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NPDES Storm Water Training: Program: Closing Activity Report

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October 2008

**NPDES Storm
Water Training
Program: Closing
Activity Report**

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**NPDES Storm Water Training:
Program: Closing Activity Report**

This report was prepared by the staff of the Great Lakes Environmental Finance Center of the Maxine Goodman Levin College of Urban Affairs, Cleveland State University. Project management and oversight was provided by Daila Shimek, Project Manager. Principal author was Daila Shimek. Editing was provided by Claudette Robey, Assistant Director.

Abstract: This report discusses the outcome and evaluation of the training program conducted by the GLEFC and funded by the Ohio EPA's Office of Environmental Education.

Key Words: program evaluation, storm water regulations, National Pollutant Discharge Elimination System (NPDES), training

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***NPDES Storm Water Training:
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OVERVIEW

The primary goal of this project was to increase the knowledge level of local elected and appointed officials, and local government staff and professionals regarding the National Pollutant Discharge Elimination System (NPDES) Phase II compliance and implementation. There were several specific project objectives indicated in the grant application:

1. Provide local elected and appointed officials with a basic understanding of the NPDES Phase II program so they can make informed decisions regarding compliance with the permit and storm water management program requirements.
2. Educate local elected and appointed officials on the low or no cost resources available to their communities for implementing NPDES Phase II programs.
3. Provide local government staff involved in storm water management compliance activities with practical, “hands-on” tools and training for developing and implementing pollution prevention/good housekeeping, and illicit discharge detection and elimination programs.
4. Provide contractors, construction site inspectors, and appropriate local government employees with the technical expertise to properly install, maintain, and/or inspect sediment and erosion controls at construction sites.
5. Provide developers and engineers with a baseline education on appropriate design and implementation of post construction storm water quality controls.

The summary that follows describes the activities of the Great Lakes Environmental Finance Center (GLEFC) over the course of the grant period.

Key Outcomes

There were several significant outcomes of the grant utilized by the GLEFC:

- It enabled the GLEFC to provide training to more than 360 participants on a variety of NPDES regulations or elements of regulations.
- It started the momentum for the formulation of a northeast Ohio council/consortium of storm water training providers that will be coordinating an agenda of training programs for this region.
- It enabled the GLEFC to assemble a database that can be used by the council/consortium and the GLEFC for marketing future training sessions and communicating important issues.

- It spurred development of a training resource section of the GLEFC website, including a storm water training calendar, all of which will continue to serve as a resource to NPDES communities. (Many of the workshop handouts and videos are posted here).

In addition to the results listed above, there were specific activities completed for each objective listed in the grant application. Details are in the individual objectives sections.

Keys to Success and Future Replication

There were a few elements crucial to the success of this training program. One was identifying and engaging local agencies with the expertise to provide the training early in the program development phase. Staff contacted the soil and water conservation districts (SWCD) and health departments (health districts or boards of health) in Cuyahoga, Lorain, Medina, and Summit counties and provided background on the GLEFC and the purpose of the grant.

Representatives of the northeast district office (NEDO) of Ohio EPA, Chagrin River Watershed Partners, Northeast Ohio Areawide Coordinating Agency (NOACA), the SWCDs, and health departments were invited to a meeting in which the GLEFC explained the purpose of the grant and the meeting. Attendees were asked to discuss the types of storm water services and training they currently provide and the areas of storm water-related expertise within their organizations. GLEFC staff also inquired whether any other groups should be included in the discussions regarding training for the region. This meeting was used as an opportunity for the organizations to suggest topical areas that needed to be addressed, but they were currently unable to provide. This group was solicited to serve as trainers and to assist in the marketing outreach for the training sessions. Representatives of organizations in this group, particularly the Ohio EPA's NEDO, Cuyahoga Soil and Water Conservation District, and the Cuyahoga County Board of Health, were invaluable in the planning and implementation of the training workshops. In cases where an out-of-state expert was brought in for the training workshops, this group also provided guidance on which sessions speakers were needed and who might be best suited to conduct them.

The second element critical to this project's success was developing a marketing database. Due to the expense of postage and assembly of mailings, the GLEFC chose email as its primary means of reaching the target audiences. Through Internet research and phone calls, staff identified mayors or city managers, community engineers, service directors, and other relevant community staff that are affected by NPDES storm water

regulations. Their names and email addresses were added to a database, which was built upon over the course of the project. Participants in the training were added to the database and informed that they would receive communication regarding future training sessions. As mass emails were sent, the database was updated to reflect invalid addresses. The email database has grown to 445. In the future, the GLEFC will incorporate a question on registration forms asking how individuals heard of the training to determine how effective this is as a marketing outreach mechanism.

Another element contributing to the success of the training was keeping the workshops reasonably priced. Only one of the programs was offered free of charge. The remaining ranged from \$15 to \$40 per person. These fees were used to cover food and other costs not eligible under the grant or not included in the grant budget.

Online pre-registration was available for most of the sessions. Despite this, we received a large number by fax. The GLEFC included language on the registration form that registration is only guaranteed upon receipt of payment (by purchase order or check) and space was limited. For one of the training sessions, the GLEFC offered a credit card payment option; however, it was only used by four of 50 registrants. The GLEFC found it useful to have the registration form, which incorporated language that participants would receive a written confirmation that they were registered, and that they should bring the confirmation to the training session. It was also beneficial to have staff check in registrants to ensure that only people who had registered and paid were permitted to attend. To document who attended, staff required each registrant to sign or initial a registration list to next to his or her name. Certificates of participation, which indicated the number of contact hours, were provided at the end of each training session.

