

City of DuPont

Municipal Separate Storm Sewer System Stormwater Management Program

As required by the:

2007 Western Washington Phase II Municipal Stormwater Permit

March 2008

ACRONYMS

AASF-	Adopt-a-Stream Foundation
AGC-	The Association of General Contractors
AKART-	all known, available and reasonable methods of prevention, control, and treatment
BMPs-	Best Management Practices
CESCL-	Certified Erosion and Sediment Control Lead
the City-	City of DuPont
DMC-	DuPont Municipal Code
Ecology-	Washington State Department of Ecology
EPA-	US Environmental Protection Agency
LID-	Low Impact Development
the Manual-	Ecology's 2005 <i>Stormwater Management Manual for Western Washington</i>
MS4-	Municipal Separate Storm Sewer System
NPDES-	National Pollutant Discharge Elimination System
O&M-	Operations and Maintenance
the Permit-	2007 <i>Western Washington Phase II Municipal Stormwater Permit</i>
PSA-	Professional Service Agreement
PSAT-	Puget Sound Action Team
PSP-	Puget Sound Partnership
SWMP-	Stormwater Management Program
SWPPP-	Stormwater Pollution Prevention Plan
TESC-	Temporary Erosion and Sediment Control
TMDL-	Total Maximum Daily Load
WRIA-	Water Resource Inventory Area

INTRODUCTION

This Stormwater Management Program (SWMP), required by Section S5.A.2. of the *2007 Western Washington Phase II Municipal Stormwater Permit* (Permit) is organized according to the program components in Section S5.C. of the permit and will be updated annually for submittal with the City of DuPont's (City) annual reports to the Department of Ecology (Ecology).

The SWMP document will consist of:

1. A description of each of the following components, which are outlined in Section S5.C. of the Permit:
 - a. Public Education and Outreach,
 - b. Public Involvement and Participation,
 - c. Illicit Discharge Detection and Elimination,
 - d. Controlling Runoff from New Development, Redevelopment, and Construction Sites, and
 - e. Pollution Prevention and Operation and Maintenance for Municipal Operations.
2. Any additional actions implemented by the City pursuant to Section S5.C.
3. Any additional actions necessary to meet the requirements of applicable Total Maximum Daily Loads (TMDLs) pursuant to Section S7 of the Permit: *Compliance with Total Maximum Daily Load Requirements*.

The SWMP will be comprised of these components and designed to protect water quality by reducing the discharge of pollutants from the regulated small Municipal Separate Storm Sewer System (MS4) to the maximum extent practicable. These components have been selected by the City as reasonable methods to achieve the goals of the permit.

The SWMP is a planning and implementation document that can be used by the City to continue to meet permit requirements in the future. The program has three separate aims depending on the intended audience:

1. Ecology- Provide written documentation on how the City will meet permit requirements for the SWMP.
2. The public- Solicit input and build local support for the City's SWMP by posting it on the City website as described in the Public Involvement and Participation requirements.
3. City staff and officials- Build support and understanding for the SWMP.

The City will apply for renewal of this Permit no later than August 16, 2011 (180 days before permit expiration).

CHAPTER 1: PUBLIC EDUCATION AND OUTREACH PROGRAM

Public involvement/participation activities can be effective tools used to gain much needed public support for stormwater management program implementation. These activities will be aimed at residents, businesses, industries, elected officials, policy makers, planning staff and other employees of the City.

Public Education and Outreach Program

- a. By February 16, 2009 the City will provide an education and outreach program for its stormwater service area. The public education program is designed to achieve measurable improvements in the target audience's understanding of stormwater pollution issues and the steps that will be taken to solve these issues. The City's public education and outreach program is designed to target the following audiences and subject areas:
 - i. General public
 - General impacts of stormwater flows into surface waters.
 - Impacts from impervious surfaces.
 - Source control Best Management Practices (BMPs) and environmental stewardship actions and opportunities in the areas of pet waste, vehicle maintenance, landscaping and buffers.
 - ii. General public, businesses, including home-based and mobile businesses
 - BMPs for use and storage of automotive chemicals, hazardous cleaning supplies, car wash soaps and other hazardous materials.
 - Impacts of illicit discharges and how to report them.
 - iii. Homeowners, landscapers and property managers
 - Yard care techniques protective of water quality.
 - BMPs for use and storage of pesticides and fertilizers.
 - BMPs for carpet cleaning and auto repair and maintenance.
 - Low Impact Development (LID) techniques, including site design, pervious paving, and retention of forests and mature trees.
 - Stormwater pond maintenance.
 - iv. Engineers, contractors, developers, review staff and land use planners
 - Technical standards for stormwater site and erosion control plans.
 - LID techniques, including site design, pervious paving, and retention of forests and mature trees.
 - Stormwater treatment and flow control BMPs
- b. The City will measure the understanding and adoption of the targeted behaviors among the targeted audiences and track and maintain records of public education and outreach activities.
- c. The City will track and maintain records of public education and outreach activities.

The City will implement the following BMPs to perform public education and outreach activities on stormwater impacts:

- BMP 1(A): Newsletter Articles
- BMP 1(B): Stormwater Website
- BMP 1(C): Encourage Proper Disposal of Household Hazardous Waste
- BMP 1(D): Address Illegal Dumping and Littering
- BMP 1(E): Address Lawn and Garden Care Activities
- BMP 1(F): Education on Low Impact Development (LID)

Objective: Reduce pollutants from residential and industrial runoff through increased public awareness of the impacts of stormwater runoff.

BMP 1(A): NEWSLETTER ARTICLES

Measurable Goals

1. Develop list of subjects addressing:
 - Citizen reporting under the illicit discharge and construction programs
 - Water quality impacts of stormwater runoff and impervious surfaces to local water bodies
 - Steps the public can take to reduce stormwater pollution including source control BMPs
 - Public involvement programs
 - Environmentally friendly landscaping and pest management techniques
2. Design articles for bimonthly newsletter addressing selected topics.
3. Track the number of materials created and distributed.

Description

The City will prepare articles in its bimonthly newsletter to address the topics listed above. The newsletter reaches all residents of the City and will be appropriate for the public. The articles will be made effective by being engaging and concise. They will contain brief, important messages, provide overview for the problems and solutions, or implore simple actions.

The Puget Sound Partnership (PSP) and the US Environmental Protection Agency (EPA), among other organizations, prepare brochures and posters covering surface water pollution. This information may be incorporated into the articles. Many of these are available at their websites:

PSP: http://www.psat.wa.gov/Publications/Pub_Master.htm#stormwater

EPA: <http://cfpub.epa.gov/npdes/stormwatermonth.cfm>

Timeline for Completion

- 2008 - Create a stormwater article to appear in its bimonthly newsletter.
- Ongoing- Prepare new articles on a regular basis.
- Ongoing – Track the number of articles printed in City’s newsletter.

BMP 1(B): DEVELOP AND UPDATE STORMWATER WEBSITE

Measurable Goals

1. Develop a list of subjects for inclusion and discussion on the stormwater website.
2. Track updates to website each year.
3. Develop login counter to determine the number of website hits per year.

Description

Since agency personnel, environmental group leaders, and the business community use the internet regularly, a website will be a valuable tool in conveying stormwater pollution related information.

The following topics will be addressed on the City's website:

- Non-point source pollution in stormwater including car wash runoff, pesticides, fertilizers and pet waste
- Proper handling of household hazardous wastes
- Information on proper lawn watering, and native plants
- Instructions on rain barrel construction

The following information will be included on the City's website:

- Contact information for the City's stormwater program
- Community Event and Volunteer Opportunity Announcements
- Storm Drain system maps
- Recommended residential stormwater BMPs
- Volunteer Opportunities
- Links to State and National stormwater programs
- NPDES permit and Annual Report required by the permit
- This SWMP

Timeline for Completion

- 2007 - Developed a stormwater website.
- Ongoing – Update website.

BMP 1(C): ENCOURAGE PROPER DISPOSAL OF HOUSEHOLD HAZARDOUS WASTES

Measurable Goals

1. Research local and regional opportunities for the public to properly dispose of household hazardous waste
2. Develop an inventory of proper disposal events and opportunities based on research.
3. Create, distribute and track the number of stormwater brochures dealing with hazardous materials disposal.

Description

Often, bad habits that lead to water pollution stem from the fact that citizens do not realize that certain chemicals are dangerous to the environment. Once citizens are informed, they will adjust their behavior to protect water quality.

Articles City's in the bimonthly newsletter and on its website will be applicable to residential, commercial and industrial properties and will address the following hazardous waste handling issues:

- Water quality impacts of improper storage, handling and disposal
- Locations for proper hazardous waste disposal
- Reporting of illicit discharges
- Awareness of variety of hazardous materials including, pesticides, paints, cleaning products, products containing mercury, fluorescent light bulbs, batteries, hobby chemicals, thinners and solvents, automotive products, aerosols, glues and adhesives and propane tanks
- Less-toxic alternatives to hazardous materials

Timeline for Completion

- 2008 - Create and distribute a stormwater brochure discussing household hazardous waste management.
- Ongoing- Maintain an inventory of hazardous waste disposal events.
- Ongoing - Distribute hazardous waste management brochure.

