

City of Allentown, Pennsylvania

Municipal Separate Storm Sewer System (MS4)

Stormwater Management Program Plan
(SWMPP)



MS4 NPDES Permit PA0063665

May 2020

Table of Contents

1.0 Introduction	3
1.1 MS4 Overview	3
1.2 MS4 Permit History	4
1.3 City Organization and Legal Authority	4
1.4 Stormwater Program Funding	5
1.5 SWMPP Updates and Modifications	5
2.0 Stormwater Management Program Elements	6
2.1 Source Identification	6
2.2 Monitoring and Discharge Characterization	8
2.3 Stormwater Management Program	11
2.4 Industrial Stormwater Program	12
2.5 Construction Site Runoff	13
2.6 Roadways, Streets and Parking Lots	14
2.7 Pesticide, Herbicide, and Fertilizer Application	16
2.8 Illicit Discharge Detection and Elimination (IDDE)	17
2.9 Spill Prevention Response (SPR)	19
2.10 Stormwater Infrastructure Management	20
2.11 Fiscal Analysis	23
2.12 Annual Progress Report	24
2.13 City Properties	26
2.14 Public Education and Participation	27

1.0 Introduction

1.1 MS4 Overview

The City of Allentown (the City), located in Lehigh County, is the third largest city in the Commonwealth of Pennsylvania. The City encompasses 18 square miles and has a population of 121,283 (2017). The region is experiencing growth as areas east of the City are impacted by improved transportation access from northern New Jersey, New York City, and Philadelphia metro areas. Since 2000, the population in Allentown has increased by nearly 14 percent. The Lehigh Valley Planning Commission predicts a growth of an additional 15,000 citizens by 2040. As described in the Hazard Risk Management Plan for the region, the Jordan Creek and its tributary, the Little Lehigh Creek, join within the city limits and empty into the Lehigh River which is a major tributary in the Delaware River Watershed Basin. Other waterways which flow through the City include the Cedar Creek and Little Cedar Creek, as part of the Little Lehigh Watershed which is a primary source of drinking water for the City and surrounding municipalities. Two branches of Trout Creek join the Little Lehigh Creek downstream of the water filtration plant. Other bodies of water within the city limits include Lake Muhlenberg in Cedar Creek Parkway and a pond in Trexler Park.

The City stormwater drainage system is regulated as a Municipal Separate Storm Sewer System (MS4) through the National Pollutant Discharge Elimination System (NPDES) regulations issued by the Environmental Protection Agency in 1990. In the past, the management of stormwater services was under the leadership of the City's Bureau of Water Resources. In 2013, the City executed a long-term lease of the potable water and sanitary sewer infrastructure to the Lehigh County Authority which included transferal of staff. Stormwater programs and the drainage infrastructure along with the water quality discharge permit, referred to as an MS4 Phase I permit, were retained by the City. The City established a Stormwater Bureau within the Public Works (PW) Department, identifying 19 positions retained after the separation of the Water Resource Bureau, as staff assigned to manage and implement services. In 2017, the number of positions assigned increased by one, through the transfer of a position from the Office of Compliance in PW to the Stormwater Bureau (MS4 Coordinator).

The stormwater infrastructure includes pipe (343 miles), swales, curb/gutter, best management practices (BMPs) such as rain gardens, detention basins, and other collection and conveyance components. The inventory of system components includes 284 outfalls discharging stormwater runoff to receiving waters. The City maintains an inventory of the physical infrastructure which has an estimated replacement value of \$484 million. As a general rule, the public works industry accepted, for pipe and conveyance assets, an estimated useful life of 100 years assuming consistent operational maintenance and rehabilitation.

1.2 MS4 Permit History

In 1993, the City submitted an application for coverage, as required under the 1990 Federal Regulations for communities greater than 100,000 population (based on the 1990 Census), outlining various best practices for implementation. This 1993 Program Plan along with the water quality monitoring protocols are in force today. The City has the responsibility and the opportunity to adjust the program plan as conditions change and the commitment for today's best practices requires that the City update the program Plan. The Permit Program Plan is used by EPA and DEP to evaluate compliance. An out of date Plan can create risk for the City.

Pennsylvania Department of Environmental Protection (PADEP) is delegated the authority to issue and enforce the stormwater permits. The City's current permit was issued in 2004 for a period of five years. It has been extended through administrative action by PADEP and has been enforceable for the past 11 years without major rewrite or updates.

The City's permit status and City compliance activities were reviewed by EPA Region 3 in December 2014. An inspection included a review of annual reports, the Program Plan, and other documentation of the actions undertaken and ongoing as compared to permit requirements. In-field site inspections occurred as well, to determine if the City is implementing policies, procedures and enforcement strategies required by the permit.

The permit compliance inspection process provided the City the opportunity to respond to findings, statements and documentation prepared by EPA inspectors, which occurred by letter from the City dated September 25, 2015. EPA reviewed the additional supporting documentation provided in the September 2015 letter and determined if an enforcement action is required such as an Administrative Order of Consent, fines, required corrective actions, and/or legal sanctions. In May 2018, a settlement agreement was reached between the City and EPA. The City responded to EPA's findings report by undertaking corrective action to improve the Stormwater Management Program.

