



2010 Stormwater Management Program Update

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2009-2010 Stormwater Management Program Update

The City's SWMP is intended to reduce the discharge of pollutants from the City's Municipal Separate Storm Sewer System (MS4) to the maximum extent practicable (MEP), meet Washington State's All Known and Reasonable Treatment (AKART) requirements, and protect water quality. This goal will be accomplished by the inclusion of all Permit SWMP components and implementation schedules into the City's SWMP.

The City will continue to implement actions and/or activities, as called for in this document, in order to remain in compliance with permit requirements.

As part of the implementation of the City's SWMP, the City will gather, track, maintain and use information on an on-going basis to evaluate the SWMP development, implementation, permit compliance, and set priorities.

Beginning no later than January 1, 2009, the City will begin to track the cost of development and implementation of each component of the SWMP.

This document will be updated at least annually for submittal with the City's Annual Report to Ecology.

The six requirements under Section S5 Phase II Permit:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination (includes requirement for inventory)
4. Controlling Runoff from New Development, Redevelopment, and Construction Sites
5. Pollution Prevention and Operations and Maintenance for Municipal Operations
6. Monitoring

Each of these six NPDES Phase II requirements are described by a set of minimum performance measures outlined in the permit:

- Develop and implement a Stormwater Management Program (SWMP)
- Report any monitoring studies
- Assess effectiveness of BMPs and any changes needed
- Submit a detailed annual report on the status of SWMP implementation

The Clean Water Act requires stormwater treatment by permittees to the maximum extent practicable (MEP). Washington State law requires all known, available and reasonable treatment (AKART). Ecology has determined that MEP is equivalent to AKART and that compliance with the Ecology *Stormwater Management Manual* is AKART.

The Stormwater Management Plan will be subject to change and evolve over time as Best Management Practices are monitored and adapted to accommodate new or more effective measures.

S5.C.1 Public Education and Outreach

In November of 2007, the City of Oak Harbor took a very large step in meeting the requirement for a Public Education and Outreach Program by hiring an Environmental Educator. This program requires a great deal of attention, and the City recognized the need for a knowledgeable candidate to fill this position. The Environmental Educator, Maribeth Crandell, began work on November 5, 2007, and has been proactive in attempting to put together Outreach Programs that include a wide variety of topics, targeting specific audiences. So far, her projects and accomplishments include the following:

Book Distribution – *All the Way to the Ocean*, A children’s book on stormwater pollution and prevention. Thirty copies were distributed to six elementary schools and a dozen doctor and dentist offices.

City Council Presentation – A presentation on the Stormwater Permit was made to the City Council on November 20, 2007. At this presentation, several interested businesses and a news reporter attended.

Media Coverage – A news article was carried in the *Whidbey News Times* featuring the City Council meeting presentation, the book distribution and the new Environmental Educator position. The *Whidbey News-Times* also published an editorial about the City’s efforts and the new position. The *Whidbey Marketplace*, a free paper that goes to each household on the Island outside of Oak Harbor, also published an article about the new position.

News Articles – Our Environmental Educator has published several articles since 2007 for local papers that draw attention to stormwater and low impact development.

Storm Drain Education Program for Schools and Scouts – A four part program was developed for schools and scout groups. Part 1 begins with a survey of existing knowledge, a presentation on storm drain pollution and low impact development, and a vocabulary list. Part 2 includes a DVD from the EPA called *After the Storm* with follow up questions. Part 3 challenges the group to create a door knob flyer on stormwater issues and announces the upcoming storm drain stenciling. Part 4 involves a neighborhood storm drain stenciling project. This program was delivered to a high school group, six middle school classes, two elementary schools and one scout group. It has been scheduled for four more middle and high school classes.

Car Wash Kit Video – We hired a video professional who made a short “how to set up a car wash kit” video that has run on the City’s web site, the local government TV channel 10, and is available on CD, as instructions when a group checks out a car wash kit.

Low Impact Development – We have begun meeting monthly with the LID Summit group comprised of staff from the City of Oak Harbor, City of Langley, Town of Coupeville, Island County, WSU Extension, Whidbey Island Conservation District and the Partnership for Puget Sound. We worked with the Conservation District on a tour of LID sites on Whidbey Island for professionals and the public in 2009 and plan to offer another in 2012. We will be working with the Conservation District on presentations for landscapers, Rotarians, share a booth at the City’s largest festival, Holland Happening, and other projects.

