conducted to determine susceptibility to sinkhole formations. The design of all facilities over limestone formations shall include measures to prevent groundwater contamination and, where necessary,

sinkhole formation. The infiltration requirement in the high-quality/exceptional waters shall be subject to the Department's Chapter 93 and Antidegradation Regulations. The Borough may require the installation of an impermeable liner in detention basins. A detailed hydrogeologic investigation may be required by the municipality. It shall be the developer's responsibility to verify if the site is underlain by limestone. The following note shall be attached to all drainage plans and signed and sealed by the developers engineer/surveyor/geologist:

"_____, certify that the proposed detention basin (circle one) is/is not underlain by limestone."

- E. The Borough may require the developer to provide safeguards against groundwater contamination for uses which may cause groundwater contamination should there be a mishap or spill.
- F. Where pervious pavement is permitted for parking lots, recreational facilities, nondedicated streets or other areas, pavement construction specifications and maintenance schedules shall be noted on the plan.
- G. Recharge/infiltration facilities may be used in conjunction with other innovative or traditional BMPs, stormwater control facilities and nonstructural stormwater management alternatives.

§ 251-17. Water quality requirements.

- A. In addition to the performance standards and design criteria requirements of Article III of this chapter, the land developer shall comply with the following water quality requirements of this article unless otherwise exempted by provisions of this chapter.
 - (1) Developed areas will provide adequate storage and treatment facilities necessary to capture and treat stormwater runoff. The recharge volume computed under § 251-16 may be a component of the water quality volume. If the recharge volume is less than the water quality volume, the remaining water quality volume may be captured and treated by methods other than recharge/infiltration BMP's.
 - (2) The water quality volume (WQv) is the storage capacity needed to treat stormwater runoff produced by "P" inch of rainfall (90% rule) from the developed areas of the site (For "P" values, see Appendix B, Table B-5).¹⁰ The following calculation formula is used to determine the storage volume, WQv, in acre-feet of storage:

$$WQv = [(P)(Rv)(A)]/12$$

WQv = Water Quality Volume

10. Editor's Note: Table B-5 is included at the end of this chapter.

P = Rainfall Amount (90% of events producing this rainfall
(Appendix B, Table B-5)

A = Area in acres

Rv = $0.05 + 0.009(I)$ where I is the impervious surface ratio

B. WQv shall be designed as part of a stormwater management facility which incorporates water quality BMP's as a primary benefit of using that facility, in accordance with design specifications contained in Pennsylvania Handbook of Best Management Practices for Developing Areas. The following factors shall be considered when evaluating the suitability of BMPs used to control water quality at a given development site:

- (1) Total contributing drainage area.
- (2) Permeability and infiltration rate of the site soils.
- (3) Slope and depth to bedrock.
- (4) Seasonal high water table.
- (5) Proximity to building foundations and wellheads.
- (6) Erodibility of soils.
- (7) Land availability and configuration of the topography.

C. The following additional factors should be considered when evaluating the suitability of BMPs used to control water quality at a given development site:

- (1) Peak discharge and required volume control.
- (2) Streambank erosion.
- (3) Efficiency of the BMPs to mitigate potential water quality problems.
- (4) The volume of runoff that will be effectively treated.
- (5) The nature of the pollutant being removed.
- (6) Maintenance requirements.
- (7) Creation/protection of aquatic and wildlife habitat.
- (8) Recreational value.
- (9) Enhancement of aesthetic and property value.

§ 251-18. Streambank erosion requirements.

Applying the water quality criteria in § 251-17 above will also help the streambank erosion problem, detain the two-year postdevelopment storm to the one-year

predevelopment storm and detaining the one-year postdevelopment storm a minimum of 24 hours.

§ 251-19. General requirements.

For any of the activities regulated by this chapter, the preliminary or final approval of subdivision and/or land development plans, the issuance of any building or occupancy permit or the commencement of any land disturbance activity may not proceed until the property owner or developer or his/her agent has received written approval of a drainage plan from the Borough.

§ 251-20. Exemptions. [Amended 7-14-2014 by Ord. No. 2014-04]

Regulated activities performed by the Borough of Chambersburg are exempt from the provisions of this chapter. In addition, sidewalks within the public street right-of-way are exempt from the provisions of this chapter. Finally, any regulated activity that meets the exception criteria in the following table is exempt from the provisions of this chapter. This criteria shall apply to the total development even if development is to take place in phases. The date of the adoption of this chapter shall be the starting point from which to consider tracts as "parent tracts" in which future subdivisions and respective impervious area computations shall be cumulatively considered. An exemption shall not relieve the applicant from implementing such measures as are necessary to protect health, safety and property. This exemption shall not relieve the applicant from meeting the special requirements for watersheds draining to high-quality (HQ) or exceptional value (EV) waters (§ 251-11K) and requirements for groundwater recharge (§ 251-17), water quality (§ 251-18) and streambank erosion (§ 251-19). An exemption shall not relieve the applicant from providing adequate stormwater management to meet the purpose of this chapter; however, drainage plans will not have to be submitted to the Borough.

Stormwater Management Exemption Criteria

Total Parcel Size	Impervious Area Exemption
(acres)	(square feet)
Less than or equal to 1/4	2,500
More than 1/4 to 1	5,000
More than 1 to 2	10,000
More than 2 to 5	15,000
More than 5	20,000

§ 251-21. Drainage plan contents.

The drainage plan shall consist of all applicable calculations, maps and plans. A note on the maps shall refer to the associated computations and erosion and sedimentation control plan by title and date. The cover sheet of the computations and erosion and sedimentation control plan shall refer to the associated maps by title and date. All

drainage plan materials shall be submitted to the Borough in a format that is clear, concise, legible, neat and well organized; otherwise, the drainage plan shall be disapproved and returned to the applicant. The following items shall be included in the drainage plan:

A. General.

- (1) General description of project.
- (2) General description of permanent stormwater management techniques, including construction specifications of the materials to be used for stormwater management facilities.
- (3) Complete hydrologic, hydraulic and structural computations for all stormwater management facilities.

B. Map(s) of the project area shall be submitted on eighteen-inch-by-twenty-four-inch sheets or twenty-four-inch-by-thirty-six-inch sheets and shall be prepared in a form that meets the requirements for recording at the offices of the Recorder of Deeds of Franklin County. The contents of the maps(s) shall include, but not be limited to:

- (1) The location of the project relative to highways, municipalities or other identifiable landmarks.
- (2) Existing contours at intervals of two feet. In areas of steep slopes (greater than 15%), five-foot contour intervals may be used.
- (3) Existing streams, lakes, ponds or other bodies of water within the project area.
- (4) Other physical features including flood hazard boundaries, sinkholes, streams, existing drainage courses, areas of natural vegetation to be preserved and the total extent of the upstream area draining through the site.
- (5) The locations of all existing and proposed utilities, sanitary sewers and water lines within 50 feet of property lines.
- (6) An overlay showing soil names and boundaries.
- (7) Proposed changes to the land surface and vegetative cover, including the type and amount of impervious area that would be added.
- (8) Proposed structures, roads, paved areas and buildings.
- (9) Final contours at intervals of two feet. In areas of steep slopes (greater than 15%), five-foot contour intervals may be used.
- (10) The name of the development, the name and address of the owner of the property and the name of the individual or firm preparing the plan.
- (11) The date of submission.

- (12) A graphic and written scale of one inch equals no more than 50 feet; for tracts of 20 acres or more, the scale shall be one inch equals no more than 100 feet.
- (13) A North arrow.
- (14) The total tract boundary and size with distances marked to the nearest foot and bearings to the nearest degree.
- (15) Existing and proposed land use(s).
- (16) A key map showing all existing man-made features beyond the property boundary that would be affected by the project.
- (17) Horizontal and vertical profiles of all open channels, including hydraulic capacity.
- (18) Overland drainage paths.
- (19) A fifteen-foot-wide access easement around all stormwater management facilities that would provide ingress to and egress from a public right-of-way.
- (20) A note on the plan indicating the location and responsibility for maintenance of stormwater management facilities that would be located off site. All off-site facilities shall meet the performance standards and design criteria specified in this chapter.
- (21) A construction detail of any improvements made to sinkholes and the location of all notes to be posted, as specified in this chapter.
- (22) A statement, signed by the landowner, acknowledging the stormwater management system to be a permanent fixture that can be altered or removed only after approval of a revised plan by the municipality.
- (23) The following signature block for the design engineer:

"(Design Engineer), on this date (date of signature), hereby certifies that the drainage plan meets all design standards and criteria of the Borough of Chambersburg Stormwater Management Ordinance as well as the Conococheague Creek Watershed Act 167 Stormwater Management Ordinance."
- (24) The location of all erosion and sedimentation control facilities.

C. Supplemental information.

- (1) A written description of the following information shall be submitted.
 - (a) The overall stormwater management concept for the project.
 - (b) Stormwater runoff computations as specified in this chapter.

- (c) Stormwater management techniques to be applied both during and after development.
 - (d) Expected project time schedule.
 - (2) A soil erosion and sedimentation control plan, where applicable, including all reviews and approvals, as required by PaDEP.
 - (3) A geologic assessment of the effects of runoff on sinkholes as specified in this chapter.
 - (4) The effect of the project (in terms of runoff volumes and peak flows) on adjacent properties and on any existing municipal stormwater collection system that may receive runoff from the project site.
 - (5) A declaration of adequacy and highway occupancy permit from the PENNDOT District Office when utilization of a PENNDOT storm drainage system is proposed.
- D. Stormwater management facilities.
- (1) All stormwater management facilities must be located on a plan and described in detail.
 - (2) When groundwater recharge methods such as seepage pits, beds or trenches are used, the locations of existing and proposed septic tank infiltration areas and wells must be shown.
 - (3) All calculations, assumptions and criteria used in the design of the stormwater management facilities must be shown.

§ 251-22. Plan submission.

For all activities regulated by this chapter, the steps below shall be followed for submission. For any activities that require a PaDEP joint permit application and regulated under Chapter 105 (Dam Safety and Waterway Management) or Chapter 106 (Floodplain Management) of PaDEP's Rules and Regulations, require a PENNDOT highway occupancy permit or require any other permit under applicable state or federal regulations, the proof of application for that, the permit(s) shall be part of the plan. The plan shall be coordinated with the state and federal permit process.

- A. The drainage plan shall be submitted by the developer as part of the preliminary plan submission for the regulated activity.
- B. Four copies of the drainage plan shall be submitted.
- C. Distribution of the drainage plan will be as follows:
 - (1) Two copies to the Borough accompanied by the requisite Borough review fee, as specified in this chapter.

- (2) One copy to the County Planning Commission/Department.

§ 251-23. Drainage plan review.

- A. The Borough Engineer shall review the drainage plan for consistency with the adopted Conococheague Creek Watersheds Act 167 Stormwater Management Plan. The Borough shall require receipt of a complete plan, as specified in this chapter.
- B. The Borough Engineer shall review the drainage plan for any submission or land development against the Borough subdivision and land development ordinance provisions not superseded by this chapter.
- C. Should the drainage plan be determined to be consistent with the stormwater management plan, the Borough Engineer will then notify the developer.
- D. Should the drainage plan be determined to be inconsistent with the stormwater management plan, the Borough Engineer will notify the developer. Any disapproved drainage plans may be revised by the developer and resubmitted consistent with this chapter.
- E. For regulated activities specified in § 251-4 of this chapter, the Borough Engineer shall notify the Borough building permit officer in writing, within a time frame consistent with the Borough Building Code and/or Borough Subdivision and Land Development Ordinance,¹¹ whether the drainage plan is consistent with the stormwater management plan and will provide a copy of the approval/disapproval letter to the developer. Any disapproved drainage plan may be revised by the developer and resubmitted consistent with this chapter.
- F. For regulated activities requiring a PaDEP joint permit application, the Borough Engineer shall notify PaDEP whether the drainage plan is consistent with the stormwater management plan and forward a copy of the review letter to the developer.
- G. The Borough shall not approve any subdivision or land development for regulated activities specified in § 251-4 of this chapter if the drainage plan has been found to be inconsistent with the stormwater management plan, as determined by the Borough Engineer. All required permits from PaDEP must be obtained prior to approval of any subdivision of land development.
- H. The Borough building permit office shall not issue a building permit for any regulated activity specified in § 251-4 of this chapter if the drainage plan has been found to be inconsistent with the stormwater management plan, as determined by the Borough Engineer, or without considering the comments of the Borough Engineer. All required permits from PaDEP must be obtained prior to issuance of a building permit.

11. Editor's Note: See Ch. 113, Building Construction, and Ch. 258, Subdivision and Land Development, respectively.

- I. The developer shall be responsible for completing record drawings of all stormwater management facilities included in the approved drainage plan. The record drawings and an explanation of any discrepancies with the design plans shall be submitted to the Borough Engineer for final approval. In no case shall the Borough approve the record drawings until the Borough receives a copy of an approved declaration of adequacy, highway occupancy permit from the PENNDOT District Office and any applicable permits from PaDEP.
- J. The Borough's approval of a drainage plan shall be valid for a period not to exceed five years. This five-year time period shall commence on the date that the Borough signs the approved drainage plan. If stormwater management facilities included in the approved drainage plan have not been constructed, or if constructed, and record drawings of these facilities have not been approved within this five-year time period, then the Borough may consider the drainage plan disapproved and may revoke any and all permits. Drainage plans that are considered disapproved by the Borough shall be resubmitted in accordance with § 251-25 of this chapter.

§ 251-24. Modification of plans.

- A. A modification to a submitted drainage plan for a development site that involves a change in stormwater management facilities or techniques, or that involves the relocation or redesign of stormwater management facilities or that is necessary because soil or other conditions are not as stated on the drainage plan as determined by the Borough Engineer shall require a resubmission of the modified drainage plan consistent with § 251-22 of this chapter and be subject to review as specified in § 251-23 of this chapter.
- B. A modification to an already approved or disapproved drainage plan shall be submitted to the Borough, accompanied by the applicable review. A modification to a drainage plan for which a formal action has not been taken by the Borough shall be submitted to the Borough, accompanied by the applicable Borough review fee.

§ 251-25. Resubmission of disapproved drainage plans.

A disapproved drainage plan may be resubmitted, with the revisions addressing the Borough Engineer's concerns documented in writing addressed, to the Borough Engineer in accordance with § 251-22 of this chapter and distributed accordingly and be subject to review as specified in § 251-23 of this chapter. The applicable Borough review fee must accompany a resubmission of a disapproved drainage plan.

§ 251-26. Prohibited discharges/actions.

- A. Any drain or conveyance, whether on the surface or subsurface, that allows any nonstormwater discharge, including sewage, process wastewater, and waste water, to enter a regulated small MS4 or to enter the waters of this commonwealth is prohibited.

- B. Connecting any nonstormwater conveyance to a stormwater conveyance is prohibited.
- C. Alteration of stormwater management BMPs without prior written approval by the Borough is prohibited.

§ 251-26.1. Person allowing prohibited discharges/actions.

- A. No person shall allow, or cause to allow, discharges into the storm sewer, or discharges into waters of this commonwealth, which are not composed entirely of stormwater, except as provided in § 251-26.2 below and discharges allowed under a state or federal permit.
- B. No person shall allow, or cause to allow, a nonstormwater conveyance to be connected to a stormwater conveyance.
- C. No person shall allow, or cause to allow, the alteration of stormwater management BMPs without prior written approval by the Borough.

