

# Public Education Program

## Municipal Separate Storm Sewer System (MS4) Program

### Introduction

Municipal Separate Storm Sewer (MS4) individual permittees must develop, implement, and enforce a Storm Water Management Program (SWMP). The MS4 permit application is designed to help the applicant develop a SWMP by prompting a description of current or proposed structural or operational best management practices (BMPs) implemented to comply with the six minimum control measures and water quality requirements of the permit. The Public Education Program (PEP) is one of the six minimum control measures and should be designed to promote, publicize, and facilitate watershed education for the purpose of encouraging the public to reduce or prevent the discharge of pollutants in stormwater. This compliance assistance document addresses the MS4 permit application requirements associated with the PEP and identifies the key components that are necessary to have an approvable SWMP. Applicants may work collaboratively with watershed or regional partners on any or all BMPs during the permit cycle if approved as part of the PEP. A collaborative PEP will demonstrate that the audiences of all permittees will be targeted.

The PEP should be designed to implement BMPs where the permittee owns and operates an MS4 in the regulated area identified on the current [urbanized area maps](#). All references to the applicant's MS4 in this compliance assistance document refer to the applicant's regulated MS4. An applicant that chooses to be responsible for permit requirements for another regulated MS4 should include BMPs to address both MS4s as part of the PEP.

### Key Messages

Each topic listed below must be messaged at a minimum of two times annually, unless determined to be not applicable to the MS4.

#### **Educate the public on the following related to the stormwater discharges:**

- i. Connection of the MS4 to area waterbodies and potential impacts
- ii. Public responsibility and stewardship in the applicant's watershed(s)
- iii. Benefits of green infrastructure and low impact development

#### **Educate the public on the following related to illicit discharges:**

- i. Detection and elimination of illicit discharges
- ii. Public reporting of illicit discharges
- iii. Proper septic system care and maintenance and recognizing system failure

**Educate the public on proper application of the following:**

- i. Deicing materials
- ii. Pesticides/herbicides/fertilizers

**Educate the public on proper disposal of the following**

- i. Grass clippings and leaves
- ii. Pet waste
- iii. Household hazardous waste
- iv. Commercial and industrial waste
- v. Educational and institutional waste

The applicant needs to identify PEP topics that are applicable to the MS4. Some topics may not be applicable in certain communities. For example, some communities have sanitary sewers throughout the entire area served by the MS4. In this case, there may be no septic systems, and education on the proper maintenance of septic systems would be considered not applicable. For any topic that is not applicable, the applicant must provide an explanation as to why the topic is not being addressed.

The applicant needs to describe the current and proposed BMPs to meet the minimum control measure requirements for the PEP to the maximum extent practicable. The required information includes:

- **Target Audience**
- **Key Message**
- **Delivery Mechanism**
- **Schedule (months and year) and Frequency for BMP implementation**
- **Responsible Party**
- **Measurable Goal with a Measure of Assessment**

## **Target Audience**

The target audience includes the public, which is defined as all persons who potentially could affect the authorized stormwater discharges, including, but not limited to, residents, visitors to the area, public employees, businesses, industries, construction contractors, and developers.

Consider using a mix of appropriate local strategies to address the viewpoints and concerns of a variety of audiences and communities, including minority and disadvantaged communities, as well as children. Printing posters and brochures in more than one language or posting signs near storm sewer outfalls are methods that can be used to reach audiences less likely to read standard materials. Directing materials or outreach programs toward specific groups of commercial, industrial, and institutional entities likely to have significant stormwater impacts is also recommended. For example, information could be provided to carpet cleaning companies on proper disposal methods for wash water. Other outreach opportunities could include best management practices for restaurants, dry cleaners, builders/contractors, oil change shops and other auto care facilities.

## Delivery Mechanisms

There are many creative ways in which the applicant may effectively convey stormwater public education. Both consistency and repetition are important in increasing awareness and bringing a desired behavior change. Because of this, regional and local entities have developed educational materials that could be used by permittees to ensure consistent messages and repeated usage while maximizing limited budgets (e.g., social media posts).

- Brochures placed in high traffic areas with resources geared to the general public
- Fact sheets distributed to specific audiences such as commercial, industrial, and educational facilities
- Media campaigns which may include social media posts, websites, radio, television, and/or movie theater ads, newspaper ads or inserts, posters
- Articles in municipal newsletters distributed via mail or e-mail
- Information on stormwater and surface water quality included in the annual drinking water report or water bill inserts
- Recreational guides to educate groups such as golfers, hikers, paddlers, climbers, anglers, and campers
- Alternative information sources, such as bumper stickers, refrigerator magnets, posters for bus and transit stops, doorhangers, and restaurant placemats
- Mailings to distribute targeted information (e.g. septic system maintenance information for residents not connected to sanitary sewer)
- A library of educational materials for community and school groups
- Volunteer citizen educators to staff a public education task force
- Event participation with educational displays at home shows and community festivals
- Educational programs for school-age children
- Stormwater hotlines for information and for citizen reporting of illicit discharges
- Economic incentives to citizens and businesses (e.g., rebates to homeowners for creating rain gardens, planting trees, and installing rain barrels)
- Adopt-A-Storm-Drain program with signage at adopted inlets
- Storm drain inlet markers, stencils, and sidewalk murals
- Educational art installations including building murals, painted rain barrels or cisterns
- Educational signage at stormwater BMP locations
- Stream and lake signage to increase public awareness of local water resources
- Volunteer stream and lake improvement events, which may include trash removal, invasive species removal, tree planting, and installation of riparian buffer strips, rain gardens, or swales.
- Pet waste disposal signage/baggy stations