Created a PowerPoint Presentation – This 4 minute presentation is about stormwater pollution and prevention, and runs as a continuous loop at conference and fair display booths.

Interpretive Signs – A grant from Conservation Futures Funds was directed toward the development of interpretive signs at Freund Marsh. We worked with the City Engineer and Parks staff, in partnership with the Marine Resource Committee, to develop interpretive signs featuring the value of wetlands and urban run-off issues, in an effort to help change behavior and build awareness. When the first 3 panels were installed the Mayor and Mrs. Freund unveiled them. The local paper covered the event. Since then 4 new interpretive panels were developed explaining stormwater issues and illustrating LID features. They will be installed at and near the Scenic Heights trailhead which features pervious pavement and rain gardens at the park's west entrance.

Rain Garden Guides – Ordered 50 handbooks, published by the Pierce County WSU Extension, on how to build a rain garden. These were distributed among City staff, City Council, and to landscapers and plumbers at an open house in February. Another open house is being scheduled for March and will include Homeowners Associations who have bio-swales and retention ponds.

Sustainable Living Seminar Series – Began working in partnership with the WSU Extension and Whidbey Island Conservation District to offer monthly workshops on Sustainable Living throughout 2008. College credit and clock hours were offered. Our 2009 and 2010 series were televised on channel 10 and will soon be available for check out at Sno-Isle Libraries in Snohomish and Island Counties.

Sustainability Fair – We partnered with the Skagit Valley College and Sno-Isle Regional Library to offer this Earth Day Event in 2008. There were several presenters, household hazardous and E-waste collection, alternative fuel vehicles on display, a mini-farmer's market and children's activities involving recycled materials, displays, demonstrations and talks on rain water catchment and low impact development. It was the first of its kind for the City and the college. We repeated the event in 2009 with the first Bike to Work and School campaign. In 2010 it was called the Green Living Fair and we're planning another in 2011 that will include many interactive games for kids, a bike rodeo, beater bike give-away, as well as speakers and exhibits. This is a collaborative event that brings together support from several groups and sponsors like PSE.

Farmer's Market – An information table with displays and interactive exhibits has been set up at the local farmer's market each week throughout the summer months. In 2010 we advertised special topics and had guest speakers at our booth.

The following is a list of programs that the City has also implemented. These programs will be subject to change and evolve over time as our Educator evaluates the information and determines the most effective avenues for outreach.

Web Site and TV Info-Commercials – Professionally made info-commercials were developed and added to the City's web page and aired on channel 10. The topics were: Proper Pet Waste Disposal, Car Washing Tips, Preventing Urban Runoff, and Alternatives to Pesticides.

Environmental Car Wash Kits – The City purchased five car wash kits and developed a packet of information, including diagrams, on how to use the kits, a list of biodegradable soaps and

where they can be purchased. These information packets were distributed at the local high school. Athletic clubs and other clubs and organizations were alerted to use the car wash kits for fundraisers. “**Environmentally Safe Car Wash**” sandwich board signs were created to increase public awareness at these events. The signs were on a float in the Holland Happening Parade in April along with signs saying Only Rain Down the Storm Drain.

Enviro-Scape Non-Point Source Model – This model was purchased for use as an educational tool for children. It is used at the Farmer’s Market and community events.

Placemats – were created that list 6 things you can do to help clean up Puget Sound with the Puget Sound Starts Here logo and the spill hotline number on it. 2,000 copies were made and they were distributed to 20 restaurants on the Friday after the City Council adopted the new Stormwater Ordinance.

Pitch the Poop game – The City purchased a garbage can, fake pet poop, astro-turf to use as a pitch the pet poop game for community events. We’ll also make stickers that participants can put on their own garbage cans to alert their neighbors to pick-up dog poop.

Utility Inserts – were sent to everyone in the City with information on stormwater. One insert had a survey on stormwater concerns and promised a rain barrel to the winners. Ten rain barrels were given away. The media covered the event.