§ 251-26.2. Authorized discharges.

The following discharges are authorized unless they are determined to be significant contributors to pollution of a storm sewer or to the waters of this commonwealth:

Discharges from fire-fighting activities;

Potable water sources, including waterline flushing;

Irrigation drainage;

Air-conditioning condensate;

Springs;

Water from crawl space pumps;

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;

Diverted stream flows;

Flows from riparian habitats and wetlands;

Uncontaminated water from foundations or from footing drains;

Lawn watering;

Dechlorinated water from foundations or from footing drains;

Uncontaminated groundwater;

Water from individual residential car washing; and

Routine external building wash down (which does not use detergents or other compounds).

§ 251-26.3. Changes to authorized discharges.

In the event that the Borough or DEP determines that any of the discharges identified in § 251-26.2, above, significantly contribute pollutants to a storm sewer or to the waters of this commonwealth, the Borough or DEP will notify the responsible person(s) to cease the discharge, and such person shall immediately cease such discharge and complete any remediation required by the Borough or DEP.

§ 251-27. General.

The fee required by this chapter is the Borough review fee. The Borough review fee shall be established by the Borough to defray review costs incurred by the Borough and the Borough Engineer. All fees shall be paid by the applicant.

§ 251-28. Borough drainage plan review fee.

The Borough shall establish a review fee schedule by resolution of the Borough based on the size of the regulated activity and based on the Borough's costs for reviewing drainage plans. The Borough shall periodically update the review fee schedule to ensure that review costs are adequately reimbursed.

§ 251-29. Expenses covered by fees. [Amended 7-14-2014 by Ord. No. 2014-04]

The fees required by this chapter shall, at a minimum, cover costs and expenses incurred by the Borough or its designees incurred as a result of:

- A. Administrative costs;
- B. The review of the drainage plan;
- C. The site inspections;
- D. The inspection of stormwater management facilities and drainage improvements during construction;
- E. The final inspection upon completion of the stormwater management facilities and drainage improvements presented in the drainage plan;
- F. Any and all costs incurred for consultants in the administration and/or enforcement of this chapter; and
- G. Any additional work required to enforce any permit provisions regulated by this chapter, correct violations and assure proper completion of stipulated remedial actions.

§ 251-30. Performance guarantee.

The applicant should provide a financial guarantee to the Borough for the timely installation and proper construction of all stormwater management controls as required by the approved stormwater plan and this chapter equal to the full construction cost of the required controls.

§ 251-31. Maintenance responsibilities.

- A. The drainage plan for the development site shall contain an operation and maintenance plan prepared by the developer and approved by the Borough Engineer. The operation and maintenance plan shall outline required routine maintenance actions and schedules necessary to insure proper operation of the facility(ies).
- B. The drainage plan for the development site shall establish responsibilities for the continuing operating and maintenance of all proposed stormwater control facilities, consistent with the following principals:
 - (1) If a development consists of structures or lots which are to be separately owned and in which streets, sewers and other public improvements are to be dedicated to the municipality, stormwater control facilities may also be dedicated to and maintained by the Borough.
 - (2) If a development site is to be maintained in a single ownership or if sewers and other public improvements are to be privately owned and maintained, then the ownership and maintenance of stormwater control facilities shall be the responsibility of the owner or private management entity.
- C. The Borough, upon recommendation of the Borough Engineer, shall make the final determination on the continuing maintenance responsibilities prior to final approval of the stormwater management plan. The Borough reserves the right to accept the ownership and operating responsibility for any or all of the stormwater management controls.
- D. In the event the property owner fails to adhere to its operation and maintenance responsibilities or BMPs provided for in this chapter or in the maintenance agreement provided for below, the Borough may enter upon the subject property and take such necessary and prudent action to maintain the property owner's stormwater management facilities and/or BMPs and to charge the costs of the maintenance and/or repairs to the property owner, his successors and assigns. In the event the Borough undertakes such maintenance and/or repairs, any costs incurred by the Borough and not reimbursed by the property owner within 30 days shall be a lien against the property and may be entered thus as a municipal claim, together with all reasonable attorneys' fees and costs incurred by the Borough in the collection thereof. **[Added 7-14-2014 by Ord. No. 2014-04]**

**§ 251-32. Maintenance agreement for privately owned stormwater facilities.
[Amended 7-14-2014 by Ord. No. 2014-04]**

- A. Prior to final approval of the site's stormwater management plan, the property owner shall sign and record the maintenance agreement contained in Appendix A,¹² which is attached and made part hereof, covering all stormwater control facilities that are to be privately owned. The property owner shall record the maintenance agreement as a deed covenant with the Franklin County Register and Recorder of Deeds office.
- B. Other items may be included in the agreement where determined necessary to guarantee the satisfactory maintenance of all facilities. The maintenance agreement shall be subject to the review and approval of the Borough.
- C. Stormwater management BMPs required within the Borough shall be promptly recorded as deed covenants at the Franklin County Register and Recorder of Deeds office.

§ 251-33. Municipal stormwater maintenance agreement. [Amended 7-14-2014 by Ord. No. 2014-04]

Persons installing stormwater storage facilities shall be required to enter into an agreement with the Borough, said agreement to be acceptable to the Borough Solicitor, to provide for the maintenance and periodic inspection of the facilities constructed and provided pursuant to the provisions of this chapter. The maintenance and inspection obligations assumed by the developer shall provide for maintenance and inspection for a period not less than 10 years and shall be in form and substance acceptable to the Borough Solicitor or Assistant Solicitor. At the expiration of the term of the agreement, upon the request of the developer, the security provided to insure the maintenance obligation of the developer will be released by the Borough. Such persons installing the stormwater storage facilities shall record all such maintenance agreements at the Franklin County Register and Recorder of Deeds office.

§ 251-33.1. Schedule of inspections. [Added 7-14-2014 by Ord. No. 2014-04]

- A. The Borough Engineer or his designee shall observe all phases of the installation of the permanent stormwater management facilities as deemed appropriate by the Borough Engineer.
- B. During any stage of the work, if the Borough Engineer determines that the permanent stormwater management facilities are not being installed in accordance with the approved stormwater management plan, the Borough shall revoke any existing building permits until a revised drainage plan is submitted and approved, as specified in this chapter.

12. Editor's Note: Appendix A is included at the end of this chapter.

- C. The landowner, or the owner's designee, should inspect stormwater management BMPs according to the following list of minimum frequencies:
- (1) Annually for the first five years following construction;
 - (2) Once every three years thereafter; and
 - (3) During or immediately after the cessation of a ten-year-or-greater storm.

§ 251-34. Right of entry.

Upon presentation of proper credentials, duly authorized representatives of the Borough may enter at reasonable times upon any property within the Borough to inspect the condition of the stormwater structures and facilities in regard to any aspect regulated by this chapter.

§ 251-35. Notification.

In the event a person fails to comply with the requirements of this chapter or fails to conform to the requirements of any permit issued hereunder, the Borough shall provide written notification of the violation. Such notification shall set forth the nature of the violation(s) and establish a time limit for correction of the violation(s). Failure to comply within the time specified shall subject such person to the penalty provisions of this chapter. All such penalties shall be deemed cumulative and resort by the Borough from pursuing any and all remedies. It shall be the responsibility of the owner of the real property on which any regulated activity is proposed to occur, is occurring or has occurred to comply with the terms and conditions of this chapter.

§ 251-36. Enforcement.

The Borough is hereby authorized and directed to enforce all of the provisions of this chapter. All inspections regarding compliance with the drainage plan shall be the responsibility of the Borough Engineer or other qualified persons designated by the Borough.

- A. A set of design plans approved by the Borough shall be on file at the site throughout the duration of the construction activity. Periodic inspections may be made by the Borough or designee during construction.
- B. Adherence to approved plan. It shall be unlawful for any person, firm or corporation to undertake any regulated activity under § 251-4 on any property except as provided for in the approved drainage plan and pursuant to the requirements of this chapter. It shall be unlawful to alter or remove any control structure required by the drainage plan pursuant to this chapter or to allow the property to remain in a condition which does not conform to the approved drainage plan.
- C. At the completion of the project and as a prerequisite for the release of the performance guarantee, the owner or his representatives shall:

- (1) Provide a certification of completion from an engineer, surveyor or other qualified person verifying that all permanent facilities have been constructed according to the plans and specifications and approved revisions thereto.
 - (2) Provide a set of as-built (record) drawings.
- D. After receipt of the certification by the Borough, a final inspection shall be conducted by the Borough Engineer or designated representative to certify compliance with this chapter.
- E. Prior to revocation or suspension of a permit, the Borough will schedule a hearing to discuss the noncompliance if there is no immediate danger to life, public health or property.
- F. Suspension and revocation of permits.
- (1) Any building permit issued by the Borough may be suspended or revoked for:
 - (a) Noncompliance with or failure to implement any provision of the permit.
 - (b) A violation of any provision of this chapter or any other applicable law, ordinance, rule or regulation relating to the project.
 - (c) The creation of any condition or the commission of any act during construction or development which constitutes or creates a hazard or nuisance, pollution or which endangers the life or property of others.
 - (2) Suspended building permit.
 - (a) A suspended building permit shall be reinstated by the Borough when:
 - [1] The Borough Engineer or his designee has inspected and approved the corrections to the stormwater management and erosion and sediment pollution control measure(s) or the elimination of the hazard or nuisance and/or;
 - [2] The Borough is satisfied that the violation of the ordinance, law or rule and regulation has been corrected.
 - (b) A permit that has been revoked by the Borough cannot be reinstated. The applicant may apply for a new permit under the procedures outlined in this chapter.
- G. Occupancy permit. An occupancy permit shall not be issued unless the certification of compliance has been secured. The occupancy permit shall be required for each lot owner and/or developer for all subdivisions and land development in the municipality.

§ 251-37. Public nuisance.

- A. The violation of any provision of this chapter is hereby deemed a public nuisance.
- B. Each day a violation continues shall constitute a separate violation.

§ 251-38. Violations and penalties. [Amended 7-14-2014 by Ord. No. 2014-04]

- A. Anyone violating the provisions of this chapter shall be subject to a fine of \$1,000 per violation, recoverable with costs and reasonable attorneys' fees, or imprisonment for not more than 30 days, or both. Each day or portion of a day in which a violation is found to exist for each section of this chapter that is violated shall be a separate offense. In addition or in lieu of enforcement as a summary offense, the Borough may enforce this chapter through an action in equity brought in the Franklin County Court of Common Pleas. Any person found guilty of violating this chapter may be assessed court costs and reasonable attorney's fees incurred by the Borough in the enforcement proceedings.

§ 251-39. Appeals. [Amended 7-14-2014 by Ord. No. 2014-04]

Any person aggrieved by any final decision of the Borough may appeal to the Borough of Chambersburg Zoning Hearing Board within 30 days of the final decision of the Borough.

§ 251-40. Delegation of enforcement. [Added 7-14-2014 by Ord. No. 2014-04]

The Borough may delegate enforcement of this chapter to the Franklin County Conservation District or any other third-party agency whom the Borough deems qualified to provide such enforcement.

§ 251-41. Legislative intent.

The Town Council of the Borough of Chambersburg is responsible for the protection and preservation of the public health, safety, and welfare of the community and the environment and finds that it is in the best interest of the health, safety, and welfare of the citizens of the Borough and the community at large and the environment to proceed with the development, implementation, and operation of a utility for stormwater management accounted for in the Borough budget as a separate enterprise fund dedicated solely to stormwater management and to institute funding methods associated therewith.

§ 251-42. Definitions.

The following definitions shall apply to this Article IX. Any word or phrase not defined below but otherwise defined in the Code of Ordinances shall be given that meaning. All other words or phrases shall be given their common ordinary meaning unless the context clearly requires otherwise:

BOROUGH STANDARDS — The Borough of Chambersburg rules, policies, procedures, regulations and ordinances that govern water quality and water quantity, including but not limited to the Subdivision and Land Development Ordinance,¹³ the

Zoning Ordinance,¹⁴ and any Stormwater Design Manual, together with all procedures, rules, regulations and policies pertaining thereto as these may be updated or amended from time to time.

CREDIT — A conditional reduction allowed against the storm sewer service fee charged to an individual customer based upon the technical requirements and the design and performance standards contained in the Borough's Storm Sewer Credits Manual as may be adopted, updated, or amended from time to time.

CUSTOMER — All persons, parcels, trusts, corporations, partnerships, companies and entities served by the utility's acquisition, management, maintenance, extension, and improvement of the public stormwater management systems and facilities and regulation of public and private stormwater systems, facilities, and activities related thereto, and persons, parcels, trusts, corporations, partnerships, companies and entities which will ultimately be served or benefited as a result of the stormwater management program.

DEVELOPED LAND — All parcels not deemed as undeveloped land as defined herein.

DIRECT LIEN — A lien enforced against an individual or parcel prior to obtaining a judgment against the individual or parcel, such as liens established by operation of law for unpaid taxes.

PRIVATE STORMWATER MANAGEMENT SYSTEMS AND FACILITIES — Those natural and man-made channels, swales, ditches, rivers, streams, creeks, branches, reservoirs, ponds, drainageways, inlets, catch basins, pipes, headwalls, storm drains, lakes and other physical works, properties and improvements which transfer, control, convey or otherwise influence the movement of stormwater runoff or water quality, which are not public.

PUBLIC STORMWATER MANAGEMENT SYSTEMS AND FACILITIES (or Borough of Chambersburg's municipal separate storm sewer system) — Those natural and man-made channels, swales, ditches, rivers, streams, creeks, branches, reservoirs, ponds, drainageways, inlets, catch basins, pipes, headwalls, storm drains, public streets, curbs and gutters, lakes and other physical works, properties and improvements which transfer, control, convey or otherwise influence either the movement of stormwater runoff or water quality, which are either owned by the Borough or over which the Borough has accepted an offer of dedication of an easement or other legally binding permanent right of use for stormwater drainage, and for which the Borough has the obligation of maintenance for stormwater drainage purposes.

STORM SEWER SERVICE FEES — The periodic service charge imposed by the Borough of Chambersburg to a customer pursuant to this Article IX for providing the storm sewer system, the stormwater management services and stormwater management systems and facilities, which fees shall be used only for the purpose of funding the Borough of Chambersburg's Storm Sewer Utility's cost of providing stormwater management services and stormwater management systems and facilities. Said fee may

13. Editor's Note: See Ch. 258, Subdivision and Land Development.

14. Editor's Note: See Ch. 300, Zoning.

be alternatively referred to as a "pollution control fee" or a "storm sewer system maintenance and operation fee."

STORMWATER MANAGEMENT SERVICES — Addresses the quality and the quantity of stormwater runoff and includes all services provided by the Borough which relate to the:

- A. Operation, maintenance, repair, enhancement and replacement of existing public stormwater management systems and facilities.
- B. Planning, development, design and construction of additional stormwater management and facilities to meet current and anticipated needs.
- C. Regulation of the use of stormwater management services or of stormwater management systems and facilities.
- D. Education of the public as to stormwater issues.
- E. Development plan review to require compliance with Borough standards.
- F. Inspection for water quantity and water quality to require compliance with generally accepted standards.
- G. Monitoring for water quantity and water quality to determine compliance with generally accepted standards, state water quality standards and stormwater management programs.
- H. Other services as may be deemed appropriate.

UNDEVELOPED LAND — A parcel that has less than 100 square feet of impervious surface.

