



# City of Windsor Heights

## Annual Stormwater Program Report

January 1 – December 31<sup>st</sup>, 2009

Submitted February 11, 2010

**NPDES Phase II MS4 General Permit**

**City of Windsor Heights, IA: Permit Number 77-91-0-01**

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## **EXECUTIVE SUMMARY**

The City of Windsor Heights was issued an NPDES stormwater MS-4 permit from the Iowa Department of Natural Resources in 2005. This report summarizes progress made towards permit compliance during the first five years of the first permit cycle of the city's program which continues to expand and develop. This report also uses many acronyms which may be unfamiliar to the reader, so an appendix of acronyms and terms is included. As required, the city addresses the following six minimum storm water control measures:

1. Public education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-construction Stormwater Management
6. Pollution Prevention and Good Housekeeping

To accomplish all of these requirements, the City has made stormwater expenditures of:

\$193,487 in FY 2009 (including creek dredging project south of Buffalo Bridge.)

The City has a budget of \$99,297 in FY 2010 and a proposed budget of \$123,890 in FY 2011 for stormwater activities. Following is a summary of the City of Windsor Heights NPDES Phase II MS4 permit requirements and progress made on each control measure for the period of January 1 through December 31<sup>st</sup>, 2009.

## **PUBLIC EDUCATION AND OUTREACH**

**GOAL:** The goal of the city program is to educate numerous target audiences using various tools. Informational content includes storm water impact on water quality and measures that can be implemented to reduce water quality degradation.

The city is a member of the Iowa Storm Water Education Program (ISWEP) and uses numerous educational resources built around quarterly topics. In addition, ISWEP supported efforts at the 2008 and 2009 Iowa Water Festival held each year at the Des Moines Area Community College in Ankeny. Storm water tattoos and educational information were provided to up to 1,500 5<sup>th</sup> graders from across the state.

The City published a storm water article in several monthly newsletters. Each article is in reference to the appropriate season. The City will insert monthly articles for the duration of the permit.

**Stormwater Intake Marking:** 50 Intake Storm Water markers have been designed and ordered and were to be installed in December 2009. Due to the weather conditions markers will be installed in 2010 when the weather breaks. All intakes labeled will be recorded and kept on file of location and date label was installed and man hours spent on installation.

Following are examples of Public Outreach Articles:

Resource	Target Audience	# Distributed or # of Events and Attendees
Brochures	General Public	Available at City Hall
Newsletter articles	Residents	Inserted into newsletters December, 2009 “ Winter Maintenance” November, 2009 “Volunteers Clean up the City” November, 2009 “Fall is Here” October, 2009 “Reminder” September 2009 “Keep Stormwater As Clean As Possible” August, 2009 “Stormwater Advisory Committee” May, 2009 “Compost It Tips” April 2009 “Spring Mowing” March, 2009 “Your Waterfront Property”

## **PUBLIC INVOLVEMENT AND PARTICIPATION**

**GOAL:** The goal of the public involvement and participation module is to increase awareness and provide a variety of awareness opportunities for the general public and school children. The goal is also to involve volunteers in carrying the stormwater message and enhancing the City’s overall stormwater program.

### Stormwater Advisory Committee

The Stormwater Advisory Committee has met on December 10, 2009 to develop an outreach strategy for the community. The Stormwater Advisory Committee will meet again in January, 2010 to discuss the upcoming watershed assessment request for proposals. The Committee plans to meet monthly to solidly establish the City’s stormwater program. Minutes and attendance will be kept on file for future inspections.

Committee Members include: Linda Bacon, Rollie Bramhall, Darren Fife, Diane Ross, Betty Glover, Michelle Heater, Mel Hrubetz, Susan Jones, John Konior, Dennis O’Brien, Louise Moon, Trish Schneider, Don Steele, and Kathleen Witkovski. The committee is made up of all residents of Windsor Heights that are all concerned about Stormwater. Their employment backgrounds range from a Professor of Geology, Drake University to retired Certified Public Accountant, School Teacher, to a Dallas County Environmental Health Administrator. All these committee members have volunteered their time to help and express their concerns about Stormwater issues and solutions.

### Educational Program for school curriculum

Cowles Montessori School in Windsor Heights has a stormwater curriculum for lower and upper grades where students learn about water cycle and the effects on environment and benefits to society. The Stormwater Committee intends to contact the school to help provide the school with material as seasons change in 2010. The Stormwater Committee will also contact Clive Elementary School. Stormwater Committee is in the process of contacting IoWATER and Waste Management for their assistance with 2010 School Curriculum.

Public Survey There has been a storm water survey developed that will be available to all residents on the City's website which is [www.windsorheights.org](http://www.windsorheights.org) in the Public Works section where residents can complete survey and City can determine what percent of knowledge residents have on storm water. Percentages will be available by July 2010.

## **ILLICIT DISCHARGE DETECTION AND ELIMINATION**

**GOAL:** The goal of this module is to put policies in place and provide enforcement to detect and eliminate illicit discharge.