BMP 1(D): ADDRESS ILLEGAL DUMPING AND LITTERING

Measurable Goals

1. Install and track number of additional trash bins.
2. Post and track number of signs at detention ponds.
3. Review and enforce litter ordinance.
4. Distribute illegal dumping and littering education materials.

Description

Trash and floating debris in waterways have become significant pollutants, especially in areas where large volumes of trash are generated in a concentrated area. Trash in waterbodies contributes to visual pollution and detracts from the aesthetic qualities of the landscape, along with posing a threat to wildlife and human health. Less litter from citizens may also save the City money for maintenance of structural-runoff controls.

When developing a trash management strategy, the City will adopt the following EPA recommendations:

- Regular cleaning and maintenance is necessary to prevent the trash accumulated at control structures from being hazardous itself.
- Control strategies will not just transport trash to another waterbody, but will reduce the quantity of trash in the water as a whole.

The EPA indicates that there are two main methods of trash control: **source control** and **structural control**.

Source control includes community education, improved infrastructure, waste reduction and cleanup campaigns. Community education will be incorporated into City's bimonthly newsletter. Citizen awareness is key to a successful trash management program. The City proposes to:

- Install signs at detention ponds indicating the consequences of illegal dumping and littering.
- Increase the number of trash receptacles available for public use to encourage responsible trash disposal.
- Encourage the use of recycled products and products that contain limited amounts of packaging by addressing this issue in the stormwater brochure.
- Implement street sweeping, receptacle servicing, and use of cleanup crews along roadsides.

Structural control refers to the use of structures that physically filter wastes and conduct centrifugal separation of trash. Physical methods of filtering include trash racks, mesh nets, bar screens, and trash booms. Centrifugal separation is the means of separating floating trash from water by increasing the settling rate of trash and particles. A number of commercial centrifugal separation products are available.

Timeline for Completion

- 2008- Install additional trash bins and detention pond signs.
- Ongoing - Distribute illegal dumping and littering educational materials.
- Ongoing - Review and enforce the litter ordinance.

BMP 1(E): LAWN AND GARDEN CARE ACTIVITIES INFORMATION

Measurable Goals

1. Develop a list of subjects to be included in public education material addressing lawn and garden care practices.
2. Mail and track the number of lawn and garden care education materials.

Description

Lawn and garden care activities can result in contamination of stormwater through pesticide, soil, and fertilizer runoff. Proper landscape management, however, effectively reduces water use and contaminant runoff and enhances the aesthetics of a property.

Articles in the City's bimonthly newsletter and on its website will be applicable to residential, commercial and industrial properties and will address the following lawn and garden care issues:

- Planning and Design
 - Educate property owners on the benefits of developing a landscape plan that utilizes the natural conditions of site including:
 - Regional and climatic conditions
 - Existing vegetation
 - Topography
 - Intended uses of the property
 - Water needs of plants
 - Promote natural vegetation choices to minimize water loss and contamination.
- Appropriate Plant Selection
 - Educate about the water efficiency and disease resistance of indigenous plant species.
 - Encourage property owners to choose local or regional plants to develop an environmentally friendly landscape.
- Use of Mulches
 - Educate about the water retention, weed growth reduction, erosion prevention and soil and plant growth improvements of mulch.
 - Encourage property owners to use mulches.
- Fertilizers
 - Educate property owners about over-application.
 - Discourage property owners from using fertilizers.
 - Recommend less-toxic alternatives, such as composted organic material.
- Pesticides
 - Educate property owners about the effects of pesticides.
 - Identify any potential pests to determine if they are truly harmful to plants.
 - Encourage the selection of hearty, native plants that require no pesticides.
 - Discourage chemical pest control.

The City will obtain information from the following sources when preparing the lawn and garden brochures:

NRCS. 2007. *Lawn and Garden Care*. United States Department of Agriculture. National Resources Conservation Service.

<http://www.nrcs.usda.gov/feature/highlights/homegarden/lawn.html>.

Seattle Public Utilities. 2007. *Natural Lawn and Garden Care*. Seattle, WA.

http://www.seattle.gov/util/Services/Yard/Natural_Lawn_&_Garden_Care/index.asp

Washington State University, Pesticide Education Program. 2007. *WSU Urban IMP Pesticide Safety Education Program*. Pullman, WA. <http://pep.wsu.edu>

Timeline for Completion

- 2008- Develop a list of important lawn and gardening topics.
- 2008- Prepare article for City's bimonthly newsletter discussing lawn and garden activities and stormwater impacts.

BMP 1(F): EDUCATION ON NEW DEVELOPMENT AND LOW IMPACT DEVELOPMENT (LID)

Measurable Goals

1. Review land use codes to ensure consistency with LID principles.
2. Identify construction related subjects for inclusion in construction/new development public education materials that focus on local construction.
3. Distribute low impact development education material appropriate for the soil and topography of the City.
4. Publish City Development Standards on the website.
5. Post updated Development Standards on the City's website.
6. Distribute and track the number of LID education materials.
7. Track the number of new site plans that incorporate LID principles and practices.
8. Track the number of City-owned facilities that are retrofitted with LID practices.

Description

Using LID approaches for new development will help to achieve stormwater pollution reduction goals by reducing stormwater runoff and pollution. The DMC will be reviewed so that LID practices can be integrated into the regulations. In order for these measures to be implemented, the City will inform the public about these practices. LID education material will be available at City Hall.

The City will encourage the use of LID in new development with the following:

- Determine applicable LID BMPs in the planning stages of new projects.
- Identify maintenance requirements for applicable LID BMPs.
- Demonstrate LID BMPs at City-owned facilities.
- Inform developers about the potential cost savings of LID BMPs and their use as a marketing tool to attract environmentally conscious buyers.
- Educate property owners on effective pollution prevention measures.
- Encourage the proper maintenance of BMPs.
- Update the City Development Standards to include LID BMPs.
- Allow convenient access to LID information on City's website.

Timeline for Completion

- 2008 - Post updated City Development Standards on the City website.
- 2009 – Develop LID in DMC.
- Ongoing – Distribute educational material referring on LID codes at City Hall.
- Ongoing - Monitor the number of plans implementing LID practices and of any City facilities utilizing LID principles.

CHAPTER 2: PUBLIC INVOLVEMENT AND PARTICIPATION PROGRAM

Involving the public in stormwater programs will encourage them to take ownership of the need to protect water quality. Public support is required for effective stormwater management program implementation. Opportunities will be provided for public involvement through advisory councils, watershed committees, participation in developing rate-structures, and stewardship program.

Public Involvement and Participation Program

- a. By February 16, 2008 the City will create opportunities for the public to participate in the decision-making processes involved in the development, implementation, and update of the City's SWMP. The City will also develop and implement a process for consideration of public comments within their SWMP.
- b. The City will make their SWMP, annual report, and all other submittals required by this Permit, available to the public by posting it on their website.

The City will implement the following BMPs to encourage the public to participate in its stormwater program:

- BMP 2(A): Post Public Involvement Opportunities
- BMP 2(B): Stormwater Management Program Meetings
- BMP 2(C): Coordination with Adopt-a-Road Program
- BMP 2(D): Storm Drain Stenciling
- BMP 2(E): Volunteer Monitoring
- BMP 2(F): Community Hotline

Objective: Provide opportunity for public involvement and participation.

BMP 2(A): POST PUBLIC INVOLVEMENT OPPORTUNITIES

Measurable Goal

1. The number of updates to the City stormwater website.

Description

The City will post information about the following on its website:

- Public Workshops on the City's SWMP
- NPDES permit and Annual Report
- Adopt-a-Road programs
- Storm Drain Stenciling Opportunities
- Volunteer Storm Drain Monitoring

Later into the permit cycle, the City may evaluate other opportunities for public participation and post these as well.

Timeline for Completion

- 2007 - Developed a stormwater website.
- Ongoing - Topics will be added and updated.

BMP 2(B): STORMWATER MANAGEMENT PROGRAM MEETINGS

Measurable Goals

1. Hold two public meetings during the first year of the program.
2. Publish a minimum of two notices during the first year of the program.
3. The number of attendees at meetings.
4. Record actions taken as a result of stakeholder meetings.

Description

The City will hold two public meetings to promote public involvement and participation in the City's stormwater management program. The City will ensure that the meetings are well advertised, will follow the applicable advertisement requirements for the City, County, State, and any applicable Tribes, and will make a concerted effort to solicit input from various sectors. Advertisement methods will include print media, and posting notices in public places, etc. When planning the public meeting, the City will implement the following steps:

- Determine the Appropriate Type of Public Meeting Format.
 - Choose a format coinciding with the goals of the meeting and the items on the agenda.
 - Ensure that presentation materials will avoid excessive use of acronyms, technical terminology, and large amounts of text.
- Announce the Meetings.
 - Ensure that announcements for the public meeting reach all stakeholders within the community by distributing them to local newspapers and other appropriate mechanisms.
- Conduct Meeting and Solicit Stakeholder Input.
 - Ensure that the agenda includes enough time for people to ask questions and provide feedback.
 - Record all comments and the responses that are received.
 - Make available a public comment form for participants to fill out if they would rather not speak in front of the entire gathering.
 - Ensure staff availability for one-on-one discussions.
 - Evaluate participant feedback to meeting effectiveness.