§ 251-43. Establishment of Storm Sewer Utility.

The Borough hereby establishes and creates the Storm Sewer Utility as a department of the Borough of Chambersburg. The Storm Sewer Utility shall be responsible for providing stormwater management services, for providing stormwater management systems and facilities and for determining labor, material and administrative fees for the operation of the Storm Sewer Utility in the Borough of Chambersburg.

§ 251-44. Public stormwater management systems and facilities.

The Town Council of the Borough of Chambersburg hereby transfers responsibility for stormwater management services over the existing municipal separate storm sewer system (MS4) and facilities and other related assets, including but not limited to properties upon which such facilities are located, easements, rights-of-entry and access, and certain equipment to the Storm Sewer Utility.

§ 251-45. Scope of responsibility for Storm Sewer Utility.

- A. The Storm Sewer Utility shall provide stormwater management services for existing and proposed public stormwater management systems and facilities as defined in this Article IX, subject to funding availability and to policy determinations made in the best interest of the public health, welfare and safety and the environment. Additionally, the Storm Sewer Utility, at the Borough's sole discretion, may accept the responsibility for providing stormwater management services to private stormwater management systems and facilities, acceptance of which conforms to policies, rules and/or regulations established by Town Council of the Borough of Chambersburg or those persons or entities designated by the Town Council to set such policies, rules and/or regulations.
- B. The Storm Sewer Utility may, subject to the approval of an intermunicipal cooperation agreement, provide similar or same such services to the other municipalities of the County of Franklin, pursuant to the laws of the Commonwealth of Pennsylvania.
- C. The Borough of Chambersburg shall own or has rights established by written agreements which allow the Storm Sewer Utility to provide stormwater management services and access to those stormwater management systems and facilities and the storm sewer system which are located i) within public road rights-of-way and public road easements, ii) on private property but within easements granted to and accepted by the Borough, or are otherwise permitted to be located on such private property by written agreements for rights of entry, rights of access, rights of use or other permanent provisions, or iii) on public land which is owned by the Borough or by another governmental entity and with which the Borough has written agreements to provide stormwater management services and access to the stormwater management systems and facilities and/or storm sewer system.
- D. The Storm Sewer Utility may provide stormwater management services to privately owned stormwater management systems and facilities to ascertain that said facilities are functioning as designed and approved. The Storm Sewer Utility may provide for remedial maintenance of said private facilities based upon the severity of stormwater and/or storm sewer problems and potential hazard to the public health, safety, and welfare and the environment, and in cases where such remedial maintenance is required, the Borough shall bill the owner or owners of said private facility for the costs of such maintenance.
- E. It is the express intent of this Article IX to protect the public health, safety and welfare of people, property and the environment, in general, but not to create any special duty or relationship with any individual person, trust, corporation, partnership, company, entity or to any specific parcel within or outside the boundaries of the Borough of Chambersburg. The Borough expressly reserves the right to assert any and all available immunities, privileges, limits of liability and defenses in any action seeking to impose monetary damages or equitable remedies upon the Borough, its elected or appointed officials, officers, employees and agents arising out of any alleged failure or breach of duty or relationship.

§ 251-46. Establishment of enterprise fund.**A. Director of Utilities.**

- (1) As with the water, sanitary sewer, electric, natural gas, municipal solid waste utilities, the Director of Utilities shall supervise all municipal utility functions of the Storm Sewer Utility, including but not limited to planning, developing and implementing proposals and programs, administration of revenues and expenses, maintenance and expansion of services, conferring with residents and public officials and the supervision and direction of the activities of supervisory, technical, and clerical staff. The Director of Utilities shall serve at the pleasure of the Borough Manager.
- (2) The Borough Manager shall establish a stormwater enterprise fund in the Borough budget and accounting system for the purpose of dedicating and protecting funding applicable to the purposes and responsibilities of the Storm Sewer Utility, including but not limited to rentals, rates, charges, fees, and licenses as may be established by resolution of the Town Council and amended from time to time.

- B.** Any revenues and receipts of the Storm Sewer Utility shall be placed in the stormwater enterprise funds, and all expenses of the Storm Sewer Utility shall be paid from the stormwater enterprise funds, except that other revenues, receipts, and resources not in the stormwater enterprise funds may be applied to stormwater management operations and capital investments as deemed appropriate by the Town Council, upon recommendation of the Borough Manager, or those funds dedicated to the internal administrative services of the Borough of Chambersburg.

§ 251-47. Rates of storm sewer service fees to be established.

The Town Council of the Borough of Chambersburg may establish by resolution a storm sewer service fee schedule, which may be amended from time to time. The cost of operating expenses, capital investments and reserve accounts may be included in the storm sewer service fees.

- A.** Storm sewer service fees may be based on the relative contribution of each parcel to the demand for stormwater management services and shall be structured so as to be fair and reasonable and shall bear a substantial relationship to the cost of providing stormwater management services and stormwater management systems and facilities and for the storm sewer system.
- B.** Alternatively, all sanitary sewer customers within the corporate boundaries of the Borough of Chambersburg may be assessed a uniform storm sewer service fee. Developed land shall be liable for said storm sewer service fee; provided, however, that no separate and distinct customer shall pay less than one storm sewer service fee as may be determined from the sanitary sewer customer list.

- C. There shall be three parts to the storm sewer service fee: an administrative part, a part for the operation and maintenance of the municipal separate storm sewer system, and a part for the capital investment in the infrastructure of stormwater management.

§ 251-48. Reimbursement of Storm Sewer Utility expenses related to individual customer.

- A. In addition to the imposition of a storm sewer service fee, the Borough may request reimbursement for expenses associated with storm sewer service provided to benefit any one particular customer and/or parcel. The fees and charges to reimburse the Borough's expenses for each individual customer shall be based on the cost of providing the services. These service charges shall be based on the cost to the Borough to provide individual services to each customer and shall be billed to the customer upon the rendering of services. The cost shall be the total of:
- (1) The direct payroll for Borough employees undertaking inspections, sampling and/or laboratory work multiplied by a factor of 2.0 (so as to also cover benefits and other overhead related to the sampling and inspections); and
 - (2) Laboratory and consulting charges multiplied by a factor of 1.15; and
 - (3) Engineering and design charges multiplied by a factor of 1.5; and
 - (4) Construction or physical improvement expenses multiplied by a factor of 1.1.
- B. All invoices and bills shall be due and payable upon receipt.

§ 251-49. Credits.

The Town Council of the Borough of Chambersburg may establish by resolution a credit system for on-site systems or facilities. The Borough Manager or his designee shall determine such credits based on the technical requirements, design and performance standards, and a survey of all parcels, together and to be contained in a Borough Storm Sewer Credits Manual as may be adopted and to be promulgated from time to time by the Director of Utilities or his designee pursuant to this article, and as it may be updated or amended from time to time. The study underlying the Borough Storm Sewer Credit Manual is complex and requires significant resources and time to complete. Promulgation and adoption of the Borough Storm Sewer Credit Manual may occur only after completion of the underlying study. When and if a Borough Storm Sewer Credit Manual is adopted by the Borough, all credits that may be awarded pursuant to the Storm Sewer Credits Manual shall not exceed 40% of the storm sewer service fee applicable to any customer, the balance being for administration and capital investment. Until the Borough establishes a Borough Storm Sewer Credit Manual, no credits may be applied to reduce the applicable storm sewer service fee.

§ 251-50. Billing.

- A. The storm sewer service fee shall be billed to the customer on a monthly basis; provided, however, that the storm sewer service fee may be billed on a separate invoice or on a customer utility statement and collected along with other fees for other services provided by the Borough, at the Borough's sole discretion.
- B. A storm sewer service fee bill may be sent through the United States mail or by alternative means notifying the customer of the amount of the bill, the date the payment is due, and the date when past due. Failure to receive a bill is not justification for nonpayment. Regardless of the party to whom the bill is initially directed, the owner of each parcel of developed land shall be ultimately obligated to pay such fee. If a customer is underbilled or if no bill is sent for developed land, the Borough may back-bill for a period of up to one year but shall not assess penalties for any delinquency due to the failure to send a bill or an underbilling. A late charge shall be assessed against the owner for the unpaid balance of any Storm Sewer Utility service charge that becomes delinquent.
- C. A storm sewer service fee bill for residential premises shall be issued in accordance with the Residential Utility Services Manual as may be adopted and revised from time to time by the Mayor and Town Council, which said Residential Utility Services Manual shall be available to the public at the Utility Offices at Borough Hall and at the Utilities Service Center, 80 South Franklin Street.
- D. Each customer shall pay a storm sewer service fee regardless if any other utility services are furnished to said property or parcel. For example, disconnection of water or sanitary sewer service does not remove the requirement to pay the storm sewer service fee. Only undeveloped land may be exempt.

§ 251-51. Penalty for delinquency.

The penalty added after the due date will be 2.5%.

§ 251-52. Storm sewer fees constitute lien on property.

In accordance with the Municipal Claims Act, 53 P.S. § 7101 et seq. (as amended), all rates and charges, penalties, interest, collection fees, lien filing and satisfaction fees and other charges imposed or assessed, including but not limited to reasonable attorney fees, for failure to pay promptly shall constitute a lien upon and against the subject property and its owner from the date of their imposition and assessment.

§ 251-53. Interest on unpaid storm sewer service fees.

Interest at the rate of 10% per year shall accrue and be added to all original amounts of storm sewer service fees remaining unpaid at the end of the quarter in which the same were first imposed and assessed and shall continue to accrue until the full amount of such storm sewer service fees are paid in full.

Borough of Chambersburg Storm Sewer Utility Feasibility Report



Prepared for Town Council by

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October 13, 2014

INTRODUCTION

This report was prepared to provide information to Town Council in order to consider adoption of a storm sewer utility as a potential funding mechanism for the Borough of Chambersburg stormwater management program. In doing so, it is important to define stormwater management and associated regulations, stormwater management program needs, and the factors driving the need for a storm sewer utility.

WHAT IS STORMWATER AND HOW IS IT REGULATED?

The Borough – located in the Conococheague Creek Watershed – regulates stormwater according to a Stormwater Management Ordinance adopted by Town Council on June 20, 2004 and amended on July 14, 2014. The Ordinance was originally drafted and adopted according to the Act 167 Conococheague Creek Watershed Plan as approved by the Pennsylvania Department of Environmental Protection (DEP) on November 10, 2003.

The Ordinance defines stormwater as drainage runoff from the surface of the land resulting from precipitation or snow or ice melt. Runoff is considered to be any part of precipitation that flows over the land surface.

According to the Ordinance, the Borough finds that:

- A. Inadequate management of accelerated stormwater runoff resulting from development throughout a watershed increases flood flows and velocities, contributes to erosion and sedimentation, overtaxes the carrying capacity of existing streams and storm sewers, greatly increases the cost of public facilities to convey and manage stormwater, undermines floodplain management and flood reduction efforts in upstream and downstream communities, reduces groundwater recharge, threatens public health and safety and increases pollution of water resources.
- B. A comprehensive program of stormwater management, including reasonable regulation of development, connections and discharges to the municipal separate storm sewer system (MS4), and activities causing accelerated erosion, is fundamental to the public health, safety, welfare and the protection of the people of the Borough and all the people of the Commonwealth of Pennsylvania, their resources and the environment.
- C. Stormwater is an important water resource, which provides groundwater recharge for water supplies and base flow of streams, which also protects and maintains surface water quality.
- D. Federal and state regulations require the Borough to obtain a permit for stormwater discharges from its MS4 under the National Pollutant Discharge Elimination System (NPDES) program. As such, the Borough is required to enact, implement and enforce a prohibition of non-stormwater discharges to its MS4.

The purpose of the Ordinance is to promote public health, safety and welfare within the Borough by minimizing damages through provisions designed to:

- A. Manage accelerated runoff, erosion and sedimentation, scour, aggradation and degradation problems at their source by regulating activities that cause these problems.
- B. Utilize and preserve the existing natural drainage systems.
- C. Encourage recharge of groundwater where appropriate and prevent degradation of groundwater quality.
- D. Maintain existing flows and quality of streams and watercourses in the watershed.
- E. Preserve and restore the flood-carrying capacity of streams.

- F. Provide proper operation and maintenance of all stormwater management facilities and all stormwater management BMPs that are implemented within the Borough.
- G. Provide performance standards and design criteria for watershed-wide stormwater management and planning.
- H. Provide standards to meet NPDES permit requirements.
- I. Meet water quality requirements under state law to protect, maintain, reclaim and restore the existing and designated uses of the waters of the Commonwealth of Pennsylvania

Impervious cover that prevents the percolation of water into the ground is created when land is developed with buildings, driveways and parking lots. In those instances, to comply with the Ordinance, land developers must prepare a drainage plan describing permanent stormwater facilities to be constructed to manage on-site runoff created by the impervious cover.

Stormwater management facilities constructed to comply with the Ordinance often incorporate Best Management Practices – or BMPs – which are activities, structures, facilities, designs, measures, procedures and techniques used to control, maintain or improve the quantity and quality of surface runoff; to manage stormwater impacts from regulated activities; to meet state water quality requirements; and to promote groundwater recharge.

Examples of BMPs implemented in the Borough include detention basins, infiltration basins and trenches, pervious pavement with infiltration beds, rain gardens, street sweeping operations and vegetated swales.

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT

The Borough municipal separate storm sewer system (MS4) operates under NPDES General Permit No. PAG 133704, of which coverage commenced on August 1, 2013 and will expire at midnight on July 31, 2018.

The Borough storm sewer system is comprised of the following:

Number of catch basins: 1,983

Total length (feet or miles) of storm sewer pipes: 276,612 feet or 52.39 miles

Total length (feet or miles) of storm sewer open channels: 77,109 feet or 14.60 miles

Number of detention basins: 55

Number of subsurface detention areas: 13

Number of outfalls to Conococheague Creek and Falling Spring Creek: 108

The Borough encompasses 4,434.99 acres with approximately 2,555.47 acres (57.62%) of pervious area and approximately 1,879.52 acres (42.38%) of impervious cover. Of the impervious cover, approximately 571.67 acres (30.42%) is covered with buildings, approximately 401.62 acres (21.36%) is covered with streets (Borough, State Routes and private) and approximately 417.11 acres (22.19%) is covered with parking lots. The remaining 489.12 acres (26.03%) is covered with items such as sidewalks, concrete slabs, swimming pools and decks that were not incorporated into the previously noted categories.

The MS4 Permit requires the Borough to operate a stormwater management program to address the Minimum Control Measures that are described below along with an explanation of how the Borough currently addresses those measures. The Land Use and Development Department is responsible for all MS4 Permit compliance and reporting.

MCM 1. Public Education and Outreach on Stormwater Impacts – A Public Education and Outreach Program to include lists of target audience groups present within the areas served by the MS4, annual publication of at least one educational item about the stormwater management program and distribution of educational materials to target audiences.

The Borough's utility customer list is the target audience provided educational flyers as part of utility bill distribution. Educational materials are also available from the Borough website.

MCM 2. Public Involvement and Participation – Public Involvement and Participation Program to regularly solicit public involvement and participation from target audience groups, solicit public reporting of suspected illicit discharges and conduct public meetings to discuss the on-going implementation of the stormwater management program.

Town Council meetings are currently the only public forums used to discuss the stormwater management program.