Storm Drain Stenciling – Stencils and paints were purchased. The first volunteers to use them were organized by an Eagle Scout, Dane Jensen, who was trained by Steve Bebee. Dane recruited and trained 20 other volunteers and stenciled sea life pictures on 181 storm drains on July 14, 2007. The Environmental Educator has taken groups out to stencil several times since then and tagged over 400 storm drains in the City.

Banner – The City made a street banner saying Only Rain Down the Storm Drain with the Puget Sound Starts Here logo on it that is hung at the busiest intersection in town whenever there is no other event that requires a banner.

BMPs - A set of BMP brochures were developed for restaurants, landscapers, construction crews, mechanics and cleaning companies that are available at City Hall and on the City web site. Just before the new Stormwater Ordinance was passed we sent over 200 letters out to different businesses in town that might be affected by the new ordinance and included these brochures.

Displays and Workshops on LID and Stormwater issues were offered at conferences like the Sound Waters conference which draws over 500 people, the Whidbey Gardening Workshop which draws over 200. Displays have also been put up at the entrance to City Hall several times, as well as at the Penn Cove Water Festival, Holland Happening and Sustainability Fair. Rain Garden workshops were offered to the city Gardening Club, a local nursery and the League of Women Voters.

S5.C.2 Public Involvement and Participation

PUBLIC INVOLVEMENT OBJECTIVES

- Ensure that all interested stakeholders are fully informed about the SWMP revisions, including its contents, process, and timing of key decisions.
- Ensure that this communication and opportunities for public participation are offered in a variety of formats to accommodate diverse stakeholder interests and needs.
- Ensure that public concerns, issues and ideas are heard and addressed as part of the draft plan SWMP submitted to the state.
- Ensure that the revision process is used to increase public awareness of, and support for, stormwater management throughout the City.

The City solicited the community for citizen involvement to give opportunities for public input into the Stormwater Plan via four open house events, which will were held at various stages of the Stormwater Plan development. These events will include drafts portions of the City's SWMP, and staff will be available to answer questions and solicit feedback. An outreach effort was made through newspaper advertising, channel 10 and the City's web page. The notification was given to ensure that citizens are aware of the public events and will have the opportunity to contribute feedback. Outreach was directed at the general public as well as applicable professional and environmental organizations and the development community.

S5.C.3 Illicit Discharge and Elimination

There are many different parts to this mandate, it will take a sequence of events to develop them, and it will most likely take the entire allotted time to reach full compliance. The following are some of the items that we are currently working on in order to put together an effective program.

In December 2008 the City completed upgrading our Stormwater mapping system to GIS format. Up to that point we have used an Auto-Cad mapping program that limited our ability to locate stormwater structures accurately. The new mapping accurately shows the locations of all outfalls, 24 inches or larger, and the names and locations of all bodies of water in the United States and/or the State of Washington that receive discharges from those outfalls. Also included in the City's stormwater mapping and permitting systems is identifying authorized connections to the City's MS4. The importance of identifying these locations will be helpful during the inspection phase in the IDDE program.

Second, in 2008 the City began rewriting our chapter twelve Stormwater Ordinance, to the extent allowable under State or local law, effectively prohibiting non-stormwater discharges into the permittee's storm sewer system, and implement appropriate enforcement procedures and actions. Possible sanctions include non-monetary penalties (such as stop work orders), fines, bonding requirements, and/or permit denials for non-compliance. The ordinance shall address the following categories of non-stormwater discharges unless the stated conditions are met:

- Discharges from potable water sources, including waterline flushing, hyper-chlorinated waterline flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be dechlorinated to a concentration of 0.1 ppm or less, pH

adjusted, if necessary, and volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4.

- Discharges from lawn watering and other irrigation runoff. These shall be minimized through, at a minimum, public education activities (see section S5.C.1) and water conservation efforts.
- De-chlorinated swimming pool discharges. The discharges shall be dechlorinated to a concentration of 0.1 ppm or less, pH-adjusted and reoxygenized, if necessary, volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4. Swimming pool cleaning wastewater and filter backwash shall not be discharged to the MS4.
- Street and sidewalk wash water, water used to control dust, and routine external building wash down that does not use detergents. The permittee shall reduce these discharges through, at a minimum, public education activities (see section S5.C.1.) and/or water conservation efforts. To avoid washing pollutants into the MS4, permittees must minimize the amount of street wash and dust control water used. At active construction sites, street sweeping must be performed prior to washing the street.

