

CITY OF DES MOINES
STORMWATER MANAGEMENT PROGRAM (SWMP)
Updated 3/19/2010

Introduction:

This document has been prepared to meet the City of Des Moines' Western Washington Phase II Municipal Stormwater Permit requirement for written documentation of the City's Stormwater Management Program (SWMP).

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, All Known, Available and Reasonable methods of 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 existing SWMP.

Where the City is already implementing components called for in this permit, the City will continue those actions or activities to the existing extent required, regardless of the schedule called for in this document.

The City will implement an ongoing program for the gathering, tracking, maintaining and using information to evaluate the SWMP development, implementation and permit compliance and to 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 annually for submittal with the City's Annual Report to Ecology.

NPDES Phase II permit requirements in black print. The City of Des Moines's comments are in blue print.

Section 1: Public Education and Outreach

The City's SWMP will include an education program aimed at residents, businesses, industries, elected officials, policy makers, planning staff and other employees of the City. The goal of the education program will be to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts. The City's education program will be developed locally and regionally.

The City will take the following minimum measures:

a. Education and Outreach Program:

No later than February 15, 2009, the City will provide an education and outreach program for the area served by its Municipal Separate Storm Sewer System (MS4). The outreach program will be designed to achieve measurable

improvements in the target audience's understanding of the problem and what they can do to solve it.

Education and outreach efforts will be prioritized 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 BMPs and environmental stewardship actions and opportunities in the areas of 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, carwash 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 techniques, including site design, pervious paving, 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.
 - Low Impact Development techniques, including site design, pervious paving, retention of forests and mature trees.
 - Stormwater treatment and flow control BMPs.

b. Measurement:

The City will measure the understanding and adoption of the targeted behaviors among the targeted audiences. The resulting measurements will be used to direct education and outreach resources most effectively as well as to evaluate changes in adoption of the targeted behaviors.

c. Tracking:

The City will track and maintain records of public education and outreach activities.

a. Education and Outreach Program:

- i. General public
- ii. The City currently utilizes the City's website (www.desmoineswa.gov) which includes a newsletter, upcoming activities and links; contributes articles to the "City Currents" periodical; council meetings are televised on public television; provides brochures on the general impacts of stormwater flows into surface waters. The City again uses the website to educate as well as through brochures the impacts from impervious surfaces by providing information and source control BMP's regarding septic system maintenance, oil leak inspection, preservation of plants and trees adjacent to streams, lakes and wetlands, pet control and waste disposal, pesticide reduction, lawn fertilizer reduction, car washing tips and hazardous waste disposal. The goal of public education is to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impact. During the year 2008, the city used strategic approach to reach out to the community through public education workshop called Invasive Weeds Control. This approach help us teach public about minimize the use of herbicides. The City has posted signs for the use of a pet leash and pet waste pick up and signs along the waterfront to promote public awareness of salmon habitat through the WRIA 9 salmon habitat recovery program. The City would like to post additional signs at the trail heads on Des Moines Creek Trail and is currently coordinating with other agencies in the vicinity. The City provides environmental stewardship actions and opportunities through the "Friends of Des Moines Creek", where citizens are involved in maintaining and enhancing the habitat along Des Moines Creek. There are also opportunities through the WRIA 9 salmon habitat recovery program
- iii. General public, businesses, including home-based and mobile businesses
 - The City provides BMP's on our website and brochures for the use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps and other hazardous materials. This year 2010, City will distribute Best Management Practice brochures and educational materials to, businesses owners (small and big) as well as home based businesses. The City website has a link to the King County Health Department for septic system maintenance information and recommendations. Also, the City has created a map of all septic systems within their jurisdiction. Car wash facilities are recommended and community car wash events are encouraged to use a "Car Wash Kit" available to borrow from the City's Public Works Department at free of charge. Starting 2010, if any carwash event is discovered without using carwash kit, the event could be shut down. The City will also make contact with the property owner/manager or business owner/manager that has authorized the use of their property for the charity carwash to let

them know that it is unlawful to discharge soapy water or anything but clean water down storm drains. During the 2009, the carwash kits were checked out 38 times, with this result the program is considered to be a successful program. An alternative to a fundraising car wash is the Puget Sound Car Wash Association's (PSCWA) Charity Car Wash Program; this alternative was introduced to them for consideration. Resident's are encouraged to save hazardous waste for the semi-annual collection event at the Des Moines Marina. The Des Moines Marina has a "Policy & Procedures Manual" with BMP's established to protect and reduce pollutants from entering the storm system.

- The impact of illicit discharge is expressed through the BMP's and the Surface Water Management Program. There is a link on the website for service request, suggestions, compliments and complaints (www.desmoineswa.gov/sug/sug.html). A City Surface Water Technician responds and documents all reports. A program is in development, in which citizens are encouraged to become a "Stream Watcher" and immediately report any spills of pollutants to the City Public Works Department. In addition to our illicit discharge program, we now have hotline number (206-550-5612) published on the City web site to report illegal dumping and/or discharge.

iv. Homeowners, landscapers and property managers

- The City currently provides education on Yard Care techniques protective of water quality through the WRIA 9 salmon habitat recovery program. The City provides a link to the King County website which contains a list of actions that citizens can take at home to help improve surfacewater quality. (<http://dnr.metrokc.gov/wrias/9/getinvolved.htm>)
- The City provides BMP's on our website for the use and storage of pesticides and fertilizers. Section 18.86.240 of the City of Des Moines Municipal Code (DMMC) covers proper use of these materials, which are governed by state and federal regulations. This section presently applies to Critical aquifer recharge areas only and not yet throughout the City. The DMMC is made available on the website. The new surface water ordinance which will address the entire City surface water system which was adopted in 2009
- The City provides BMP's on our website for auto repair and maintenance. The City has adopted King County's BMP for carpet cleaning in 2009; and this BMP can be found on King County website. Also, copy of this manual is available for pick up at the Public Works building. The City has updated this section of the surfacewater code to meet the permit requirement; this section

18.86.240 DMMC covers the requirements for these activities which are governed by state and federal regulations. The section which previously applied to Critical aquifer recharge areas only, now applies to all surfacewater throughout the City including Puget Sound and groundwater. The updated version –DMMC- is not yet available on the website.