MCM 3. Illicit Discharge Detection and Elimination – The Borough must maintain a map depicting the location of all outfalls and the locations and names of all surface waters that receive discharges from those outfalls. It must maintain a program for the detection, elimination and prevention of illicit discharges into the MS4, including dry weather field screening of outfalls for non-stormwater flows. It must enact a Stormwater Management Ordinance to implement and enforce a stormwater management program that includes prohibition of non-stormwater discharges to the MS4. It must also provide educational outreach to public employees, business owners and employees, property owners, the general public and elected officials about the program to detect and eliminate illicit discharges.

The Borough has a storm sewer system map and Stormwater Management Ordinance. Dry weather field screening is conducted annually by personnel from the Land Use and Development Department and Public Works Department. Illicit discharge investigations are conducted by the Land Use and Development Department.

MCM 4. Construction Site Stormwater Runoff Control – Provide a program for construction stormwater permitting, construction inspection, and enforcement of installation and maintenance of the necessary erosion and sediment control measures, including, but not limited to, coordination with DEP's NPDES Construction Stormwater Permitting program and enforcement of an ordinance to require the implementation of erosion and sediment control BMPs, as well as sanctions to ensure compliance. Implement requirements for construction site operators to control waste at the construction site that may cause adverse impacts to water quality as well as procedures for the receipt and consideration of public inquiries, concerns, and information submitted by the public regarding local construction activities.

The Franklin County Conservation District is responsible for this task according to a Memorandum of Understanding signed in 2009 for Erosion and Sediment Control Plan review/approval in conjunction with the Borough Land Development Plan approval process. Land Use and Development Department personnel participate in pre-construction meetings with Franklin County Conservation District and construction site operators.

MCM 5. Post-Construction Stormwater Management in New Development and Redevelopment – The Borough must enforce an ordinance to address post-construction stormwater runoff from new development and redevelopment projects, as well as sanctions and penalties associated with non-compliance, to the extent

allowable under State or local law. It must require the implementation of a combination of structural and/or non-structural BMPs that minimize water quality impacts, and that are designed to maintain pre-development runoff conditions. It must ensure adequate operation and maintenance of all post-construction stormwater management BMPs installed at all development or redevelopment projects. It must also develop and implement measures to encourage and expand the use of Low Impact Development in new and redevelopment.

The Borough regulates stormwater according to a Stormwater Management Ordinance. Land Use and Development Department personnel and a professional engineering consultant review all development projects for consistency with the Ordinance and enforce the Ordinance to ensure operation and maintenance of post-construction stormwater management BMPs.

MCM 6. Pollution Prevention and Good Housekeeping – The Borough must identify and document all facilities and activities that are owned or operated by the Borough and have the potential for generating stormwater runoff to the MS4. It must maintain an operation and maintenance program for all municipal operations and facilities that could contribute to the discharge of pollutants from the MS4. It must also develop and implement an employee training program that addresses appropriate topics to further the goal of preventing or reducing the discharge of pollutants from municipal operations to the MS4.

The Public Works Department maintains a pollution prevention program for all municipal vehicle/equipment operations, maintenance, fueling and washing facilities as well as Standard Operating Procedures for runoff associated with construction projects that involve street cutting. The department also oversees street sweeping, fall leaf collection, snow removal and inlet cleaning functions for Borough-owned streets. The Land Use and Development Department is currently addressing with DEP sediment control non-compliance at North Fourth Street along the Falling Spring Creek and a swale adjacent to Hollywell Avenue.

WHAT IS A STORM SEWER UTILITY?

A storm sewer utility is a revenue generating program that allows municipalities to better manage stormwater by creating a designated fund for stormwater management. Like a water or sewer utility, a storm sewer utility generates revenue through user fees that are based upon the amount of stormwater generated on a property. These fees are assessed by measuring the amount of impervious cover within a parcel, are determined by the financial needs of the municipality and can be adjusted over time to continually meet those needs. Storm sewer utilities are also drivers for physical change when they include a well-managed credit system. A credit system provides the opportunity for property owners to reduce their fee by disconnecting or reducing impervious cover and managing stormwater on-site.

A storm sewer utility provides a vehicle for:

- Consolidating or coordinating responsibilities that were previously dispersed among several departments.
- Generating funding that is adequate, stable, equitable and dedicated solely to managing stormwater.
- Developing programs that are comprehensive, cohesive and consistent year-to-year.

BENEFITS OF A STORM SEWER UTILITY

A storm sewer utility is a public utility established to provide stormwater management services. An important distinction between storm sewer utility fees and real estate taxes is that they are user based and are tied to stormwater management services provided by the utility, whereas taxes are not tied to specific services. For

example, the owner of a large business with acres of impervious pavement and greater impact to the stormwater system would pay more than the owner of a single-family residential parcel. Essentially, “the more you pave, the more you pay.”

The key rationales for establishing a storm sewer utility are:

- It is Stable – it is not as dependent on the vagaries of the annual budget process as taxes are.
- It is Adequate – the fee is based on a well thought out stormwater management program to meet the needs and demands of the community.
- It is Flexible – it can adapt to changing program and funding needs over time.
- It is Equitable – the cost is borne by the user on the basis of demand placed on the drainage system and receiving waters.

Other Benefits:

- Funds raised by the utility to manage stormwater are no longer needed from the General Fund, which is supported with real estate taxes.
- Tax exempt properties that do not contribute to the General Fund pay for costs of managing stormwater under a utility.
- Credits encourage positive change, including implementation of Best Management Practices.

CURRENT STORMWATER MANAGEMENT PROGRAM FUNDING

The Borough’s stormwater management program is currently financed from the General Fund with \$11,000 budgeted in 2014 from the Engineering Department for stormwater management engineering and \$114,000 budgeted from the Highway Department for maintenance of stormwater drains and \$14,000 allocated for cleaning storm drains. The street sweeping and leaf collection operations are funded through the Sanitation Enterprise Fund, with \$134,950 budgeted in 2014. These programs are managed by the Borough Manager, Land Use and Development Department, Public Works Department and Sanitation Department, with staffing costs being paid from the General Fund or Sanitation Enterprise Fund respectively.

All told, in 2014, the Borough budgeted less than \$300,000 to support a stormwater management program that is administratively complex based on MS4 Permit requirements and lacking appropriate data and funding to undertake a more successful maintenance operation and capital improvements program.

When considering maintenance alone, without personnel costs and capital improvements, it is interesting to compare the Borough storm sewer system and sanitary sewer collection system infrastructure and the amount of money budgeted in 2014:

Storm Sewer System:

52 miles of pipe length.

1,983 catch basins.

\$128,000 budgeted from the Highway Department for maintenance.

Sanitary Sewer System:

85 miles of pipe length.

2,246 manholes.

\$801,450 budgeted from the Sewer Department for maintenance.

With current financial resources allocated to the stormwater management program – and program administration dispersed amongst various departments – the Borough is struggling to comply with increasingly stringent MS4 Permit requirements and to properly maintain storm sewer system infrastructure. As such, we recommend that Town Council consider a storm sewer utility to regulate, manage, enforce and supervise publicly and privately owned stormwater management facilities as well as to respond effectively to regulatory requirements, proper planning and efficient allocation of municipal resources for ongoing storm sewer system maintenance.

WHY DO WE NEED A STORM SEWER UTILITY?

There are a number of drivers and compelling arguments that support the need for a storm sewer utility and a better stormwater management program. It is important to identify areas of the current program in need of change and to effectively convey that need to Town Council and the public. When considering a storm sewer utility, it is the stormwater management program that drives the funding need and therefore the utility fee.

The following drivers have prompted us to explore a more sustainable source of funding to meet increased stormwater management program needs. These drivers also present a compelling argument for why a storm sewer utility may make the most sense to fund current and future stormwater management program needs.

First, and most importantly, a storm sewer utility would provide personnel to be responsible for compliance with the MS4 Permit Minimum Control Measures:

MCM1. Public Education and Outreach on Stormwater Impacts – Storm sewer utility personnel would be charged with improving educational materials and devising other distribution methods.

MCM2. Public Involvement and Participation – Other methods for soliciting public involvement and participation would be investigated by storm sewer utility personnel.

MCM3. Illicit Discharge Detection and Elimination – Storm sewer utility personnel would conduct dry weather field screening and coordinate enforcement and educational outreach for illicit discharge detection and elimination.

MCM4. Construction Site Stormwater Runoff Control – Storm sewer utility personnel would coordinate with the Franklin County Conservation District.

MCM5. Post-Construction Stormwater Management in New Development and Redevelopment – Storm sewer utility personnel would take responsibility for these tasks and establish a proactive, systematic inspection program for privately-owned BMPs as well as develop and implement measures to encourage the use of Low Impact Development.

MCM6. Pollution Prevention and Good Housekeeping – A storm sewer utility would identify and document all facilities and activities that are owned and operated by the Borough that have the potential for generating stormwater runoff to the MS4 (such as the Borough Garage, Service Center, Recreation Department facilities, etc.) develop and implement maintenance activities/schedules and inspection procedures to reduce the potential for pollutants to reach the MS4 and institute an employee training program to ensure personnel understand and comply with storm sewer system maintenance and pollution prevention measures.

Secondly, beyond MS4 Permit administration, there are other important program components that would be addressed by a storm sewer utility:

- Evaluate storm sewer system maintenance needs and establish a capital improvement plan.
- Enforce the Floodplain Management Ordinance.
- Evaluate areas prone to flooding and established corrective measures.
- Implement the Chesapeake Bay Pollutant Reduction Plan, when approved by DEP.
- The Chesapeake Bay Pollutant Reduction Plan included an option to provide current loads of Nitrogen, Phosphorus and Sediment being discharged annually to receiving waters in the Chesapeake Bay Watershed. While this optional data was not provided with the plan, it is obvious such data will be required by DEP in the future. Storm sewer utility revenue could be used to hire an engineering firm experienced in stormwater monitoring and modeling within the Chesapeake Bay Watershed to establish a program to monitor and model stormwater system flow to the Conococheague Creek and Falling Spring Creek. This effort would provide actual nutrient and sediment load data to help the Borough determine whether BMPs implemented as a result of the Stormwater Management Ordinance are effective, to determine areas of the Borough where excessive amounts of nutrients and sediment are produced and to provide guidance and strategies to implement BMP's to address these problem areas.
- Could shift funding for the street sweeping, fall leaf removal and inlet cleaning functions from the General Fund to the storm sewer utility.
- Incorporate and enforce any future MS4 requirements such as Total Maximum Daily Load (TMDL), which is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards.

STORM SEWER UTILITY RATE STRUCTURE

It is essential to the success of a storm sewer utility that the rate structure be established to fit the financial and political needs of the municipality. Rate structures should be fair and justifiable while still bringing in enough revenue to adequately fund the stormwater management program. A well-funded and functioning stormwater management program is justification for the utility in and of itself. Rate structures directly impact the amount of revenue generated by the utility. Whether the utility charges everyone the same or charges properties with large areas of impervious cover higher fees, the structure chosen is one of the most important decisions to be made.

The utility rate structure component that describes how much each property pays is called a stormwater service fee. The stormwater service fee for the Borough storm sewer utility is proposed in three phases:

Phase 1: A monthly fee assessed for every sanitary sewer connection.

Phase 2: A monthly fee based on the impervious coverage for each parcel in relation to the demand for stormwater management services.

Phase 3: A credit system for BMPs to offset stormwater service fees.

PHASE 1

To properly establish a storm sewer utility and develop the administrative capacity and knowledge to determine the relative contribution of each parcel to the demand for stormwater management services, a monthly fee assessed for every sanitary sewer connection is recommended. We believe it is reasonable to assume that a

property with a sanitary sewer connection has been developed with impervious cover such as buildings, driveways and parking lots. At the time when this report was prepared, the Borough had 8,092 sanitary sewer connections that are billed a monthly supply charge. In most cases, the monthly supply charge is paid by the property owner unless all utility charges are made the responsibility of the tenant.

If a storm sewer utility is created, we propose a monthly stormwater service fee of \$3.00 per sanitary sewer connection. As such, based on 8,092 sanitary sewer connections, a monthly stormwater service fee of \$3.00 would cost each sanitary sewer connection customer \$36 per year and would generate \$291,312.00 for storm sewer utility start-up costs associated with personnel and administration.

In most cases, there is one sanitary sewer connection for each developed property street address; however, there are developed properties in the Borough with multiple sanitary sewer connections. For example, a single-family dwelling has one sanitary sewer connection that would be charged \$36 per year. A multi-family dwelling – also known as an apartment building – may accommodate 12 separate units, each with their own sanitary sewer connection that would be charged \$36 per year, for a total annual stormwater service fee of \$432.00 for that particular building.

To augment the fee established through Phase 1 until the Phase 2 fee is implemented, we propose continuing some amount of General Fund revenue associated with the Engineering Department for stormwater management engineering, the Highway Department for maintenance of stormwater drains and the Sanitation Enterprise Fund for street sweeping and leaf collection operations.

PHASE 2

As the administrative capacity of the storm sewer utility is solidified and the stormwater management program is improved, a monthly fee based on the actual impervious coverage for each parcel in relation to the demand for stormwater management services will be established.

Once established and operational, initial storm sewer utility budgets and costs, expected budget costs, expected costs of capital improvement projects and the necessary revenue for a successful stormwater management program can be evaluated to estimate a dollar amount for the total revenue that the utility will help finance.

The typical form of data analysis required to establish a storm sewer utility is an assessment of impervious cover for each parcel within the municipal boundary, excluding land within a street right-of-way. To accomplish this, an Equivalent Residential Unit (ERU) is calculated, which represents the amount of impervious cover in a typical residential parcel. The ERU is then used as the billing unit in relation to the annual revenue needs for the utility. Similar to the equivalent daily unit that is used for Borough water and sewer capital charges, we believe the ERU is an intuitively understood concept that would be acceptable to most ratepayers.

Thus, if a property has ten times the ERU measurement (e.g. ten times more impervious cover than the typical residential property), they would pay ten times the fee charged a typical residential property.

An accurate analysis of impervious cover is essential to develop a rational fee structure. In general terms, by using aerial photography and computer software, the amount of impervious cover for each parcel is calculated, parcels are sorted by residential and non-residential and an Equivalent Residential Unit (ERU) is calculated according to the median for all residential parcels in the database.

RATE STRUCTURE EXAMPLE

The following hypothetical example outlines a rate structure using a desired annual revenue of \$1 million for the storm sewer utility. The ERU is calculated to equal 2,500 square feet. A single-family or two-family dwelling is equivalent to one ERU, regardless of the amount of impervious cover. All other properties – including multi-family dwellings – are charged ERUs according to the impervious area for that particular property. The fee per ERU is determined by dividing the total desired annual revenue for the storm sewer utility by the total ERUs, in this case 310,000.