- Perform Meeting Follow-up Activities.
 - Summarize the questions and answers discussed at the meeting.
 - Prepare a participant contact list.
 - Compile all public comment forms received.
 - Determine quality of representation of all stakeholders.
 - Evaluate perceptions and attitudes of the participants.

Timeline for Completion

- 2007 – Held a public meeting with City Council to discuss Stormwater Management and submit related public notices.
- 2008 – Hold a public meeting to discuss Stormwater Management and submit related public notices.

BMP 2(C): COORDINATION WITH ADOPT-A-STREET PROGRAM

Measurable Goals

1. Identify target areas or streets to be included in the Adopt-a-Street program.
2. Identify and contact groups about participating in the program.
3. The number of groups participating in the Adopt-a-Street program.
4. The amount of trash and debris removed by Adopt-a-Street volunteers.

Description

The City will continue to identify target streets to be included in the Adopt-a-Street program. Once the streets or areas are identified, groups shall be listed and contacted for interest in the program. Such groups may include local Boy and Girl Scout troops, school groups, fundraising groups, or other civic organizations. The City can coordinate their program with the Pierce County Public Works and Utilities Department. Their current program information can be found at:

https://www.piercecountywa.org/pc/abtus/ourorg/pwu/roadops/Adopt_A_Road.htm

Timeline for Completion

- 2008- Identify and contact groups about participating in the program.
- Ongoing- Advertise and monitor the Adopt-a-Street program.

BMP 2(D): STORM DRAIN STENCILING AND BADGE PROGRAM

Measurable Goals

1. Identify target areas to include in the storm drain stenciling and badge program.
2. Develop storm drain stencils and badges.
3. Identify and contact targeted groups about participating in a stenciling and badge program.
4. The number of groups participating.
5. The number of drains stenciled and badges applied.

Description

The City will identify target areas or streets to be included in the storm drainage stenciling and badge program. Once the streets or areas are identified, groups will be identified and contacted for interest in the program. Such groups may include local Boy and Girl Scout troops, school groups, fundraising groups, or other civic organizations. The stencils and badges will be designed and created with slogans, logos and text appropriate for the area. Support will be given to groups including stencils, appliques, paint, rollers, badges, safety equipment, trash bags, and if necessary, traffic control.

Records of storm drain stenciling and badge application will be maintained throughout the year and indicated in the annual report at the end of the year.

Timeline for Completion

- 2008- Identify target locations for storm drain stenciling.
- 2009- Develop stencils.
- 2009- Identify and invite groups to participate in the program in 2010.

BMP 2(E): VOLUNTEER MONITORING

Measurable Goals

1. Identify outfalls or areas that are safe for volunteer monitoring groups to conduct stormwater monitoring or dry weather screening.
2. Develop guidelines for conducting volunteer monitoring in identified areas.
3. Invite identified groups to participate in the volunteer monitoring program.
4. Track the number of groups participating.

Description

Data from volunteer monitoring can be useful to the City in terms of correcting actions that are currently degrading the environment or it can be used to set the background necessary to determine if a continuing downward trend is present. However, in order for this data to be useful, the City must develop appropriate guidelines so that data is collected in a uniform manner that may be used comparatively with data collected by others.

For its volunteer monitoring program, the City will identify outfalls or areas safe for volunteer monitoring groups to conduct stormwater monitoring or dry weather screening. They will then assemble and provide the proper training and equipment for the groups. Guidelines detailing specific monitoring requirements will be developed and explained to each group. The guidelines shall be easy enough for volunteers to understand and follow completely. Potential volunteer groups will be listed and then contacted in regards to the program. If interested, the groups will be trained and given the appropriate equipment including data forms and safety equipment.

Records of each monitoring effort will be maintained and reported at the end of the year.

Timeline for Completion

- 2009- Identify areas for volunteer monitoring.
- 2010- Develop volunteer monitoring guidelines.
- 2010- Invite groups to participate in monitoring.
- Ongoing- Advertise and track the monitoring program.

BMP 2(F): COMMUNITY HOTLINE

Measurable Goals

1. Identify a phone number and contact person to receive reports on stormwater quality issues from the community.
2. Distribute a hotline number to the community.
3. The number of calls received by the hotline.
4. The number of inspections provided in response to calls from the public.

Description

Since regulators and authorities cannot monitor all water bodies at once, the City will rely on the public to keep them informed of water polluters. An accessible phone number provides a means for concerned citizens and agencies to contact the appropriate authority when they see water quality problems. A typical call may report a leaking automobile, concrete washout dumped on the street, paint in a creek, organic debris (including pet waste), or other illicit discharges in a drainage system or waterway.

A name and phone number for this contact will be advertised and distributed to the public through a City newsletter. The phone number will also be available on all distributed materials including in the City's bimonthly newsletter and the information on the City's website. The City may provide an electronic form on its website which will include spaces for information about the person making the complaint and the alleged violation. If worried about privacy, citizens may submit a complaint by telephone.

City staff will dispatch qualified water quality investigators to respond to complaints. They will make every attempt to determine the responsible party and inform them of the environmental impact of their actions. The responsible party will be required to stop the action that is polluting the surface water. In addition, staff members will provide the violator with information on cleanup, alternative disposal options, erosion control, and other BMPs as approved by the City. Disciplinary action will be taken against polluters as described in the City's illicit discharge ordinance.

Timeline for Completion

- 2008- Identify a contact person and phone number for the community hotline.
- Ongoing - Track the number of inspections performed in response to calls.

CHAPTER 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

Ecology has developed final permit requirements for the illicit discharge detection and elimination program requirement of the State's NPDES Phase II permit program. The following program is based on these requirements and will be implemented no later than August 16, 2011.

Illicit Discharge Detection and Elimination Program

- a. A storm sewer system map will be developed. The map will be periodically updated and shall include the following:
 - i. The location of all known municipal separate storm sewer outfalls and receiving waters and structural stormwater BMPs owned, operated, or maintained by the City. The map will contain the attributes listed below for all storm sewer outfalls with a 24 inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems:
 - Tributary conveyances (indicate type, material, and size where known).
 - Associated drainage areas.
 - Land use.
 - ii. A map of all connections to the municipal separate storm sewer authorized or allowed by the City after February 16, 2007.
 - iii. Geographic areas served by the City storm sewer system that do not discharge stormwater to surface waters.
 - iv. The municipal storm sewer system map(s) in electronic format will be made available to Ecology. The map will be in an electronic format with fully described mapping standards.
 - vi. Upon request, and to the extent appropriate, the City will provide mapping information to co-permittees and secondary permittees.
- b. The City will develop and implement an ordinance to effectively prohibit non-stormwater, illegal discharges, and dumping into the MS4 to the maximum extent allowable under State and Federal law. The ordinance will be adopted no later than August 16, 2009.
 - i. The ordinance will prohibit the following categories of non-stormwater discharges unless the stated conditions are met:
 - Discharges from potable water sources and dechlorinated swimming pools. If necessary to release discharge, it will be treated.
 - Discharges from lawn watering and other irrigation runoff.
 - Street and sidewalk wash water, water used to control dust, and routine external building wash down that does not use detergents. At construction sites, street sweeping must be performed prior to washing the street.
 - Other non-stormwater discharges.

- ii. If any other discharges are identified as significant sources of pollutants to waters of the State they will be prohibited.
- iii. The City will develop an enforcement strategy and implement it.
- c. The City will develop and implement a program to detect and address non-stormwater discharges, spills, illicit connections, and illegal dumping into the MS4. The program will be fully implemented no later than August 16, 2011 and will include:
 - i. Procedures for locating priority areas likely to have illicit discharges.
 - ii. Field activities to do visual inspections of priority outfalls and/or infiltration ponds, verify outfall locations, identify previously unknown outfalls, and detect illicit discharges.
 - Within the first four years of the Permit, field assessments will be done on three high priority receiving waters and/or infiltration ponds. A field assessment on at least one high priority water body will be made each year thereafter.
 - iii. Procedures for characterizing any illicit discharges reported to the City. These will include detailed instructions for evaluating the seriousness of the discharge.
 - iv. Procedures for visual inspections. These would include opening manholes, using mobile cameras, and collecting and analyzing water samples.
 - v. Procedures for removing the source of discharge. These procedures will include notification of authorities and property owners, elimination of the discharge, follow-up inspections, and escalating enforcement and legal actions if the discharge is not eliminated. Termination of the connection will be verified within 180 days, using enforcement authority as needed.
- d. The City will inform public employees, businesses, and the public of hazards associated with illegal discharges and improper disposal of waste.
- e. The City will adopt and implement procedures for program evaluation and assessment. Results will be tracked and published in the annual stormwater report.
- f. Field staff will be trained to identify and report illicit discharges no later than August 16, 2009. Follow-up training will be provided as required.