- The City Department of Planning and Building allows low impact development techniques as provided in the King County Surface Water Design Manual when considering options for stormwater control. The City Comprehensive Plan has conservation and water management strategies which include a stormwater management program. The goals are to emphasize educational programs and Best Management Practices to protect and improve surface and ground water quality.
- The City inspects and maintains all publicly owned stormwater management facilities. There are, however, privately owned facilities located on multi-family and commercial properties, which are maintained by those owners. The City provides information regarding maintenance of these systems to the owners/managers of the private systems stated 2009. Furthermore, every first quarter of the year, the City will be sending out notices requesting right of entry for all private systems built after February 2007 for an annual inspection.

v. Engineers, contractors, developers, review staff and land use planners

- The City has established a Surface Water Management Program which is administered by the Public Works Department, Surface Water Management Division. The City has adopted the 2009 King County Surface Water Design Manual for technical standards for stormwater site and erosion control plans.
- Low impact development techniques, including site design, pervious paving, retention of forests and mature trees are techniques allowed from the King County Surface Water Design Manual.
- Stormwater treatment and flow control BMP's are taken from the King County Surface Water Design Manual.

b. Measurement:

The City will be collaborating with King County and other agencies within the county to measure the understanding and adoption of the targeted behaviors among the targeted audience. Citizen participation and involvement in

volunteer activities and stewardship programs is also a measure of City success in education and outreach efforts.

The City's primary focus for 2009 was targeting charity car wash runoff and public education on illicit discharge. In order to keep off soapy water generated by car washing, the City purchased three car-wash-kits to lend only Des Moines charity carwash organizations at no cost. As for public education, the City continues to maintain its existing program - City Currents and brochures- to target its audience and the message will be updated to be consistent with the regional messaging "Puget Sound Starts Here" Campaign.

c. Tracking:

The City's NPDES Coordinator will tracks records of public education and outreach activities. The NPDES Coordinator is responsible for responding to and documenting all reports made by phone and through the website. Citizen participation and involvement in volunteer activities and stewardship programs also provides a means of tracking activities by keeping a record of those people involved and the details of the activities that have taken place and the outcome of those specific activities and programs.

Section 2: Public Involvement and Participation

The City's SWMP will include ongoing opportunities for public involvement through advisory councils, watershed committees, participation in developing rate-structures, stewardship programs, environmental activities or other similar activities. The City will comply with applicable State and local public notice requirements when developing its SWMP.

The City will take the following minimum measures:

a. Opportunities for Public Participation:

No later than February 15, 2008, the City will create opportunities for the public to participate in the decision-making processes involving the development, implementation and update of the City's entire SWMP. The City will develop and implement a process for consideration of public comments on its SWMP.

b. Availability of Documents:

The City will make its SWMP Plan, the annual report required under S9.A of the City's Permit, and all other submittals required by the Permit, available to the public. The annual report and the SWMP that was submitted with the latest annual report will be posted on the City's website.

City of Des Moines current Public Involvement and Participation Program:

The City has developed the “Friends of Des Moines Creek” volunteer organization and stewardship program, in which citizens are involved in maintaining and enhancing the habitat along Des Moines Creek. The City is involved in the WRIA 9 salmon habitat recovery which also offers volunteer and stewardship opportunities. Those meetings are open to the public with a schedule made available online through the link provided. Citizens are encouraged to become a volunteer of any Puget Sound watershed through the King County watershed website. The City has also been involved for the past three to four years in the Mt. Rainier High School environmental awareness program, providing traffic control and clean up and maintenance crews, a lot of which work has been done along the Des Moines Creek and Massey Creek. Public feedback may be made at any time online or at the City Hall.

The City is considering an Adopt-a-Stream Program where citizens monitor streams, in particular those less accessible. The City would also like to include a discussion forum on the website to allow additional opportunity for questions and staff response.

a. Opportunities for Public Participation:

The City has currently not received public comment/input on the SWMP. The City will provide opportunity for public input through making the SWMP more accessible, allowing for comments to be submitted via phone and a website comments form. The City will also solicit information from current public involvement programs.

This year, the City is planning to reach out to high and middle school students, Boy & Girl Scouts, and environmental organizations to volunteer in storm drainage stencils.

b. Availability of Documents:

The annual report for this permit is due every March 31st; and a draft of the annual report and SWMP will be posted on the City website (www.desmoineswa.gov) once it is updated.

Section 3: Illicit Discharge Detection and Elimination (IDD&E)

The City’ SWMP will include an ongoing program to detect and remove illicit connections, discharges as defined in 40 CFR 122.26(b)(2), and improper disposal, including any spills not under the purview of another responding authority, into the municipal separate storm sewers owned or operated by the City. The City will fully implement an ongoing illicit discharge detection and elimination program no later than August 15, 2011.

The City will take the following minimum measures:

a. Development of MS4 Map:

A municipal storm sewer system map will be developed no later than February 15, 2011. The municipal storm sewer system map will be periodically updated and will include the following information:

- 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 City will map 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. The City will initiate a program to develop and maintain a map of all connections to the municipal separate storm sewer authorized or allowed by the City after February 15, 2007.
- iii. Geographic areas served by the City's MS4 that do not discharge stormwater to surface waters.
- iv. The City will make available to Ecology, upon request, the municipal storm sewer system map depicting the information required in (i) through (iii). listed above.
- v. Upon request, and to the extent appropriate, the City will provide mapping information to co-Permittees and secondary Permittees.

b. IDD&E Ordinance:

The City will develop and implement an ordinance or other regulatory mechanism to effectively prohibit non-stormwater, illegal discharges, and/or dumping into the City's municipal separate storm sewer system to the maximum extent allowable under State and Federal law. The ordinance or other regulatory mechanism will be adopted no later than August 15, 2009. ??