Area of Equivalent Residential Unit (ERU): 2,500 square feet

Total desired annual revenue for the storm sewer utility: \$1,000,000.00

Sum of ERUs within the utility: 310,000

Amount of 1 ERU: \$3.23

Residential (single or two-family dwelling): 1 ERU/\$3.23/month

Other Properties: \$3.23/month/ERU

The table below depicts hypothetical lot area, impervious lot area, ERUs and fees for various land uses:

Land Use	Total Lot Area	Impervious Lot Area	Total ERUs	Monthly Fee	Annual Fee
Single two-family dwelling	N/A	2,500 sf	1	\$3.23	\$38.76
Multi-family dwelling (apartment building with 24 units)	3 acres	64,087 sf (1.5 acres)	25	\$80.75	\$969.00
Church	7 acres	93,135 sf (2 acres)	37	\$118.40	\$1,420.80
School	8 acres	192,683 sf (4 acres)	77	\$248.71	\$2,984.52
Shopping Center	46 acres	1,394,963 sf (32 acres)	558	\$1,802.34	\$21,628.08
Manufacturing Facility	37 acres	1,042,899 sf (24 acres)	417	\$1,346.91	\$16,162.92

PHASE 3

Once the Phase 2 rate structure is finalized, the Borough can begin developing a credit system for the storm sewer utility. Credit systems are important because they create incentives for property owners to reduce the amount or improve the quality of stormwater generated on their property. It is not enough to just provide funding for the stormwater management program, property owners need to help manage stormwater at the point it is generated, which means stormwater is treated on-site. Improvements made by property owners reduces the volume of runoff that must be managed by the Borough and thus reduces the overall stormwater management program costs. For example, roof runoff can be directed to a dry well on the property, and depending on the

size, parking lot runoff can also be “disconnected” by draining to a lawn area, rain garden or other on-site infiltration or treatment system. Realistically, all development in the Borough since 2004 that was designed according to the Stormwater Management Ordinance – and incorporates BMPs – could qualify for some type of credit. Development that occurred prior to 2004 could qualify for credit by retrofitting the property with BMPs.

PROPOSED SCHEDULE FOR STORM SEWER UTILITY IMPLEMENTATION

This report is intended to present a sustainable funding approach for the Borough’s stormwater management program for further review and consideration by Town Council. If a storm sewer utility is desired, the recommended schedule for implementation is outlined below:

YEAR 1 AND 2

- Adopt Ordinance establishing storm sewer utility to be managed by the Borough Manager and Land Use and Development Director.
- Hire a Storm Sewer System Manager who will responsible for day-to-day management of the storm sewer utility, storm sewer system and stormwater management program.
- Secure office space, purchase office equipment and vehicle for Storm Sewer System Manager.
- Administer MS4 Permit Minimum Control Measures and implement Chesapeake Bay Pollutant Reduction Plan.
- Enforce the Floodplain Management Ordinance.
- Hire GIS technician and purchase software to analyze impervious cover and establish ERU or hire an engineering firm to conduct the analysis.

YEAR 3 AND 4

- Evaluate storm sewer system maintenance needs and establish a capital improvement program and personnel plan to maintain system and implement program.
- Establish storm sewer utility rate structure based on ERU.
- Hire an engineering firm to establish a program to monitor and model stormwater system flow and recommend strategies to implement BMP's to address problem areas.
- Establish storm sewer utility credit program and Stormwater Credit Manual.
- Evaluate areas prone to flooding and establish corrective measures.
- Consider moving street sweeping and fall leaf collection operation from General Fund to storm sewer utility.

YEAR 5

- Implement rate structure based on ERU.
- Implement credit program.
- Implement capital improvements program.
- Hire personnel necessary to maintain system and implement capital improvements program.

SOURCES

Code of the Borough of Chambersburg, Chapter 251, Stormwater Management
Borough of Chambersburg MS4 Permit
Borough of Chambersburg Chesapeake Bay Pollutant Reduction Plan
Local Government Stormwater Financing Manual: A Process for Program Reform, University of Maryland Environmental Finance Center, 2014
Municipal Storm Water Management, Thomas N. Debo and Andrew J. Reese, Lewis Publishers, 1995
Stormwater Utility District Feasibility Study, Final Report, Bristol, Rhode Island, 2012



Borough of Chambersburg

*A full service municipality in Franklin County
celebrating over 65 years of consumer owned natural gas service
over 100 years of community electric and a
regional wastewater, water, and municipal solid waste utility*

July 28, 2014

J. Michael Hickman
PA Department of Environmental Protection
Southcentral Regional Office
909 Elmerton Avenue
Harrisburg, PA 17110-8200

Re: Chesapeake Bay Pollutant Reduction Plan

Dear Mr. Hickman:

Please find enclosed the Chesapeake Bay Pollutant Reduction Plan for the Borough of Chambersburg.

Please contact me at 717-261-3232 or pwolgemuth@chambersburgpa.gov with questions or if you need more information.

Sincerely,

Phil Wolgemuth
Land Use and Development Director

c: Jeffrey Stonehill, Borough Manager
G. Bryan Salzmann, Borough Solicitor
Darrell Becker, ARRO Consulting, Inc.
Mark Harman, ARRO Consulting, Inc.



MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) TMDL PLAN / CHESAPEAKE BAY POLLUTION REDUCTION PLAN

This form is designed to assist permittees in meeting the requirements of MS4 NPDES permits for TMDL Plans and Chesapeake Bay Pollutant Reduction Plans. Complete this form if (1) there are any stormwater discharges to receiving waters that are covered by an EPA-approved TMDL and wasteload allocation(s) (WLA(s)) have been assigned to the MS4 in the TMDL, and/or (2) any portion of the urbanized area (UA) is in the Chesapeake Bay Watershed. Complete Section A if (1) applies, Section B if (2) applies, and both Sections if (1) and (2) apply. Please review the instructions and attached Frequently Asked Questions (FAQ) document carefully before completing this form.

Check all that apply:

- TMDL Plan / TMDL Design Details (Section A) Completed
 Chesapeake Bay Pollutant Reduction Plan (Section B) Completed

GENERAL INFORMATION			
Permittee Name:	Borough of Chambersburg	NPDES Permit No.:	PAG133704
Mailing Address:	100 S. Second St.	Effective Date:	August 1, 2013
City, State, Zip:	Chambersburg, PA 17201	Expiration Date:	July 31, 2018
MS4 Contact Person:	Phil Wolgemuth	Renewal Due Date:	March 15, 2018
Title:	Land Use & Development Director	Municipality:	Borough of Chambersburg
Phone:	717-261-3232	County:	Franklin
Email:	pwolgemuth@chambersburgpa.gov	Consultant Name:	ARRO Consulting, Inc.
Co-Permittees (if applicable): None			
SECTION A: TMDL PLAN / TMDL DESIGN DETAILS			
1.	Provide a summary of the TMDL Strategy as submitted to DEP with the NPDES permit application or NOI:		
2.	Identify the name(s) of surface waters that receive stormwater discharges from the MS4 UA that are covered by EPA-approved TMDLs:		

<p>3. Identify the total number of discharge points from the MS4 and their identification numbers (e.g., "001") for the discharges identified in No. 2, above. Attach an additional sheet if necessary. A map may also be used to identify the discharge points.</p>
<p>4. List the title of the applicable TMDL(s) (as the name appears on the TMDL report):</p>
<p>5. Identify the Watershed name(s) and 8-digit Hydrologic Unit Code(s) (HUC) (see instructions):</p>
<p>6. List the name(s) of all municipalities subject to the TMDL(s) within the area of the same 8-digit HUC:</p>
<p>7. List the pollutant(s) and wasteload allocations (WLAs) (including units) that are identified in the TMDL(s) for the MS4:</p>
<p>8. What is the estimated current load(s) discharged by the MS4 for the pollutant(s) identified in the TMDL(s), and the percent reduction(s) necessary in order to achieve the WLA(s) assigned to the MS4?</p>
<p>9. Explain in the space below (or an attached sheet) how the current load(s) in No. 8, above, were estimated:</p>

10. In the space provided, or on additional sheets, provide a list of all control measures or Best Management Practices (BMPs) that will be implemented to achieve the required pollutant reduction(s). Identify each BMP and indicate (1) the location(s) of the BMP (latitude/longitude, street name(s) or other locational information), (2) a timeline for implementation with interim milestones as appropriate, (3) how each BMP is expected to reduce the TMDL pollutant(s) in the receiving waters, (4) an estimate of the pollutant load entering the BMP, (5) the reduction (in lbs/year or %) of the TMDL pollutant(s) that are expected and how the estimate(s) were derived, (6) the rationale for selecting the BMP, and (7) a description of the planned inspection, operation and maintenance for the BMP.

SECTION B: CHESAPEAKE BAY POLLUTANT REDUCTION PLAN

1. Provide a narrative description of the drainage area of the MS4 within the UA that discharges to the Chesapeake Bay Watershed. The description should discuss pervious and impervious cover.

See attached

2. Identify areas where municipal infrastructure upgrades are planned and include an evaluation of the suitability of green infrastructure, low impact development (LID) or Environmental Site Design (ESD) BMPs.

See attached

3. Optional – Provide estimates of the current loads (lbs/year) of Nitrogen (N), Phosphorus (P) and Sediment being discharged annually to receiving waters in the Chesapeake Bay Watershed. Explain how the estimates were made.

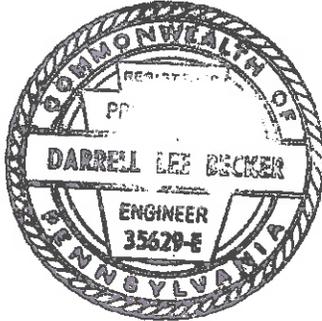
See attached.

4. In the space provided, identify the control measures from Section II F of the NOI Instructions (3800-PM-BPNPSM0100c), or others, which will be implemented in the MS4 to reduce pollutant load to the Chesapeake Bay Watershed. Attach additional sheets if necessary. Identify a name or number for each BMP and indicate (1) the location(s) of the BMP (latitude/longitude, street name(s) or other locational information), (2) a timeline for implementation with interim milestones as appropriate, (3) how each BMP is expected to reduce N, P and/or Sediment in the receiving waters, (4) the rationale for selecting the BMP, and (5) a description of the planned inspection, operation and maintenance for the BMP. Optionally, for each BMP you may provide an estimate of the reduction (in lbs/year or %) of N, P and Sediment that are expected and how the estimate(s) were derived.

See attached

ENGINEER CERTIFICATION

I, being a Registered Professional Engineer in Pennsylvania, do hereby certify to the best of my knowledge and belief, that the TMDL and/or Chesapeake Bay Pollutant Reduction Plans are designed to achieve pollutant reductions consistent with the WLA(s) in the TMDL and/or the goals in the Chesapeake Bay Watershed Implementation Plan.



Professional Engineer Name: Darrell L. Becker

Signature

Date: July 28, 2014

License No.: PE035629E

License Expiration Date: 9/30/15

Company: ARRO Consulting, Inc.

Telephone: 717-560-6065

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Phil Wolgemuth

Name of Responsible Official

Signature

717-261-3232

Telephone No.

July 28, 2014

Date

SECTION B: CHESAPEAKE BAY POLLUTANT REDUCTION PLAN

Page 1 of 13

- 1. Provide a narrative of the drainage area of the MS4 within the urbanized area (UA) that discharges to the Chesapeake Bay Watershed. The description should discuss pervious and impervious cover.**

The Borough of Chambersburg MS4 operates under the NPDES General Permit No. PAG 133704, of which coverage commenced on August 1, 2013 and will expire at midnight on July 31, 2018.

The Borough – located in the Conococheague Creek Watershed – regulates stormwater according to a Borough of Chambersburg Stormwater Management Ordinance adopted by Town Council on June 20, 2004 and amended on July 14, 2014. The Ordinance was originally drafted and adopted according to the Act 167 Conococheague Creek Watershed Plan as approved by the Pennsylvania Department of Environmental Protection Agency on November 10, 2003.

The Borough is located in United States Census Bureau Urbanized Area Code No. 15184.

The Borough storm sewer system is comprised of the following:

Number of catch basins: 1,983

Total length (feet or miles) of storm sewer pipes: 276,612 feet or 52.39 miles

Total length (feet or miles) of storm sewer open channels: 77,109 feet or 14.60 miles

Number of detention basins: 55

Number of subsurface detention areas: 13

Number of outfalls to Conococheague Creek and Falling Spring Creek: 103

The Borough of Chambersburg encompasses 4,434.99 acres with approximately 2,555.47 acres (57.62%) of pervious area and approximately 1,879.52 acres (42.38%) of impervious cover. Of the impervious cover, approximately 571.67 acres (30.42%) is covered with buildings, approximately 401.62 acres (21.36%) is covered with streets (Borough, State Routes and private) and approximately 417.11 acres (22.19%) is covered with parking lots. The remaining 489.12 acres (26.03%) is covered with items such as sidewalks, concrete slabs, swimming pools and decks that were not incorporated into the previously noted categories.

The following rationale was used to create the pervious and impervious cover calculations:

- Impervious street areas were calculated using street centerline GIS layer and assuming an average street width of 36 feet.
- Impervious alley areas were calculated using alley centerline GIS layer and assuming an average alley width of 12 feet.
- Structure area was calculated using the digitized structure layer made available with the 2013 Aerial Photography update.

SECTION B: CHESAPEAKE BAY POLLUTANT REDUCTION PLAN

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- Parking lot area and in part total pervious and impervious areas – with the exception of areas described above – were calculated using the zoning map. An area within each zoning district which best represents what type of development it is comprised of was calculated to what percentage of impervious area it is made up of. Then that percentage was applied to the entire area of each zoning district to come up with a final area.

A copy of the Borough storm sewer system map is included as Exhibit A.

2. Identify areas where municipal infrastructure upgrades are planned and include an evaluation of the suitability of green infrastructure, low impact development (LID) or Environmental Site Design (ESD) BMPs.

The Borough of Chambersburg municipal operation already incorporates Structural BMP's, as identified in the Pennsylvania Stormwater BMP Manual.

Structural BMP's, for example, were incorporated in 2013 to address stormwater flooding by installing a subsurface infiltration facility similar to the Infiltration Trench, as identified in the Pennsylvania Stormwater BMP Manual as Structural BMP 6.4.4.

To remedy longstanding public alley flooding during large rain events the Borough designed subsurface infiltration facilities for Carolina Court and Belvidere Court that included the installation of a 48 inch perforated pipe, 20 feet in length, on a bed of clean coarse aggregate wrapped in geotextile fabric. Two inlets with metal grates collect stormwater from the cartway to be stored in the perforated pipe that allows water to infiltrate into the ground under the alley.

BMP 6.4.4: Infiltration Trench

Nutrient and sediment reduction:

TSS	85%	Source: Pennsylvania Stormwater BMP Manual
TP	85%	
TN	30%	

Maintenance: The Borough will inspect the inlets at least twice annually and clear the inlets of debris when necessary.

Exhibit B depicts the location of Carolina Court and Belvidere Court.

SECTION B: CHESAPEAKE BAY POLLUTANT REDUCTION PLAN

Before MS4 Permit coverage expires on July 31, 2018, the Borough will incorporate Nonstructural and Structural BMP's, as identified in the Pennsylvania Stormwater BMP Manual, for the following projects:

North Chambersburg Improvements Project – The project will construct Parkwood Drive from its terminus in the Borough to connect to Grand Point Road in Greene Township, re-construct the private street between Norland Avenue and Parkwood Drive to be accepted by the Borough as a public street and expand the Norland Avenue and Fifth Avenue intersection. Parkwood Drive will be constructed with a 38 foot cartway without curbs to allow stormwater to flow to a vegetated swale along both sides of the street to be located within the street right-of-way and/or within a drainage easement located on adjacent private property, as identified in the Pennsylvania Stormwater BMP Manual as Structural BMP 6.4.8. The 26 foot private street between Norland Avenue and Parkwood Drive will be re-constructed according to Borough pavement standards; however, the width of the cartway will be less than the 36 foot local street requirement to qualify as Nonstructural BMP 5.7.1. To qualify as Structural BMP 6.4.8, there will be no on-street parking and no curbs to allow stormwater to flow to a vegetated swale along both sides of the street to be located within the street right-of-way and/or within a drainage easement located on adjacent private property. Finally, to accommodate a re-located sidewalk, the existing vegetated swale along the south side of Norland Avenue to the east of Fifth Avenue will be re-constructed approximately 600 feet as a subsurface infiltration facility similar to the Infiltration Trench, as identified in the Pennsylvania Stormwater BMP Manual as Structural BMP 6.4.4, within the street right-of-way. It is expected that the North Chambersburg Improvements Project – including the identified BMP's – will be financed with Intermodal Transportation Funds administered by PennDOT.