The City will implement BMPs to detect and eliminate illicit connections during this permit cycle. The City will specifically address the following BMPs.

- BMP 3(A): Review Illicit Discharge Legal Authority and Ordinance
- BMP 3(B): Maintain Stormwater Inventory (Storm Sewer System Map)
- BMP 3(C): Conduct Outfall Screening
- BMP 3(D): Identify Stormwater Hotspots
- BMP 3(E): Receive Training on Illicit Discharges
- BMP 3(F): Eliminate Discharges from Storage Tanks

Objective: Establish and carry out procedures to identify and remove illicit discharges, and encourage public education and involvement in eliminating illicit discharges.

BMP 3(A): REVIEW ILLICIT DISCHARGE LEGAL AUTHORITY AND ORDINANCE

Measurable Goals

1. Review the related ordinance.
2. Revise the ordinance as needed.
3. Develop a supplemental legal authority as needed.

Description

The City will first determine if their existing codes relate appropriately to the prohibition of illicit discharges. The existing City of DuPont Municipal Code (DMC) contains regulations that prohibit illicit discharges and illegal dumping and authorizes enforcement actions on public and private property.

The following section of the DMC address illicit discharges

- 22.01.040(35) Definitions
- 22.01.090(c) Illicit Discharges

The City will ensure that, as a minimum, the illicit discharge ordinance contains the Ecology permit requirements as noted earlier.

Timeline for Completion

- 2009- Review existing code and revise as necessary.

BMP 3(B): MAINTAIN STORMWATER INVENTORY (STORM SEWER SYSTEM MAP)

Measurable Goals

1. Ensure current base map includes full stormwater system, receiving streams, outfalls, and displays the permit coverage area.
2. Develop procedures for updating base map.
3. Update base map with as-built information.

Description

A storm sewer system map depicting the existing storm sewer system has been developed and is maintained to aid in eliminating illicit discharges. Updates are provided as development and repairs to the storm system occur. The map has a scale of 1" = 100' and depicts the following features:

- The locations of all MS4 outfalls and receiving waters;
- The locations of all structural stormwater BMPs owned, operated, or maintained by the City;
- The tributary conveyances, associated drainage areas, and land use designations for all storm sewer outfalls with a 24-inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems;

- All connections to the municipal sewer authorized or allowed by the City after February 16, 2007; and
- Geographic areas served by the City's MS4 that do not discharge stormwater to surface waters.

The City will make MS4 maps depicting the required information available to Ecology upon their request.

The storm sewer system map will be used to coordinate the removal of illicit connections and track storm sewer system maintenance.

Timeline for Completion

- 2007- Develop the storm sewer system map and procedures for updating the map.
- Ongoing - Continue to update the map with as-built information from new development.

BMP 3(C): CONDUCT OUTFALL SCREENING

Measurable Goals

1. Create and prioritize an inventory of sites for inspection.
2. Develop a schedule to inspect 20% of outfalls and/or public infiltration ponds per year.
3. Inspect 20% of outfalls and/or infiltration ponds.
4. The number of illicit connections found and repaired.

Description

Storm drain outfalls will be monitored to identify those areas where discharges that exceed water quality standards are occurring. Identifying potential illicit discharge sources requires both visual inspections for dry-weather discharges and potentially chemical analysis at selected outfalls. Field notes will be recorded on inspection forms and photographs taken and retained for reference. If the outfall is not accessible, field crews will use the system map and identify the nearest point to assess the system. Staff will locate the storm sewer manhole closest to the outfall and remove the cover to identify signs of dry-weather flow, such as odor or residue. Field tests for possible contamination in dry-weather flows are listed below:

- Odor—Most strong odors, especially gasoline, oils, and solvents, are likely associated with high responses on the toxicity screening test.
- Color – The color of dry-weather discharges is an important indicator of inappropriate industrial sources. Industrial dry-weather discharges may be of any color, but dark colors, such as brown, gray, or black, are most common.
- Turbidity – Turbidity is affected by the degree of gross contamination. Dry-weather industrial flows with moderate turbidity can be cloudy, while highly turbid flows can be opaque. High turbidity is often a characteristic of undiluted dry-weather industrial discharges.
- Vegetation – Vegetation surrounding an outfall may show the effects of industrial pollutants. Irregular growth of vegetation may be the result of dry-weather discharges.

- Floatable matter – Contaminated flow may contain floating solids or liquids directly related to industrial or sanitary wastewater pollution. Floatables of industrial origin may include animal fats, spoiled food, oils, solvents, sawdust, foams, packing materials, or fuel.
- Deposits and stains – Deposits and stains include any type of coating near the outfall, usually of a dark color.
- Damage to Outfall Structures – Damage to outfall structures is another visible indication of industrial contamination. Severely contaminated discharges, usually of industrial origin, can cause the peeling of surface paint and the cracking, deterioration, and spalling of concrete at an outfall.

The City will inspect all outfalls over the 5-year permit term. If indications of an illicit discharge exist, the Public Works Director will be alerted and steps will be followed to identify and eliminate the source of the discharge. If other non-stormwater discharges are identified at an outfall, the source of the discharge will be investigated and a list of potential non-stormwater discharge sites within the basin will be matched to the type of discharge identified. Often times the source of the non-stormwater discharge will not be easily identified.

The City will follow the EPA recommendations for detecting illicit connections including:

- Institute building and plumbing codes to prevent connections of sources of potentially hazardous pollutants to storm drains.
- Prioritize structures to be inspected by building age and use.
- Map each area to be surveyed and indicate the route of the sewer system and the locations of storm drains on the map.
- Survey individual buildings to identify connections to storm drains.
- Inspect sewer lines with television equipment to identify physical connections.
- Inspect new developments or renovation projects to identify illicit connections to the storm sewer system.
- Test sediment from the catch basins or equivalent structures.
- Identify illicit connections using the following methods to determine whether they should be connected to the storm drain system or to the sanitary sewer:
 - **Dye testing** – Flush fluorometric dye into suspected illicit connection to determine hydraulic connectivity.
 - **Visual inspection** – Inspect sewer lines for sags and cracks with a TV camera.
 - **Smoke testing** – Inject zinc chloride smoke into sewer lines to find leaks, cracks and cross connections.
 - **Flow monitoring** – Identify sources of improper connections.

Timeline for Completion

- 2010 - Prioritize outfalls for inspection.
- 2011- Implement outfall inspection program.
- Ongoing-The number of illicit discharges found at these outfalls will be counted annually.

BMP 3(D): IDENTIFY STORMWATER HOTSPOTS

Measurable Goals

1. Identify local facilities that have a high probability of discharging pollutants (stormwater hot spots).
2. Develop a list of potential pollutants that may be associated with stormwater hot spots.
3. Conduct inventory and prioritize hot spots for inspection.

Description

The City will use the storm sewer system map to identify local businesses, both commercial and industrial, that have a high probability of causing illicit discharges. The system map will also be used to target outfalls with dry-weather flows or other types of suspicious discharges. These outfalls will receive more in-depth inspection and monitoring. Three priority outfalls will be inspected by February 16, 2011 and one additional priority outfall will be inspected in each of the years following.

The City will prioritize inspection sites in order to maximize the results of the inspections with the available time and funds associated with this BMP. The City will incorporate the following EPA prioritization scheme into their illicit detection program:

1. Automobile-related businesses and facilities, and heavy manufacturing;
2. Printers, dry cleaners and laundromats, photo processors, utilities, paint stores, water conditioners, chemical laboratories, construction companies, and medium light manufacturing; and
3. Institutional facilities, private service agencies, retail establishments, and schools.

Timeline for Completion

- 2009- Develop a stormwater hot spot list.
- 2010- Conduct inspections at stormwater hot spots.

BMP 3(E): RECEIVE TRAINING ON ILLICIT DISCHARGES

Measurable Goals

1. Develop a list of personnel to be trained.
2. Research and develop training materials and available classes.
3. The number of training days for staff each year.

Description

Field maintenance crews, and construction and building inspectors will be trained in the detection and elimination of illicit discharges, and on the proper BMPs to use for the mitigation of these discharges. The class will include various means to identify illicit connections and methods used to disconnect them from the stormwater system. Each person requiring this training will attend two days of instruction each year.

Timeline for Completion

- 2008- Develop a list of personnel to be trained.
- 2009- Develop training materials or explore available classes.
- 2009- Train staff on illicit discharges.
- 2010- Review training materials.
- 2011- Continue to have biannual refresher classes.
- Ongoing- Track the number of training days for personnel will be tracked.

BMP 3(F): IDENTIFY/ELIMINATE DISCHARGES FROM STORAGE TANKS

Measurable Goals

1. Identify facilities that own and operate large above or belowground storage tanks.
2. Distribute educational material on SWPPP elements for the tanks.