1.3 City Organization and Legal Authority

The delivery of stormwater services is primarily through the staff and resources within the Public Works (PW) Department. In 2013, with the lease of the water resource operations for potable water and sewer to the Lehigh County Authority, the responsibilities for stormwater management were formally established as a Bureau within Public Works. A separate budget within the General Fund was established in FY15 which identified the resources, staff and general materials/expenses authorized. In FY17, this account included 20 staff positions.

Other services and operations, organizational support from other divisions or departments as well as external agencies that affect directly or indirectly the stormwater management program include:

- Geographic Information Systems (GIS) (inventory, technical support)
- PW Engineering Bureau (engineering and design services, construction management)
- Finance Department (accounting, purchasing, financial planning)
- Streets Operations (field services, inspections support)
- Bureau of Planning and Zoning (land development regulation)
- Bureau of Building Standards and Safety (building permit process and site inspections outside of public right-of-way and within the parcel)
- Lehigh County Conservation District (erosion and sediment regulatory program for land disturbances over 1 acre and post construction plan review/regulatory compliance)
- Lehigh Valley Planning Commission (Act 167 compliance)

1.4 Stormwater Program Funding

In January 2018, the City implemented a Stormwater Utility fee to fund all elements of stormwater management including compliance with the MS4 permit. Each budget year, a review is completed of the current accomplishments and funding status of major initiatives within the compliance program, such as the establishment of appropriate best management practices for operation of the MS4 system, oversight of the industries within the City, outfall inspections, and other key permit components. The Utility generates approximately \$5.6 million annually for the stormwater program and infrastructure operation.

1.5 SWMPP Updates and Modifications

This Stormwater Management Program Plan, May 2020, is an update of the existing document, initially developed in 1993, which has undergone minor edits over the years. This SWMPP was developed through the engagement of all areas of City government who provide oversight, regulation, operation, and permit compliance activities and reflects program activities based on negotiations with PaDEP in 2018-19.

2.0 Stormwater Management Program Elements

The Stormwater Management Program Plan is aligned with each section of the current, effective permit.

2.1 Source Identification

2.1.1 Permit Reference: Part A 3.

During the period beginning on the effective date and lasting through the expiration date of the permit:

- (a) The City shall compile and submit any new source identification information, including the identification and mapping of storm sewer system outfalls, and significant changes affecting the City's separate storm system due to: land use activities, population estimates, runoff coefficients, major structural controls, landfills, publicly owned lands, and industries in the annual reports to the Department pursuant to Part A(8)(c) "Annual Progress Report" of this permit.*
- (b) The City shall provide, no later than 3 months after the issuance of this permit, an inventory of industries organized by watershed with facility name, address and description (which best reflects the principle products or services provided by each facility) which may discharge to the MS4 and submit this inventory with annual reports to the Department pursuant to Part A(8)(c) "Annual Progress Reports" of this permit.*

2.1.2 Source Identification BMPs - Current Permit Cycle

The City has an ongoing process to update its mapping of the MS4 system and industries discharging to the MS4.

BMP ID	Best Management Practice	Responsible Agency	Schedule	Measure of Effectiveness	Reporting Requirement
1.1	The City will continue to update its GIS layers for the MS4 and outfall nodes to reflect changes identified in each annual reporting period. The City will continue to gather information from various City Departments as input for data on: land use activities, population estimates, major structural controls, landfills, publicly owned lands, and industries. The Public Works Department will provide input and maintain runoff coefficients for various land use categories.	Information Systems/GIS	Ongoing	Compliance with requirement for annual mapping update.	All system related data is updated in the GIS system and is available on site.
1.2	The City will continue to update its GIS layer of industries discharging to the MS4 to reflect changes identified in each annual reporting period. Industrial and commercial businesses operating within the City are categorized by SIC code. This information is accessible in the City's EDEN system for business information. The Fire Department has inventories of SARA Title III and HAZMAT locations. (See BMP 4.1).	Information Systems/GIS	Submitted inventory and continue to provide updates annually.	Compliance with requirement for annual update of inventory of industries discharging to the MS4.	Inventory of industrial sites submitted. Additions or deletions to the inventory submitted in subsequent Annual Reports.

2.1.3 Supporting Legal Authority

No legal citations noted.

2.2 Monitoring and Discharge Characterization

2.2.1 Permit Reference: Part A 4.

For all stormwater discharges covered under this permit, a water quality-based effluent limitation may be required under applicable state and federal law when necessary to ensure that water quality standards and designated use(s) of the receiving waters are attained. Discharge(s) to stormwater covered under this permit shall not cause a violation of water quality criteria as prescribed in 25 Pa Code Chapters 16 and 93.

During the period beginning on the effective date and lasting through the expiration date of this permit, the City shall:

- (i) Submit quantitative data on physical and chemical characteristics to the Department, annually, for 5 representative outfalls identified in the City's Part 2 stormwater application.*
- (ii) Collect [during the term of the permit]* [~~annually~~]** samples of stormwater discharges for each representative outfall above, from three storm events occurring at least one month apart in accordance with requirements at 40 CFR 122.21(g)(7). All samples shall be collected following a storm event that is equal or greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (0.1 inch rainfall) storm event. The Department may allow exemptions to sampling three storm events when climate conditions create good cause for such exemptions. Flow rates shall be estimated at points where discrete samples are taken.*

**[Changed by Department's administrative amendment dated June 2, 2004]*

***[Removed by Department's administrative amendment dated June 2, 2004]*

(iii) Submit above collected samples for analysis according to methods listed under 40 CFR Part 136 for the following pollutants:

<i>BOD-5</i>	<i>Silver, Total</i>
<i>COD</i>	<i>Thallium, Total</i>
<i>Total Kjeldahl Nitrogen (TKN)</i>	<i>Zinc, Total</i>
<i>Nitrate</i>	<i>Cyanide, Total (Grab)</i>
<i>Total Ammonia plus Organic Nitrogen</i>	<i>Phenols, Total (Grab)</i>
<i>Antimony Total</i>	<i>Total Phosphorous</i>
<i>Arsenic, Total</i>	<i>Dissolved Phosphorus</i>
<i>Beryllium, Total</i>	<i>Total Suspended Solids (TSS)</i>
<i>Cadmium, Total</i>	<i>Total Dissolved Solids</i>
<i>Chromium, Total</i>	<i>Oil and Grease (Grab)</i>
<i>Copper, Total</i>	<i>pH (Grab)</i>
<i>Mercury, Total</i>	<i>Fecal Coliform (Grab)</i>
<i>Nickel, Total</i>	<i>Fecal Streptococcus (Grab)</i>
<i>Selenium, Total</i>	

(iv) Collect samples of stormwater discharges for each representative outfall above, from three storm events during the term of the permit, occurring at least one month apart in accordance with requirements at 40 CFR 122.21(g)(7). ~~[One storm sampling event must occur during the first, third and fifth year of the permit term.]~~ All samples shall be collected following a storm event that is equal or greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (0.1 inch rainfall) storm event. The Department may allow exemptions to sampling three storm events when climate conditions create good cause for such exemptions. Flow rates shall be estimated at points where discrete samples are taken.*

[(v)] Submit samples for analysis according to methods listed under 40 CFR Part 136 for the following pollutants:*

[(vi)] Provide a description for each storm event, of the date, duration of the storm event(s) sampled, and rainfall intensity which generated the sampled discharge*

[(vii)] When the city is unable to collect samples due to adverse climatic conditions, the permittee shall submit, in lieu of sampling data, a description of why samples could not be collected, including available documentation of the event. Adverse climatic conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.). This information shall be submitted in the annual reports to DEP pursuant to Part A(8)(c) of this permit.*

[(viii)] No later than 3 years after the issuance of this permit, estimate annual, seasonal pollutant loads and estimate the event mean concentrations for all stormwater outfalls identified in [City's Part 2 storm water]* ~~[the permittee's WQM permit]**~~ application, using data collected and submitted with annual reports to the Department pursuant to Part A(8)(c) "Annual Progress Reports"*

[(ix)] The Department may require quantitative data for additional parameters and/or may establish sampling conditions such as location, season of sample collection, or form of precipitation necessary to insure representativeness*

**[Changed by Department's administrative amendment dated June 2, 2004.]*

***[Removed by Department's administrative amendment dated June 2, 2004.]*

2.2.2 Permit Reference: Part A 5. (d)

(d) Provide a description of a monitoring program for stormwater discharges associated with industrial activities;

2.2.3 Permit Reference: Part A 6.

Within the last 3 years of the permit term, estimate the reduction of loading of pollutants for all stormwater outfalls identified in the City's Part 2 stormwater applications [1993], using data collected as a result of long-term monitoring and submitted with annual reports to the Department pursuant to Part A(8)(c) "Annual Progress Reports" of this permit. These assessments shall also identify known impacts of stormwater.

2.2.4 Monitoring and Discharge Characterization BMPs - Current Permit Cycle

The Stormwater Bureau leads development and implementation of the City's Monitoring and Discharge Characterization Plan.

BMP ID	Best Management Practice	Responsible Agency	Schedule	Measure of Effectiveness	Reporting Requirement
2.1	The City will update and continue to implement a Monitoring and Discharge Characterization Plan.	Stormwater	Updated in 2019	Tracking trends in collected data is part of the plan.	Available for review on site.
2.2	The City will update and continue to implement a Dry Weather Screening Program as a component of the Monitoring and Discharge Characterization Plan and in coordination with the IDDE program (BMP 8.4). Annual dry screening of outfalls determined to be high risk for illicit discharge is based on the Monitoring and Discharge Characterization Plan.	Stormwater	Ongoing	Review progress annually.	Number of outfalls inspected. Number of illicit discharges identified.
2.3	The City will update and continue to implement a Wet Weather Screening Program as a component of the Monitoring and Discharge Characterization Plan. The City wet weather program is designed to support its Stormwater Discharge Characterization and industrial high-risk runoff programs as follows: a. The City actively monitors outfalls that have been identified as having a high potential to significantly contribute pollutants to the MS4 system. b. All sample collection is performed according to requirements of 40 CFR 122.21 (g)7 and as documented in Monitoring and Discharge Characterization Plan.	Stormwater	Ongoing	Review annually for indicators and changes in water quality data.	City will continue to provide a summary of the following for the reporting period: number of samples collected, and location of sampling sites by GIS reference. Sample results and parameters specific to sampling will be reported and maintained in accordance with BMP 2.1 and BMP 12.1.

2.2.5 Supporting Legal Authority

Article 942 of the City Code – Storm Sewer Ordinance

2.3 Stormwater Management Program

During the period beginning on the effective date and lasting through the expiration date of this permit, the City shall continue to implement a storm water management program consistent with applicable state and Federal laws, and:

2.3.1 Permit Reference - Part A 5. (a)

(a) Maintain and implement on a system-wide basis, watershed basis, jurisdiction basis or on an individual basis the stormwater management program outlined in this document to control and/or reduce the discharge of pollutants into the system to the maximum extent practicable.