BMP 5.7.1: Reduce Street Imperviousness

Nutrient and sediment reduction:

TSS	Preventive	Source: Pennsylvania Stormwater BMP Manual
TP	Preventive	
TN	Preventive	

Maintenance: None.

SECTION B: CHESAPEAKE BAY POLLUTANT REDUCTION PLAN
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BMP 6.4.4: Infiltration Trench

Nutrient and sediment reduction:

TSS	85%	Source: Pennsylvania Stormwater BMP Manual
TP	85%	
TN	30%	

Maintenance: The Borough will inspect the inlets at least twice annually and clear the inlets of debris when necessary.

BMP 6.4.8: Vegetated Swale

Nutrient and sediment reduction:

TSS	50%	Source: Pennsylvania Stormwater BMP Manual
TP	50%	
TN	20%	

Maintenance: Property owners adjacent to both Parkwood Drive and the private street to be re-constructed and accepted by the Borough will be responsible for trimming the vegetated cover within the swale. Within the Borough limits, the Borough will be responsible for replacing the vegetated cover when necessary. Within the Borough limits, the Borough through the Land Use Permitting process will ensure that no permanent structures are constructed in the vegetated swale. Also, the Borough will routinely inspect the vegetated swales to ensure they remain free of debris that would impede stormwater flow.

IMPLEMENTATION TIMELINE

Note: Implementation is subject to receipt of Intermodal Transportation Funds administered by PennDOT.

January 1 through December 31, 2015

- Hire engineer to design and prepare construction plans for the project.

January 1 through December 31, 2016

- Publicly bid project to secure construction contractor.
- Construct project.

Exhibit C depicts the location of the North Chambersburg Improvements Project.

SECTION B: CHESAPEAKE BAY POLLUTANT REDUCTION PLAN

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South Street Project – The project will re-construct South Street from Hollywell Avenue to an unnamed alley, re-construct Pine Street from South Street to its terminus and re-construct the unnamed alley from South Street to West Catherine Street. To collect stormwater created by this project, an Infiltration Trench, as identified in the Pennsylvania Stormwater BMP Manual as Structural BMP 6.4.4, will be constructed approximately 130 feet between Pine Street and Buchanan Street within a drainage easement located on adjacent private property. Community Development Block Grant funding has been allocated to this project.

BMP 6.4.4: Infiltration Trench

Nutrient and sediment reduction:

TSS	85%	Source: Pennsylvania Stormwater BMP Manual
TP	85%	
TN	30%	

Maintenance: The property owner will be responsible for trimming the vegetated cover along the surface of the trench. The Borough will inspect the inlets at least twice annually and clear the inlets of debris when necessary.

IMPLEMENTATION TIMELINE

January 1 through December 31, 2015

- Publicly bid project to secure construction contractor.
- Construct project.

Exhibit D depicts the location of the South Street Project.

Pine Woods Park – This Borough-owned 4 acre parcel is located adjacent to the Conococheague Creek within the Floodway. The site was once an active recreation area; however, is now maintained by the Borough as a passive recreation/forested/open space area. The site may be suitable for both Non-Structural and Structural BMP's, specifically BMP 5.4.2 and BMP 6.7.1. According to the Pennsylvania Stormwater BMP Manual, the Chesapeake Bay Program's Riparian Handbook will be used as a guide to analyze existing conditions and to develop a plan for riparian buffer restoration at this location. An engineering firm experienced in riparian buffer conservation and restoration within the Chesapeake Bay Watershed will be hired to assist with this effort. In addition to meeting the Chesapeake Bay Pollutant Reduction Plan BMP requirement, establishing a riparian buffer at this location will provide a public education opportunity for the Borough, DEP and the Chesapeake Bay Foundation. It is expected that the Pine Woods Park project will be financed by the forthcoming Borough stormwater utility and/or with applicable federal or state grant funding.

SECTION B: CHESAPEAKE BAY POLLUTANT REDUCTION PLAN
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BMP 5.4.2: Protect/Conserve/Enhance Riparian Areas

Nutrient and sediment reduction:

TSS	Preventive	Source: Pennsylvania Stormwater BMP Manual
TP	Preventive	
TN	Preventive	

Maintenance: None.

BMP 6.7.1: Riparian Buffer Restoration

Nutrient and sediment reduction:

TSS	65%	Source: Pennsylvania Stormwater BMP Manual
TP	50%	
TN	50%	

Maintenance: Before establishing the riparian buffer, the engineering firm hired for the project – in consultation with the Borough Shade Tree Commission – will prepare a maintenance plan to be implemented by the Borough. Most notably, the plan will provide guidance for care of the newly planted trees during canopy closure as well as the necessary watering, mulching and weed control schedules to be kept by the Borough.

IMPLEMENTATION TIMELINE

January 1, 2015 through December 31, 2016

- Establish stormwater utility.
- Hire stormwater utility staff and begin operation.

January 1 through December 31, 2017

- Hire engineering firm to help Borough staff analyze existing conditions and to develop a plan for riparian buffer restoration at this location.

January 1 through July 31, 2018

- Begin riparian buffer restoration at this location.

Exhibit E depicts the location of the Pine Woods Park project.

SECTION B: CHESAPEAKE BAY POLLUTANT REDUCTION PLAN

Page 7 of 13

- 3. Optional – Provide estimates of the current loads (lbs/year) of Nitrogen (N), Phosphorus (P) and Sediment being discharged annually to receiving waters in the Chesapeake Bay Watershed. Explain how the estimates were made.**

The Borough of Chambersburg's adopted 2014 budget calls on the Borough Manager to begin a process that will result in a separate stormwater utility being established by 2015. Planning is underway to develop the goals and objectives for the utility, the appropriate revenue collection methods and staffing levels to begin operation, per approval by Town Council as part of the 2015 budget. In addition to managing the municipal separate storm sewer system and floodplain management program, it is envisioned that the utility will implement the Chesapeake Bay Pollutant Reduction Plan.

SECTION B: CHESAPEAKE BAY POLLUTANT REDUCTION PLAN

Page 8 of 13

- 4. In the space provided, identify the control measures from Section II F of the NOI Instructions (3800-PM-BPNPS0100c), or others, which will be implemented in the MS4 to reduce pollutant load to the Chesapeake Bay Watershed. Attach additional sheets if necessary. Identify a name or number for each BMP and indicate (1) the location(s) of the BMP (latitude/longitude, street name(s) or other locational information), (2) a timeline for implementation with interim milestones as appropriate, (3) how each BMP is expected to reduce N, P and/or Sediment in the receiving waters, (4) the rationale for selecting the BMP, and (5) a description of the planned inspection, operation and maintenance for the BMP. Optionally, for each BMP you may provide an estimate of the reduction (in lbs/year or %) of N, P and Sediment that are expected and how the estimate(s) were derived.**

The Borough of Chambersburg municipal operation – as well as private property owners – already incorporate Nonstructural and Structural BMP's as identified in the Pennsylvania Stormwater BMP Manual.

For example, according Nonstructural BMP 5.9.1, a municipality is encouraged to use street sweeping equipment on a programmed basis to remove larger debris material and smaller particulate pollutants, preventing this material from clogging the stormwater management system and washing into receiving waterways/waterbodies.

The Borough maintains approximately 67 miles of streets, not counting state roads, private streets and alleys. All 67 miles are swept at least twice per year using a 2011 Elgin Pelican street sweeper. There is no street sweeping schedule, as mechanical breakdowns or employee illness will change whatever schedule we attempt to keep. The Street Department supervisor directs the street sweeper on a daily basis to which area of the Borough to address. Particular attention is paid to keeping storm sewer system inlets cleared of debris. In 2013 the street sweeper collected 222 tons of material.

Street sweeping begins "informally" in April and "formally" in May. The difference between the two is that we do not ticket cars that aren't moved from public street parking lanes until May. Street sweeping generally continues through the end of October. Since the sweeper sprays water, we generally do not run the sweeper during the cold months when there is potential for the water to freeze. However, if the weather stays unseasonably warm through November we can continue to operate.

In the fall, after the leaves start coming down, the Borough uses an ODB Vacuum Leaf Loader to collect leaves by the side of the street. This operation continues throughout the fall until all leaves are picked up. Last year, the vacuum leaf loader collected 20.8 tons of leaves.

SECTION B: CHESAPEAKE BAY POLLUTANT REDUCTION PLAN

BMP 5.9.1: Street Sweeping

Nutrient and sediment reduction:

TSS	85%	Source: Pennsylvania Stormwater BMP Manual
TP	85%	
TN	50%	

Since 2004 the Borough of Chambersburg has regulated stormwater management according to the Stormwater Management Ordinance adopted in Compliance with Act 167 and incorporating Best Management Practices as identified in the Pennsylvania Stormwater BMP Manual, which is referenced in the Ordinance.

Over the past ten years, approximately 350 acres of pervious land has been developed with residential, commercial and manufacturing land uses as well as associated public street networks according to approved Subdivision and Land Development Plans and associated Stormwater Management Plans, as prepared by Pennsylvania Registered Professional Engineers. As such, many Structural BMP's have been constructed as part of private property development – for example, those identified in the Pennsylvania Stormwater BMP Manual listed below – and are being maintained by private property owners:

BMP 6.4.1: Pervious Pavement with Infiltration Bed

Nutrient and sediment reduction:

TSS	85%	Source: Pennsylvania Stormwater BMP Manual
TP	85%	
TN	30%	

BMP 6.4.2: Infiltration Basin

Nutrient and sediment reduction:

TSS	85%	Source: Pennsylvania Stormwater BMP Manual
TP	85%	
TN	30%	

SECTION B: CHESAPEAKE BAY POLLUTANT REDUCTION PLAN
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BMP 6.4.5: Rain Garden/Bioretenion

Nutrient and sediment reduction:

TSS	85%	Source: Pennsylvania Stormwater BMP Manual
TP	85%	
TN	30%	

BMP 6.4.8: Vegetated Swale

Nutrient and sediment reduction:

TSS	50%	Source: Pennsylvania Stormwater BMP Manual
TP	50%	
TN	20%	

BMP 6.6.3: Dry Extended Detention Basin

Nutrient and sediment reduction:

TSS	60%	Source: Pennsylvania Stormwater BMP Manual
TP	40%	
TN	20%	

BMP 6.8.1: Level Spreader

Nutrient and sediment reduction:

TSS	20%	Source: Pennsylvania Stormwater BMP Manual
TP	10%	
TN	5%	

According to the Borough Zoning Code, Section 300-98A(1), no building or structure shall be erected, constructed, reconstructed, altered, moved, extended, expanded, enlarged, demolished or razed in the municipality until a Land Use Permit has been issued by the Zoning Officer certifying that the plans and intended use are in conformity with the Zoning Code and other Code of the Borough of Chambersburg regulations. While Land Use Permits are secured for many land uses that create impervious cover – such as new dwellings,

SECTION B: CHESAPEAKE BAY POLLUTANT REDUCTION PLAN

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commercial and manufacturing establishments – Land Use Permits have not been specifically required for new standalone parking lot or driveway construction projects. Requiring Land Use Permits for new standalone parking lot or driveway construction projects will allow the Borough the opportunity to analyze the proposed project to determine whether a Drainage Plan is required according to the Stormwater Management Ordinance exemption criteria.

If the exemption criteria is met, a Drainage Plan is not required; however, the project must comply with the Stormwater Management Ordinance groundwater recharge and water quality requirements.

If the exemption criteria is not met, a professional engineer or land surveyor registered by the Commonwealth of Pennsylvania must be hired to prepare a Drainage Plan, in addition to complying with the groundwater recharge and water quality requirements. The plan will be reviewed/approved by ARRO Consulting, Inc. with the applicant being invoiced for all associated plan review costs incurred by the Borough and consulting engineer according to the Master Fee Schedule, as approved by Town Council.

In addition, the Borough Zoning Code provides two provisions that can encourage low impact development (LID), Environmental Site Design (ESD) BMPs as well as Nonstructural and Structural BMP's, as identified by the Pennsylvania Stormwater BMP Manual.

First, the Zoning Code parking lot regulations encourage implementation of Nonstructural BMP 5.7.2 (Reduce Parking Imperviousness), as identified by the Pennsylvania Stormwater BMP Manual.

According to Section 300-77C, in the case of developments such as shopping centers or other commercial centers which would be required to provide more than 50 off-street parking spaces, the developer must set aside space to accommodate 100% of the area necessary to provide the parking requirements, but, upon the request of the developer, if agreed by the Borough, the developer may be permitted to set aside space to accommodate 100% of the area necessary to provide the parking requirements established by this chapter but not be required to construct more than 80% of the required parking spaces. In the event the developer is permitted to construct fewer than the required parking spaces, the remainder of the parking area set aside must be kept free of all construction and be planted and maintained as a grassy area. The Borough may require construction of the remaining parking spaces at any time by the then owner of the premises upon giving the owner not less than six months' advance written notice.

In 2007 Town Council approved a Land Development Plan for the Chambersburg Area Senior High School where Section 300-77C provisions were applied for the construction of 62% of the required parking stalls with 38% remaining in grass. In addition, the Zoning Hearing Board granted variances for lot coverage up to 31.31%, off-street parking spaces totaling 2,081 (2,822 spaces required). To date the Borough has not required construction of the remaining parking spaces.

SECTION B: CHESAPEAKE BAY POLLUTANT REDUCTION PLAN

For future development, the Borough will more aggressively encourage developers to apply the Zoning Code, Section 300-77C provisions in conjunction with new parking lots constructed as part of a shopping center or other commercial centers where existing parking lots are retrofitted. In these instances, developers will be encouraged to apply Nonstructural BMP 5.7.2 along with other Structural BMP's frequently associated with parking lot construction.

BMP 5.7.2: Reduce Parking Imperviousness

Nutrient and sediment reduction:

TSS	Preventive	Source: Pennsylvania Stormwater BMP Manual
TP	Preventive	
TN	Preventive	

Maintenance: None.

Exhibit F depicts the Zoning Map to identify the Central Core, Distributed Commercial Highway, Medium Manufacturing and Heavy Manufacturing zoning districts where shopping centers or other commercial centers which would be required to provide more than 50 off-street parking spaces are permitted.

Second, the Zoning Code provides regulations for Planned Residential Development pursuant to Article VII of the Pennsylvania Municipalities Planning Code. In the case of planned projects consisting of 10 acres or more, the regulations provide an added degree of variety and flexibility in the placement, bulk and interrelationship of the buildings and uses within the planned project and the implementation of new design concepts while, at the same time, maintaining the overall intensity of use, density of population and amounts of light, air, access and open space as specified by the Zoning Code. As such, the regulations can be used to encourage implementation of Nonstructural BMP 5.5.1 (Cluster Uses at Each Site; Build on the Smallest Area Possible), as identified by the Pennsylvania Stormwater BMP Manual.