- i. The regulatory mechanism does not need to prohibit the following categories of non-stormwater discharges:
 - Diverted stream flows.
 - Rising ground waters.
 - Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)).
 - Uncontaminated pumped ground water.
 - Foundation drains.
 - Air conditioning condensation.
 - Irrigation water from agricultural sources that is commingled with urban stormwater.
 - Springs.
 - Water from crawl space pumps.

- Footing drains.
 - Flows from riparian habitats and wetlands.
 - Non-stormwater discharges covered by another Permit.
 - Discharges from emergency fire fighting activities.
- ii. The regulatory mechanism will prohibit the following categories of non-stormwater discharges unless the stated conditions are met:
- Discharges from potable water sources, including water line flushing, hyperchlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water, unless planned discharges are de-chlorinated 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, unless these discharges are minimized through, at a minimum, public education activities (see Section 1) and water conservation efforts.
 - Chlorinated swimming pool discharges, unless the discharges are 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 will not be discharged to the City's MS4.
 - Street and sidewalk wash water, water used to control dust, and routine external building wash down that does not use detergents, unless the City reduces these discharges through, at a minimum, public education activities (see section 1) and/or water conservation efforts. To avoid washing pollutants into the City's MS4, the City will minimize the amount of street wash and dust control water used. At active construction sites, street sweeping will be performed prior to washing the street.
 - Other non-stormwater discharges, unless the discharges are in compliance with the requirements of the stormwater pollution prevention plan reviewed by the City, which addresses control of construction site de-watering discharges.
- iii. The City's SWMP will, at a minimum, address each category in (ii) above in accordance with the conditions stated therein.
- iv. The City's SWMP will further address any category of discharges in (i) or (ii) above if the discharges are identified as significant sources of pollutants to waters of the State.
- v. The ordinance or other regulatory mechanism will include escalating enforcement procedures and actions.

- vi. The City will develop an enforcement strategy and implement the enforcement provisions of the ordinance or other regulatory mechanism.

c. Ongoing IDD&E Program:

The City will develop and implement an ongoing program to detect and address non-stormwater discharges, spills, illicit connections and illegal dumping into the City's municipal separate storm sewer system. The program will be fully implemented no later than August 15, 2011, and will include:

- i. Procedures for locating priority areas likely to have illicit discharges, including at a minimum: evaluating land uses and associated business/industrial activities present; areas where complaints have been registered in the past; and areas with storage of large quantities of materials that could result in spills.
- ii. Field assessment activities, including visual inspection of priority outfalls identified in 1, above, during dry weather and for the purposes of verifying outfall locations, identifying previously unknown outfalls, and detecting illicit discharges.
 - Receiving waters will be prioritized for visual inspection no later than February 15, 2010, with field assessments made no later than February 15, 2011. Field assessments on at least one high priority water body will be made each year thereafter.
 - Screening for illicit connections will be conducted using: *"Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments"*, Center for Watershed Protection, October 2004, or another methodology of comparable effectiveness.
- iii. Procedures for characterizing the nature of, and potential public or environmental threat posed by, any illicit discharges found by or reported to the City. Procedures will include detailed instructions for evaluating whether the discharge must be immediately contained and steps to be taken for containment of the discharge.

Compliance with this provision will be achieved by investigating (or referring to the appropriate agency) within 7 days, on average, any complaints, reports or monitoring information that indicates a potential illicit discharge, spill, or illegal dumping; and immediately investigating (or referring) problems and violations determined to be emergencies or otherwise judged to be urgent or severe.
- iv. Procedures for tracing the source of an illicit discharge; including visual inspections, and when necessary, opening manholes, using mobile cameras, collecting and analyzing water samples, and/or other detailed inspection procedures.

- v. Procedures for removing the source of the discharge; including notification of appropriate authorities; notification of the property owner; technical assistance for eliminating the discharge; follow-up inspections; and escalating enforcement and legal actions if the discharge is not eliminated.

Compliance with this provision will be achieved by initiating an investigation within 21 days of a report or discovery of a suspected illicit connection to determine the source of the connection, the nature and volume of discharge through the connection, and the party responsible for the connection. Upon confirmation of the illicit nature of a storm drain connection, termination of the connection will be verified within 180 days, using enforcement authority as needed.

d. Public Information:

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

- i. No later than August 15, 2011, the City will distribute appropriate information to target audiences identified pursuant to Section 1.
- ii. No later than February 15, 2009,?? the City will?? publicly list and publicize a hotline or other local telephone number for public reporting of spills and other illicit discharges. The City will keep a record of calls received and follow-up actions taken in accordance with Section 3.c.ii. through v. above; and will include a summary in the annual report in accordance with Section S9 of the City's Permit, *Reporting and Record Keeping Requirements*.

e. Program Evaluation and Assessment:

The City will adopt and implement procedures for program evaluation and assessment, including tracking the number and type of spills or illicit discharges identified; inspections made; and any feedback received from public education efforts. A summary of this information will be included in the City's annual report in accordance with Section S9 of the City's Permit, *Reporting and Recordkeeping Requirements*.

f. Training:

The City will provide appropriate training for municipal field staff on the identification and reporting of illicit discharges into MS4s.

- i. No later than August 15, 2009, ??the City will ensure that all municipal field staff who are responsible for identification, investigation, termination, cleanup, and reporting illicit discharges, including spills, improper disposal and illicit connections are trained

to conduct these activities. Follow-up training will be provided as needed to address changes in procedures, techniques or requirements. The City will document and maintain records of the training provided and the staff trained.