2.3.2 Permit Reference – Part A 6. (iv)

(iv) Effectively prohibit non-stormwater discharge through its municipal separate storm sewer system, except non-stormwater discharges as provided in Part C(1) of this permit. The discharge of stormwater containing pollutants which have not been reduced to the maximum extent practicable is prohibited.

The Stormwater Bureau is responsible for maintaining the current Stormwater Management Program in coordination with various operating Departments within the City.

BMP ID	Best Management Practice	Responsible Agency	Schedule	Measure of Effectiveness	Reporting Requirement
3.1	The City will continue to maintain a Stormwater Management Program as defined in this Stormwater Management Program Plan (SWMPP).	Stormwater	Updated in 2020	Annually review progress of implementation of BMPs established in this SWMPP.	Available for review on site. Annually determine if BMPs should be changed and request in Annual Progress Report, as required.

2.3.3 Supporting Legal Authority

The City of Allentown employs several measures, ordinances, and regulations to control discharges of pollutants through the stormwater collection system.

2.4 Industrial Stormwater Program

2.4.1 Permit Reference Part A 5. (b)

Provide a description of a comprehensive program to monitor and control to the maximum extent practicable, pollutants in runoff to the City's municipal system from operating or closed municipal landfills, hazardous waste treatment sites, industrial facilities that are subject to Section 313, Title III of the Superfund amendments and Reauthorization Act of 1986 (SARA), storage, recovery or disposal facilities for municipal wastes, and industrial sites that handle, store, or transport toxics or hazardous materials, that the City determines are contributing a substantial pollutant loading to its system;

For IHRR facilities, the City shall continue document through standard operating procedures the methodology for industrial site inspection of interconnections with the MS4, field testing procedures, frequency of inspection, triggers for contact with appropriate DEP Regional staff for follow-up and recommendations for industrial NPDES permitting.

The Stormwater Bureau maintains mapping of industrial facilities that discharge to the City's MS4 system. The City is responsible to monitor and report discharge from facilities that may present a high risk of discharging pollutants to the MS4.

BMP ID	Best Management Practice	Responsible Agency	Schedule	Measure of Effectiveness	Reporting Requirement
4.1	The City will continue to identify industries discharging to the MS4 as described in BMP 1.2.	See BMP 1.2			
4.2	The City will maintain and implement an Industrial High-Risk Runoff (IHRR) SOP that describes the following: <ul style="list-style-type: none"> • process for determination of contribution of a significant pollutant load for addition to the list of industries. • methodology for inspection and field testing. • frequency of inspection; and • process for communication with appropriate DEP regional staff on industrial NPDES permitting. 	Stormwater	Ongoing	Annual review of IHRR SOP.	See BMP 1.2.

2.4.2 Supporting Legal Authority

Article 941 of the City Code – Sewage and Industrial Waste

Article 942 of the City Code – Storm Sewer Ordinance

2.5 Construction Site Runoff

2.5.1 Permit Reference Part A 6. I (iii)

(iii) Maintain an acceptable Erosion and Sediment (E&S) control program for areas, which due to topography, activities, or other factors, have a potential for significant soil erosion in accordance with 25 PA. Code Chapter 102 and the Bureau of Land and Water Conservations' "Erosion and sediment Pollution Control program manual";

2.5.2 Construction Site BMPs - Current Permit Cycle

The City conducts plan review in compliance with Pennsylvania Chapter 102 in cooperation with the LCCD. Inspection of PCSM BMPs is detailed in Section 2.10 of this document.

BMP ID	Best Management Practice	Responsible Agency	Schedule	Measure of Effectiveness	Reporting Requirement
5.1	The City will maintain and update, as needed, its MOU with LCCD to document roles and responsibilities related to erosion and sediment control, stormwater management, and Post Construction Stormwater Management requirements.	Bureau of Engineering	Ongoing	Executed MOU with LCCD, with periodic review and update as needed.	Document changes in appropriate reporting year's Annual Progress Report.
5.2	The City will continue to enforce erosion & sediment control in compliance with Article 1385 of the City Code and in coordination with LCCD as documented in the MOU developed and maintained within BMP 5.1. Erosion and sediment control plans will be reviewed by LCCD as specified in the MOU to ensure that adequate controls required by ordinance are designed for the site. During construction, City inspectors will conduct routine inspections to ensure that erosion and sediment control practices are functioning as designed. In cases of noncompliance with the approved plans, the City will follow the Enforcement and Penalty sections of Article 1385 of the City Code.	Bureau of Engineering	Ongoing	Successful resolution of enforcement actions.	Number of active construction sites. Number of enforcement actions taken.
5.3	The City will identify by position title, employees engaged in review of E&S plans and inspections. City will track training and certifications.	Stormwater	Ongoing	Review attendees against the list of employees who require training.	No reporting requirement. Documentation available on site.

2.5.3 Supporting Legal Authority

Articles 1385 and 1387 of the Allentown City Code
 Pennsylvania Clean Streams Law (35 P.S. §§ 691.1 et seq.)
 25 Pa. Code Chapter 102

2.6 Roadways, Streets, and Parking Lots

2.6.1 Permit Reference: Part A 5. (c)

(c) Provide an assessment of the effective of operating and maintaining public streets, roads and highways and procedures for reducing or controlling potential impacts on receiving waters from the municipal storm sewer system, including pollutants discharged as a result of de-icing activities.