In the Borough there is one 93 acre parcel of land (Franklin County Tax Parcel No. 04-1G01-001) bordered on three sides by the Conococheague Creek where the Planned Residential Development regulations as well as Low Impact Development and Environmental Site Design concepts and Nonstructural BMP 5.5.1 could be effectively applied. The entire parcel is located in a Moderate Density Residential zoning district with land adjacent to the Conococheague Creek being located in the 100 Year Floodplain.

Since no Subdivision and Land Development Plans have been submitted for this parcel, it is an opportune time for the Borough to meet with the property owner to discuss Nonstructural BMP 5.5.1, the Planned Residential Development regulations and the opportunity for the property owner and future developer/builder to embrace Low Impact Development and

SECTION B: CHESAPEAKE BAY POLLUTANT REDUCTION PLAN

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Environmental Site Design concepts and Nonstructural BMP 5.5.1 from the start of the site planning and development process.

BMP 5.5.1: Cluster Uses at Each Site; Build on the Smallest Area Possible

Nutrient and sediment reduction:

TSS	Preventive	Source: Pennsylvania Stormwater BMP Manual
TP	Preventive	
TN	Preventive	

Maintenance: None.

Exhibit G depicts the Franklin County Tax Parcel No. 04-1G01-001 location.

IMPLEMENTATION TIMELINE

August 1, 2014 through July 31, 2018

- **Require Land Use Permits for new standalone parking lot or driveway construction projects.**
- **Apply the Borough Zoning Code, Section 300-77C provisions and associated Nonstructural and Structural BMP's.**
- **Meet with the owner of the 93 acre parcel of land to discuss Nonstructural BMP 5.5.1, the Planned Residential Development regulations and the opportunity for the property owner and future developer/builder to embrace Low Impact Development and Environmental Site Design concepts and Nonstructural BMP 5.5.1 from the start of the site planning and development process.**

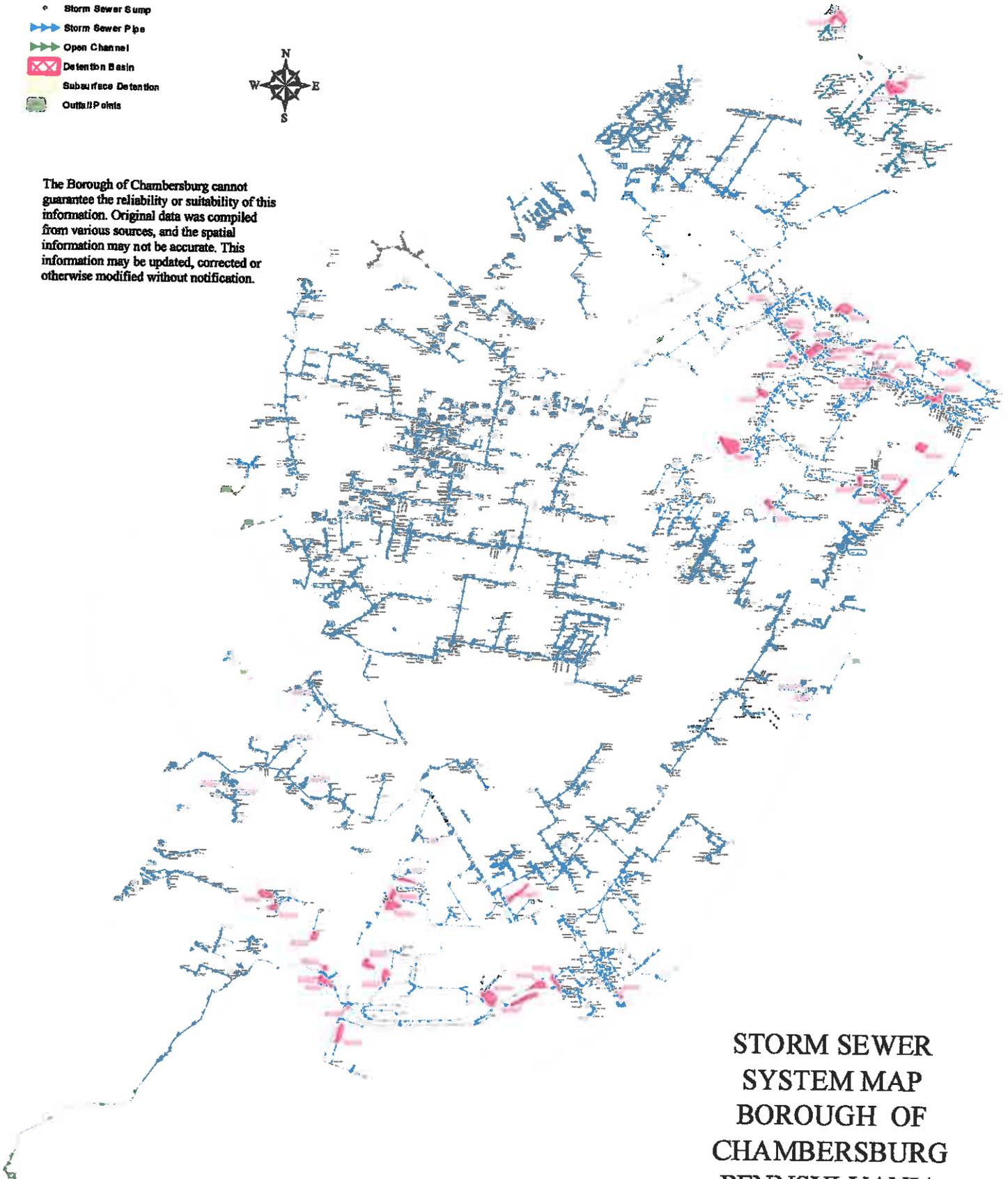
LEGEND

-  Inlet
-  Catch Basin
-  Storm Sewer Manhole
-  Storm Sewer Sump
-  Storm Sewer Pipe
-  Open Channel
-  Detention Basin
-  Subsurface Detention
-  Outfall Points

EXHIBIT "A"



The Borough of Chambersburg cannot guarantee the reliability or suitability of this information. Original data was compiled from various sources, and the spatial information may not be accurate. This information may be updated, corrected or otherwise modified without notification.



**STORM SEWER
SYSTEM MAP
BOROUGH OF
CHAMBERSBURG
PENNSYLVANIA**



EXHIBIT "B"

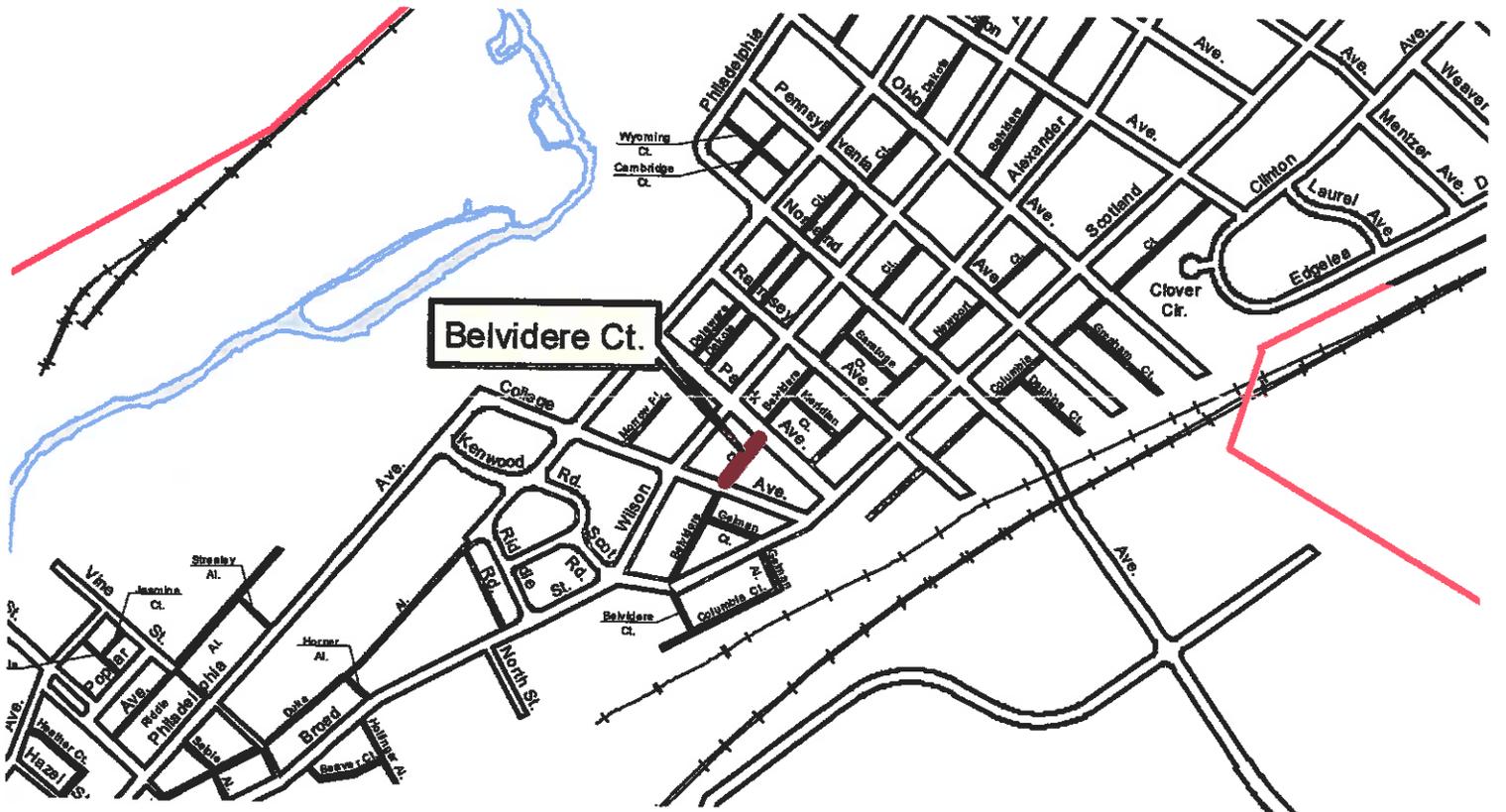
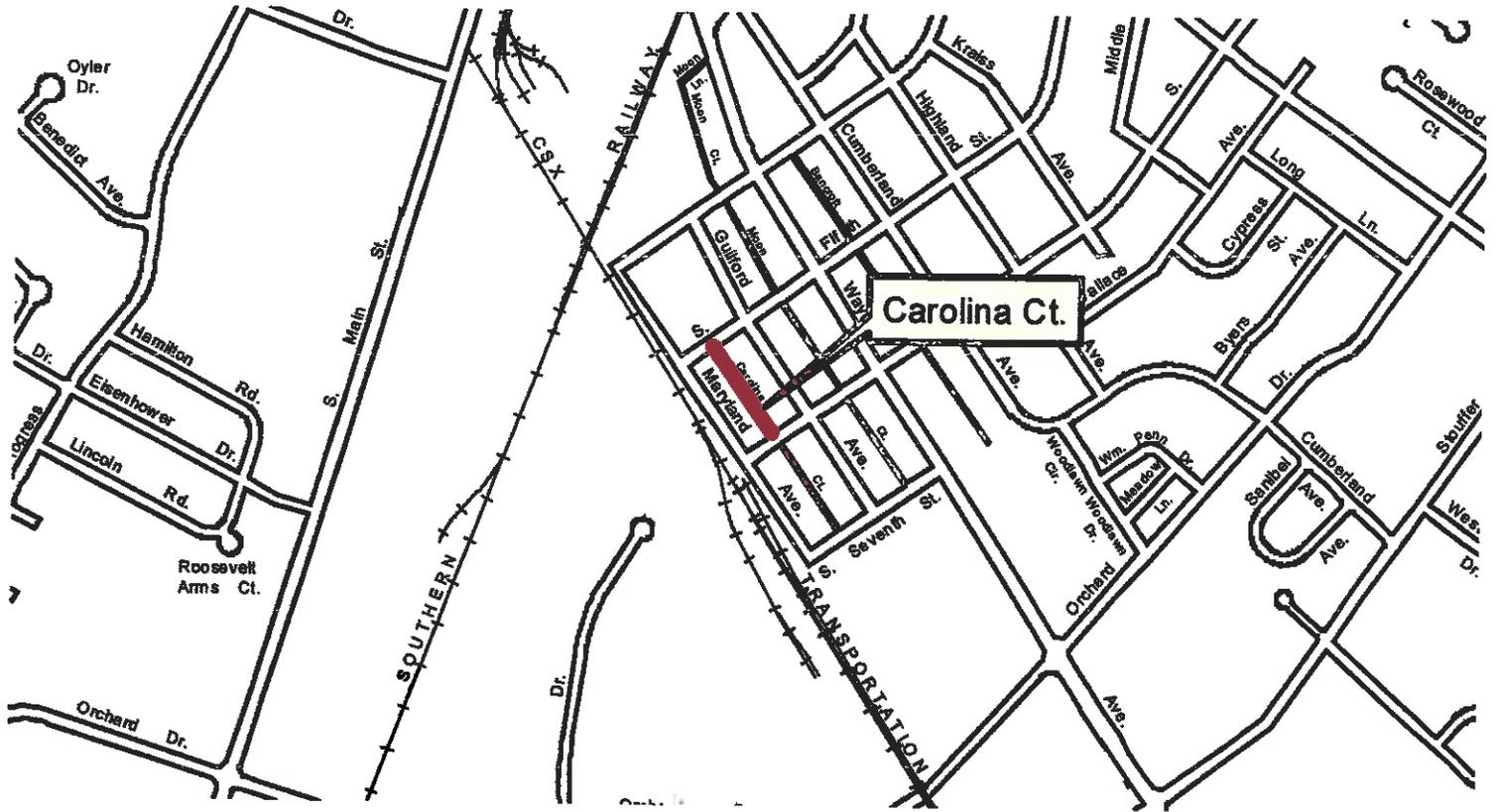


EXHIBIT "C"

North Chambersburg Improvements Project





EXHIBIT "E"

