

# **Public Information and Education (PIE) Plan and Public Involvement/Participation Program**

PIE Plan for TN NPDES General Permit for Discharges from Small  
Municipal Separate Storm Sewer Systems (MS4), Permit No. TNS075582

*Revised 1.29.2024*

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## Introduction

The Public Information and Education (PIE) Plan is a requirement of the State of Tennessee NPDES General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4), (hereafter referred to as the “NPDES permit”). Coverage under this permit was granted to Knox County on February 1, 2023. The requirements of the PIE Plan are listed in section 4.2.1 of the NPDES permit.

The Public Involvement/Participation Program is also a requirement of the NPDES Permit. The County must develop and implement a plan to publicize public involvement and participation opportunities by methods designed to reach the intended audience as described in section 4.2.2 of the NPDES permit (and listed above). Public Education and Outreach and Public Participation/Involvement are commonly referred to as Minimum Control Measure (MCM) 1 & 2 respectively.

Although outside the scope of permit-required public education and involvement activities, our education program benefits from our Watershed Initiatives Program. These initiatives include targeted educational activities in watersheds identified for 319 grant projects with the goal of removing that watershed or contributing waterbodies from the Tennessee List of Impaired and Threatened Waters. Such activities include audience-specific events (e.g., farmers breakfasts, public meetings, etc.), social media, direct-mailer campaigns, and presence at tabling events in the targeted watershed. These projects enable us to reach more varied audiences and to target watershed-specific pollutants in our education efforts.

Due to the interconnected nature of the Public Education and Outreach and Public Participation/Involvement, our PIE plan also incorporates elements of our Participation/Involvement Program.

## Goals and Objectives

The NPDES permit states that the objective of the Public Education and Outreach Program is to reduce or eliminate behaviors and practices that cause or contribute to the impacts of stormwater discharges on water bodies and promote the steps that the audiences can take to reduce pollutants in stormwater runoff to the maximum extent practicable. This program will be designed to reach three major audiences: (1) the public, (2) the engineering and development community, and (3) employees.

The objective of the Public Involvement/Participation Program is to promote, publicize, and facilitate citizen participation in the development and implementation of the stormwater management program in order to reduce the discharge of pollutants to the maximum extent practicable. This program will be designed to reach two major audiences: (1) the general public and (2) the commercial and development community.

Knox County's Public Information and Education (PIE) Plan includes:

- a) Specific public information/education activities that are designed to meet the management measure (further described as they pertain to each of the three major audiences)
- b) Identification of job categories and applicable management measures for employee education
- c) Schedule/calendar of events for each year; and
- d) Methodology to evaluate components to assess overall effectiveness and the need for improvement.

The goal of both the PIE Plan and the Public Involvement/Participation Program is to implement a strategy that is most likely to have significant positive stormwater impacts. The objectives for the PIE Plan and the associated methods used to involve the public are to 1) increase audience knowledge about steps that they can take to reduce and prevent stormwater pollution and 2) increase audience knowledge of the hazards associated with improper disposal of materials and illegal discharges.

As reflected in this PIE plan, the County will provide both general information on the impacts of stormwater discharges to local water bodies and outline steps the public can adopt to reduce pollutants in stormwater runoff. In addition to general educational campaigns, Knox County will conduct more targeted informational campaigns for specific water resources, audiences, and pollutants located with the MS4 jurisdiction. The public education and outreach requirement of the NPDES permit allows the County to serve in the role of educator, in addition to conducting compliance inspections and physical maintenance activities. Knox County's education and outreach program is based on the understanding that awareness of positive and negative behaviors can empower the citizens of this county to improve the quality of stormwater flowing from their site. If Knox County can demonstrate that it is promoting awareness through the education and outreach program, in tandem with the other NPDES permit requirements, then the County will have implemented a stormwater management program to the maximum extent practicable standard as required by law.

Knox County began implementing a public education program in 2003 with the issuance of the first NPDES permit. To date, the County has a robust education and outreach program that includes many of the required elements of the NPDES permit. This PIE plan incorporates existing activities and provides for the additional required elements in the current NPDES permit.

## NPDES Permit Target Audiences and Management Measures: Public Education and Outreach

### **Public**

Required number of activities: 6 per year.