2.6.2 Permit Reference: Part A 6. (ii)

(ii) Assess the effectiveness of its stormwater management program, including street sweeping, litter control, de-icing procedures, and the application of herbicides for vegetation control on stormwater discharges. The assessment shall include an analysis of alternative practices for reducing pollutants associated with road maintenance activities.

2.6.3 Permit Reference: Part C 3.

3. ADDITIONAL REQUIREMENTS FOR SALT STORAGE FROM INDUSTRIAL ACTIVITY WITHIN THE CITY'S MUNICIPAL SEPARATE STORM SEWER SYSTEM

Facilities within the City's incorporated boundary with storage piles of salt used for deicing or other commercial or industrial purposed and which generate a stormwater discharge associated with industrial activity which is discharged to City's MS4 shall be enclosed or covered to prevent exposure to precipitation, except for exposure resulting from adding or removing materials from the pile. Existing industrial facilities shall demonstrate compliance with this provision as expeditiously as practicable, but in no event later than three years after the date of issuance of the facility's permit. All new discharges must meet this requirement upon approval. Piles do not need to be enclosed or covered where stormwater from the pile is not discharged to surface waters of the commonwealth.

2.6.4 Roadways, Streets, and Parking Lots BMPs - Current Permit Cycle

The Streets Department has primary responsibility for operation and maintenance of the City's roads, streets, and parking lots, including deicing and pavement maintenance and repair. The Department of Parks and Recreation and the Bureau of Recycling and Solid Waste perform deicing operations for their facilities.

BMP ID	Best Management Practice	Responsible Agency	Schedule	Measure of Effectiveness	Reporting Requirement
6.1	The City will maintain and implement an SOP for Deicing and Sanding Activities.	Streets Department	Ongoing	Annual review of SOPs – incorporate any feedback received during SOP training.	No reporting required
6.2	The City will maintain and implement an SOP for Roadway, Street, and Parking Lot Maintenance.	Streets Department			

2.6.5 Supporting Legal Authority

Pennsylvania Clean Streams Law (35 P.S. §§ 691.1 et seq.)

2.7 Pesticide, Herbicide, and Fertilizer (PHF) Application

2.7.1 Permit Reference: Part A 5. (h)

(h) Provide a description of a comprehensive program for control of residential, commercial, and industrial land uses. The program shall also include assessment of pesticide, herbicide and fertilizer use that may discharge into the municipal storm sewer system;

2.7.2 PHF BMPs - Current Permit Cycle

The Department of Parks and Recreation has primary responsibility for storage and application of pesticides, herbicides, and fertilizers on City properties. Properties where PHF may be applied to manage vegetation include the golf course, playing fields, and street rights-of-way. The Department of Parks and Recreation treats City swimming pools with pesticides to manage microorganisms. The City Health Bureau applies pesticide to manage mosquito populations. City staff applying pesticides and herbicides maintain certifications as applicators or as registered technicians through the Pennsylvania Department of Agriculture.

BMP ID	Best Management Practice	Responsible Agency	Schedule	Measure of Effectiveness	Reporting Requirement
7.1	The City will maintain and implement a PHF SOP that addresses storage, mixing, transport, application, and clean-up of PHF. The SOP will include the process for tracking City the certifications and registrations of City staff that apply pesticides and herbicides. This SOP will document the City's procedures for controlling the discharge of pollutants related to PHF.	Department of Parks and Recreation	Ongoing	Annual review of PHF SOP – incorporate any feedback received during SOP training.	No reporting requirement.
7.2	Using the process documented in the SOP developed in BMP 7.1, the City will track the registrations of City pesticide technicians and certified pesticide applicators.	Department of Parks and Recreation	Update list of City pesticide certifications annually	Review process annually and adjust as necessary.	No reporting requirement. List will be maintained on-site and available for review.

2.7.3 Supporting Legal Authority

Pennsylvania Pesticide Control Act (35 P.S. §§ 111.21 et seq.)
7 Pa. Code Chapter 128

2.8 Illicit Discharge Detection and Elimination (IDDE)

2.8.1 Permit Reference: Part A 5. (e) and (f)

- (e) Provide a description of a comprehensive program to detect and eliminate dumping or disposal of materials other than stormwater into the City's system;*
- (f) Provide a description of a comprehensive program including inspections, to implement and enforce an ordinance, order or by similar means to prevent new and/or to remove existing illicit discharges from connecting to the City's municipal storm sewer system;*

2.8.2 IDDE BMPs - Current Permit Cycle

The Stormwater Bureau has primary responsibility for locating and eliminating illicit discharges. The Health Bureau and Bureau of Building Standards and Safety support this program through enforcement of the Food Sanitation ordinance and the International Plumbing Code, respectively.