Where applicable or relevant, courses included a field component. This allowed participants to apply the classroom instruction to a real world setting. This is particularly useful in construction site inspection, pollution prevention/good housekeeping, and more advanced illicit discharge detection and elimination workshops. Feedback on workshop evaluations indicated that the field component was a valuable part of the training.

The training workshops are more marketable if they are able to satisfy professional organizations' continuing education requirements. Investigating the certifications required for the target audiences is helpful. For example, continuing education courses for Ohio water and wastewater certification must be pre-approved or approved within 30 days of course completion. Certified planners (AICP) must obtain continuing education credits from pre-approved providers or courses. Courses for professional engineers (P.E.), on the other hand, do not need to be pre-approved.

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The GLEFC will continue its work with training through the efforts of the northeast Ohio training consortium/council. The NPDES storm water training program funded by OEEF could be replicated following the model or elements described above.

ACCOMPLISHMENTS, OUTCOMES, AND EVALUATIONS

Objectives 1 and 2: Educate Local Elected and Appointed Officials and Provide Information on Low-or No-Cost Resources

As part of the Great Lakes Environmental Finance Center's (GLEFC) efforts to provide local elected and appointed officials with a basic understanding of the NPDES Phase II program and educate local elected and appointed officials on the low-or no-cost resources available to their communities, GLEFC Project Manager Daila Shimek was among a panel of speakers who presented at the Lorain County Community Alliance (LCCA) meeting on August 3, 2007. The LCCA is a council of governments in Lorain County representing eight townships, four villages, nine municipalities, and 28 associate members (county agencies, non-profits, and local businesses). Other presenters included Dan Bogoevski of the Ohio EPA, Dan Paluch of the Lorain County Solid Waste District, Jim Boddy of the Lorain County General Health District, Pamela Davis and Andy Vidra of the Northeast Ohio Areawide Coordinating Agency (NOACA), and Nancy Funni of the Lorain Soil and Water Conservation District. Presenters discussed NPDES Phase II storm water regulations and what communities could expect during an Ohio EPA compliance audit. There were 43 participants including presenters. The GLEFC provided attendees with a packet of materials on resources available to assist communities with compliance. This included educational handouts from the U.S. EPA. The GLEFC also assembled and distributed a list of storm water compliance resources including contact information for Ohio EPA and various agencies and organizations in Lorain County, and Internet links to other useful resources.

Since two target counties (Cuyahoga and Medina) are served by the NOACA, the GLEFC worked with NOACA's environmental division staff to ensure educational outreach was conducted for public officials at the water quality subcommittee meeting on May 23, 2007.

To help facilitate the purpose of the project, the GLEFC was a sponsor of the 2008 Northeast Ohio Stormwater Conference. The sponsorship contribution was used specifically in securing a speaker. This two-day conference provided a keynote address and 50 workshops addressing a broad range of storm water regulation-related topics for more than 150 participants (393 including attendees, exhibitors, speakers, and sponsors) representing 67 of Ohio's NPDES Phase I and Phase II communities. Of these participants, 40 percent that responded to the conference evaluation were a target audience for the GLEFC training program: 20.4 percent represented local government and 19.6 percent county government.

Of the participants responding to the evaluation of the conference,

- 95.3 percent indicated that their understanding of storm water management (e.g. practices, technology, education, policy, or finance) increased as a result of the conference,
- 94.6 percent indicated that they intended to apply the knowledge in their work related to storm water management,
- 93.2 percent indicated that their ability to access resources (e.g. people, information, tools, and/or technologies) relevant to their work with storm water management would increase as a result of this conference,
- 92.6 percent indicated that they would apply new perspectives in their work and/or decision-making as a result of their interactions with others at this event.

In addition to the aforementioned activities, videos and presentation handouts from various training sessions have been posted on the GLEFC website at http://urban.csuohio.edu/glefc/training/training_materials.shtml. The GLEFC web pages host a northeast Ohio storm water training calendar, on which organizations can post upcoming workshops. The web pages also include a list of resources for storm water compliance. In February 2008, the GLEFC sent an email to the marketing database (359 people at that time) with an explanation of the resources and materials available and the web page link.

Objective 3: Provide Tools and Training for Developing and Implementing Pollution Prevention/Good Housekeeping and Illicit Discharge Detection and Elimination Programs

Illicit Discharge Detection and Elimination Programs

The training program titled, “How to Set Up an NPDES Storm Water Phase II Illicit Discharge Detection and Elimination Program in Your Community” was completed in July 2007. A representative from the Cuyahoga County Board of Health presented this 2.5-hour training program, which provided guidance on setting up and implementing an illicit discharge detection and elimination program. In addition to the training, a video of the training session and related training materials are posted on the GLEFC website. Marketing efforts included email distribution of flyers to the database.