Description

Storage tanks, either above or below ground, may potentially degrade water quality if leaks are present. To contend with this problem, the City intends to first identify facilities within the area that own and operate large above or below ground storage tanks. Educational material regarding maintenance for these tanks will be compiled and distributed to owners of these tanks. If needed, enforcement actions will be taken.

Timeline for Completion

- 2010- Identify facilities with storage tanks.
- 2011- Begin inspections for tank leaks.

CHAPTER 4: CONTROL STORMWATER RUNOFF FROM NEW DEVELOPMENT, REDEVELOPMENT AND CONSTRUCTION SITES

The City will develop, implement, and enforce a program to control stormwater runoff from new development, redevelopment, and construction sites to the MS4. This program will be applied to all sites that disturb an area one acre or greater, including sites less than one acre that are part of a larger common plan. It will apply to all development, private and public, and all roads.

Site Runoff Control Program

- a. The program will include an ordinance that addresses runoff from new development, redevelopment, and construction site projects one acre and larger. Existing local requirements will still be applied to stormwater controls at smaller sites. The ordinance will be in place no later than August 16, 2009. It will include:
 - i. The Minimum Requirements, technical thresholds, and definitions from Appendix 1 of the Permit.
 - ii. A site planning process, and BMP selection and design criteria that will protect water quality, reduce discharge of pollutants, and apply all known, available and reasonable methods of prevention, control, and treatment (AKART) prior to discharge.
 - iii. The authority to inspect private stormwater facilities that discharge to the MS4.
 - iv. Provisions to allow non-structural preventive actions and source reduction approaches such as LID techniques and measures to minimize the creation of impervious surfaces and the disturbance of native soils and vegetation.
- b. The program will include a permitting process with plan review, inspection, and enforcement capability. The program will be applied to all sites that are one acre or greater or part of a larger common plan.
- c. The program will include provisions to verify adequate long-term operation and maintenance (O&M) of post-construction stormwater facilities and BMPs. These provisions will include:
 - i. Adoption of an ordinance that clearly identifies the party responsible for maintenance, requires inspection of facilities, and establishes enforcement procedures.
 - ii. The City will establish maintenance standards that protect facility function. When an inspection identifies exceedances of the standard, maintenance will be performed.
 - iii. Annual inspections of all stormwater treatment and flow control facilities unless maintenance records justify a different frequency.
 - iv. Inspections of all new flow control and water quality treatment facilities for new residential developments within a larger common plan. Inspections will be every

- six months during the period of heaviest house construction (i.e., one to two years following subdivision approval).
- d. The program will include a procedure for keeping records of inspections, enforcement actions, and maintenance activities done by staff.
 - e. The program will make copies of the “Notice of Intent for Construction Activity” and the “Notice of Intent for Industrial Activity” available to representatives of proposed development.
 - f. No later than August 16, 2009 the City will verify that all staff responsible for permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities.

The City will implement the following BMPs to address construction site run-off control:

- BMP 4(A): Develop and Update Legal Authority and Ordinance
- BMP 4(B): Adopt 2005 Department of Ecology Stormwater Manual
- BMP 4(C): Conduct Construction Inspections
- BMP 4(D): Review Site Plans for New and Redevelopment
- BMP 4(E): Conduct Post-Developed Inspections
- BMP 4(F): Provide Training for Personnel
- BMP 4(G): Identify Sensitive Water Bodies and Protective Measures
- BMP 4(H): Encourage Low Impact Development

Objective: Upgrade the set of development requirements for erosion and sediment control at construction sites per the City’s adopted ordinance. This includes planning, installation, inspection, maintenance, and enforcement of development practices.

BMP 4(A): DEVELOP AND UPDATE LEGAL AUTHORITY/ORDINANCES

Measurable Goal

1. Identify any regulation areas not addressed within the current ordinance and revise if necessary.

Description

The City currently has regulations that require applicants for construction projects to plan for and implement erosion control practices and describe the inspection and enforcement authority of the City. The City will ensure that the erosion and sediment control ordinance(s) include all sufficient stormwater pollution prevention elements to prevent pollution resulting from erosion and sediment runoff during the construction phase, and an adequate enforcement plan to ensure compliance with the ordinance.

The following sections of the DMC regulate construction run-off control measures:

- 22.01.090(b) General Requirements – Best Management Practices
- 22.01.110 Small Parcel Requirement #1 – Construction access route
- 22.01.120 Small Parcel Requirement #2 – Stabilization of denuded area—Soil stabilization
- 22.01.180 Minimum Requirement No. 1 - Erosion and Sediment Control

The City ordinance will reference the adopted Ecology manual for details on appropriate BMPs. The City will show erosion and sediment control techniques on its stormwater website that owners of construction sites would be allowed to use. The EPA has developed the National Menu of Best Management Practices which is available at <http://cfpub2.epa.gov/npdes/stormwater/menuofbmps/index.cfm>

The ordinance will also incorporate an enforcement plan that includes enforcement procedures against inadequate construction erosion and sediment controls.

For developed or redeveloped sites, the City currently has regulations that establish the minimum level of compliance that must be met to permit a property to be developed or redeveloped.

The following sections of the City's current codes regulate post-construction run-off control for new and re-developed sites:

- 22.01.210 Minimum Requirement # 4 – Runoff Treatment BMPs.
- 22.01.220 Minimum Requirement # 5 – Streambank Erosion Control.

The City will adopt the 2005 Ecology Manual, including its Minimum Requirements, and will ensure that through this adoption, the ordinance will address post-construction runoff from new developments and redevelopment projects that disturb more than one acre. In this sense, “redevelopment” refers to alterations of a property that change the “footprint” of a site or building and is not intended to include such activities as exterior remodeling, which would not be expected to cause adverse stormwater quality impacts and offer no new opportunity for stormwater controls.

The ordinance shall also allow for structural and non-structural BMPs and shall implement standards to ensure long-term operation and maintenance of the BMPs. The maintenance schedule will comply with the NPDES Phase II Permit requirements. The City’s currently has maintenance agreements in place for all privately-owned and maintained stormwater BMPs. Record keeping of all inspections and maintenance will be performed as well.

Timeline for Completion

- 2008- Identify regulations not addressed in the current ordinance and revise as necessary.

BMP 4(B): ADOPT ECOLOGY’S 2005 STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON

Measurable Goal

1. Adopt Ecology’s 2005 Stormwater Management Manual for Western Washington.

Description

As discussed above, The City ordinance will reference the adopted Ecology manual for details on appropriate BMPs.

Timeline for Completion

- July 2009 – Adopt Ecology’s 2005 Stormwater Management Manual for Western Washington.

BMP 4(C): CONDUCT CONSTRUCTION INSPECTIONS

Measurable Goals

1. Number of inspectors.
2. Develop inspection forms.
3. Frequency of inspection for compliance with construction site erosion/sediment controls and maintenance of installed BMPs.
4. Create an inventory of inspection activities, maintain annually.
5. Review of ordinance for site inspection requirements.
6. Number of compliance letters.

Description

Inspections are necessary to ensure that erosion and sediment controls are properly installed and maintained and that the site plan reflects changes made on-site (e.g. different types of controls used and changed location of controls). To minimize the amount of staff needed for this BMP, erosion control inspectors include building inspectors and/or other staff under the direction of the Public Works Director. Frequent and consistent inspections are the key to ensuring proper installation and maintenance of erosion and sediment controls. The frequency for inspection of construction sites will be determined by the City but, at a minimum, will include at least one during the duration of a project. More frequent inspections may be required during wet weather months.

Inspections will be prioritized based on the following:

- Construction sites on steep slopes or highly erodible areas
- Construction sites operated by contractors with past violations
- Construction sites disturbing more than one acre and/or
- Construction sites in operation during rain events

Timeline for Completion

- 2008- Develop inspection forms and begin inspections.
- 2009- Begin construction inspections.
- Ongoing- Maintain inventory of inspection activities.

BMP 4(D): REVIEW SITE PLANS

Measurable Goals

1. The number of trained reviewers.
2. Develop a review checklist.
3. The number of plans reviewed.

Description

Currently, the contracted City engineer reviews construction plans to ensure that they include the required stormwater controls, erosion and sediment controls, and post-construction controls required by City codes.

At a minimum, all plans for sites disturbing at least one acre (or if less than one acre and part of a planned development) to verify the following factors:

- Erosion and sediment controls consistent with City codes and control requirements.
- The construction operator is aware of his responsibility for implementing and maintaining erosion and sediment controls and is aware of the penalties for failing to do so.
- Post-construction controls consistent with the City codes are clearly described on the plan and are sized appropriately.
- The construction operator and landowner are aware of the responsibility for implementing and maintaining the post-construction controls and of the penalties for failing to do so.

The City will create a developer review checklist to make certain that all concerns are addressed during the review. A pre-construction site plan meeting with the construction operator may be required to ensure that all parties are comfortable with the site plan and its requirements.