BMP ID	Best Management Practice	Responsible Agency	Schedule	Measure of Effectiveness	Reporting Requirement
8.1	The City will continue to prohibit discharges to the MS4 through enforcement of the Article 942 of the City Code - Storm Sewer Ordinance (specifically, Section 942.2 "General Municipal Separate Storm Sewer System Requirements").	Stormwater	Ongoing	Review and update of ordinance as needed.	No reporting requirement
8.2	The City will continue to prohibit discharges from food service operations through enforcement of Article 1123 of the City Code - Food Service Sanitation.	Health Bureau	Ongoing	Review and update of ordinance as needed.	No reporting requirement
8.3	The City will continue to prohibit cross-connections with the sanitary system through enforcement of the International Plumbing Code.	Bureau of Building Standards and Safety	Ongoing	Review and update of enforcement process as needed.	No reporting requirement
8.4	The City will continue to respond to complaints and to conduct a dry weather screening program to locate and eliminate illicit discharges. The City will also use its CCTV inspection Lateral Assessment Certification Program (LACP) to identify illegal connections to the storm sewer. The process for locating and eliminating an illicit discharge will be documented in the Monitoring and Discharge Characterization Plan (See BMP 2.1).	Stormwater	Ongoing	See BMP 2.2.	Number of Complaints. Number of enforcement actions. Number of cases referred to PaDEP.
8.5	The City will continue to use the following options for residents and businesses to report a suspected illicit discharge: <ul style="list-style-type: none"> • 911 calls – 911 operators direct these calls, when appropriate for the situation, to the Public Works Department. • 311 Quick Reporter – This application is on the City’s website for reporting complaints and concerns. • Direct contacts to Stormwater – Stormwater promotes two phone numbers (one for business hours and after hours, respectively) for reporting complaints and concerns. 	Stormwater	Ongoing	Review the spill/ illicit discharge communications matrix annually to ensure that all numbers are current (See BMP 9.1).	No reporting requirement

2.8.3 Supporting Legal Authority

Article 942 of the City Code – Storm Sewer Ordinance
Article 1123 of the City Code – Food Service Sanitation
International Plumbing Code

2.9 Spill Prevention and Response (SPR)

2.9.1 Permit Reference: Part A 5. (g)

(g) Provide a description of procedures to prevent, contain, and respond to spills that may discharge into the municipal storm sewer system;

2.9.2 Permit Reference: Part C 2. SPILLS

This permit does not authorize the discharge of any toxic or hazardous substance or oil resulting from an on-site spill.

2.9.3 SPR BMPs -Current Permit Cycle

The Fire Department and the Stormwater Department work cooperatively to prevent, contain, and respond to spills that may discharge to the MS4.

BMP ID	Best Management Practice	Responsible Agency	Schedule	Measure of Effectiveness	Reporting Requirement
9.1	The City will maintain and implement a SPR SOP that addresses both the response to spills that may impact the MS4 and spill prevention and response on City owned and operated properties. This SOP will describe the responsibilities of both the Fire Department and the Stormwater Department. The SOP will include a spills and illicit discharge communication matrix. Discharges from private entities are regulated under Article 942 of the City Code - Storm Sewer Ordinance (see BMP 8.1).	Stormwater	Ongoing	Annual review of SPR SOP – incorporate any feedback received during SOP training.	Number of spills. Number of notifications made to PaDEP.
9.2	The Fire Department will continue to enforce Article 1503 of the City Code – Recovery Ordinance that details the responsibility for control, extinguishment or cleanup of petroleum or chemical spills.	Fire Department	Ongoing	Documentation of timely response and follow-up activities to address spills.	See BMP 9.1.

2.9.4 Supporting Legal Authority

Article 942 of the City Code – Storm Sewer Ordinance Article 1503 of the City Code – Recovery Ordinance

2.10 Stormwater Infrastructure Management

2.10.1 Permit Reference: Part A 5. (j)

- (j) *Conduct preventive maintenance inspections of all stormwater management facilities at least on a triennial basis. Inspections, necessary corrective action and enforcement actions shall be documented and summarized in annual progress reports to the Department pursuant to Part A(8)(c) "Annual Progress Reports" of this permit.*

2.10.2 Stormwater Infrastructure Management BMPs - Current Permit Cycle

The Stormwater Bureau is responsible for the operation and maintenance of City owned and operated stormwater infrastructure and the inspection and enforcement of maintenance at privately owned and operated stormwater infrastructure. The City conducts ongoing inspections of the City owned and operated conveyance system, including pipes, swales, safety grates, inlets, and catch basins. Mapping of the system and BMPs is maintained by GIS and the Engineering Bureau.

BMP ID	Best Management Practice	Responsible Agency	Schedule	Measure of Effectiveness	Reporting Requirement
10.1	A CCTV inspection truck will be used to investigate problems, respond to complaints, inspect storm sewers, and rate the integrity of the storm sewer system. Systematic evaluation of the MS4 will continue to be prioritized by the age of City districts, beginning with the oldest (vitrified clay and old brick storm lines are the priority). Inspections may be scheduled based upon known, historic issues or suspected problems (i.e. sinkholes) found through field investigations or complaints. Inspections will continue to be conducted in conjunction with the Street Construction and Paving Program (i.e. Streets Program). NASSCO ratings of each inspected pipe conveyance will continue to be entered into the City's GIS system.	Stormwater	Ongoing	The miles of storm sewer inspected will be tracked as a measure of effectiveness.	No reporting requirement.
10.2	The City will continue to inspect, remove debris, and note repair and maintenance issues of components of stormwater drainage infrastructure.	Stormwater	Ongoing – schedule varies based on emergencies and frequency/duration of rain events.	The cubic feet of debris removed will be tracked in Lucity as a measure of effectiveness.	No reporting requirement.