Management measures:

Knox County will work to raise:

- a) General awareness of the impacts on water quality;
- b) Awareness of the importance of maintenance activities for operators of permanent Best Management Practices (BMPs)/Stormwater Control Measures (SCMs);
- c) Awareness of the proper storage, use, and disposal of pesticides, herbicides, fertilizers oil and other automotive-related fluids; and
- d) Awareness of identifying and reporting procedures for illicit connections/discharges, sanitary sewer seepage, spills, etc.

### **Engineering and Development Community**

Required number of activities: 2 per year.

Management Measures:

Knox County will work to raise:

- e) Awareness of the stormwater ordinances, regulations, and guidance materials related to long-term water quality impacts; and
- f) Awareness of stormwater ordinances, regulations, and guidance materials related to construction-phase water quality impacts.

### **Employees**

Employees must be educated on the below management measures within 6 months of employment and annually thereafter.

Management Measures:

Knox County will work to raise:

- g) Awareness of water quality impacts from daily operations;
- h) Awareness of the principles and practices of Pollution Prevention and Good Housekeeping; and
- i) Awareness of identifying and reporting procedures for illicit connections/discharges, sanitary sewer diversions or seepages, spills, etc.

## NPDES Permit Target Audiences and Management Measures: Public Involvement/Participation

### **General Public**

Minimum number of activities: 6 per year

**Management Measure:**

Knox County will work to raise:

- j) Awareness of the principles and practices of pollution prevention;
- k) Awareness of impacts on water quality or local stormwater management issues;
- l) Awareness of proper storage, use, and disposal of household hazardous waste, automotive related fluids, pesticides, herbicides, and fertilizers use; and
- m) Awareness of identifying and reporting procedures for illicit connections/discharges, sanitary sewer seepage, spills, etc.

**Commercial and Development Community**

Minimum number of activities: 2 per year

**Management Measure:**

Knox County will work to raise:

- n) Awareness of the principles and practices of pollution prevention; and
- o) Awareness of impacts on water quality or local stormwater management issues.

Offering information and raising awareness about individual behaviors that impact water quality can result in reduced stormwater pollution when people change those behaviors. Over and above the target audiences identified in the NPDES permit, more specific audiences are selected through a process of determining whose behaviors have the most potential to contribute pollutants to streams. This PIE plan outlines activities that will be directed toward these targets.

## Public Information and Education Activities

Knox County operates a robust education and outreach program. The activities undertaken in this program incorporate the required actions for all minimum control measures. Existing and new activities comprise the PIE Plan for the 2022 NPDES permit and are presented in the appendix tables. The chosen activities correspond with permit requirements.

### Strong Streams

Knox County created a framework for outreach and public participation for the general public and branded it Strong Streams. The objective of Strong Streams is to shift our audiences from pollution-generating behaviors to pollution-preventing behaviors in a friendly, non-intimidating way. When people understand the impact of their behaviors and change how they do things, polluted runoff problems can be solved. Figure 1 shows example Strong Streams activities and associated NPDES permit-required management measures.



**Strong Stream Activities, Primary MCM Focus, and Management Measure Addressed**

Knox County activities

Sponsored and Partnership activities

### Public Education & Outreach (MCM1)

Event Tabling a,b,c,d	House & Garden Show a,c,d	TNSA publications a,b,c,d	Ag events a,c
EPW Website a,b,c,d	School Club Activities* a	UT Grounds Management Short Course a,c	
E-Newsletter a,b,c,d	Presentations to local groups (as requested) a,b,c,d	Outdoor Classrooms* a	
Social Media a,b,c,d	Targeted Mailers (e.g. IDDE, SCM maintenance, etc.) a,b,c,d	Classroom Lessons* a,c	
Brochures a,b,c,d			

### Public Involvement & Participation (MCM2)

Ijams River Rescue j,k,m	Envirothon, STEAM Day, BioBlitz* j,k	Classroom Lessons* j,k	
Families in the Creek* j,k	Rain Barrel Sales/ Workshops j,k	Workshops (e.g. rain gardens, riparian zones, sustainable landscapes, etc.) j,k,l	
Cheers to Clean Water j,k	TN Tree Day j,k	Community Art Events (e.g. Storm Drain Style-Off, Soil Conservation Poster Contest*, Murals, etc.) j,k,l,m	
WaterFest* j,k	Rainy Day Brush-Off j,k	School Club Activities* j,k	Adopt-A-Stream j,k,m