- ii. No later than February 15, 2010, an ongoing training program will be developed and implemented for all municipal field staff, which, as part of their normal job responsibilities, might come into contact with or otherwise observe an illicit discharge or illicit connection to the storm sewer system will be trained on the identification of an illicit discharge/connection, and on the proper procedures for reporting and responding to the illicit discharge/connection. Follow-up training will be provided as needed to address changes in procedures, techniques or requirements. The City will document and maintain records of the training provided and the staff trained.

City of Des Moines current Illicit Discharge Detection and Elimination Program:

a. Development of MS4 Map:

The City Public Works Department maintains a map in AutoCAD format that shows City owned stormwater systems throughout the City. A separate database is used to record the type, material, size and inverts where known. The map is used primarily as a reference for the database information and is not survey accurate. The City began locating all storm drains via hand-held computer device 'ArcPad' Unit, stated 2009. The City has completed mapping Zone-1 out of seven zones with this effort. The overall goal is to develop a municipal storm sewer system map in Geography Information System (GIS) format. This map will provide locations and description of all known municipal separate storm drainages, including outfalls, and receiving waters. All new construction is field surveyed and the map is continuously updated. The City also maintains a series of maps found in the City Comprehensive Plan and/or a link through the Planning Department available to Ecology and the Public online at any time. These maps include Land Use Areas and Critical Areas such as Frequently Flooded Areas, Surface Water, Wetlands and Drainage Basins. Paper copies are also available upon request. A map and inventory of privately maintained systems is in the planning process. This map will be updated as additional information becomes available or new additions or deletions made to the exiting infrastructures.

b. IDD&E Ordinance:

The City planned to build upon current surfacewater ordinance to create a more identifiable program that includes

- Procedures for locating priority areas likely to have illicit discharges
- Procedures for tracing the source of an illicit discharge

These procedures were completed 2009 and are presently under review as purposed.

The City has adopted an IDDE Ordinance in compliance with the permit requirement, and the ordinance was implemented 2009. This is how our old ordinance looked; the ordinances implemented that effectively prohibit illegal discharge into the City stormwater system, utilizing the Federal Protection Agency quality criteria for freshwater bodies and the Department of Ecology water quality standards for surface waters for determining if pollution has occurred:

DMMC 18.86.340 Surface water contamination – Determination.

- (1) The City shall determine if surface water pollution has occurred or is occurring by:
 - (a) Utilizing the federal Environmental Protection Agency quality criteria for freshwater bodies and the State Department of Ecology water quality standards for surface waters of the State listed in chapter 173-201A WAC; or
 - (b) Requesting investigations by other agencies having regulatory authority regarding surface water pollution.
- (2) When the City or the investigating agency determines surface water quality pollution has occurred, notice shall be provided to the alleged source of pollutants identifying the specific surface water quality problem and requesting that the problem be remedied.
- (3) The City shall pursue city, state and/or federal enforcement actions when any surface water pollution is verified. [Ord. 1400 § 44, 2007.]

The City has the ability to enforce violation:

DMMC 18.86.350 Surface water contamination – Compliance required – Penalty.

- (1) No person shall defile, pollute, or contaminate:
 - (a) The surface waters of the City;
 - (b) A stream running through or into the corporate limits of the City; or
 - (c) A stream running through or into the corporate limits of the City, and for a distance of five miles beyond the corporate limits of the City.
- (2) A violation of or failure to comply with this section is a Class 1 civil infraction.
- (3) Each day upon which a violation occurs constitutes a separate violation. [Ord. 1400 § 45, 2007.]

The City reserves the right to pursue civil actions under state and federal law, including a civil suit under the federal Clean Water Act:

DMMC 18.86.360 Surface water contamination - Penalty not exclusive remedy.

The City reserves the right to pursue other appropriate civil actions under state and federal law, including a citizen suit under the federal Clean Water Act. [Ord. 1400 § 46, 2007.]

The new IDDE ordinance has not yet updated on a City's webpage but hard copy is available upon request.

The City Shoreline Master Program has a Shoreline Permit Process for development which, in addition to the above stormwater conditions, requires approval from the state Department of Ecology.

The City Marina has a pollution prevention program in place and is regulated by the Federal Clean Water Act of 1977; the state Water Pollution Control Act; and the City Harbor Code, DMMC 15.04, which addresses the quality and protection of marina waters against pollutants.

ii. The City does not allow direct discharge of chlorinated water into the stormwater system. A discharge permit is required by the water districts to empty a pool and the discharge to the sanitary sewer system.

c. Ongoing IDD&E Program:

- The City is in the process of developing an IDD&E program and will be implemented by February 2011.
- The City has no industrial activity and makes efforts to identify problem areas such as those that rely on septic systems and businesses that store wrecked vehicles. Procedures for locating priority areas will be included in the IDD&E program.
- The City plans to conduct screening for illicit connections using: "Illicit Discharge Detection and Elimination; A Guidance Manual for Program Development and Technical Assessments", Center for Watershed Protection.
- Private connections are only authorized through an approved permit and inspection process. At the time of filing for a building permit, the applicant must submit all required information together including improvements: DMMC 14.08.050 Applications for building permit – Other filings required; and DMMC 14.60 Land Clearing, Grading, or Filling Code.
- The City will be including water quality monitoring as part of the IDD&E program.

d. Public Information:

The City encourages citizens to call the Public Works Department at 206-870-6869; after hours cell 206-550-5612 or police department non-emergency number at 206-878-3301 to report illicit discharges and spills. The

Municipal Code, Shoreline Master Program and Comprehensive Plan are available on the City website. Also refer to Section 1: Public Education and Outreach for information on illegal discharges and improper disposal of waste.

e. Program Evaluation and Assessment:

The City's NPDES Coordinator maintains records of incidents, investigations, code enforcements, reports etc. regarding illicit connections and spills. Procedures for tracking illicit discharges and spills, inspections and public education efforts will be included in the IDD&E program.

f. Training:

- i. The City's NPDES Coordinator is the lead for identification, investigation, termination, cleanup, and reporting illicit discharges, including spills, improper disposal and illicit connections. The City has provided training to all their staff that deal with surfacewater. This requirement meets the deadline permit date.
- ii. No later than February 15, 2010, an ongoing training program will be developed and implemented for all municipal field staff.