BMP ID	Best Management Practice	Responsible Agency	Schedule	Measure of Effectiveness	Reporting Requirement
10.3	The City will maintain a process to determine when reconstruction and replacement of stormwater infrastructure is required.	Stormwater	Ongoing	Track feet of pipe repaired or replaced, and number of manholes and inlets repaired annually as a measure of effectiveness.	No reporting requirement.
10.4	A map of the City's stormwater conveyance infrastructure, outfalls, and City-owned BMPs will continue to be maintained as described in BMP 1.1.	IT/GIS Stormwater	Ongoing	See BMP 1.1	
10.5	The City will continue to inspect City-owned BMPs on an annual basis. When maintenance of a City owned BMP is required, the maintenance staff will be notified, and a work order entered into Lucity for completion.	Stormwater	City owned BMPs inspected once a year.	Review inspection process as needed to evaluate time to address identified deficiencies, update process if necessary.	Number of inspections.
10.6	The City will continue to implement its program to ensure adequate operation and maintenance of post construction BMPs in coordination with LCCD as documented in the MOU developed and maintained as described in BMP 5.1.	Stormwater	Ongoing	See BMP 5.1.	Number of PCSM BMPs approved. Number of PCSM BMPs constructed.
10.7	The City will inspect privately maintained BMPs at least once every five years. Inspections will be documented for each facility. When maintenance of a privately maintained BMP is required, the City will send a corrective action letter, and follow up to ensure that the required maintenance is completed. Failure to maintain BMPs, will result in enforcement action. For facilities with operation and maintenance agreements, the agreement will continue to be the basis for enforcement action. For facilities constructed prior to the requirement for operation and maintenance agreements, Article 1387 of the City Code (Stormwater Management Ordinance) will continue to be used as a basis for enforcement action.	Stormwater	Privately maintained BMPs inspected at least once every five years.	Review process for completion and enforcement of requested BMP maintenance pursuant to inspections. Update approach as necessary with a goal of reducing the time to complete the requested maintenance.	With each annual report, the City will provide a summary to include number of inspections, number of corrective action letters sent, and number of enforcement actions.

BMP ID	Best Management Practice	Responsible Agency	Schedule	Measure of Effectiveness	Reporting Requirement
10.8	The City will continue to update its GIS layer of PCSM facilities implemented through Article 1387 of the City Code to reflect changes identified in each annual reporting period. After project approval, the Bureau of Engineering staff will add the new PCSM facility to the City's GIS layer. Stormwater will verify construction and modify the GIS layer to reflect that the BMP is completed.	Bureau of Engineering and Stormwater	Ongoing	Incorporation of new PCSM facilities into GIS layer after approval of final as built.	No reporting required.
10.9	The City will continue to train employees engaged in stormwater system operation, and track training by topic and date.	Various agencies	After completion of each training session.	Review content to determine if additional subjects are needed.	No reporting requirement. Documentation of training is maintained on site.

2.10.3 Supporting Legal Authority

Article 1387 of the City Code – Stormwater Management Ordinance

2.11 Fiscal Analysis

2.11.1 Permit Reference Part A 7. FISCAL ANALYSIS

During the period beginning on the effective date and lasting through the expiration date of this permit, the City shall:

(i) Maintain necessary capital, operation and maintenance expenditures needed to accomplish the activities of the stormwater program and the conditions of this permit; and

(ii) Maintain sufficient financial resource to complete stormwater activities required in this permit and comply with state and federal stormwater regulations.

2.11.2 Fiscal Analysis BMPs - 2019-2024 Permit Cycle

The City of Allentown implemented a Stormwater Utility in January 2018 to provide adequate funding for its stormwater program.

BMP ID	Best Management Practice	Responsible Agency	Schedule	Measure of Effectiveness	Reporting Requirement
11.1	The City will budget and authorize expenditures necessary to ensure compliance with the BMPs set forth in this Stormwater Management Program Plan, over the term of this permit.	Stormwater	Ongoing	Continuous evaluation of stormwater program costs and funding.	With each Annual Progress Report, the City will provide a statement of fiscal sufficiency to meet the terms of this permit and provide a budget for SWMP activities during the reporting period.

2.11.3 Supporting Legal Authority

Article 393.15 of the City Code – Stormwater Utility Fee

2.12 Annual Progress Report

2.12.1 Permit Reference: Part A 8. REPORTING REQUIREMENTS

8. a. Reporting of Monitoring Requirements

(i) Monitoring results shall be summarized on a Discharge Monitoring Report (DMR) From and where appropriate, in annual reports to the Department pursuant to Part A.8.c "Annual Progress Reports" of this permit. A signed copy of the DRM Form and all other reports required herein, shall be submitted to the Northeast Regional Office of the Bureau of Water Management, 2 Public Square, Wilkes-Barre, PA 18711.