\*Targeted toward a youth audience  
a-d : Ed/Outreach Management Measures  
j-m : Involvement/Participation Management Measures

**Figure 1. Example activities, primary MCM focus, and management measure addressed**

**Partnerships**

Knox County is fortunate to have formed partnerships with several local and state organizations. Working with these partners gives the County a variety of ways to identify and target audiences and creates unique opportunities to pursue educational campaigns. In addition to these partnerships, Knox County can further identify opportunities for education and outreach through stream inventories, watershed initiatives, outdoor classrooms, and one-on-one communications. Current partners include:

- Tennessee Stormwater Association (TNSA)
- Water Quality Forum (WQF)
- Knox County Schools

- Knox County Parks and Recreation
- Knox County Soil & Water Conservation District (SWCD)
- UT Extension's Tennessee Smart Yards
- Ijams Nature Center
- Native Plant Rescue Squad
- Enhance Powell
- TVA
- University of Tennessee
- Legacy Parks Foundation

Partnership events for the current permit cycle are varied and include many popular events that the residents and youth look forward to year after year. Knox County's participation in partner events is subject to partner availability and level of commitment for each event. Figure 2 shows the relationship between events and partnerships with other organizations.



# Partnerships & Activities

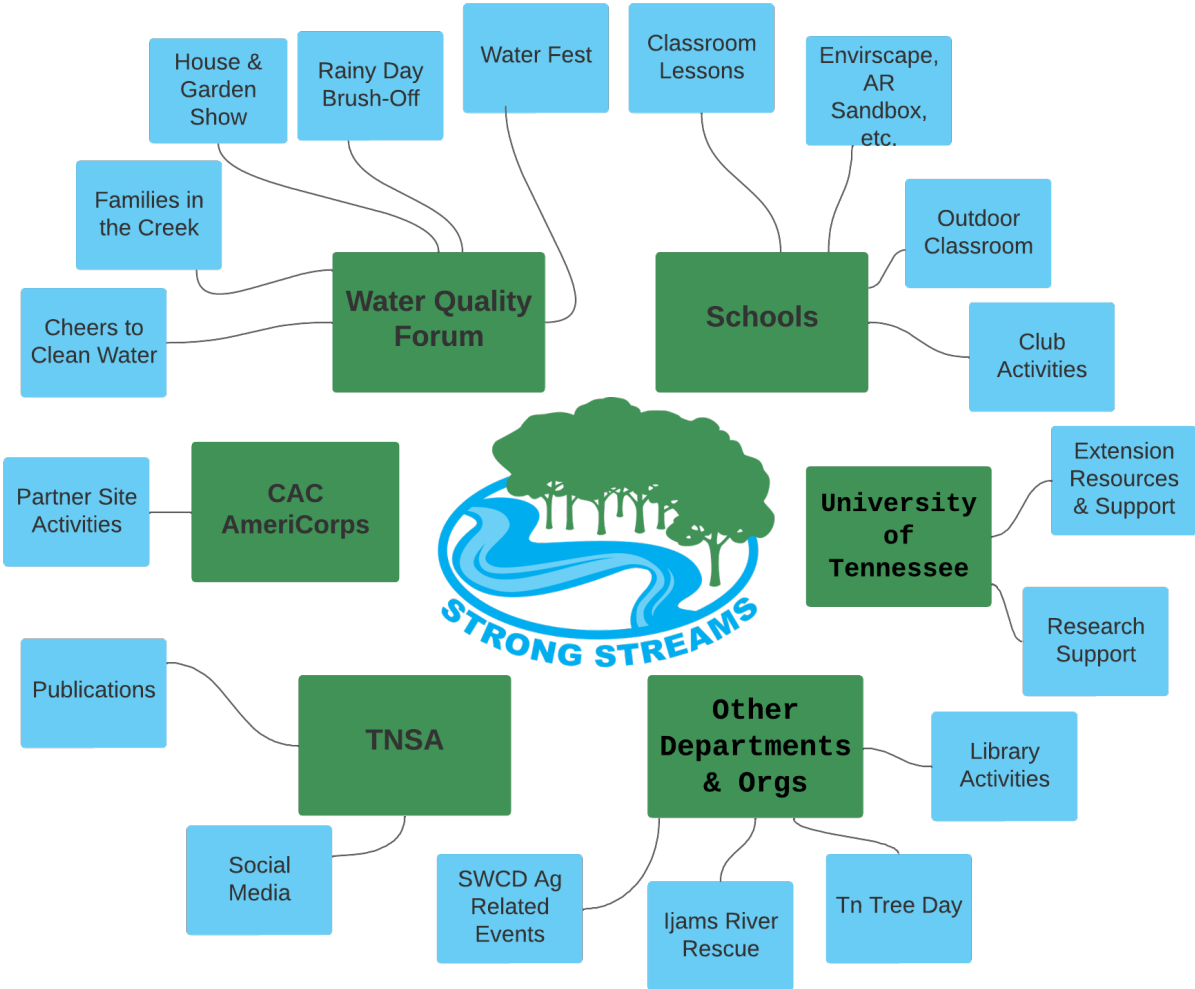


Figure 2. Strong Streams framework showing primary partnerships and related activities

## Public Information and Education Implementation and Metrics

Under section 4.2.1 of the NDPES permit, the PIE Plan shall document all public education and outreach components and incorporate an evaluation of components to assess overall effectiveness and need for improvement. The plan shall both detail specific goals and include a schedule indicating when the events will occur over the remainder of the permit cycle. This schedule and activity-specific goals are located in the appendix tables of this PIE plan. The

County must also include a summary of these education and outreach activities in the annual report for the NPDES permit.

The evaluation of components to assess overall effectiveness and the need for improvement shall be conducted annually as part of the County's MS4 program review. In general, Knox County will measure the efficacy of programmatic elements by using social and programmatic indicators, e.g., observing the number of people or target demographics reached by an activity or campaign. Observing the number of impressions made from year to year affords the County the opportunity to evaluate the extent of its effort and decide whether it is allocating resources effectively, or if changes are needed. Employing this metric is also useful for fulfilling reporting requirements as outlined in the NPDES permit.