Staff emailed questionnaires to participants several months after the training to allow participants time to apply the materials in their jobs. A copy of the questionnaire is included as an appendix. Overall, the training was well received. All respondents indicated that the training, materials, and handouts were useful in their daily work and in helping them understand and meet storm water permit requirements. Further, all respondents felt the course met their expectations. For example, one respondent commented, "The Illicit Discharge Detection and Elimination Manual and CD provided by the Cuyahoga County Board of Health were invaluable. The short and sweet nature of this presentation made it easy to stay focused and interested." The evaluation response rate for this training session was 39 percent. Most respondents represented a city or village.

Pollution Prevention/Good Housekeeping

In order to assist local communities in the preparation of a pollution prevention/good housekeeping program, the GLEFC developed a template of a municipal facilities/operations (storm water) pollution prevention/good housekeeping program. Three printed copies and digital copies (on disk in Microsoft Word and Adobe Acrobat format) of this template have been provided to the Office of Environmental Education. The disk includes additional resources on pollution prevention. Hard copies were also provided of the template and resources.

The template was based on a program developed by Summit County, Ohio and has undergone review by Dan Bogoevski of Ohio EPA's northeast district office. As a mechanism for evaluating this tool, it was used as one of the primary training materials for the pollution prevention/ good housekeeping training held in August 2008. This session included both classroom and field training, which was held at the city of Middleburg Heights, Ohio service facility. There were 56 participants in the classroom portion of the training; approximately 30 of these attended the field training. Participants and trainers, after being separated into three smaller groups, walked the facility as trainers identified the critical areas to be examined and potential issues that should be addressed when preparing and implementing a municipal storm water pollution prevention plan/program.

Participants in this training were asked to complete an evaluation; 17 evaluations were returned. All respondents indicated that the course met their expectations. In addition, the respondents provided the following evaluation of the training, materials, and handouts:

- Fifteen (88%) expected these to be very useful or useful in their daily work
- Sixteen (94%) found these to be very useful or useful in helping them understand and meet storm water permit requirements

- Sixteen (94%) found these to be useful in helping them understand how to develop and implement a municipal storm water pollution prevention plan

The GLEFC plans to post the video from this training, along with the handouts, on the GLEFC training web page.

Objective 4: Provide Training on Installation, Maintenance, and Inspection of Sediment and Erosion Controls to Contractors and Municipal Construction Site Inspection Staff

Although the site inspection training was initially envisioned as a single session, feedback from the other training partners swayed the GLEFC into offering a separate training for municipal staff (regulators) and contractors (regulated community). This provided an environment in which each group could openly ask questions about areas that were unclear.

Session for Municipal Staff

On September 25, 2007 and September 26, 2007, the GLEFC held inspection training for municipal construction site inspection staff. This included both classroom and field training components. While the field training proved to be a beneficial component of the training, to ensure its success it was necessary to limit the number of participants to approximately 25 each day.

Marketing efforts included distribution of 170 flyers in August and early September: 153 by e-mail, 17 by fax. This training was also promoted on the Loraincounty.com and the LCCA websites. Marketing efforts yielded 25 participants at the September 25 training and 26 participants at the September 26 training, not including speakers and staff. During the two days, there were participants from 16 communities or agencies from Cuyahoga County, five from Lorain County, one from Mahoning County, two from Medina County, one from Stark County, and one from Summit County. There were also five participants from private firms and three staff members from the GLEFC present at the training. Instructors included Todd Houser of the Cuyahoga Soil and Water Conservation District (SWCD) and Dan Bogoevski of the Ohio EPA. Two additional staff members from the Cuyahoga SWCD, Lisa Vavro and Patricia Hughes, assisted in the onsite portion of the training.

The 7.5-hour course was designed to train local and county regulatory enforcement inspectors and others contracted to perform regulatory work so they can accurately inspect land disturbance areas for compliance with state erosion and

sedimentation laws. The course covered several topics such as the role of the inspector; erosion, sediment and pollution control planning and review; and local program overview criteria.

Trainers provided an overview of the background of the NPDES program with special emphasis on problems and solutions specific to municipalities and construction activities, including requirements of the Ohio EPA General Permit for construction activity; requirements for storm water pollution prevention plans; and recommendations on construction practices and contract documents. The first half of the training was in a classroom setting; the afternoon portion was held at four construction sites.

Staff video-recorded the field/onsite portion of the September 25, 2007 and September 26, 2007 sessions, which were posted on the GLEFC website. The field component provided an opportunity for participants to apply what they learned during the classroom portion of the training in a “real world” setting (a construction site). Instructors discussed the sediment and erosion controls used at the site, what was or was not appropriate for this type of site, whether the controls appeared to be working, and what installation or maintenance issues were observed.

Although there was only one inspection training session initially scheduled for this audience, demand for the program was so great that a second session was scheduled. Even with the addition of the second session, at least 20 were turned away due to capacity limitations. To assist these communities, the GLEFC has distributed information on similar Ohio EPA workshops to its marketing database and is working to develop additional workshops on this topic.

To evaluate the training session, staff emailed questionnaires to participants several months after the training to allow them time to apply the materials in their job. A copy of the questionnaire is included as an appendix. All respondents considered the workshop, materials, and handouts to be useful in their daily work and deemed it useful in helping them understand and meet storm water permit requirements. All but two respondents felt the course met their expectations. The response rate for this training evaluation was 26 percent. An overwhelming majority of participants were city employees (a target audience). Several respondents suggested that future trainings include fewer site visits (e.g., one or two).