Section 4: Controlling Runoff from New Development, Redevelopment and Construction Sites

The City will develop, implement, and enforce a program to reduce pollutants in stormwater runoff to its MS4 from new development, redevelopment and construction site activities. This program will be applied to all sites that disturb a land area 1 acre or greater, including projects less than one acre that are part of a larger common plan of the development or sale. The program will apply to private and public development, including roads. The "Technical Thresholds" in Appendix 1 of the City's Permit will be applied to all sites 1 acre or greater, including projects less than one acre that are part of a larger common plan of the development or sale.

The City will take the following minimum measures:

a. Ordinance:

The program will include an ordinance or other enforceable mechanism that addresses runoff from new development, redevelopment, and construction site projects. Pursuant to S5.A.2. of the City's Permit, in adopting this ordinance or other regulatory mechanism, existing City requirements to apply stormwater controls at smaller sites, or at lower thresholds than required pursuant to this section, will be retained. The ordinance or other enforceable mechanism will be in place no later than August 15, 2009. The ordinance or other enforceable mechanism will include, at a minimum:

- i. The Minimum Requirements, technical thresholds, and definitions in Appendix 1 of the City's Permit or an equivalent approved by Ecology under the NPDES Phase I Municipal Stormwater Permit, for

new development, redevelopment, and construction sites. Adjustment and variance criteria equivalent to those in Appendix 1 of the City's Permit will be included. More stringent requirements may be used, and/or certain requirements may be tailored to local circumstances through the use of basin plans or other similar water quality and quantity planning efforts. Such local requirements will provide equal protection of receiving waters and equal levels of pollutant control to those provided in Appendix 1 of the City's Permit.

- ii. A site planning process and BMP selection and design criteria that, when used to implement the minimum requirements in Appendix 1 of the City's Permit (or equivalent approved by Ecology under the Phase I Permit) will protect water quality, reduce the discharge of pollutants to the maximum extent practicable and satisfy the State requirement under Chapter 90.48 RCW to apply all known, available and reasonable methods of prevention, control and treatment (AKART) prior to discharge. The City will document how the criteria and requirements will protect water quality, reduce the discharge of pollutants to the maximum extent practicable, and satisfy State AKART requirements.

If the City chooses to use the site planning process and BMP selection and design criteria in the 2005 *Stormwater Management Manual for Western Washington*, or an equivalent manual approved by the Department under the Phase I Permit, the City may cite this choice as its sole documentation to meet this requirement.

- iii. The legal authority, through the approval process for new development, to inspect private stormwater facilities that discharge to the City's MS4.
- iv. Provisions to allow non-structural preventive actions and source reduction approaches such as Low Impact Development Techniques (LID), measures to minimize the creation of impervious surfaces and measures to minimize the disturbance of native soils and vegetation. Provisions for LID should take into account site conditions, access and long term maintenance.
- v. If the City chooses to allow construction sites to apply the "Erosivity Waiver" in Appendix 1 of the City's Permit, Minimum Requirement #2, the ordinance or regulatory mechanism will include appropriate, escalating enforcement sanctions for construction sites that provide notice to the City of their intention to apply the waiver but do not meet the requirements (including timeframe restrictions, limits on activities that result in non-stormwater discharges, and implementation of appropriate BMPs to prevent violations of water quality standards) to qualify for the waiver.

b. Permitting Process:

The program will include a permitting process with plan review, inspection and enforcement capability to meet the standards listed in (i) through (iv) below, for both private and public projects, using qualified personnel (as defined in the *Definitions and Acronyms* section of the Permit). At a minimum, this program will be applied to all sites that disturb a land area one acre or greater, including projects less than one acre that are part of a larger common plan of the development or sale. The process will be in place no later than August 15, 2009.

- i. Except as provided in Section 4.B.7. below, review of all stormwater site plans for proposed development activities.
- ii. Except as provided in Section 4.B.7. below, inspect, prior to clearing and construction, all known development sites that have a high potential for sediment transport as determined through plan review based on definitions and requirements in Appendix 7 of the City's Permit, *Identifying Construction Site Sediment Transport Potential*.
- iii. Except as provided in Section 4B.7. below, inspect all known permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls. Enforce as necessary based on the inspection.
- iv. Inspect all permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater controls such as stormwater facilities and structural BMPs. Also, verify a maintenance plan is completed and responsibility for maintenance is assigned. Enforce as necessary based on the inspection.
- iv. Compliance with the inspection requirements in (ii), (iii) and (iv) above will be determined by the presence and records of an established inspection program designed to inspect all sites and achieving at least 95% of scheduled inspections.
- vi. An enforcement strategy will be developed and implemented to respond to issues of non-compliance.
- vii. If the City chooses to allow construction sites to apply the "Erosivity Waiver" in Appendix 1 of the City's Permit, Minimum Requirement #2, the City is not required to review the construction stormwater pollution prevention plans as part of the site plan review in (i) above, and is not required to perform the construction phase inspections identified in (ii) and (iii) above related to construction sites which are eligible for the erosivity waiver.

c. Long-term Operation and Maintenance:

The program will include provisions to verify adequate long-term operation and maintenance (O&M) of post-construction stormwater facilities and BMPs that are permitted and constructed pursuant to (B) above. These provisions will be in place no later than August 15, 2009 and will include:

- i. Adoption of an ordinance or other enforceable mechanism that clearly identifies the party responsible for maintenance requires inspection of facilities in accordance with the requirements in (ii) through (iv) below, and establishes enforcement procedures.
- ii. The City will establish maintenance standards that are as protective or more protective of facility function as those specified in Chapter 4 of Volume V of the 2005 *Stormwater Management Manual for Western Washington*. For facilities which do not have maintenance standards, the City will develop a maintenance standard.
 - (1) 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 the period of inspections is not a Permit violation.
 - (2) Unless there are circumstances beyond the City's control, when an inspection identifies an exceedance of the maintenance standard, maintenance will 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 exceedance of the required timeframe, the City must document the circumstances and how they were beyond their control.

