

**City of Winooski Annual Stormwater Report  
2009  
General Permit 3-9014**

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## EXECUTIVE SUMMARY

Year number seven of the Municipal Separate Storm Sewer Systems (MS4) program in Winooski has been implemented. The following briefly describes the highlights of the six minimum control measures, which are more fully described later in this report. Reporting requirements in Section 5.3 of the MS4 Permit are addressed in this report.

### Minimum Control Measure #1 – Public Education and Outreach on Storm Water Impacts

- The Regional Stormwater Education Program (RSEP) continued an advertising campaign and the smartwaterways.org web site benefiting the Chittenden County area.

### Minimum Control Measure #2 – Public Involvement/Participation

- Winooski's annual Public Participation requirement involved the Winooski Environmental Leadership Board (WELB), the Parks and Grounds staff, and several Winooski citizen volunteers. Our public involvement project was maintenance of several public rain gardens. The WELB also continued with regular meetings, helped with Green Up Day, and continued a coliform sampling program at Gilbrook Reservoir we began last year.

### Minimum Control Measure #3 – Illicit Discharge Detection and Elimination

- Illicit Discharge Detection and Elimination work continued in Winooski. Our efforts are currently focused on studying the West Canal SW systems for probable replacement. It is our most at risk area. The IDDE Ordinance is in effect as part of the overall Stormwater Ordinance which was adopted by the City Council.

### Minimum Control Measures #4 and #5 - Construction Site/Post- Construction Storm Water Control/Management

- Construction activities involving the Downtown Project required a General Stormwater Permit for Construction. The City Engineer was in contact with the State regarding erosion and sediment control, and this permit. An erosion control ordinance has been incorporated in the Stormwater Ordinance, in effect since 2008, along with a checklist for residential projects that involve soil disturbance of any size. These efforts should help the zoning department with enforcement and provide education for the “do it yourselves.”

### Minimum Control Measure #6 – Pollution Prevention/Good Housekeeping

- A new street sweeper was purchased in August 2004, which improved the street cleaning efforts. 140+ Catch basins were systematically cleaned, inventoried, stenciled, and information entered into a database. Remedial work was performed on catch basins requiring immediate attention. All existing catch basin filters were replaced. Attending the MS4 Municipal Employees Workshop @ Essex DPW, and other stormwater seminars through out the year fulfilled training by DPW staff.

Minimum Control Measure #2 - Public Involvement and Participation



Gilbrook Reservoir and Natural Area

The Winooski Environmental Leadership Board (WELB) led some stream clean-up efforts on Green-up Day. 1 pick-up truck load of debris was eliminated. 140 stormwater catch basins were stenciled this year. Citizens and Parks and Rec. summer campers helped maintain and revitalize the public rain gardens near Landry Park. The WELB continued its coliform study of Gilbrook Reservoir and will continue this study into 2010.

*Status of Compliance (5.3.1)*

<b>Schedule</b>	<b>ID #</b>	<b>Best Management Practice</b>	<b>Status</b>
Year 5	2-5	WELB maintained and active	Done
Year 4	3-5	Storm Drain Project Stencil > 20%	Done
Year 4	4-5	Conduct Stream Clean Up	Done

### Minimum Control Measure #3 - Illicit Discharge Detection and Elimination

Over the past several years, the City has undertaken a proactive approach to eliminating Winooski's Illicit Discharges. In 2000, the EPA funded a project that involved E-coli and DNA testing of Winooski's major stormwater outfalls. Since that time, Winooski has revisited the problem outfalls and eliminated several Illicit Discharges (see annual report from 2004) through the use of Optical Brightener Monitoring (OBM). This testing procedure has proven to be simple and cost effective at identifying any IDDE containing laundry detergent, a marker for "human" sources. This method is capable of detecting sewer seeps and leaks as well as laundry hook ups, provided there is laundry detergent present. Over the years, Winooski found it much harder to locate further illicit discharges, as the discharges appear to be very few and intermittent. In 2008 the City monitored most of it's major outfalls, and I am pleased to announce, we only found one *possible* 'hit' on one of our Winooski River outfalls. 2009 was a difficult summer to run OBM tests, as it rained on most weekends. The City focused more on investigating the West Canal St (and surrounding) stormwater system infrastructure for probable replacement. This is our most at risk system and steps are now being taken to replace it and include treatment BMPs in the new design.