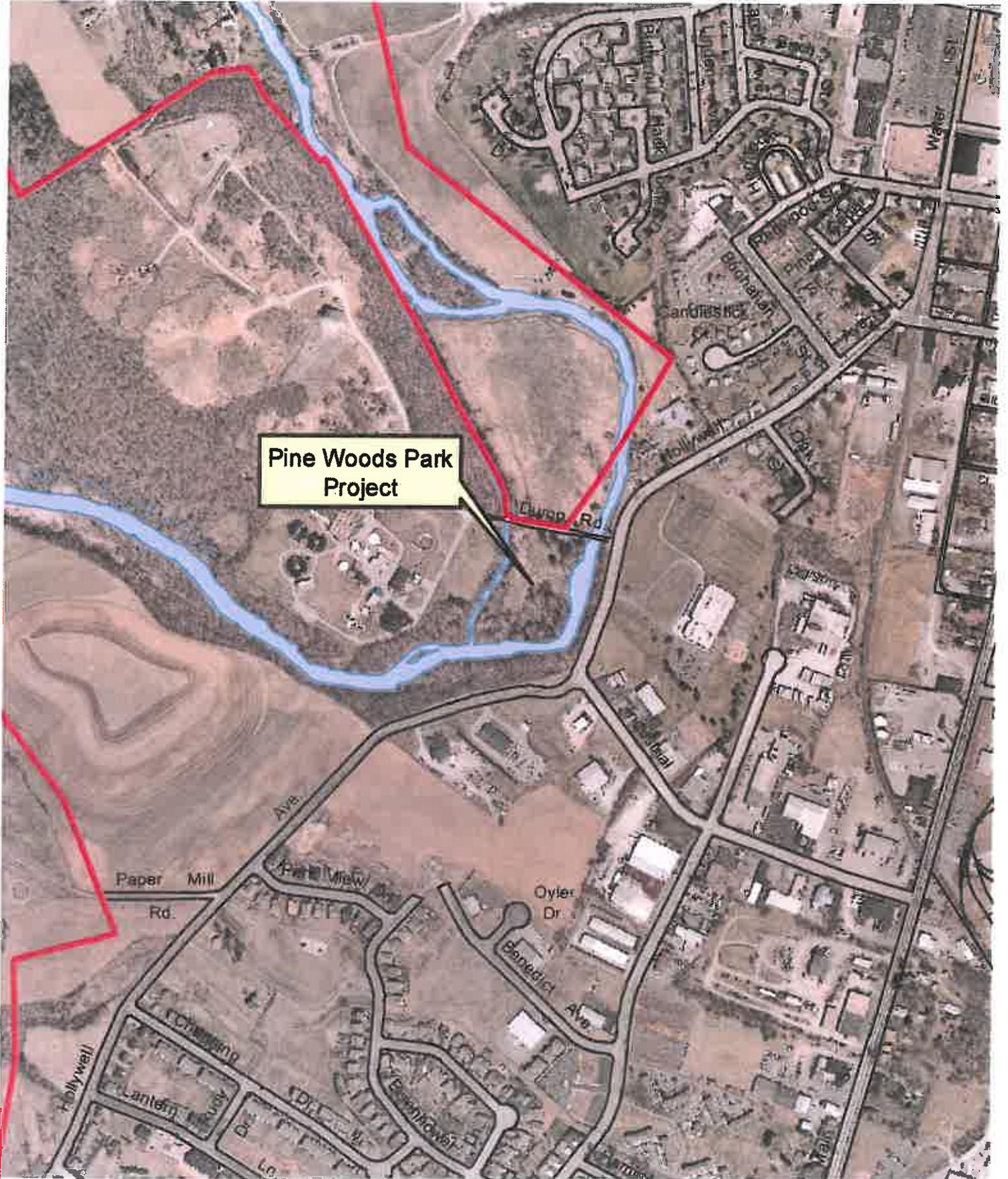


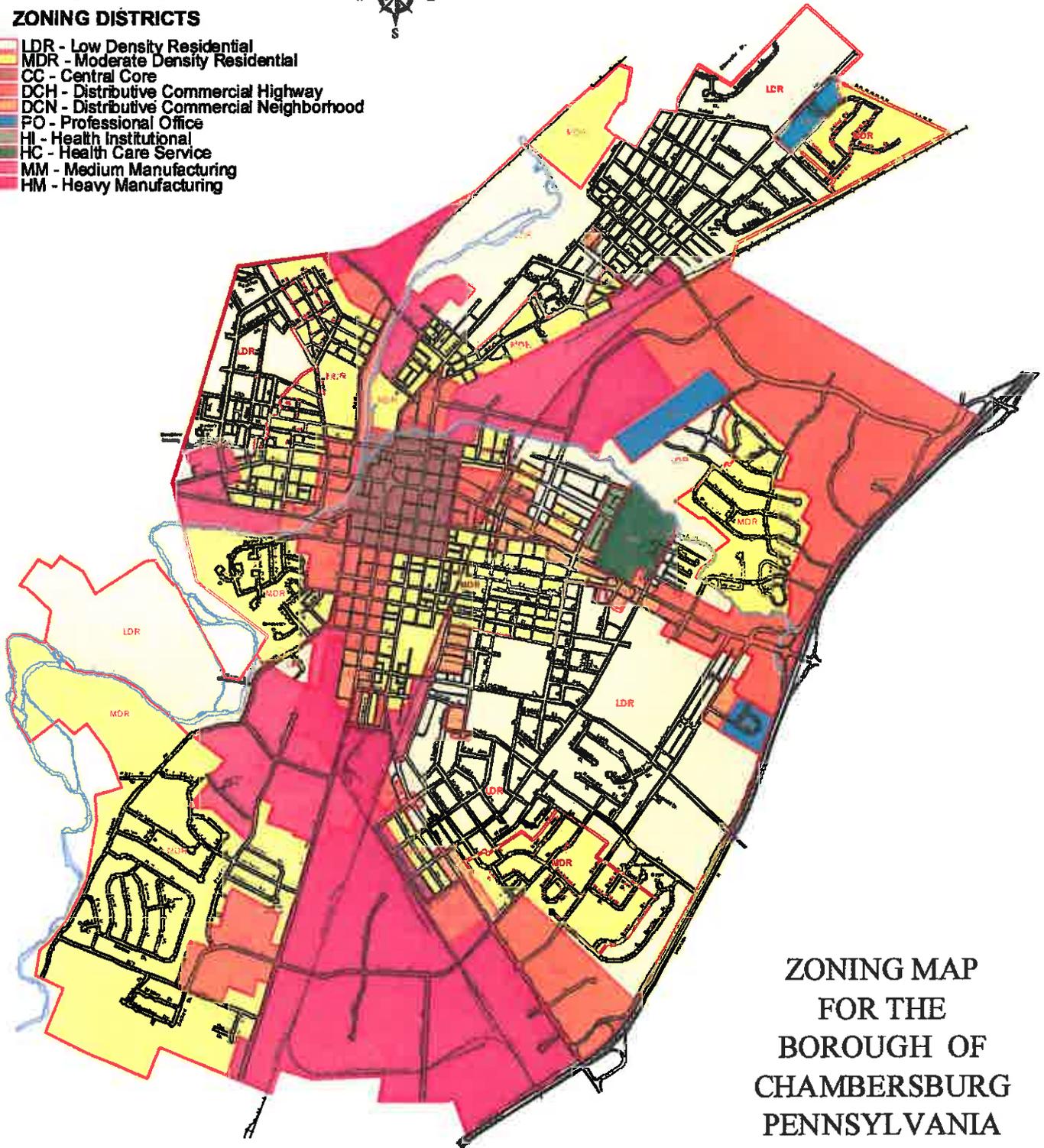
EXHIBIT "F"

LEGEND

—Borough Boundary Line

ZONING DISTRICTS

- LDR - Low Density Residential
- MDR - Moderate Density Residential
- CC - Central Core
- DCH - Distributive Commercial Highway
- DCN - Distributive Commercial Neighborhood
- PO - Professional Office
- HI - Health Institutional
- HC - Health Care Service
- MM - Medium Manufacturing
- HM - Heavy Manufacturing



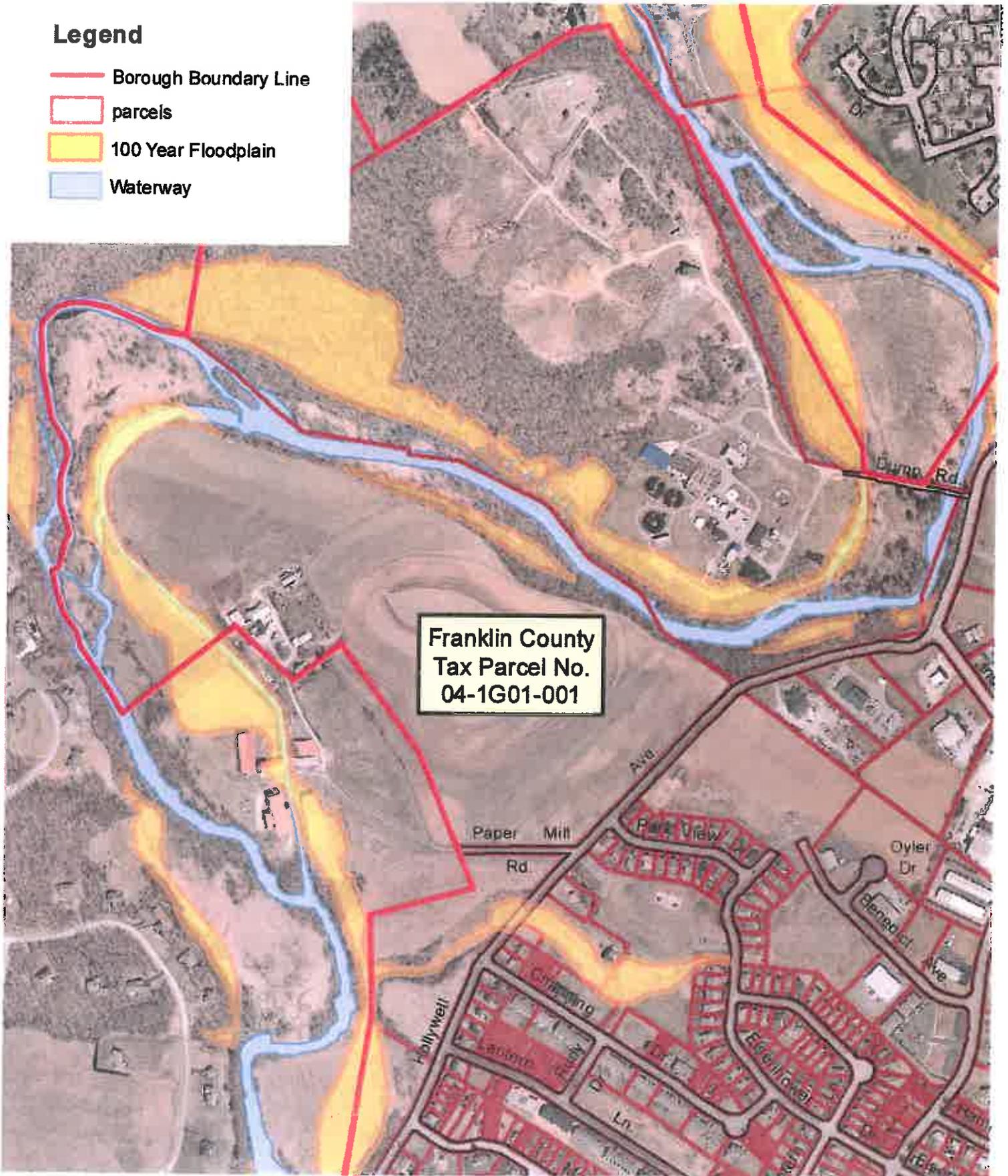
ZONING MAP
FOR THE
BOROUGH OF
CHAMBERSBURG
PENNSYLVANIA



EXHIBIT "G"

Legend

-  Borough Boundary Line
-  parcels
-  100 Year Floodplain
-  Waterway

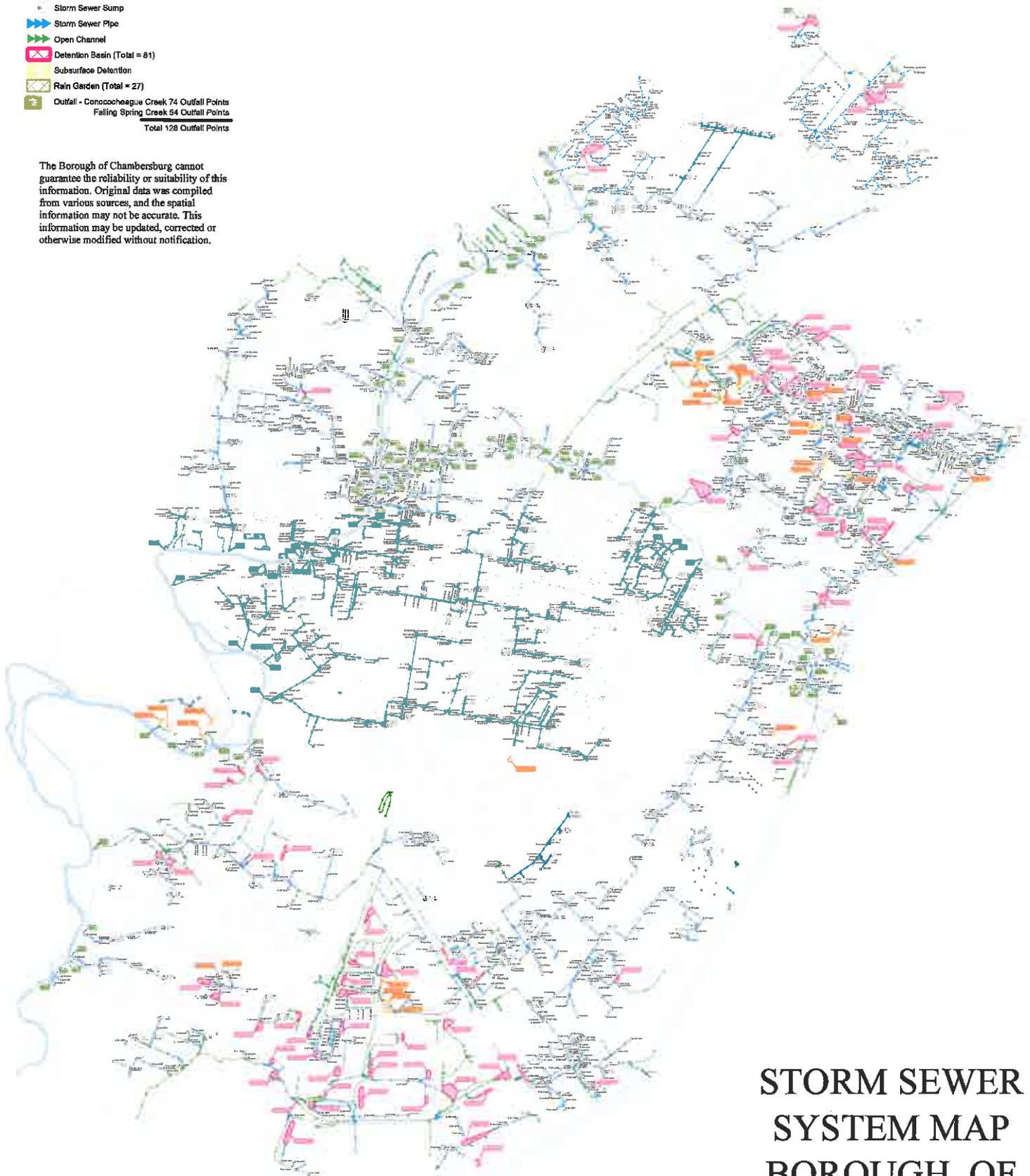


LEGEND

- Inlet
- Catch Basin
- Rain Garden Riser
- Storm Sewer Manhole
- Storm Sewer Sump
- ▶ Storm Sewer Pipe
- ▶ Open Channel
- Detention Basin (Total = 81)
- Subsurface Detention
- Rain Garden (Total = 27)
- Outfall - Conococheague Creek 74 Outfall Points
- Felling Spring Creek 54 Outfall Points
- Total 128 Outfall Points**



The Borough of Chambersburg cannot guarantee the reliability or suitability of this information. Original data was compiled from various sources, and the spatial information may not be accurate. This information may be updated, corrected or otherwise modified without notification.



**STORM SEWER
SYSTEM MAP
BOROUGH OF
CHAMBERSBURG
PENNSYLVANIA**