The County will accomplish the documentation and evaluation requirements of the NPDES permit by tracking PIE activities using the Cartegraph database and/or Excel spreadsheets, which are updated continuously throughout each permit year. The annual reporting of the results will verify that the intended audience was reached according to the PIE Plan. The PIE Plan, activities conducted, and tracked metrics will be reviewed by the County annually and documented in the annual report. If any results are insufficient, reduced, or missing, the County can seek adjustments to properly address inadequacies, and will do so upon this annual review.

The permit years noted in Tables 2, 3, & 4 correspond to the dates shown below. Note that Permit Year 1 was an abbreviated year based on the authorization date of the TDEC MS4 Permit.

**Permit Year 1** 2/1/23-6/30/23

**Permit Year 2** 7/1/23-6/30/24

**Permit Year 3** 7/1/24-6/30/25

**Permit Year 4** 7/1/25-6/30/26

**Permit Year 5** 7/1/26-8/31/27

If the NPDES permit is administratively continued after August 31<sup>st</sup>, 2027 (Permit Year 5), activities that meet permit requirements such as those presented here in Permit Year 1 will be repeated, although activities may be substituted as appropriate to meet Knox County and permit goals.

# Appendix

Table 1. PIE Plan Activities—General Public

Activity Description	Goal	Metric	Permit Year	MCM1 Management Measures Addressed	MCM2 Management Measures Addressed
Adopt-A-Stream	Protect the health of local waterways by encouraging community members to engage in hands-on environmental action through stream clean-ups.	lbs of trash removed # of participants	All Years; On-going/ 5+ Per year	a, d.	j.,k.,m.
Brochure Distribution (e.g., events, mailings, libraries)	To broaden public understanding of the storm drainage system and how behaviors contribute to water quality. To target education to specific community issues, pollutants, or BMPs.	# of brochures distributed	All Years; Quarterly at a minimum	a., b., c., d.	n/a
Cheers to Clean Water: TN River Paddle Off and Cleanup*	To educate and engage the community in water quality awareness and its relation to recreation, and to encourage hands-on environmental action through the clean-up.	# of registrants	All Years; subject to partner availability; event scope may change	a., d.	j.,k.
Classroom/after school lessons such as EnviroScape, AR Sandbox, Sediment Survival, benthic macroinvertebrate sampling, etc.	To educate youth about watershed concepts and stormwater pollution prevention.	# of youth	All Years; As requested	a.,c.	j., k.
E-Newsletter	<ul style="list-style-type: none"> <li>▪ To provide basic information on relevant, seasonal stormwater topics</li> <li>▪ To provide seasonal stormwater management strategies for homeowners</li> <li>▪ To highlight Knox County Stormwater past and future events, activities, and opportunities for public participation</li> <li>▪ To spotlight completed stormwater projects on public and private properties</li> </ul>	# of opens per quarter/ # of emails/ phone calls generated from the E-Newsletter	All Years; Quarterly	a.,b.,c.,d.	See <a href="mailto:Stormwater@knoxcounty.org">Stormwater@knoxcounty.org</a> email account activity