Winooski recently updated its detailed stormwater map with the help of Grassroots GIS (Chuck and Judy Bond). The map was originally completed in 2003, and is one of the more detailed stormwater maps in the area. As Winooski cleans and further inventories the stormwater system, any field corrections noted will be updated yearly. The map also has layers of data on infrastructure that are updated continuously. Winooski recently purchased the newest edition of our GIS program. Further updates were noted during catch basin cleaning, and they were entered into the database in May 2008. More updates will be completed in spring of 2010.

Lastly, Winooski has a formally adopted a Stormwater Ordinance with, amongst others, an IDDE section based on model ordinances and other ordinances, which were reviewed. At least one enforcement action has already occurred for this ordinance.

#### *Status of Compliance (5.3.1)*

<b>Schedule</b>	<b>ID #</b>	<b>Best Management Practice</b>	<b>Status</b>
Year 5	1-5	Update Stormwater Map	Done

Minimum Control Measures # 4 and #5 - Pre and Post Construction Site Stormwater Management

The Winooski Development Project 1<sup>st</sup> phase and 2<sup>nd</sup> phases are complete, and the 3<sup>rd</sup> phase is well under way. The City Engineer has identified and reported construction activities to the State concerning Construction General Permit number 3161-9001 issued May 19, 2004 for large construction sites. Except for permit # 3161-9001, there were no other construction activities, large or small, by the city or privately, which were greater than or equal to one acre of disturbance. The city has adopted an Erosion Control Ordinance as part of the overall Stormwater ordinance, as well as a checklist to be filled out when the zoning department issues small construction permits. This checklist was modeled from the City of Burlington’s erosion and sediment control checklist. The city adopted the ordinance this year and has implemented the checklist.



Figure 1: Erosion controls in place at Barlow Place construction site

*Status of Compliance (5.3.1)*

Schedule	ID #	Best Management Practice	Status
Year 5	1-5	Identify and report Const. activities	Done
Year 5	2-5	Assist the State in inspecting permitted sites	Done
Year 5	3-5	Properly permit City construction activities	Done
Year 5	5-5	adopt an erosion control ordinance	Done

## Minimum Control Measure #6 - Pollution Prevention/Good Housekeeping for Municipal Operations

The Water Pollution Control Department completed their efforts to clean, stencil, assess, and inventory all publicly owned catch basins in the city in 2008. This year we started back at our 'Year 1' section and cleaned, stenciled, assessed, and inventoried over 140 catch basins. The city will start 2010 at the second year of step two of the cycle and work eastward to continue with the goal of 20% or more catch basins cleaned per year as outlined in the Stormwater Management Plan. At least a dozen catch basins that didn't meet conditions assessment standards were rehabilitated or replaced. The 17 catch basins that have storm drain filters were maintained, with all filters being replaced both spring and fall this year. Of these 17 catch basins, 14 are in the Morehouse brook watershed, 2 are at the City hall parking lot, and 1 is located at the wastewater facility.



*WPCD staff cleaning and stenciling catch basins*

Street sweeping efforts continued spring through fall, with the new street sweeper that we bought in August 2004. This regenerative air type sweeper picks up finer particulates from the street in comparison to the older mechanical version. The entire 38 curb miles of the City were swept at least four times this year, with targeted, high priority areas (Mallets Bay Ave and the downtown construction area) being swept once a week, spring through fall. Information on exact sweepings volume was not available from the Public Works department. A detailed street sweeping logbook is being developed for the 2010 sweeping season.

Training continued for city staff, most notably, through a workshop organized by the RSEP.



*The City of Winooski's regenerative street sweeper*

*Status of Compliance (5.3.1)*

<b>Schedule</b>	<b>ID #</b>	<b>Best Management Practice</b>	<b>Status</b>
Year 5	1-5	Clean and inventory Catch Basins >20% yr	Done
Year 5	2-5	Complete CB inventory in MS4 area	Done
Year 5	3-5	Train City Staff	Done
Year 5	5-5	Sweep City Streets Spring & Fall	Done

5.3.3 Looking ahead, we will continue following the schedule as outlined in our pending stormwater management plan.

5.3.4 There are no major changes proposed to our Stormwater Management Plan at this time. We will notify the director in the event we propose or amend changes to our plan.

5.3.5 We are not relying on another government entity to satisfy our permit obligations, other than the RSEP program.

This report was prepared by Erik Bailey, \_\_\_\_\_ WPCD Superintendent

6.7 Signatory requirement – Original NOI, Principal executive officer

This report approved by Kathy Decarreau, \_\_\_\_\_ City Manager