Timeline for Completion

- Ongoing- Review plans prior to construction.
- 2008- Develop a reviewer's checklist.
- Ongoing- Track the number of trained reviewers and the number of plans reviewed.

BMP 4(E): CONDUCT POST-DEVELOPED INSPECTIONS

Measurable Goals

1. The number of inspectors.
2. Develop inspection forms.
3. Frequency of inspection for compliance with installed BMPs.
4. An inventory of inspection activities created, maintained annually.
5. Review of ordinance for site inspection requirements.
6. Number of compliance letters.

Description

Inspections are necessary to ensure that permanent water quality controls are properly installed and maintained even after construction is complete. Post-development construction site inspections occur no later than one year following the completion of the project.

Timeline for Completion

- 2008- Create post- construction inspection forms and an inventory of inspection activities.
- Ongoing- Conduct post-construction inspections.
- Ongoing- Track the number of inspectors, compliance letters written, and the frequency of inspections.
- July 2009- Review the City ordinance and, if necessary, revise post-construction site inspection requirements.

BMP 4(F): PROVIDE TRAINING FOR PERSONNEL

Measurable Goals

1. Develop list of personnel to be trained.
2. Number of training days for staff.

Description

City inspectors will have CESCL certification and be trained in the required erosion and sediment control BMPs for stormwater runoff from construction sites. Each person requiring this training will attend one day of instruction for recertification each year.

Course information for these training programs and others is available at the web addresses below:

Association of General Contractors of Washington

<http://www.agcwa.com/public/education/classes.asp>

University of Washington's Engineering Professional Program

<http://www.engr.washington.edu/~uw-epp/Pepl/cec.html>

International Erosion Control Association

<http://www.ieca.org/>

Timeline for Completion

- August 2009- Provide training.
- Ongoing- Provide two full days of erosion and sediment control class each year.

BMP 4(G): IDENTIFY SENSITIVE WATER BODIES AND PROTECTIVE MEASURES

Measurable Goals

1. Identify sensitive water bodies within the jurisdiction.

2. Develop guidelines for permitting development projects near sensitive areas.
3. Review zoning in sensitive areas and revise if necessary.
4. Review and revise critical area requirements/buffers in relation to sensitive areas.

Description

Sensitive water bodies play a crucial part in the health of an overall stormwater system. Sequalitchew Creek flows through the City of DuPont into the southern portion of Puget Sound.

Timeline for Completion

- 2010- Review and revise, if necessary, land use and development regulations in the vicinity of Sequalitchew Creek.

BMP 4(H): ENCOURAGE LOW IMPACT DEVELOPMENT (LID)

Measurable Goals

1. Review land use codes to ensure consistency with LID principles.
2. Identify construction related subjects for inclusion in construction/new development public education materials that focus on local construction.
3. Distribute development education material.
4. Number of new site plans with LID practices.

Description

As indicated with BMP 1(F), using low-impact development approaches for new development can help to achieve stormwater pollution reduction goals. Through LID approaches, stormwater runoff can be controlled while development objectives are achieved. Soil types found in the City of DuPont are conducive to infiltration and the use of LID approaches that rely on infiltration. The City should also encourage LID practices, such as minimization of impervious surfaces that may be appropriate. In order for these measures to be implemented, the City will inform the public about potential LID practices and the establishment of an outreach program as described for BMP 1(F).

Timeline for Completion

- 2008- Make LID education material available.
- 2009- Revise the City codes to include/promote LID.
- 2011 – Assess the effectiveness of LID program.

CHAPTER 5: POLLUTION PREVENTION AND OPERATIONS AND MAINTENANCE (O&M) FOR MUNICIPAL OPERATIONS PROGRAM

The City will create an O&M program that prevents pollutant runoff from municipal operations. Areas of municipal operations that will be targeted include:

- Streets, parking lots, right-of-ways, and vehicle maintenance and storage areas;
- Stormwater treatment and flow control facilities;
- Parks and open space.

Site Runoff Control Program

- a. Establish maintenance standards that are protective of facility function as specified by Volume V, Chapter 4 of the *2005 Stormwater Management Manual for Western Washington* (Manual). When these maintenance standards are exceeded, mitigation will be performed.
 - i. The purpose of the maintenance standard is to determine if maintenance is required. The maintenance standard is not a measure of the facilities required condition at all times between inspections. Exceeding the maintenance standard between inspections and/or maintenance is not a permit violation.
 - ii. Unless there are circumstances beyond the City's control, when an inspection identifies an exceedence of the maintenance standard, maintenance shall be performed:
 - Within 1 year for wet pool facilities and retention/detention ponds.
 - Within 6 months for typical maintenance.
 - Within 9 months for maintenance requiring re-vegetation.
 - Within 2 years for maintenance that requires capital construction of less than \$25,000.

Circumstances beyond the City's control include denial or delay of access by property owners, denial or delay of necessary permit approvals, and unexpected reallocations of maintenance staff to perform emergency work. For each exceedence of the required timeframe, the City shall document the circumstances and how they were beyond their control.

- b. Conduct annual inspections of all municipal treatment and flow control facilities and take appropriate actions in accordance with the adopted maintenance standards. The frequency of inspections may be reduced if justified.
- c. Spot check potentially damaged facilities following major storm events and take appropriate action if there is damage identified.
- d. Inspect all catch basins and inlets before the end of the permit term.
- e. Establish and implement BMPs to reduce stormwater impacts associated with runoff from streets, parking lots, roads, and road maintenance activities.

- f. Establish and implement BMPs to reduce pollutants in discharges from all municipal lands, including but not limited to: parks, open space, right-of-ways, maintenance yards, and stormwater treatment and flow control facilities.
- g. Develop and implement an on-going training program for City employees whose construction, operations, or maintenance job functions may impact stormwater quality.
- h. Develop and implement a SWPPP for all heavy equipment maintenance and storage yards, and material storage facilities owned or operated by the City but not covered under the Industrial Stormwater General Permit.
- i. Maintain records of inspections and maintenance or repair activities done as part of this program.

The City plans to implement the following BMPs to address pollution prevention.

- BMP 5(A): Implement O&M Program and O&M Standards
- BMP 5(B): Develop a Stormwater Pollution Prevention Plan (SWPPP)
- BMP 5(C): Vehicle and Equipment Maintenance, Cleaning, and Parking
- BMP 5(D): Proper Pesticide and Herbicide Application
- BMP 5(E): Landscaping and Lawn Care (Waste Reduction)
- BMP 5(F): Roadway Maintenance
- BMP 5(G): Street Sweeping
- BMP 5(H): Catch Basin Cleaning
- BMP 5(I): Identify and Investigate Illegal Dumping Locations
- BMP 5(J): Prioritize Litter Collection
- BMP 5(K): Provide Employee Training

Objective: Promote pollution prevention and good housekeeping measures.

BMP 5(A): IMPLEMENT AN O&M PROGRAM AND O&M STANDARDS

Measurable Goals

1. Adopt City O&M Standards.
2. Number of measures in the plan implemented.

Description

An O&M program that discusses good housekeeping procedures is essential to ensuring that all City activities and programs impacting stormwater are implemented efficiently and effectively. The program will be in place by February 16, 2010 and will include:

- a. The training of municipal employees in facility maintenance in order to minimize stormwater pollution;
- b. The training of municipal employees in the proper methods for disposal of solid and liquid wastes from maintenance activities;
- c. The development and implementation of a maintenance schedule; and
- d. The production of an evaluation to measure the program's effectiveness.

To gain an understanding of its existing operations, the City will assemble and review existing materials from various departments that perform activities that could contribute stormwater pollution. In reviewing information on existing programs, specific attention will be paid to the following items:

- a. Frequency of activities;
- b. Types of substances used;
- c. Methods of material storage, handling, and disposal;
- d. Type and frequency of employee training;
- e. Recordkeeping practices; and
- f. Procedure and frequency of inspections.

If documentation does not exist, brief interviews with staff from various departments may be conducted. If no program exists for a particular activity, the City will determine which department would be best suited to take on that responsibility.

O&M Standards

The City will adopt a set of O&M Standards that provide protection of facility function and can be used to determine if maintenance at a municipal facility is needed. When these standards are exceeded, maintenance will be performed within the following time frames:

- Within six months for typical maintenance;
- Within nine months for maintenance requiring re-vegetation;
- Within one year for wet pool facilities and retention/detention ponds; and
- Within two years for maintenance requiring capital construction of less than \$25,000.

Timeline for Completion

- February 2010- Complete an O&M program.

BMP 5(B): DEVELOP A STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Measurable Goals

1. Develop a SWPPP.
2. Number of measures in the plan implemented.

Description

During the first permit cycle, the City will develop, implement, and monitor a SWPPP for all City facilities. The SWPPP is intended to reduce the amount of pollutants carried by stormwater runoff into the storm drainage system. It is comprised of a description of procedures and associated schedules for municipal activities and includes:

1. A site or project description;
2. A description of stormwater BMPs that may be appropriate for municipal operations;
3. A description of site specific BMPs;
4. A BMP implementation schedule;

5. The identification of a Pollution Prevention Team that is responsible for implementing BMPs;
6. A description of site inspection and monitoring activities; and
7. A log book to track all construction activities or reports.