Activity Description	Goal	Metric	Permit Year	MCM1 Management Measures Addressed	MCM2 Management Measures Addressed
	<ul style="list-style-type: none"> <li>▪ To solicit feedback from the public on the effectiveness of our SWMP (email response requests)</li> </ul>				
Tabling Events (e.g., Marble Springs, Apple Fest, TN Smart Yards event, TN Valley Fair, farmers market kids' booth)	Educates county residents on the importance of clean water through displays, brochure distribution, and hands-on educational activities for children.	# of attendees	All years; Annually, as schedule and partner interest allow	a.,b.,c.,d.	n/a
Families in the Creek	Educates the public about the importance of clean water to fish, benthic macroinvertebrates, and other living things	# of participants	Year 2	a.,c.,d.	j.,k.,l.
Knox County Website	<ul style="list-style-type: none"> <li>▪ To provide manuals, policies and information regarding construction-phase and long-term stormwater management</li> <li>▪ To educate the public on how to prevent stormwater pollution</li> <li>▪ To inform the public on programs, events, initiatives, activities and opportunities to get involved</li> <li>▪ To educate the public on illicit discharge detection and reporting</li> <li>▪ To educate owners of permanent stormwater BMPs on operation &amp; maintenance requirements and strategies</li> <li>▪ To educate the public on green infrastructure (GI) solutions to drainage, erosion problems; to raise awareness of GI stewardship programs, actions &amp; behaviors</li> <li>▪ To provide resources and opportunities for school children, teachers, and school groups</li> </ul>		All Years	a.,b.,c.,d.	See <a href="mailto:Stormwater@knoxcounty.org">Stormwater@knoxcounty.org</a> email account activity
Mailers and fact sheets to SCM Owners/ Operators	To broaden public understanding of stormwater best management practices. To educate owners and operators of Stormwater Control Measures about proper operation and maintenance.	# sent	All Years	a., b., c., d.	n/a

Activity Description	Goal	Metric	Permit Year	MCM1 Management Measures Addressed	MCM2 Management Measures Addressed
Public Input Into SWMP	To provide education about and solicit input into Knox County's Stormwater Management Program	# of attendees	Year 2	a.,b.,c.,d.	j.,k.,l.,m.
Public Murals	Educate the community about the importance of caring for our streams through unique and exciting projects throughout the county.	N/A	Once per permit cycle	a.,b.,c.,d.	j.,k.,l.,m.
Stormwater/water quality presentations such as rain garden, riparian buffer, or sustainable landscaping	To broaden public understanding of BMPs and maintenance needed to ensure protection and conservation of water quality	# of attendees	All Years; As requested	a.,b.,c.,d.	
Riparian Buffer/ Rain Garden Workshops	Train homeowners about the role of riparian buffers and/or rain gardens on protecting water quality and habitat and show the proper ways to plant native trees, shrubs and perennials.	# of attendees	Once per permit cycle	a.,b.,c.,d.	j.,k.,l.,m.
SCM O&M Presentations to HOA's and the general public	To educate owners and operators of Stormwater Control Measures (SMC) about proper operation and maintenance to ensure long term functionality of permanent stormwater measures	# of attendees	Once per permit cycle	a., b., c., d.	l.
Screening of the Hidden Rivers film	Raise awareness about the biodiversity in southeastern rivers by taking an immersive look at the little-known creatures of these waters, their striking beauty and extreme vulnerability.	# of attendees	Once during permit cycle	a.,b.,c.,d.	j.,k.
Social media campaigns	To introduce and broaden understanding of the Knox County Stormwater program and water quality issues	# of people reached	All years; Weekly posts	a.,b.,c.,d.	
Solid Waste activities/ funding of disposal sites.	Direct Solid Waste Customers to proper disposal sites for Household Hazardous Waste including automotive fluids, and provide information to their proper disposal	# of people disposing of household solid waste	All Years	n/a	j.,k.,l.,m.
Storm Drain Style-Off	Promote awareness and prevent pollution while contributing to the public art scene in Knox County	# of votes for contest	Once during permit cycle	a., c., d.	j.,k.,l.,m.