Examples of education materials are available at:

- [Southeast Michigan Council of Governments \(SEMCOG\) One Water](#) – Educational materials to address stormwater, wastewater, and drinking water, including video series, webinars, blog articles, flyers, a tip card, and municipal stormwater training resources.
- [Greater Lansing Regional Committee for Stormwater Management](#) – Regional campaign focused on coordinating website and social media to reach diverse audiences. Resources include articles, press releases, videos, flyers, brochures, and posters. Many resources can be used both physically and digitally.
- [Lower Grand River Organization of Watersheds \(LGROW\)](#) – Social media campaign conducted on behalf of member communities, and resources for use by individual MS4s, including prepared social media posts, printable stormwater outreach materials, and training resources
- [Clinton River Watershed Council Stormwater for Communities](#)- Monthly featured articles and flyers for distribution by MS4 communities
- [The Saginaw Area Storm Water Authority](#)- Links to video clips on stormwater related topics
- [Kalamazoo Area Stormwater Work Group \(KASWG\) Protect Your Water](#)- Social media campaign and coordinating website featuring rotating stormwater protection topics
- [Battle Creek Clean Water Partnership](#)- Monthly clean water tip and action item, plus short educational video clips
- [Oakland County Pollution Prevention for Commercial, Industrial and Institutional Properties](#)- Fact sheets on a variety of topics designed for specific audiences
- [United States Environmental Protection Agency Stormwater Smart Outreach Tools](#)- Educational materials including brochures, infographics, social media graphics, and tip sheets for residents and businesses. Materials are available in both English and Spanish.

The PEP must include one or more delivery mechanisms for each PEP topic being addressed. Some delivery mechanisms can be used to convey education on two or more topics. For example, a social media campaign may rotate the topics covered, focusing on proper household hazardous waste disposal for one month, and responsible lawn care practices the next month.

The applicant must consider whether each proposed delivery mechanism will reach all intended audiences. It may be necessary to add additional delivery mechanisms to provide information on a particular topic to reach the intended audience. For example, a school-based program at an evening event may successfully reach students and parents, but another mechanism would be needed to reach those without school-aged children.

## Measurable Goals

The applicant needs to provide a measurable goal with a measure of assessment for each BMP. Measurements will determine whether efforts are making progress towards increasing knowledge on the topics required under the permit and changing stakeholder behavior related to local water quality issues. It is advisable to measure the effectiveness of each action so that time and financial resources are best utilized.

It is important to engage in evaluation of education efforts to ensure the PEP is successful as designed and maximizes financial resources. Effectiveness may be gauged in several ways. The most important measure of success is shown through changes in public awareness of pollution and possible solutions, changes in environmental attitudes, behavioral changes such as an increase in use of pollution prevention resources, and/or an increase in water quality.

The following are examples of delivery mechanisms implemented by Michigan municipalities and accompanying measurable goals and measures of assessment.

<b>Delivery Mechanisms (Examples)</b>	<b>Measurable Goal with a Measure of Assessment</b>
<p>City of Kalamazoo implemented a public education campaign to inform city residents of Kalamazoo County Household Hazardous Waste Center. The city has a contract with the county that allows city residents to drop off eligible items free of charge, including used oil and oil-based paints, pesticides and herbicides, and old TVs. Public education mechanisms include the <a href="#">Protect Your Water</a> website, pre-movie theatre ads, radio ad campaign, View from the Curb newsletter, and annual drinking water quality report. In addition, the Household Hazardous Waste Center is discussed during presentations, model demonstrations and facility tours as opportunities arise.</p>	<p><b>Goal:</b> Show an increase in the number of users from the City of Kalamazoo over a specified time.</p> <p><b>Assessment:</b> Count and compare the quantity of materials collected and number of visitors. Information on each user's municipality of residence is collected. Data is used to determine whether there is an increase specifically after an education activity.</p>
<p>Clinton River Watershed Council hosts annual events to remove trash from local water resources and green spaces.</p>	<p><b>Goal:</b> Hold at least 12 events annually, with at least 150 volunteers, resulting in 1,000 or more lbs. of trash removed.</p> <p><b>Assessment:</b> Track the number of events, the number of volunteers, and the quantity of trash removed.</p>