BMPs for the City’s facilities will reduce the amount of pollutants that enter the stormwater from the day-to-day operations of the City. Potential source activities and the potential pollutants released by these activities are summarized in the table below.

Potential Source Activity	Potential Pollutants
Vehicle and Equipment Maintenance	Oil & Gas, Solvents, Diesel Fuel, Metals, Antifreeze, Battery Acids, Hydraulic Fluids
Vehicle and Equipment Cleaning and Parking	Oil, Grease, Sediments, Metals
Pesticide Storage, Handling, and Application	Herbicides, Insecticides, Rodenticides
Petroleum, Oil, and Lubricant Storage and Handling	Oil, Fuel
Painting	Paints, Solvents
Rock and Gravel Storage	Sediments

In the case that any of these pollutants spill and require cleanup, the following BMPs should be used as a general guide for safe and effective cleanup of the area:

- Dispose of dry cleanup materials promptly after use;
- Develop and post procedures for spill response and cleanup;
- Post a facility drainage map to show areas with potential for spills, the direction of stormwater flow, and location of spill response equipment;
- Designate a person for spill response cleanup responsibility;
- Assemble spill containment and cleanup kits, such as biobag kits;
- Train employees on spill control procedures;
- Promptly clean up spills and notify appropriate persons; and
- Distribute procedures for spill response and cleanup to applicable facilities.

The final SWPPP will serve as a reference manual for all City employees that are in any way involved in stormwater management. To fully implement the program, training for City staff will be focused heavily on the information contained within the SWPPP.

Timeline for Completion

- 2009- Complete a SWPPP.

BMP 5(C): VEHICLE AND EQUIPMENT MAINTENANCE, CLEANING, AND PARKING

Measurable Goals

1. Develop and maintain an inventory of City owned vehicles.
2. Conduct routine inspections of vehicles for leaks.
3. Repair vehicles with fluid leaks promptly.

4. Establish vehicle-washing protocols.

Description

The City will maintain vehicles on a regular schedule as to avoid oil leaks and other incidents that cause environmental damage. An effective spill prevention and response plan is key to reducing the potential for stormwater pollution at the City's facilities.

The following will be included in the vehicle maintenance program:

- Specify a location where spills can be controlled by either a covered building or secondary containment structure.
- Provide absorbent spill kits at all municipal facilities where there is potential for materials to be spilled.
- Provide absorbent spill kits in any vehicle that may transport potential pollutants or respond to hazardous material spills.
- Replace any hazardous cleaners or degreasers with non-hazardous cleaners or degreasers that are equally effective.
- Replace any solvents or other agents that come in aerosol cans where suitable alternatives exist.
- Conduct vehicle and equipment cleaning in a self-contained, covered building when possible.
- Collect wash water from vehicle and equipment cleaning that may contain oil, grease, suspended solids, heavy metals, organics, and other pollutants.
- Inspect vehicles and equipment, and fix any problems before they are parked or stored for an extended period.
- Place drip pans or absorbent material under leaky vehicles and equipment
- Clean up leaks from any vehicles or equipment promptly.
- Identify areas where stormwater is able to run off the surface of the parking so that stormwater from the parking lot can be treated before being released into the storm sewer system.

Timeline for Completion

- 2009- Develop and implement a vehicle maintenance program.

BMP 5(D): PROPER PESTICIDE AND HERBICIDE APPLICATION

Measurable Goals

1. Develop an inventory of areas designated for herbicide and pesticide application.
2. Meet local, state, and federal regulations associated with pesticide application.
3. Assess and prioritize the potential use of alternative pesticide practices.

Description

The use of herbicides and pesticides is a matter of environmental concern. They have the potential to end up in drinking water and other aquatic systems if not managed properly. Before City staff applies these types of chemicals, the manufacturer's instructions and material safety data sheet for each chemical should be reviewed. Records of the amount, date, and concentration will be required for all pesticide and herbicide application. An annual review of the types of pesticides and herbicides used and the purpose of their

application will be used in determining ways to reduce the amount, concentration, and frequency of pesticide use in the City.

When appropriate, the City will implement the following BMPs:

- **Inclement Weather**- Weather conditions can adversely affect the efficacy of chemical treatments. If wind or rain is imminent, the City will reschedule pesticide application in order to avoid unnecessary contamination of runoff.
- **Runoff Control**- Storm drains potentially impacted by runoff of pesticide will be located and covered during treatment.
- **Drift Control**- The City will reduce the use of power sprays to reach the upper canopy of trees to prevent pesticide drift into buildings and water bodies. Alternative control measures such as the injection of systemic insecticides will be promoted.
- **Preventative Applications**- Dormant oils and herbicides will only be used on shrubs and trees if justified by the existence of potential pest outbreaks. Notification and posting during application of lawn pesticides will be conducted.
- **Application of Rodenticides**- Anticoagulants, tracking powders, and other mammalian toxicants will be placed in locations that will not result in their translocation to aquatic habitats.
- **Application of Termiticides into the Ground**- The application of termiticides will not be permitted near wells, streams, or other water sources.
- **Transportation of Pesticides**- Pest control vendors will be required to comply with the following provisions during transportation:
 - Containers will be kept securely sealed;
 - Containers will be securely fastened to the vehicle;
 - Pesticides will not be left in an unattended vehicle unless the vehicle has an enclosed storage area and is kept locked in that storage area;
 - Pesticides spray tanks that are transported will:(a) be securely sealed; (b) form part of or be permanently fixed to the vehicle using the pesticide; and (c) be prominently marked either “WARNING” OR “POISON”, and the name of the pesticide product, and;
 - Vehicles used for pest control will: (a) be designed so pesticide is separated from the driver or operator by a barrier impervious to the pesticide; (b) not be left on public land when not in use; (c) be securely housed to restrict public access when not in use; and (d) be washed down on a grassed area in such a way that no runoff is allowed into the stormwater or sewage system.
- **Pesticide Storage**- Pesticide containers will always be kept in covered storage areas that are covered or have some form of secondary containment to protect from stormwater contamination.
- **Pesticide Spills**- A pest control operator who observes any accident or spillage of pesticide will report it to the City as soon as possible.
- **Pesticide Disposal**- Once application of the pesticide is finished, the containers will be rinsed thoroughly and the rinsate used on the intended target, so that no amount of the pesticide is unaccounted for. Empty containers will be disposed of as hazardous waste, in accordance with instructions on the product’s label.

Timeline for Completion

- 2008- Develop an inventory of pesticide and herbicide use.
- Ongoing- Monitor pesticide and herbicide on an annual basis.

BMP 5(E): LANDSCAPING AND LAWN CARE (WASTE REDUCTION)

Measurable Goals

1. Develop an inventory of landscaping and lawn areas requiring care.
2. Implement practices for open space maintenance at all parks.
3. Evaluate methods for containing or composting grass clippings.

Description

The City will implement BMPs for landscaping and lawn care practices that will reduce the impacts of nutrient loading from stormwater. Nutrient loading generated by lawns has the potential to cause eutrophication in streams, lakes, and estuaries and should be reduced whenever possible.

The City will limit fertilizer and pesticide use and may implement alternative landscaping where practical. Alternative practices such as installing native plants can help reduce reliance on water and fertilizer.

Various methods of containing and composting trimmings and grass clippings from City facilities will be explored in an attempt to limit the potential of nutrients entering the City's stormwater system.

Timeline for Completion

- 2008- Develop an inventory of areas where lawn care and landscaping BMPs.

BMP 5(F): ROADWAY MAINTENANCE

Measurable Goals

1. Develop an assessment of current maintenance procedures.
2. Identify alternative practices for reducing road materials needed for construction or maintenance activities.

Description

The City will assess current roadway maintenance activities to determine if adoption of more contemporary practices would benefit stormwater quality. The staff will identify alternative practices that will reduce the discharge of road materials during construction or maintenance activities. Existing roadway maintenance specifications will be revised to reflect the most up to date BMPs.

Timeline for Completion

- Ongoing- Assess roadway maintenance procedures and revise, if necessary.

BMP 5(G): STREET SWEEPING

Measurable Goals

1. Schedule street sweeping.
2. Quantity of material removed per curb or lane mile.

Description

The City will compile a schedule of street sweepings throughout its jurisdiction. Street sweepings assist in preventing pollutants from entering the City's stormwater system or receiving waters downstream. Records of the distances swept and quantity of materials removed from roadways will be maintained and referenced in the SWMP annual report.

Timeline for Completion

- Ongoing- Maintain street sweeping schedule.

BMP 5(H): CATCH BASIN CLEANING

Measurable Goals

1. Identify catch basins to be cleaned or inspected.
2. Develop a schedule for cleaning inlet structures, catch basins, and manholes.
3. The number of catch basins cleaned or inspected.
4. The amount of trash, sediment, and other pollutants removed during cleaning.