Session for Developers, Contractors, and Other Members of the Private Sector

In March 2008, the GLEFC sponsored the workshop, “Understanding Ohio EPA Storm Water Permit Requirements for Construction Activity.” This six-hour workshop was targeted at contractors, builders, site superintendents, developers, site designers,

grading and utility contractors, engineers, and inspection/monitoring consultants. It focused on compliance issues related to the NPDES storm water permit for construction sites, including proper installation and maintenance of best management practices (BMPs). Trainers also discussed storm water permit requirements for self-inspection of sediment and erosion controls. Finally, instructors explained which construction sites need permits and who is responsible during various phases of construction/site development. There were 54 participants and seven staff/speakers.

An evaluation was provided to each participant and collected at the end of the training session. Approximately 57 percent were returned. The feedback in the evaluation was generally positive. All respondents indicated that the course met their expectations. Participants were asked to rate the training, materials, and handouts in terms of their impact and usefulness. Twenty-eight (76%) of the respondents indicated that these were useful or very useful in terms of their daily work. Thirty-two (86%) indicated that these were useful or very useful in helping them understand and meet storm water permit requirements. Seventy percent (25) indicated that the training, materials, and handouts were useful in terms of helping them read or evaluate storm water pollution prevention plans. Additional feedback from the training session evaluation is located in Appendix C.

Objective 5: Provide Training on Post Construction Control Design and Implementation to Developers and Engineers

On October 25, 2007 and October 26, 2007, the GLEFC held another technical training session “Proven Post Construction Storm Water Practices for Small Drainage Areas.” Approximately 154 flyers promoting the workshop were distributed via e-mail to a database of storm water program managers, engineers, and local elected and appointed officials. The October workshop was also promoted by the Cuyahoga Soil and Water Conservation District on its website. The GLEFC attempted to coordinate with the Ohio County Engineers Association (CEA) to promote the October 25-26, 2007 training sessions. However, the Ohio CEA indicated that they were not interested in promoting these events.

Engineers, landscape architects, storm water managers, land surveyors, and regulators were the target audience for this 6.5-hour training session. A primary focus was to provide general design guidance on bioretention, including cold climate considerations. The workshop also presented specific case studies (the good, the bad, and the ugly) and discussed low impact development including “enhanced swales” (those that incorporate wetland and/or bioretention design features). The session was

conducted primarily by Dr. Bill Hunt of North Carolina State University's Department of Biological and Agricultural Engineering, with assistance from Dan Bogoevski of the Ohio EPA, Todd Houser of the Cuyahoga Soil and Water Conservation District, Leonardo Sferra of the GPD Group, Barb Holtz from Ohio Prairie Nursery Ltd., and Daniel Neff and Brian Uhlenbrock of Neff & Associates. There were a combined 85 participants between the October 25, 2007 and October 26, 2007 workshops. This included 49 representatives from municipalities or other government entities, 31 from private firms, GLEFC staff members, and speakers.

Staff used a brief online questionnaire to assess the effectiveness of its training workshops and outreach efforts, and determine how useful the participants found the workshop. This was done several months after the training to allow participants time to apply the materials in their jobs. Though the topic was the most technical of the sessions, all respondents found the training, materials, and handouts useful in their daily work and all felt it was useful in helping them understand and meet storm water permit requirements. In addition, all respondents indicated the course met their expectations. Due to a low initial response, the survey was sent to participants a second time resulting in an overall response rate of 10 percent. A copy of the questionnaire is included as an appendix.

Storm Water Treatment Best Management Practices Presentation

In May 2008, the GLEFC was a sponsor of the Northeast Ohio Stormwater Conference. The sponsorship contribution was used specifically in securing a speaker, James Houle from the University of New Hampshire Stormwater Center, to present, "Performance Evaluations for a Range of Stormwater Low Impact Development, Conventional Structure and Manufactured Treatment Devices in a Cold Climate." There were approximately 55 participants at the training session, which presented a suite of 19 separate storm water treatment best management practices that were evaluated for a range of water quality performance and storm volume reduction.

Following the seminar, participants were asked to evaluate the program. Of the attendees, 31 completed the survey. The results reflect an overall benefit to having provided the program. Regardless of their role related to storm water management, all respondents felt as that the session increased their understanding of storm water issues, while all but one respondent stated that she/he intends to apply the knowledge from the session to their storm water related work. Eighty-seven percent of all respondents to the evaluation were very satisfied or very highly satisfied with the content and presenter; 90 percent were very satisfied or very highly satisfied with the format of the presentation.

Participants with Technical Backgrounds

Of the 31 respondents, 58 percent had technical backgrounds (the target audience for this training session) including design of storm water facilities. Fifteen of the 18 (83%) were very satisfied or very highly satisfied with the content and format of the material, the presenter, and the facility in which it was held. The remaining three respondents were satisfied with the content.

Additional Activities

In the first reporting period, staff collaborated with the members of original (Lorain County) steering committee regarding the training curriculum, potential instructors and local resources on at least three occasions. In addition to the original group in Lorain County, the list of collaborators expanded to include representatives from Cuyahoga, Medina, and Summit County Soil and Water Conservation Districts (SWCD), county health districts, a few watershed groups, the Natural Resources Conservation Service, Ohio EPA, and the northeast Ohio metropolitan planning organization.