The completion of the IDDE Stormwater Ordinance was completed and was adopted on November 17, 2009. The ordinance did not meet the imposed deadline by the NPDES phase II permit of August 15, 2009 due to language in the ordinance that City Council felt needed to be clarified prior to adoption.

Third, develop and implement a plan to detect and address non-stormwater discharges, including illegal dumping, spills, failed septic systems, and illicit connections to Oak Harbor's system. This plan shall include inspections based a detention/retention pond training, mapping, and general identification of the type of business and its location.

Fourth, inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

Fifth, as part of the permit S5.C.3.d.ii the City had to have a hotline phone number identified for the purposes of reporting spills, this phone number is located on the City's web page www.oakharbor.org and in the local Verizon phone book.

S5.C.4 Controlling Runoff from New Development, Redevelopment and Construction Sites

The City of Oak Harbor Municipal Code adopts, by reference, the 2005 Department of Ecology Stormwater Management Manual for Western Washington (referred to as "The Manual") as the standard for addressing stormwater impacts resulting from all new development, redevelopment and construction sites (see OHMC12.30.310). The City has used the 2005 Manual as the regulatory basis for controlling runoff since its publication in 2005.

All applications for development permits, including subdivisions, site plans, clearing permits, grading permits and other types of development, are required to address the ten minimum requirements for stormwater management as part of the codified development review and permitting process defined in OHMC Title 18. The requirements in the Manual are the same as those contained in the technical requirements of the NPDES Western Washington Phase II Municipal Stormwater permit. The ten minimum requirements are as follows:

1. Preparation of Stormwater Site Plans
2. Construction Stormwater Pollution Prevention (SWPP)
3. Source Control of Pollution
4. Preservation of Natural Drainage Systems and Outfalls
5. On-site Stormwater Management
6. Runoff Treatment
7. Flow Control
8. Wetlands Protection
9. Basin/Watershed Planning
10. Operation and Maintenance

The applicability of the minimum requirements varies with each site depending on the type of activity and the thresholds as defined in the Manual. Each applicant for a development permit is required to demonstrate either how the minimum requirement is being addressed or that the requirement does not apply to the individual site prior to the issuance of the permit.

A copy of the Manual is on file with the City Clerk and is also available for viewing in the Development Services Department. A complete copy of each of the five volumes of the Manual can be downloaded directly from the Washington State Department of Ecology at:

- Vol. I - Minimum Technical Requirements and Site Planning
<http://www.ecy.wa.gov/biblio/0510029.html>
- Vol. II - Construction Stormwater Pollution Prevention
<http://www.ecy.wa.gov/biblio/0510030.html>
- Vol. III - Hydrologic Analysis and Flow Control Design and BMPs
<http://www.ecy.wa.gov/biblio/0510031.html>
- Vol. IV - Source Control BMPs
<http://www.ecy.wa.gov/biblio/0510032.html>
- Vol. V - Runoff Treatment BMPs
<http://www.ecy.wa.gov/biblio/0510033.html>

In 2009, the City drafted a new Stormwater Ordinance that fully implements the technical requirements for stormwater control, inspections, maintenance, staff training and enforcement of stormwater regulations imposed by the NPDES phase II permit.

S5.C.5 Pollution Prevention and Operation Maintenance for Municipal Operations

The City has recently finished developing a draft Stormwater Facilities Maintenance Manual and has had other departments review it and make comments. This operation and maintenance (O&M) program includes a method to determine if and what type of maintenance is required and also gives a time frame of when the work must be completed in order to have the least amount of impact created during municipal operations. There is also a training component, which has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

Next, the City must also create a Stormwater Pollution Prevention Plan. The program must include employee training and policies to prevent and reduce stormwater pollution from activities including, but not limited to, application of fertilizers, pesticides, and herbicides, sediment and erosion control, landscape maintenance and vegetation disposal, trash management

and building exterior cleaning and maintenance. These pollution reduction activities shall be used at all City owned or maintained properties, including but not limited to, parks and open spaces, road right-of-ways, maintenance yards, and stormwater treatment and flow control facilities. In 2009 the Storm Drain Division held multiple training sessions with all departments within the City to train staff in pollution prevention in their daily activities while working on City owned properties.