### Illicit Discharge Prohibition Ordinance

The Illicit Discharge Ordinance was presented to the Windsor Heights City Council and became part of the Municipal Code October 15, 2007. The Municipal Code is available on the City's website at [www.windsorheights.org](http://www.windsorheights.org).

### Illicit Discharge Detection and Elimination Program

The City of Windsor Heights Public Works Department is responsible for implementing this program. Program schedule, checklist, and mapping will be developed. Records are kept for all program activities.

Annual dry weather flow inspections of outfalls which discharge to non-intermittent waterways or water bodies have been conducted by the City Inspector on November 11<sup>th</sup>, 2009. Fourteen outfalls were inspected and no illicit discharge was detected. All visual dry weather inspection field sheets are kept on file. A scheduled dry weather inspection program is in place for 2010 where inspections will be executed and documented for future reference. The program shall also include dry weather flow inspections of approximately 20% of all outfalls that discharge to Waters of the State that are intermittent waterways or water bodies with all of these outfalls being inspected during the duration of the permit.

A more formal illicit discharge program is being developed by the City Inspector and Public Works Director and Stormwater Advisory Committee and will be completed June, 2010. Once program is operational IDNR will be notified the program is in effect and City is in compliance as required by permit.

## **CONSTRUCTION SITE STORMWATER RUNOFF CONTROL**

**GOAL:** The goal of this module is to put policies in place and provide enforcement to control stormwater and prevent runoff from construction sites.

### Construction Site Runoff Control Ordinance

The Construction Site Erosion and Sediment Control Ordinance was presented to the Windsor Heights City Council and passed October 15, 2007. The Municipal Code is available on the City's website at [www.windsorheights.org](http://www.windsorheights.org).

### Construction Site Review and Inspection Program

Dave Breese/City Inspector is designated for SWPPP review, inspection and enforcement activities for this program which includes residential, commercial and industrial developments and the city's construction projects. He was certified December 17<sup>th</sup>, 2009. All construction sites are inspected after one half (1/2) inch or more of rainfall. A scheduled program is determined by rainfall amounts and time of year. A Construction Site Inspection Sheet has been developed for such sites and will be kept on file for duration of permit. As of December, 2009, there are currently no active construction sites in Windsor Heights. The City does have a park under construction that is not large enough to require inspection, however the City voluntarily complies and has hired an outside stormwater consultant to provide additional oversight for stormwater-related issues.

A city permit is issued with evidence of an NOI General Permit Number 2 and after the SWPPP has been reviewed and approved. Inspections are conducted as needed for compliance. The City has had a good response by permittees in bringing sites into compliance.

## **POST-CONSTRUCTION STORMWATER MANAGEMENT**

**GOAL:** The goal of this module is to utilize and promote best management practices in handling and improving the quality of stormwater.

### Post-Construction Runoff Control Policy Ordinance

The Post Construction Runoff Control Ordinance was presented to the Windsor Heights City Council and passed October 15, 2007. The Municipal Code is available on the City's website at [www.windsorheights.org](http://www.windsorheights.org).

Inspection of Runoff Control Devices City Inspector visually inspects runoff control devices monthly and documents any improvements needed or repairs. Inspector has developed a regular scheduled time for monthly inspections.

### Watershed Assessment Program

The City is developing a watershed assessment program and action plan to be used for the sub-watersheds. A land use/watershed action plan will be developed and implemented, and will include all of the permit required items in addition to specific watershed goals and action items. The City has currently drafted a request for qualification for City Council to review on February 1, 2010.

After Watershed Program is in effect in April 2010 the City will work on Stream Bank Stabilization of Walnut Creek and identify ways in which to reduce runoff and improve the quality of the water when there is runoff.

Best Management Practices

In November 2009, the City made stormwater runoff improvements to the Wilshire area. Previous years the runoff of all the residences and Wilshire Street ran to the west and onto grass area. The City has since graded the end of street and installed Permeable Pavers to slow the amount of runoff from street.

Wilshire Boulevard before and after



The Trail Drainage Project was started and finished in the fall of 2009. This project's main focus was to slow down runoff and eliminating any hazardous chemicals or trash before actually reaching Walnut Creek by grading the ground and installing 6 to 12 inches of crushed rock over a perforated pipe that leads to Walnut Creek.

Trail Drainage – before and after



In the spring of 2010, the City is developing plans to install a Bioretention pond behind the current DNR air quality building to help eliminate excessive runoff of current buildings and parking lot. This is located near the upper section of Walnut Creek and the action is designed to clean the water also.

## **POLLUTION PREVENTION/GOOD HOUSEKEEPING**

**GOAL:** The goal of this module is to utilize and promote best management practices and implement policies that aid in the prevention of pollution.

### Operation and Maintenance Program for MS4

The City Inspector and Public Works Department have responsibility for inspecting the MS4 components in accordance with the implementation schedule. A street sweeping program is in place that meets the requirements noted in the permit. Currently, the Public Works Director is developing a site map of municipal buildings and scheduled BMPs that will reduce the amount of pollutants and a planned procedure on proper clean up of pollutant findings. A SWPPP will be developed by City Inspector for such buildings once the site map is developed.