Activity Description	Goal	Metric	Permit Year	MCM1 Management Measures Addressed	MCM2 Management Measures Addressed
<a href="mailto:Stormwater@knoxcounty.org">Stormwater@knoxcounty.org</a> email address and phone number	To solicit public participation and engagement in the NPDES Stormwater program	Number of emails	All Years	N/a	j.,k.,l.,m.
Tennessee Tree Day	To encourage participation in the practice of planting trees and to educate about the benefit of the practice to water quality	Number of participants	All Years; Annually	a.	j.,k.
UT Grounds Management & Stormwater short course*	To limit the improper storage, use, and disposal of items in areas which are exposed to stormwater runoff, specifically in the grounds management audience	# trained people at annual class	All Years; Annually; subject to partner availability	a., c.	j., k., l.
WaterFest*	To educate youth about watershed concepts and stormwater pollution prevention.	Number of attendees	All years; annually; subject to partner availability	a.,b.,c.,d.	j., k.
Water Quality Testing for Streams	Introduce water quality monitoring and common testing parameters to students.	# of youth	As requested	a.,b.,c.,d.	j. k.
Targeted Education/Outreach Campaigns	To target specific water resources, audiences, and/or pollutants located with the MS4 jurisdiction or a particular watershed of focus.	# of people reached/materials distributed	All Years; target will vary from year to year as need arises	a.,b.,c.,d.	j.,k.,l.,m.

Notes: \* indicates a sponsored/ partner lead event

Table 2. PIE Plan Activities—Municipal Employees

Activity Description	Goal	Metric	Permit Year	MCM1 Management Measures Addressed

EPW Campus Annual Cleanup	To remove sediment and trash from campus and educate municipal employees about water quality impacts from daily operations	Lbs of sediment # of employees	All Years; Annually	g.,h.,i.
SWPPP/ PPGH Training for Employees	To make municipal employees aware of water quality impacts from daily operations, and to educate staff on how to identify and report illicit discharges	Number of staff trained within 6 months of employment and annually thereafter	All Years; Annually	g.,h.,i.

Table 3. PIE Plan Activities—Engineering and Development Community

Activity Description	Goal	Metric	Permit Year	MCM1 Management Measures Addressed	MCM2 Management Measures Addressed
Home Builders Association of Greater Knoxville Tabling	To educate and facilitate engagement between the Knox County and the Engineering and Development community	Number of attendees	All Years; Annually	e.,f.	n.,o.
Knox County Designers/Land Developers Open House	To provide information, education and facilitate involvement and participation in Knox County’s project design requirements, process, and procedures	Number of attendees	All Years; Annually	e.,f.	n.,o.
Land Development Newsletter “CodesTalk”	To educate designers and developers on construction and permanent stormwater requirements and the benefits of good stormwater management	# of opens per quarter	All Years; Quarterly	e.,f.	n.,o.

Table 4. PIE Plan Activities—Commercial Community

Note: The activities related to the Development Community are addressed in Table 3.

Activity Description	Goal	Metric	Permit Year	MCM2 Management Measures Addressed
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Home Builders Association of Greater Knoxville Tabling	To educate and facilitate engagement between the Knox County and the Engineering and Development community	Number of attendees	All Years; Annually	n.,o.
Knox County Designers/ Land Developers Open House	To provide information, education and facilitate involvement and participation in Knox County’s project design requirements, process, and procedures	Number of attendees	All Years; Annually	n.,o.
Land Development Newsletter “CodesTalk”	To educate designers and developers on construction and permanent stormwater requirements and the benefits of good stormwater management	# of opens per quarter	All Years; Annually	n.,o.