S8. Monitoring

Permittees are not required to conduct water quality sampling or other testing during this permit term, with the following exceptions:

1. Water quality monitoring required for compliance with TMDLs (Total Maximum Daily pollutant Loads).
2. Any sampling or testing required for characterizing illicit discharges pursuant to the Illicit Discharge Detection and Elimination section of the permit.
3. Permittees are required to prepare for the implementation of a comprehensive long-term monitoring program under the next permit term. The program includes two components: stormwater monitoring and targeted SWMP effectiveness monitoring.

Current Activities:

1. No monitoring for TMDLs has been undertaken because TMDLs have not been established for Oak Harbor at this time.
2. No monitoring for illicit discharges has been undertaken because no illicit discharges have occurred which required characterization.
3. Long-term monitoring applies to cities with a population greater than 10,000; therefore, Oak Harbor, with a population of 23,420, has been given the task to identify two outfalls or conveyances where stormwater sampling could be conducted. One outfall shall represent commercial land use and the second will represent high-density residential land use.
4. No action has yet been taken on preparation for SWMP effectiveness monitoring pending forthcoming guidance from the Department of Ecology.

The City will prepare for future long-term monitoring:

1. The City will prepare to participate in the implementation of a comprehensive long-term monitoring program. The monitoring program will include two components: stormwater monitoring and targeted Stormwater Management Program (SWMP) effectiveness monitoring.
 - a. Stormwater monitoring will be intended to characterize stormwater runoff quantity and quality at a limited number of locations in a manner that allows analysis of loadings and changes in conditions over time and generalization across the City.
 - b. Stormwater program effectiveness monitoring will be intended to improve stormwater management efforts by evaluating issues that significantly affect the success of, or confidence in, stormwater controls. The monitoring program may include long-term monitoring and short-term studies. The results of the monitoring program will be used to support the adaptive management process and lead to refinements of the SWMP.

2. Stormwater monitoring.
 - a. The City will identify three outfalls or conveyances where stormwater sampling could be conducted. One outfall or conveyance will represent commercial land use, the second will represent high-density residential land use and the third will represent industrial land use. The City of Oak Harbor does not have any industrial land or high-density residential land, and only a very small amount of commercial land use, but will identify two outfalls or conveyances where stormwater sampling can be conducted.
 - b. The City will document how sites are selected and justify the basin size, based on comparison of the times of concentration with rainfall durations for typical seasonal storms. Each will represent a discernible type of land use, but not be a single industrial or commercial complex. Ideally, to represent a particular land use, no less than 80% of the area served by the outfall or conveyance will be classified as having that land use. The City may move upstream in the conveyance system to achieve the desired land use, or, if a primarily industrial or commercial area is not present, an area of mixed industrial and commercial land use may be selected.
3. SWMP effectiveness monitoring.
 - a. The City will prepare to conduct monitoring to determine the effectiveness of the City's SWMP at controlling stormwater related problems that are directly addressed by actions in the City's SWMP. This component of the monitoring program shall be designed to answer the following types of questions:
 - How effective is a targeted action or narrow suite of actions?
 - Is the SWMP achieving a targeted environmental outcome?
 - b. No later than December 31, 2010, the City will identify at least two suitable questions and select sites where monitoring will be conducted. This monitoring will include, at a minimum, plans for stormwater, sediment or receiving water monitoring of physical, chemical and/or biological characteristics. This monitoring may also include data collection and analysis of other measures of program effectiveness, problem identification and characterizing discharges for planning purposes.
 - c. For each question, the City will develop a monitoring plan containing the following elements:
 - A statement of the question, an explanation of how and why the issue is significant to the permittee, and a discussion of whether and how the results of the monitoring may be significant to other MS4s.
 - A specific hypothesis about the issue or management actions that will be tested.
 - Specific parameters or attributes to be measured.
 - Expected modifications to management actions depending on the outcome of hypothesis testing.
4. Monitoring program reporting requirements.
 - a. The 2011 annual report will:
 - Describe the status of identification of sites for stormwater monitoring.
 - Include a summary of proposed questions for the SWMP effectiveness monitoring and describe the status of developing the monitoring plan, including the proposed purpose, design and methods.