Pesticide and Fertilizer Management Program The City of Windsor Heights engaged a certified contractor for fertilizer application at City-owned locations in Fall, 2009. Quantity information is on file in the Public Works Director's office. The contractor is currently researching organic methods for future application to lower or remove nitrates. The City is currently designing a program to educate the public and public works on the harmful effects and the positive effects on pesticides and fertilizers and when to apply these chemicals. The City is also researching possible alternatives to replace current fertilizers in spring 2010 that will be less harmful on neighboring waterways, such as the potential for using organic materials as previously mentioned.

### Training Program for Municipal Employees

City staff has been attending related seminars and conferences sponsored by sources such as IAMU, ISWEP. Staff will attend future continuing education programs as opportunities arise. Staff attended the following classes: Rainscaping, and Bioretention Cell Design. A training schedule is being designed to educate all municipal employees in 2010 to properly clean up pollutants and reduce any pollutants. This program will be in effect in the spring of 2010 and will be on a regular training schedule once a month for duration of permit. All training subjects will be on record along with attendance.

### Best Management Practices-PP/GH

The City Inspector and the Public Works Director are assembling "spill kits" to be housed in City vehicles and at City facilities as part of the municipal employee education program. The kits will be available in the event of a hazardous materials spill and all employees will be well-versed and have the materials conveniently location to properly handle these types of incidents. The goal is to have this completed by the end of February, 2010.

The City also conducts street sweeping and regular maintenance to stormwater intakes.

## RECAP OF VARIOUS STORMWATER PROGRAM EXPENSES

The activities encompassed by the Stormwater Program are paid for by the Stormwater Utility. Following is a summary of some of the costs incurred during the time frame covered by this report.

<b>Program</b>	<b>Cost/Action</b>
<b>Education and Outreach</b>	
ISWEP Membership	\$2,214 in 2009
Staff time	\$ 200
Informational brochures	Available in City offices
Community newsletter articles	Numerous – see list under “Public Education and Outreach”
Storm drain labeling	\$600 for drain markers
Stormwater survey	\$200
Educational program for schools	Staff contacted area principals regarding stormwater curriculum and is working to develop related activities for Spring, 2010.
<b>Public Involvement and Participation</b>	
Stormwater Advisory Committee	Staff time \$150 (estimated for City staff time to develop article, advertise for committee members, assemble committee list and schedule for Council adoption)
Public Clean Ups	**There are public clean ups along Walnut Creek two times a year (spring, and fall). Each clean up consists of approximately 15 to 40 volunteers. They start at the north end of Windsor Heights and walk the trail down along creek and remove trash, which typically consist of approximately 40 bags of trash. The City provides trash bags and collects and properly disposes of the trash collected. City cost: \$325

<b>Illicit Discharge</b>	
Inspection/clean up costs	Staff time \$200
<b>Construction Site Program</b>	
Staff time	\$ 400
Construction site review and inspection program	\$ 600
Voluntary monitoring	The City spent \$2,400 in calendar year 2009 to voluntarily comply with construction stormwater inspections on its construction projects in Colby Park.

<b>Post Construction Program</b>	
Post-construction runoff control ordinance	Done
Staff time	\$ 3400
Inspection of runoff control devices	\$ 200
Watershed assessment program	A request for proposals is scheduled for Council consideration on February 1 <sup>st</sup> , 2010.
Post-construction BMP manual Best Management Practices	Staff time \$200 Wilshire Blvd Project \$7500 Trail Drainage Project \$ 3000
<b>Pollution Prevention and Good Housekeeping</b>	
Street sweeping staff time, contractor expense	\$18,360 in 2009 SPECK USA is contracted to clean the streets 4 times a year one in April, June ,October, and November
Intake cleanout staff time	\$ 12,000/ All intakes inspected and cleanout after ½ inch or more of rainfall records on file with Public Works Director
Pesticide and fertilizer management program	\$ 800/ All fertilizer is done by outside contractor who is licensed in chemical application all records of applications are kept on file with Public Works Director. For the year 2010 the City is consulting with Earl May to find another environmentally safe fertilizer to help reduce pollutants.
Employee training program	\$ 500/ Public Works crew chief Kevin Patterson is developing an employee training program in appropriate field techniques to reduce storm water pollutants.
City facilities BMPs program (a program to assess and implement BMPs to reduce pollutants in stormwater from these facilities)	Spent \$135,786 dredging Walnut Creek immediately south of Buffalo Bridge was dredged in FY 2009. The purpose of the dredging is to provide maintenance so that the creek flows as it is supposed to and to prevent flooding. Dredging as part of a regular maintenance program is scheduled and evaluated on a five-year basis.
<b>Total</b>	\$189,435

**Appendix I: LIST OF COMMONLY USED ABBREVIATIONS**

- BMPs----- Best Management Practices
- EPA----- Environmental Protection Agency
- IDNR----- Iowa Department of Natural Resources
- NOI----- Notice of Intent
- NOV----- Notice of Violation
- NPDES---- National Pollutant Discharge Elimination System
- MS4----- Municipal Separate Storm Sewer System
- SWPPP--- Stormwater Pollution Prevention Plan
- CWA----- Clean Water Act