- iii. Annual inspections of all stormwater treatment and flow control facilities (other than catch basins) permitted by the City according to Section 4.B. unless there are maintenance records to justify a different frequency.

Reducing the inspection frequency will be based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the City may substitute written statements to document a specific less frequent inspection schedule. Written statements will be based on actual

inspection and maintenance experience and will be certified in accordance with G19 of the City's Permit, *Certification and Signature*.

- iv. Inspections of all new flow control and water quality treatment facilities, including catch basins, for new residential developments that are a part of a larger common plan of development or sale, every 6 months during the period of heaviest house construction (i.e., 1 to 2 years following subdivision approval) to identify maintenance needs and enforce compliance with maintenance standards as needed.

d. Record Keeping:

The program will include a procedure for keeping records of inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations, and other enforcement records. Records of maintenance inspections and maintenance activities will be maintained. The City will keep records of all projects disturbing more than one acre, and all projects of any size that are part of a common plan of development or sale that is greater than one acre that are approved after February 15, 2007.

e. Availability of NOIs:

The City will make available copies of the "Notice of Intent for Construction Activity" and copies of the "Notice of Intent for Industrial Activity" to representatives of proposed new development and redevelopment. The City will continue to enforce local ordinances controlling runoff from sites that are also covered by stormwater permits issued by Ecology.

f. Training:

No later than August 15, 2009, the City will verify that all staff responsible for implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities. Follow-up training will be provided as needed to address changes in procedures, techniques or staffing. The City will document and maintain records of the training provided and the staff trained.

City of Des Moines [current](#) Controlling Runoff from New Development, Redevelopment and Construction Sites:

a. Ordinance:

- i. The City has adopted the 2009 King County Surface Water Design Manual (KCSWDM) as the Surface Water Design Manual for the City of Des Moines:
DMMC 18.86.330 Surface Water Design Manual – Pursuant to RCW 35.21.180 the King County, Washington “Surface Water Design Manual,” including all subsequent revisions, is adopted by reference as the “Surface Water Design Manual for the City of Des Moines.” A current copy of the King County, Washington “Surface Water Design Manual” adopted by reference in this section shall be maintained on file in the office of the city manager or designee and shall be available for public inspection. [Ord. 1400 § 43, 2007]. This Manual is used as an enforceable mechanism that addresses runoff from new development, redevelopment, and construction sites.
- ii. The City has chosen to use the site planning process and BMP selection and design criteria in the King County Surface Water Design Manual.
- iii. The City Public Works Department, Surface Water Management Division has the legal authority, through the approval process for new development, to inspect private stormwater facilities prior to connection to the City’s system: DMMC 11.08.050 Authority.
- iv. The City Surface Water Management Program has provisions to allow non-structural preventive actions and source reduction approaches such as Low Impact Development Techniques (LID) measures to minimize the creation of impervious surfaces and measures to minimize the disturbance of native soils and vegetation.
- v. The City does not allow construction sites to apply for the “Erosivity Waiver”. Every Construction project requires a SWPPP and set of plans to be provided to the City for review and approval by a design review engineer before a permit is issued.

b. Permitting Process:

The City has a permitting process with plan review, inspection and enforcement capability to meet the standards listed in i. through iv. below, for both private and public projects, using qualified personnel. This process is applied to all development resulting in 2,000 square feet or more of new impervious surface on previously undeveloped or developed property.

- i. The Public Works Department conducts a drainage review all stormwater site plans for proposed development activities resulting in 2,000 square feet in new impervious area or modifies an existing system.
- ii. The Public Works Department inspects, prior to clearing and construction, all known development sites that have high potential for sediment transport.

- iii. The Public Works Department inspects all permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls. The City enforces when necessary based on inspection.
- iv. The Public Works Department inspects all permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater controls such as stormwater facilities and structural BMP's.
- v. Compliance with the inspection requirements in (ii), (iii) and (iv) above will be determined by the presence and records of an established inspection program designed to inspect all sites and achieving at least 95% of scheduled inspections.
- vi. The Public Works Department has an enforcement strategy developed and implemented to respond to issues of non-compliance with the City requirements as determined upon inspection.
- vii. The City does not allow construction sites to apply for the "Erosivity Waiver".

c. Long-term Operation and Maintenance:

- i. The 2009 King County Surface Water Design Manual (Core Requirement #6 – Maintenance and Operations) clearly identifies the party responsible for maintenance of drainage facilities. The City has adopted a new ordinance that mandates property owners to provide a long-term operation and maintenance manual before sign off. This requirement was met ahead of deadline 2009 instead of February 2010. The new ordinance contain identifies the party responsible for maintenance, and includes provisions for city staff inspection and enforcement of the facilities in accordance with the requirements in (ii) through (iv) below. The City currently maintains all public-owned facilities but does not maintain facilities located on multi-family and commercial properties that are privately owned, unless a maintenance agreement has been made with the private party.
- ii. The City has adopted the 2009 King County Surface Water Design Manual for maintenance standards for its publicly owned facilities [DMMC 18.86.330].
 - (1) Beginning no later than August 15, 2009, the City will annually inspect all public facilities and all private facilities constructed after the February 15, 2007 to determine if maintenance is required. Exceeding the maintenance standard between the period of inspections is not a violation.
 - (2) Unless there are circumstances beyond the City's control, maintenance will 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 revegetation.
- Within 2 years for maintenance that requires capital construction of less than \$25,000.