8.b. Non-Compliance Reporting:

- (1) Required Reporting. The City shall report non-compliance to the Department in accordance with the following:*
 - (a) 24-hour Oral Reporting – the permittee shall give at least a 24-hour advance notice to the Department of any planned changes that may result in non-compliance with permit requirements. The City shall also report non-compliance with any term or condition of this permit and any statute, rule, or regulation, to the Department within 24 hours of becoming aware of the non-compliance.*
 - (b) Follow- up in Written Report – where the City orally reports the information in Part A 8(b)(1)(a) within the previously mentioned 24-hour time period, a written report outlining the reported information must be completed, kept on file, and submitted to the Department on request.*
 - (c) Non-compliance reporting pursuant to Part A 8(b)(1)(a&b) shall not excuse the City from immediate notification to the Department of incidents causing or threatening pollution pursuant to 25 PA Code Section 101.2(a).*
- (2) Required Information. The reports and notifications required in Part A 8(b)(1) above shall contain the following information:*
 - (a) An explanation of the cause of non-compliance*
 - (b) The period of non-compliance, including exact dates and times and the anticipated time when the City will return to compliance; and*
 - (c) Steps being taken to reduce, eliminate and prevent recurrence of the non-complying event.*

8.c. Annual Progress Reports

Annual progress reports required under 40 CFR 122.26(c) to facilitate the long-term assessment of the City's NPDES stormwater program shall be submitted to the Northeast Regional Office of the Bureau of Water Management, 2 Public Square, Wilkes-Barre, PA 18711-0790, [within 45 days of] ~~by~~ ^{**}-the anniversary date of this permit issuance for each year of the permit term. As a minimum, reports shall include:

- (i) The status of implementing components of the city's stormwater management program that are required in Part A (5) of this permit;
- (ii) Proposed changes to the City's stormwater management as required in Part A (5) of this permit;
- (iii) Revisions, if necessary, to control required in Part A (6) and the fiscal analysis required in Part A (7) of this permit;
- (iv) Summary of data, including monitoring data, that are accumulated through the reporting year;
- (v) Projected annual expenditures and budget for the year following each annual report;
- (vi) A summary describing the number and nature of enforcement actions, inspections, and public education program; and
- (vii) Identification of water quality improvements or degradation within the City's incorporated boundary.

*[Changed by Department's administrative amendment dated June 2, 2004]

**[Removed by Department's administrative amendment dated June 2, 2004]

2.12.2 Annual Progress Report BMPs - Current Permit Cycle

The City of Allentown will continue to provide annual reports to DEP to document compliance with its MS4 permit.

BMP ID	Best Management Practice	Responsible Agency	Schedule	Measure of Effectiveness	Reporting Requirement
12.1	The Annual MS4 Progress Report will be prepared following Part A 8. of the permit.	Stormwater	90 days after end of each permit year.	Target date is met each permit year with a complete Annual Progress Report.	The City shall follow Permit Part A 8. for annual submittal of the Progress Report.

2.12.3 Supporting Legal Authority

See references to annual reporting mandates in other BMPs.

2.13 City Properties

2.13.1 Permit Reference: Part B 1.(f)

(f) Construction, Operations and Maintenance

The City shall design and build and, at all times property operate and maintain all facilities and systems of treatment and control (and related appurtenances), including Best Management Practices (BMPs) such as PPC Plans, E&S Plans and any other stormwater pollution prevention or management plans, which are installed or used by the City to achieve compliance with conditions of this permit. BMPs shall be designed, implemented and maintained to minimize or eliminate impacts from stormwater runoff. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. Proper operations and maintenance required the operation of backup or auxiliary facilities or similar systems, installed by the city only when necessary to achieve compliance with the conditions of this permit.

2.13.2 City Properties BMPs - 2019-2024 Permit Cycle

The Building Maintenance Bureau maintains the master list of all City owned and operated properties. The Stormwater Department will lead evaluation of potential pollutant risk and preparation of SWPPPs in coordination with the operations that manage high-risk properties.

BMP ID	Best Management Practice	Responsible Agency	Schedule	Measure of Effectiveness	Reporting Requirement
13.1	The City will continue to maintain a master list of all properties owned by the City. The City will assess all properties to evaluate risks of pollutant discharge to the MS4.	Stormwater	Maintain list of high-risk City properties	List will be reviewed when new properties are added to the master list or when a change in activities occurs on a specific property.	No reporting requirement.
13.2	The City will continue to implement and maintain stormwater pollution prevention best practices in the operation and maintenance of City owned property.	Stormwater (development) Site managers (implementation)	Ongoing	Routinely inspect City properties and ensure proper controls are in place.	No reporting requirement. Documentation of site inspections is available on site.

2.13.3 Supporting Legal Authority

Chapter 92a. of the Pennsylvania Code
Pennsylvania Clean Streams Law

2.14 Public Education and Participation

2.14.1 Permit Reference: Part A. 8. c. (vi)

(vi) A summary describing the number and nature of enforcement actions, inspections, and public education program;

2.14.2 Public Education and Participation BMPs - Current Permit Cycle

The Stormwater Department will develop and implement the public education and participation plan in cooperation with other City departments and report as referenced in current permit.

BMP ID	Best Management Practice	Responsible Agency	Schedule	Measure of Effectiveness	Reporting Requirement
14.1	The City will continue to provide public education and outreach during, the term of this permit. Key focus areas may include: <ul style="list-style-type: none"> • youth outreach • commercial and industrial outreach strategies, and • strategies to address specific sources of pollutants identified by the City. 	Stormwater	Ongoing	Number of contacts, events, materials distributed.	Summary of outreach activities: number of events, target audience for each, number of materials distributed.
14.2	The City will continue to utilize regional activities as appropriate.	Stormwater	Ongoing	Verify regional information is targeted appropriately.	No reporting requirement.

2.14.3 Supporting Legal Authority

No legal citation applicable.