Delivery Mechanisms (Examples)	Measurable Goal with a Measure of Assessment
<p>Kalamazoo Area Stormwater Work Group members work together to create educational content for all applicable public education topics. Social media platforms (Facebook, Townsquare Media/Ignite, etc.) are used to educate and to direct residents to a central website (<a href="#">Protect Your Water</a>) for additional information.</p>	<p><b>Goal:</b> Outreach campaign with an average of 20,000 impressions per month, and a click-through rate equal or above the national average.</p> <p><b>Assessment:</b> Screenshots of social media posts are captured. Data analytics are used to determine the number of impressions per month and click-through rate.</p>
<p>The Lake St Clair Water Festival is held annually at Macomb Community College. The festival educates 4th and 5th grade students in the Clinton River, Lake St. Clair, and Anchor Bay subwatersheds.</p>	<p><b>Goal:</b> Participation of at least 1,300 students.</p> <p><b>Assessment:</b> Track the number of students participating each year.</p>

## Overall Evaluation

In addition to providing measurable goals and evaluation for individual BMPs, the applicant also needs to provide the procedure for evaluating and determining the effectiveness of the overall PEP. Overall effectiveness can be measured through broad tools, such as comparisons of social survey results or comparisons of public participation over a period of time. The procedure needs to include a method for assessing changes in public awareness and behavior resulting from the implementation of the PEP and the process for modifying the PEP to address ineffective implementation.

This assessment of the overall PEP is typically conducted as a survey. It may be conducted using a social media platform, a municipal website, by mail, by phone, by text messages, or in person. The application encourages a collaborative PEP approach; therefore, permittees may choose to meet the evaluation requirements by working collaboratively with their partners to develop and implement a watershed-wide effectiveness program.

A survey at the beginning of program implementation can serve as a benchmark for future surveys. Surveys are best utilized at the watershed or regional level. This allows the costs to be shared across the communities that are covered as part of a survey. Probability sampling allows the surveyor to sample a small percentage of the population, and still have a survey that adequately characterizes the population. As an example, the cost to conduct a survey of a municipality would be similar to the cost to survey a watershed that covers multiple municipalities.

Surveys should be carefully developed with the help of a professional trained in the social sciences and statistics. Guidance documents and checklists to help with the development of surveys are also available on the [NPS Program's Social Monitoring and Evaluation website](#).

## Reporting Progress

The MS4 permit requires that the permittee describes the status of compliance with the PEP in the annual progress report. Whether using an individual or collaborative PEP approach, an individual permittee must document in its progress report the status of the public education activities targeted at audiences in its jurisdiction, as well as its participation and contribution. The report should describe the progress made towards achieving the identified measurable goals for each BMP. This information is important to the permittee, to ensure that time and financial resources are best utilized.

Reporting the public education progress might include information like the following:

- Topics addressed and frequency
- Social media post engagement numbers
- Numbers of pieces of informational materials distributed
- Number of workshops or presentations held
- Event participation numbers
- Pet waste disposal signage/baggy stations installed and/or use

Any data collected since the last progress report needs to be included, and older data should also be included for comparison. If the evaluation results indicate that the PEP is ineffective, proposed revisions to the PEP should be included.

The examples presented in this compliance assistance document are for compliance assistance only. Individual permittees should report their actual efforts, which may differ from the examples presented in this document and the associated tables.

If you have any questions regarding PEPs or other aspects of the MS4 application, please contact your [MS4 Compliance Staff Person](#).

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## Appendix 1

### Evaluation Questions

The following questions are from PEP evaluation surveys from MS4s in Michigan and surrounding states. Some or all of these questions may be inserted into the [Stormwater Management Plan \(SWMP\) Template for PEP](#). This template is available for download at the [MS4 webpage](#).

- Do you live in a watershed? (A. yes, B. no, C. don't know)
- How familiar are you with the (insert name) River Watershed and its network of rivers and streams? (A. very familiar, B. somewhat familiar, C. not very familiar)
- Where does the stormwater running off your property drain to? (A. a river, stream, or lake, B. a wastewater treatment plant, C. don't know)
- All storm drains flow to a treatment plant where the stormwater is treated before it goes into a stream or lake. (true/false)
- Which of the following pollutants can be found in stormwater runoff? (A. sediment, B. bacteria, C. nutrients, D. heat, E. oil and grease, F. all of the above)
- Which is an example of stormwater runoff? (A. rainwater running into a storm drain in the road, B. rainwater running off a farm field, C. snowmelt running into storm drains or ditches, D. all of the above, E. A & C only)
- Which of the following do you think are safe to let run into a storm drain? (waste oil (yes/no), paint (yes/no), grass clippings (yes/no), soapy water from washing your car (yes/no), dirty water from a construction site (yes/no), uncontaminated stormwater (yes/no))
- I need to dispose of some old paint thinner. What is the best way to get rid of it? (A. dump it down the drain, B. flush it down the toilet, C. put it in the trash, D. take it to a household hazardous waste drop-off location)
- If a home or business has a septic system, how often should the septic tank be pumped? (A. never, B. every 3 years, C. every 10 years, D. only when it backs up)

Indicate which of the following activities you do at home that improve water quality and benefit the environment.

- Properly dispose of household hazardous waste at drop off location
- Dispose of pet waste properly
- Changed home car washing habits
- Use river-friendly lawn products, such as phosphorus free fertilizer and natural pest control
- Don't dump waste into catch basins/storm drains
- Disconnected downspouts
- Installed a rain barrel
- Installed a rain garden