Description

Pollutants that enter the storm drainage system can impede proper functioning of the system and create the need for costly repairs or remediation. Storm drain maintenance reduces water quality impacts and prevents local flooding. A preventative maintenance program helps ensure that storm sewer systems function effectively and reduce the potential for pollution and infrastructure damage. This BMP requires regular inspections, record keeping, cleaning, and proper disposal of system waste. The City will conduct these activities year-round with additional inspections performed during the rainy season.

The following catch basin maintenance activities will be implemented:

- Inspect catch basins and inlet structures to ensure:
 - Immediate repair of any deterioration threatening structural integrity;
 - Sumps are cleaned before they are 40% full.
 - Catch basins and inlets are marked to remind the public that dumping of waste into storm drains is not allowed.
- Clean catch basins, storm drain inlets, and other conveyance structures before the wet season to remove any accumulated sediment or debris.
- Inspect catch basins more frequently during the wet season and clean or repair as needed.
- Keep updated records for basins as they are cleaned.
- Store wastes removed from the drainage system in appropriate containers or storage sites to prevent discharge into the storm sewer.

Timeline for Completion

- Ongoing- Maintain catch basins.
- Ongoing- Record number of catch basins cleaned and publish an annual report.

BMP 5(I): IDENTIFY AND INVESTIGATE ILLEGAL DUMPING LOCATIONS

Measurable Goals

1. Develop a list of illegal dumping locations.

2. The number of investigations of illegal dumping locations.
3. The number of signs posted at known illegal dumping locations.
4. The number of enforcement actions taken.

Description

As indicated earlier, litter can add pollutants to the City’s stormwater system and should be minimized to the greatest extent possible. The City will develop a list of known illegal dumping locations and will follow up with signs posted at these locations warning of penalties for dumping. Annual investigations will take place and proper enforcement actions will be invoked if illegally dumped material is found at these sites.

Timeline for Completion

- 2008- Develop a list of illegal dumping locations.
- Ongoing- Monitor sites for illegal dumping activities on a quarterly basis.

BMP 5(J): PRIORITIZED LITTER COLLECTION

Measurable Goals

1. Review an inventory of litter collection areas based on land use revise as necessary.
2. Create a preliminary litter collection schedule.
3. Implement a prioritized litter collection program.
4. The quantity of litter collected in each area.

Description

Litter adds pollutants to the City’s stormwater system and should be controlled to the greatest extent possible. The City will develop an inventory of litter collection areas delineated based on land use and a schedule based on this assessment. The City will collect litter in these areas according to the developed schedule. Records of the quantity of litter collected from municipally owned areas will be carefully maintained and reported in the SWMP annual report.

Timeline for Completion

- 2008- Review and revise litter collection areas and create collection schedule.
- Ongoing- Collect litter per schedule and record quantity of litter collected.

BMP 5(K): PROVIDE EMPLOYEE TRAINING

Measurable Goals

1. The number of training hours for staff.

Description

The City will ensure that employees in stormwater, streets, landscaping, and maintenance related positions are trained on the requirements of the stormwater pollution prevention and good housekeeping program by the end of the permit term.

The training program will incorporate the following measures:

- Proper maintenance activities, including record keeping and disposal;
- Handling of hazardous materials and waste;

- Recognizing and reporting illegal dumping;
- Educating businesses, contractors, and the general public in proper and consistent methods for waste disposal; and
- Recognizing and reporting non-stormwater discharges via illicit connections.

A general, brief, one-hour training session will be held for the employees. Longer, more specific training will be given in areas such as vehicle washing and illicit discharge inspections.

The City will ensure that its employees have access to public education materials produced as part of this permit so that they may implement feasible BMPs into their day-to-day work.

Timeline for Completion

- 2008- Tracking employee training hours.

CHAPTER 6: MONITORING PLAN

As of January 17, 2007, Ecology developed an NPDES Phase II permit which contained a requirement for the compilation of a long term monitoring plan to be implemented in the second permit cycle (beginning in 2012). The following program is based on this proposed requirement.

Long Term Monitoring Plan.

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. Stormwater monitoring is 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. Stormwater program effectiveness monitoring is intended to improve stormwater management efforts by evaluating issues that significantly affect the success of, or confidence in, stormwater controls. The monitoring program can 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.
 - a. SWMP effectiveness monitoring
 - i. The City will prepare to conduct monitoring to determine the effectiveness of its SWMP at controlling stormwater-related problems that are directly addressed by actions in the 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?
 - ii. 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 shall 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.
 - iii. 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 City, 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.
2. Monitoring program reporting requirements
 - a. The 2010 annual report shall:
 - i. Describe the status of identification of sites for stormwater monitoring, if required for the City.
 - ii. 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.
 - b. To comply with the requirements of all or part(s) of this section, The City may choose to submit a collaborative report with other permittees or cities within WRIA 12.

The City of DuPont will develop a monitoring plan to meet these guidelines.

Objective: Develop a monitoring plan to be used during the second permit cycle beginning in 2012.

BMP 6(A): LONG TERM MONITORING PLAN

Measurable Goal

1. Develop and implement monitoring plan.

Description

In an attempt to determine the effectiveness of stormwater BMPs, DOE is requiring municipalities to develop and eventually implement a stormwater monitoring plan. This plan can be created with neighboring jurisdictions in mind, if applicable, to lessen the burden of extensive monitoring costs, analysis and record keeping. The City will create a plan developed around the DOE guidelines in regards to the effectiveness of BMPs to prevent adverse impacts to water quality.

Timeline for Completion

- 2009- Develop Monitoring Plan.
- 2010- Implement Monitoring Plan.

CHAPTER 7: REPORTING REQUIREMENTS

As with the other elements, Ecology developed permit requirements for the NPDES Phase II reporting requirement. The following program is based on DOE's permit requirements. The City will submit, no later than March 31st of each year beginning in the year 2008, an annual report. The reporting period for each annual report shall be the previous calendar year.

Reporting Requirement.

- A. No later than March 31 of each year beginning in 2008, The City shall submit an annual report. The reporting period for the first annual report will be from February 16, 2007 through December 31, 2007. The reporting period for all subsequent annual reports will be the previous calendar year.
- B. Two printed copies and an electronic (PDF) copy of each document shall be submitted to Ecology. All submittals shall be delivered to:

Department of Ecology
Water Quality Program
Municipal Stormwater Permits
P.O. Box 47696
Olympia, WA 98504-7696

- C. The City is required to keep all records related to this permit and the SWMP for at least five years. Except for the requirements of the annual reports described in this permit, records shall be submitted to Ecology only upon request,
- D. The City shall make all records related to this permit and the City's SWMP available to the public at reasonable times during business hours. The City will provide a copy of the most recent annual report to any individual or entity, upon request.
 - 1. A reasonable charge may be assessed by the City for making photocopies of records.
 - 2. The City may require reasonable advance notice of intent to review records related to this Permit.
- E. Each annual report shall include the following:
 - 1. A copy of the City's current Stormwater Management Program as required by Section S5.A.2 of the Permit.
 - 2. Submittal of Appendix 3 – *Annual Report Form for Cities, Towns, and Counties*, which is intended to summarize the City's compliance with the conditions of this permit, including:
 - a. Status of implementation of each component of the SWMP in Section S5 *Stormwater Management Program for Cities, Towns and Counties*.
 - b. An assessment of the City's progress in meeting the minimum performance standards established for each of the minimum control measures of the SWMP.
 - c. A description of activities being implemented to comply with each component of the SWMP, including the number and type of inspections, enforcement

- actions, public education and involvement activities, and illicit discharges detected and eliminated.
- d. The City's SWMP implementation schedule and plans for meeting permit deadlines, and the status of SWMP implementation to date. If permit deadlines are not met, or may not be met in the future, include: reasons why, corrective steps taken and proposed, and expected dates that the deadlines will be met.
 - e. A summary of the City's evaluation of their SWMP, according to Sections S5.A.4. and S8.B.2.
 - f. If applicable, notice that the MS4 is relying on another governmental entity to satisfy any of the obligations under this permit.
 - g. Updated information from the prior annual report plus any new information received during the reporting period, pursuant to Section S8.B.2. above.
 - h. Certification and signature pursuant to G19.D, and notification of any changes to authorization pursuant to G19.C.
3. The City shall include with the annual report, notification of any annexations, incorporations or jurisdictional boundary changes resulting in an increase or decrease in the City's geographic area of permit coverage during the reporting period, and implications for the SWMP.

The City of DuPont will develop an annual report to meet these guidelines.

Objective: Prepare annual report on effectiveness of Stormwater Management Program.

BMP 7(A): ANNUAL STORMWATER MANAGEMENT PROGRAM REPORT

Measurable Goal

1. Annual report prepared.

Description

The City will compile an annual report beginning in 2008 per the permit requirements noted earlier.

Timeline for Completion

- Ongoing- Submit report annually no later than March 31.