The City will document the circumstances if they are beyond their control.

- iii. No later than August 15, 2009, the City will complete a condition assessment of all stormwater treatment and flow control facilities that are City owned and operated and all private facilities constructed after February 15, 2007. Thereafter, annual inspections will be made on these facilities.
- iv. Inspections of all new stormwater systems for new development are completed by a Stormwater Technician. The inspection identifies maintenance needs and enforcement compliance with maintenance standards as needed. Inspections are done before the developer has their bond released. It is required that stormwater retention/detention facilities, control structures, storm drainage pipes and catch basins be jetted and cleaned prior to acceptance. After the stormwater system is built the contractor is required to install catch basin protection in order to prevent solids from entering the system. Beginning no later than February 15, 2009, inspections of the stormwater systems will be performed every 6 months during the period of heaviest house construction (i.e. 1-2 years following subdivision approval).

d. Record Keeping:

The City Surface Water Management Program has in place a procedure for keeping records of inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations, and other enforcement records. Records of maintenance inspections and maintenance activities are maintained. The City inspects and keeps records of all new developed property.

e. Availability of NOIs:

The City Community Development Department will make available copies of the “Notice of Intent for Construction Activity” and copies of the “Notice of Intent for Industrial Activity: to representatives of proposed new development and redevelopment. The City enforces local ordinances controlling runoff from sites that are also covered by stormwater permits issued by Ecology

f. Training:

The City's Surface Water Management Division and Community Development Department are responsible for implementing the Surface Water Management Program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement. Currently all our staff have been trained in accordance with the permit requirement.

Section 5: Pollution Prevention and Operation and Maintenance for Municipal Operations

By February 15, 2010, the City will develop and implement an Operations and Maintenance (O&M) program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

The City will take the following minimum measures:

a. Maintenance Standards:

The City will establish maintenance standards that are as protective, or more protective, of facility function as those specified in Chapter 4 of Volume V of the 2005 *Stormwater Management Manual for Western Washington*. For facilities which do not have maintenance standards, the City will develop a maintenance standard.

- (1) 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.
- (2) Unless there are circumstances beyond the City's control, when an inspection identifies an exceedance of the maintenance standard, maintenance will 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 exceedance of the required timeframe, the City will document the circumstances and how they were beyond their control.

b. General Inspections:

Annual inspection of all municipally owned or operated permanent stormwater treatment and flow control facilities, other than catch basins, and taking appropriate maintenance actions in accordance with the adopted maintenance standards. The annual inspection requirement may be reduced based on inspection records.

Reducing the inspection frequency will be based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the City may substitute written statements to document a specific less frequent inspection schedule. Written statements will be based on actual inspection and maintenance experience and will be certified in accordance with G19 of the City's Permit, *Certification and Signature*.

c. Post-Storm Inspections:

Spot checks of potentially damaged permanent treatment and flow control facilities (other than catch basins) after major (greater than 24-hour-10-year recurrence interval rainfall) storm events. If spot checks indicate widespread damage/maintenance needs, inspect all stormwater treatment and flow control facilities that may be affected. Conduct repairs or take appropriate maintenance action in accordance with maintenance standards established above, based on the results of the inspections.

d. Catch Basins and Inlet Inspections:

Inspection of all catch basins and inlets owned or operated by the City at least once before the end of the City's Permit term. Clean catch basins if the inspection indicates cleaning is needed to comply with maintenance standards established in the 2005 *Stormwater Management Manual for Western Washington*. Decant water will be disposed of in accordance with Appendix 6 of the City's Permit, *Street Waste Disposal*.

Inspections may be conducted on a "circuit basis" whereby a sampling of catch basins and inlets within each circuit is inspected to identify maintenance needs. Include in the sampling an inspection of the catch basin immediately upstream of any system outfall. Clean all catch basins within a given circuit at one time if the inspection sampling indicates cleaning is needed to comply with maintenance standards established under Section 4.C., above.

As an alternative to inspecting catch basins on a "circuit basis," the City may inspect all catch basins, and clean only catch basins where cleaning is needed to comply with maintenance standards.

e. Compliance:

Compliance with the inspection requirements in A, B, C and D. above will be determined by the presence of an established inspection program designed to inspect all sites and achieving inspection of 95% of all sites.

f. Reduction of Stormwater Impacts:

Establishment and implementation of practices to reduce stormwater impacts associated with runoff from streets, parking lots, roads or highways owned or maintained by the City, and road maintenance activities conducted by the City. The following activities will be addressed:

- Pipe cleaning
- Cleaning of culverts that convey stormwater in ditch systems
- Ditch maintenance
- Street cleaning
- Road repair and resurfacing, including pavement grinding
- Snow and ice control
- Utility installation
- Pavement striping maintenance
- Maintaining roadside areas, including vegetation management
- Dust control

g. Policies and Procedures:

Establishment and implementation of policies and procedures to reduce pollutants in discharges from all lands owned or maintained by the City and subject to the City's Permit, including but not limited to: parks, open space, road right-of-way, maintenance yards, and stormwater treatment and flow control facilities. These policies and procedures will address, but are not limited to:

- Application of fertilizer, pesticides, and herbicides including the development of nutrient management and integrated pest management plans.
- Sediment and erosion control.
- Landscape maintenance and vegetation disposal.
- Trash management.
- Building exterior cleaning and maintenance.

h. Training:

Develop and implement an on-going training program for employees of the City whose construction, operations or maintenance job functions may impact stormwater quality. The training program will address the importance of protecting water quality, the requirements of the City's Permit, operation and maintenance standards, inspection procedures, selecting appropriate BMPs, ways to perform their job activities to prevent or minimize impacts to water quality, and procedures for reporting water quality concerns, including

potential illicit discharges. Follow-up training will be provided as needed to address changes in procedures, techniques or requirements. The City will document and maintain records of training provided.

i. Special Facility Requirements:

Development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the City in areas subject to the City's Permit that are not required to have coverage under the Industrial Stormwater General Permit. Implementation of non-structural BMPs will begin immediately after the pollution prevention plan is developed. A schedule for implementation of structural BMPs will be included in the SWPPP. Generic SWPPPs that can be applied at multiple sites may be used to comply with this requirement. The SWPPP will include periodic visual observation of discharges from the facility to evaluate the effectiveness of the BMP.

j. Record Keeping:

Records of inspections and maintenance or repair activities conducted by the City will be maintained in accordance with S9 of the City's Permit, *Reporting Requirements*.