In April 2007, staff attended a meeting of the Northeast Ohio Public Involvement/Public Education (NEOPIPE) group to conduct outreach regarding future training and solicit the members' opinions on potential speakers. Staff also conducted an internal coordination meeting and met with the Cuyahoga County Soil and Water Conservation District (SWCD). Staff also began calling regional storm water training providers and related service providers including SWCD, health districts, and watershed groups to coordinate a meeting regarding storm water training. In May 2007, staff met with 14 regional storm water training providers (including a representative from the Ohio EPA. As an aftermath of the initial meeting on May 11, 2007, a representative of Northeast Ohio District Office of the Ohio EPA and other northeast Ohio storm water training providers have agreed to meet regularly to coordinate training efforts.

On September 13, October 3, October 17, and December 14, 2007, GLEFC staff attended meetings to coordinate training activities (including the northeast Ohio storm water conference) with other northeast Ohio storm water training providers. In May 2008, GLEFC staff participated in meetings at Ohio EPA's NEDO to discuss bringing in speakers to coordinate professional storm water-related certifications. The consortium of northeast Ohio training providers met on August 11, 2008 and September 8, 2008.

On September 24, 2008 and October 28, 2008, GLEFC staff facilitated strategic planning sessions with seven members of the northeast Ohio training consortium.

APPENDICES

Appendix A Timeline of Key Activities

Appendix B Evaluation Questionnaire

Appendix C Feedback From Training Sessions

Appendix D Future Training Needs

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Appendix A: Timetable of Key Activities

Month/Year	Key Activities
March 2007	GLEFC staff met with staff members in environmental planning at the Northeast Ohio Areawide Coordinating Agency (NOACA) to discuss coordinating future training events and identify what other stakeholders should be brought into meetings on storm water training.
April 2007	GLEFC staff attended a meeting of the northeast Ohio public involvement/public education (NEOPIPE) group to conduct outreach regarding future training and solicit the members' opinions on potential speakers. Staff also conducted an internal coordination meeting and met with the Cuyahoga County Soil and Water Conservation District (SWCD). Staff also contacted regional storm water training providers and related service providers including SWCD, health districts, and watershed groups to coordinate a meeting regarding storm water training.
May 2007	Staff met with fourteen regional storm water training providers (including a representative from the Ohio EPA northeast district office) to collaborate on training needs and resources for the region. GLEFC worked with the environmental division staff at NOACA (represents Cuyahoga, Geauga, Lake, Lorain and Medina counties) to ensure educational outreach was conducted for public officials at its May 2007 water quality subcommittee meeting.
July 2007	Sponsored "How To Set Up An Illicit Discharge Detection And Elimination Program" workshop - 25 participants.
August 2007	Provided overview presentation on storm water regulations at the Lorain County Community Alliance (LCCA) meeting – 36 participants.
September 2007	Sponsored "Inspection Training For Municipal Construction Site Inspection Staff" workshop – 51 participants. GLEFC staff attended a meeting to coordinate training activities (including the northeast Ohio storm water conference) with other northeast Ohio storm water training providers.
October 2007	Sponsored "Proven Post Construction Storm Water Practices For Small Drainage Areas" workshop – 85 participants. GLEFC staff attended two meetings to coordinate training activities (including the northeast Ohio storm water conference) with other northeast Ohio storm water training providers.
December 2007	GLEFC staff attended a meeting to assist in coordinating the northeast Ohio storm water conference.
March 2008	Sponsored "Understanding Ohio EPA Storm Water Permit Requirements for Construction Activity" workshop – 54 participants and 7 staff/speakers.
May 2008	Sponsored presentation, "Performance Evaluations for a Range of Stormwater Low Impact Development, Conventional Structure and Manufactured Treatment Devices in a Cold Climate" at Northeast Ohio Stormwater Conference – approximately 55 participants.
August 2008	Sponsored "Developing a Municipal Pollution Prevention/Good Housekeeping Program" workshop to introduce and distribute model Municipal Facilities/Operations Pollution Prevention/Good Housekeeping Program, Municipal Storm Water Toolbox for Maintenance Practices, and Toolbox Talks documents — 56 participants.

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Appendix B: Evaluation Questionnaire

- 1. Did this course meet your expectations? Yes No
- 2. Was the field/on-site portion of the workshop helpful? Yes No
- 3. Using the scale below, please rate the training, materials and handouts in terms of its impact and usefulness. Please circle your response in the table below.
 - 5 - Very useful
 - 4 - Useful
 - 3 - Moderately useful
 - 2 - Of little use
 - 1 - Not useful at all

	Rating				
A. Useful in your daily work	1	2	3	4	5
B. Useful in helping you understand and meet storm water permit requirements	1	2	3	4	5
C. Useful in helping you understand how to develop or implement a municipal storm water pollution prevention plans	1	2	3	4	5

- 4. What is the most important thing you learned during the training?
- 5. What recommendations, if any, would you offer on how to improve the training or make it more useful?

- 6. What other topics related to the storm water training would you like to see offered locally? (please specify):

7. Please select one of the following that best describes your current primary position:

- Consultant
- Engineer
- Service department supervisor or employee
- Utility department supervisor or employee
- Parks agency/department supervisor or employee
- Other (please specify): _____

8. Number of years of experience in the field?

- Less than 2 years
- 2 - 5 years
- 6 -10 years
- 11 - 20 years
- More than 20 years

9. Please indicate the type of organization you represent.

- Private company
- Public sector
- Other (please specify): _____

Appendix C: Feedback From Training Sessions

Table 1: Summary of Responses Related to Satisfaction with July 2007, September 2007, October 2007, March 2008, and August 2008 Workshops

Workshop date	Training, materials, and handouts were:						Course Met Expectations		
	Useful in your daily work			Useful in helping you understand and meet storm water permit requirements					
	3	4	5	3	4	5	Yes	No	NR
July 2007	0	5	2	0	4	3	6	0	1
September 2007	4	0	8	6	4	2	10	2	0
October 2007	1	3	2	0	5	1	6	0	0
March 2008	9	17	11	5	13	19	31	0	0
August 2008	2	7	8	1	8	8	17	0	0
Totals	5	8	12	6	13	6	22	2	1

NOTE: The scale was from 1 to 5, where 1 meant not useful at all and 5 meant very useful. No respondents rated the above workshops 1 or 2.

Table 2: Summary of Responses Related to Satisfaction with May 2008 Session

	Not at all satisfied	Somewhat satisfied	Satisfied	Very satisfied	Very highly satisfied
Content	0	0	1	3	13
Format	0	0	3	18	10
Presenter	0	1	3	17	10

Table 3: Summary of Responses Related to Application and Understanding of May 2008 Session

Question	Yes	No
Did your understanding of storm water issues increase?	31	0
Do you intend to apply this knowledge in your work?	30	1
Will you now consider new points of view when making storm water decisions?	31	0

Workshop Evaluation - March 20, 2008 Understanding Construction Site Regulations and Site Inspection Requirements

1. Did this course meet your expectations? Yes (31) No (0)

2. Using the scale below, please rate the training, materials and handouts in terms of its impact and usefulness. Please circle your response in the table below.

5 -	Very useful (4)
4 -	Useful (7)
3 -	Moderately useful (1)
2 -	Of little use (0)
1 -	Not useful at all (0)

	Rating				
	1	2	3	4	5
D. Useful in your daily work	0	0	9 or 24%	17 or 46%	11 or 30%
E. Useful in helping you understand and meet storm water permit requirements	0	0	5 or 14%	13 or 35%	19 or 51%
F. Useful in helping you understand how to read or evaluate storm water pollution prevention plans	0	2 or 6%	9 or 25%	11 or 31%	14 or 39%

3. What is the most important thing you learned during the training?
 - Requirements of SWP3
 - Types of non-sediment pollutants and prevention
 - The information presented helped me to better understand the impact of construction upon the natural environment. It also helped to recognize best management practices versus poor practices
 - The SWPMA procedures and practices, runoff, erosion control, control methods, etc.
 - Theory behind many stormwater management practices
 - When to use which control device
 - How to keep area streams clean
 - How the permitting applies to my agency
 - Overall educational

- Plan reviewing
 - Understand stormwater requirements
 - Erosion and sediment control
 - NPDES and SWP3 permit requirements
 - Examples of what controls work and don't work
 - Additional information resources
 - That there is plenty of information and help available to assist in planning before construction activity begins
 - Different ways to use BMP
 - Permits requirement
 - EPA requirements and responsibilities
 - Different requirements of the NPDES requirements
 - Appropriate uses of specific types of controls, the examples were excellent
 - Compliance requirements
 - Thank you for the heads up on new regulations
 - Have a separate SWP3 drawing in project – group idea
 - New EPA NPDES permit requirement changes
 - SWP3 diagram
 - Control topics
 - Temporary stabilization and post construction BMPs
 - What needs to be in SWPPP
 - Requirements to be used and or how Dan or Todd would deal with it
 - What good and bad SWP3 controls look like
 - How to make SWP3s more useful or meaningful...i.e., when, what, where, and how.
 - The environment matters
 - My view point is different than most in the class. It provided an understanding of the details many of our development clients are responsible for plus an idea of their workmanship when we personally visit the job site.
 - General overall view/good
 - Great overview of NPDES requirements for local codes and regulations
 - Awareness
4. What recommendations, if any, would you offer on how to improve the training or make it more useful?
- Construction site visits in better weather would be helpful
 - Generally, I thought the information was presented in an easy to understand manner. Handouts were very helpful and good for later reference
 - Classroom temperature control

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- More engagement with attendees, get their input and issues
- Definitely should have hands-on learning
- Go to site to physically see and learn
- Provide all handouts in book prior to class starting
- Start end earlier
- Be more in depth on inspection and forms used for inspection
- Facility selection
- Could not see ¾ of projection screen from the back of the room
- Difficult to hear
- None
- Hand out hard copies of presentation along with binders before starting
- Point out which one the speaker is using
- On site tours
- In the beginning of class, give an overview of Northeast Ohio's, or Ohio's watershed flow to the Ohio river
- Short classes
- Split up
- Get info to other trades
- Silt fence is always being destroyed
- 4 slides per page and in color or PDF or material for easier reference and legibility
- None, but get us on a construction site
- Spend more time on plan review
- None, good class
- I would like this course set up to cover same material but targeting engineers and designers instead of contractors
- Difficult to see screen
- Back lighting on speakers caused glaring
- Handouts were reduced to level you could not read
- Offer the training during the time of the year when the weather would allow an actual site visit
- Have an earlier start time and an earlier end time
- Too bad no on-site instruction
- All info very useful
- Site visits, less lectures
- None at this time
- All good
- More design examples
- Have a contractor speak to listen to their perspective

- Start and end earlier
 - An agenda with timeline would be helpful
 - None
 - Mandate general contractors to attend courses for NPDES. SWP3, BMPs, and consequences as pre-requisite to register with any municipality in the state. Must provide OEPA certificate of attendance with registration application, bond, and certificate of insurance, make it part of the package.
 - Good session for contractors and builders
 - Are any sessions planned for further west – Lorain or Sandusky areas.
 - Alternatives to existing sites?
 - Phases that are already approved by municipalities but not built yet because of the economy
5. What other topics related to the storm water training would you like to see offered locally?
- (22 or 59%) Construction site inspection of storm water controls (refresher course or more advanced)
 - (19 or 51%) How to review or interpret storm water pollution prevention plans (refresher course or more advanced)
 - (5 or 14%) Other (please specify):
 - Establishment of local construction site inspection program – a “how to” seminar with NE Ohio Examples and case studies with SWCD’s and local communities
 - Industry SWP3 plans
 - Post construction BMPs for linear projects such as roads, paved trails, through woodlands/vegetated properties
 - In depth look at what review agencies expect – checklist
 - Last session covered
 - Actual on-site
 - Public sector – permits/requirements involved for debris removal (restrictions) in drainage channels and streams
 - Good housekeeping
 - Illicit discharge
 - Presenters very good!
 - Stormwater control from construction sites and/or urban areas not public park land

6. Please indicate the most convenient times for training. (check all that are appropriate)
- During the day (Monday through Friday)
 - (29 or 78%) Mornings
 - (16 or 43%) Afternoons
 - (2 or 5%) Evenings
 - (3 or 8%) Weekends (Saturday, Sunday)
 - (6 or 16%) Weekdays during the off season: _____ (month) to _____(month).
7. Please select one of the following that best describes your current primary position:
- (3 or 8%) Contractor, site superintendent or construction supervisor
 - (2 or 5%) Builder
 - (2 or 5%) Developer
 - (9 or 24%) Site designer or engineer
 - (2 or 5%) Grading/excavation contractor
 - (1 or 3%) Utility contractor
 - (9 or 24%) Inspection/monitoring consultant
 - (13 or 35%) Other (please specify): Chief of Parks, building inspector, government, park manager, banker-commercial/residential construction lending, building commissioner/zoning and flood plan administer, local government, manufacturing, local park district engineer, park manager, public service operations, storm WMP – committee member, park manager.
8. Number of years of experience in the field?
- (1 or 3%) Less than 2 years
 - (7 or 19%) 2 - 5 years
 - (6 or 16%) 6 -10 years
 - (10 or 27%) 11 - 20 years
 - (11 or 30%) More than 20 years
9. Please indicate the type of organization you represent.
- (15 or 40%) Private company
 - (18 or 49%) Public sector
 - (4 or 11%) Other (please specify): self improvement/understanding, private consulting firm representing local municipalities, bank, ready-mix concrete.

Evaluation Summary: May 2008 Storm Water Treatment Best Management Practices Presentation

The Great Lakes Environmental Finance Center at Cleveland State University sponsored a seminar evaluating 19 separate storm water treatment best management practices (BMPs) for a range of water quality performance and storm volume reduction by James Houle from the University of New Hampshire Stormwater Center. The presentation addressed storm water low impact development, conventional structure and manufactured treatment devised in a cold climate

Following the seminar, participants were asked to evaluate the program. Of the estimated 55 people in attendance, 31 completed the survey. The results reflect an overall benefit to having provided the program. Regardless of their role related to storm water management, all respondents felt as if they felt that the session increases their understanding of storm water issues, while all but one respondent stated that she/he intends to apply the knowledge from the session to their storm water related work. Eighty-seven percent of all respondents to the evaluation were very satisfied or very highly satisfied with the content and presenter; 90 percent were very satisfied or very highly satisfied with the format of the presentation.

Participants with Technical Backgrounds

Of the 31 respondents, 58 percent had technical backgrounds (the target audience for this training session) including design of storm water facilities. Fifteen of the 18 (83%) were very satisfied or very highly satisfied with the content and format of the material, the presenter and the facility in which it was held. The remaining three respondents were satisfied with the content.

Other Participants

Respondent, other than those identifying themselves as have a technical background, responded to the evaluation as follows.

- Nine of the 31 (29%) respondents operate and maintain storm water systems. All of which were very satisfied or very highly satisfied with the content and format of the material, the presenter and the facility in which it was held.
- Nine of the 31 (29%) respondents enforce storm water policy and regulations. Seven of the nine were very satisfied or very highly satisfied with the content and format of the material, the presenter and the facility in which it was held.

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- Seven of the 31 respondents educate and train others on good storm water practices. All of which were very satisfied or very highly satisfied with the content and format of the material, the presenter and the facility in which it was held.
- Four of the 31 respondents establish storm water policy and regulations. All of which were very satisfied or very highly satisfied with the content and format of the material, the presenter and the facility in which it was held.
- One of the 31 respondents attended the sessions based on personal choices. This respondent was very satisfied with the content and format of the material, the presenter and the facility in which it was held.

Workshop Evaluation – August 7, 2008 Developing a Municipal Pollution Prevention/Good Housekeeping Program

1. Did this course meet your expectations? Yes (17) No (0)
2. Was the field part of the workshop helpful? Yes (14) No (0)
3. Using the scale below, please rate the training, materials and handouts in terms of its impact and usefulness. Please circle your response in the table below.

5 -	Very useful
4 -	Useful
3 -	Moderately useful
2 -	Of little use
1 -	Not useful at all

	Rating				
	1	2	3	4	5
G. Useful in your daily work	0	0	2 or 12%	7 or 41%	8 or 47%
H. Useful in helping you understand and meet storm water permit requirements	0	0	1 or 6%	8 or 47%	8 or 47%
I. Useful in helping you understand how to read or evaluate storm water pollution prevention plans	0	0	1 or 6%	5 or 31%	10 or 63%

4. What is the most important thing you learned during the training?
 - Available resources for help
 - The need to train service workers
 - We have a lot of work to do
 - Best management practices
 - OEPA rules and regulations
 - EPA checks
 - To start storm water [pollution] prevention
 - To inspect facilities at least quarterly & map facilities
 - What we were doing wrong
 - Easiest thing to do is clean up right after the spill, do not wait

5. What recommendations, if any, would you offer on how to improve the training or make it more useful?
- Have more employees come to the training
 - Provide hazardous material list along with hazardous material handling facilities and their appropriate contact information
 - Some speakers must talk louder
 - None (11)
 - Avoid redundancy of presentations
6. What other topics related to the storm water training would you like to see offered locally?
- New 2008 requirements for all minimum control measures
 - Any pertaining to storm water management
 - Thanks for putting this on the website. It will make it easier to train employees.
 - Involve people who do this on a daily basis.
 - Developing storm water utilities
 - Post construction
 - Public information/public education
7. Please select one of the following that best describes your current primary position:
- (7 or 41%) Engineer
 - (6 or 35%) Service department director
 - (4 or 23.5%) Other (please specify):
8. Number of years of experience in the field?
- (2 or 12.5) Less than 2 years
 - (0) 2 - 5 years
 - (4 or 25%) 6 -10 years
 - (3 or 19%) 11 - 20 years
 - (44 or 7%) More than 20 years
9. Please indicate the type of organization you represent.
- (2 or 12%) Private company
 - (15 or 88%) Public sector

Appendix D: Future Training Needs

The Great Lakes Environmental Finance Center (GLEFC) used a brief questionnaire to assess perceptions of workshop participants of the future training needs. Participants were asked to select topics from a list and/or specify additional topics not included. As Table 4 below indicates, “Construction Review and Inspection Process” and “Review SWP3” were the highest in demand. “Public Education” and “Public Involvement” were not too far behind.

Table 4: Potential Topics for Future Storm Water Training Sessions

OTHER STORM WATER TRAINING PARTICIPANTS WOULD LIKE OFFERED LOCALLY	
Topic	# Interested
Construction Review and Inspection Process	21
Review SWP3	16
Public Education	11
Public Involvement	10
Construction Site Inspection	9
Post Construction	9
Illicit Discharge Program	6
Other	5

Note: Other topics include: Construction site ‘concrete wash out,’ Issues and concerns, what are the guidelines and who enforces them?; Post construction BMP inspection process (2); Ways to simplify the SWP3 process; Wetlands as post const. practices

Methodology

The storm water training evaluation was sent to each of the 141 training participants who provided an email address. Unfortunately, 16 of these email addresses were “undeliverable,” but the survey still reached 125 of the 161 training participants. Of this number receiving surveys, we received 25 responses, for an overall response rate of 20 percent.

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Table 5: Storm Water Training Evaluation Statistics

Training	# Training Participants	# Evaluations Sent ¹	# Respondents	Response Rate	Undeliverable Email Addresses
July	25	18	7	39%	6
September	51	47	12	26%	5
October	85	60	6	10%	5
Totals	161	125	25	20%	16

Note:
1. Number of evaluations sent to participants has been adjusted for undeliverable addresses

Example of email sent to participants:

Subject: July (September or October) 2007 Storm Water Training Evaluation

Thank you for attending Illicit Discharge Detection and Elimination Program Training in July 2007 provided by the Great Lakes Environmental Finance Center (GLEFC) at the Maxine Goodman Levin College of Urban Affairs at Cleveland State University.

We hope that you've had the opportunity to apply the training in your job. We are interested in your feedback on how helpful you found the training and would appreciate if you complete the following evaluation:

http://urban.csuohio.edu/glefc/training/storm_water_evaluation.shtml

If you have any questions, please contact me at 216-687-9221 or d.shimek@csuohio.edu.

Thank you for your time and comments,

Daila Shimek, AICP
Project Manager
Center for Public Management and Great Lakes Environmental Finance Center
Maxine Goodman Levin College of Urban Affairs
Cleveland State University