City of Des Moines current Pollution Prevention and Operation and Maintenance for Municipal Operations:

a. Maintenance Standards:

The City has adopted the King County Surface Water Design Manual for maintenance standards for all publicly owned facilities: DMMC 18.86.330 Surface water design manual.

- (1) The purpose of the King County Surface Water Design Manual is to allow for annual inspections to determine if maintenance is required. Exceeding the maintenance standard between the period of inspections is not a violation.
- (2) Unless there are circumstances beyond the City's control, maintenance will 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 revegetation.

- Within 2 years for maintenance that requires capital construction of less than \$25,000.

The City will document the circumstances if they are beyond their control.

b. General Inspections:

The City Stormwater Technician perform annual inspections of all stormwater treatment and flow control facilities that are City owned and operated and take appropriate maintenance actions in accordance with the adopted King County Surface Water Design Manual.

c. Post-Storm Inspections:

The City Stormwater Technician performs spot checks of potentially damaged permanent treatment and flow control facilities after major storm events. If spot checks indicate widespread damage/maintenance needs, all facilities that may be affected are then inspected. Repairs and maintenance action is taken immediately upon inspection if required.

d. Catch Basins and Inlet Inspections:

Inspection of all catch basins and inlets owned and operated by the City is done by zone. There are 7 zones in which each catch basin and inlet is inspected and cleaned/vactored if needed. The Downtown zone is inspected annually and the more rural and/or less problematic areas are inspected every 2 years. The City does keep a record of the problematic areas and specific catch basins and inlets that require more frequent cleaning (i.e. after storms and sanding). The City is in the process of developing a GIS system for determining a more detailed inspection schedule. Decant water is disposed of at the Southwest Suburban Sewer District sewer system and solids are hauled to the City of Seattle transfer station at 3rd Avenue/Lander Street in accordance with Appendix 6 of the City's Permit *Street Waste Disposal*.

e. Compliance:

The City Surface Water Management Program has an established inspection program designed to inspect all sites.

f. Reduction of Stormwater Impacts:

The City Surface Water Management Program has established or will establish practices from and in addition to the King County Surface Water Design Manual to reduce stormwater impacts associated with runoff from

streets, parking lots, roads and highways resulting from the following maintenance activities:

- Pipe cleaning
- Cleaning of culverts that convey stormwater in ditch systems
- Ditch maintenance
- Street cleaning
- Road repair and resurfacing, including pavement grinding
- Snow and ice control
- Utility installation
- Pavement striping maintenance
- Maintaining roadside areas, including vegetation management
- Dust control

g. Policies and Procedures:

The City Surface Water Management Program has established policies and best management practices from the King County Surface Water Design Manual to reduce pollutants in discharges resulting from the following activities:

- Sediment and erosion control.
- Landscape maintenance and vegetation disposal.
- Trash management.

Additional policies and procedures not covered by the King County Stormwater Design Manual will be established by February 2010. These will include at a minimum:

- Building exterior cleaning and maintenance.
- Application of fertilizer, pesticides, and herbicides including the development of nutrient management and integrated pest management plans.

h. Training:

The City Public Works Department has implemented an ongoing training and certification program for all staff whose job functions may impact stormwater quality. A complete inventory of certifications will be completed by February 15, 2010.

i. Special Facility Requirements:

The City's Public Works Department will develop and implement a Stormwater Pollution Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the City by

February 15, 2010. The SWPPP will include periodic visual observation of discharges from the facility to evaluate the effectiveness of the BMP.

j. Record Keeping:

The City Public Works Department maintains records of inspections and maintenance or repair activity in accordance with S9 of the City's Permit, *Reporting Requirements*.

S8. Monitoring

- A. Permittees are not required to conduct water sampling or other testing during the effective term of this Permit, with the following exceptions:
1. Any water quality monitoring required for compliance with TMDLs, pursuant to section *S7 Compliance with Total Maximum Daily Load Requirements* and Appendix 2 of this Permit, and
 2. Any sampling or testing required for characterizing illicit discharges pursuant to section S5.C.3 or S6.D.3 of this Permit.
- B. The Permittee will provide the following information in each annual report:
1. A description of any stormwater monitoring or studies conducted by the Permittee during the reporting period. If stormwater monitoring was conducted on behalf of the Permittee, or if studies or investigations conducted by other entities were reported to the Permittee, a brief description of the type of information gathered or received shall be included in the annual report(s) covering the time period(s) the information was received.
 2. An assessment of the appropriateness of the BMPs identified by the Permittee for each component of the SWMP; and any changes made, or anticipated to be made, to the BMPs that were previously selected to implement the SWMP, and why.
 3. Information required pursuant to S8.C.2 below.
- C. Preparation for future, long-term monitoring
- This section does not apply to secondary permittees. However, secondary permittees are required to provide information, maps and access for sampling efforts, as necessary. Secondary permittees are encouraged to participate in the monitoring program.
1. All cities, towns and counties shall 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 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 permittees' jurisdiction. 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. Stormwater monitoring

Cities having a population greater than 10,000 and counties having a population greater than 25,000 shall identify sites for long-term stormwater monitoring. Adequate sites will be those completely mapped as required in S5.C.3.a. and be suitable for permanent installation and operation of flow-weighted composite sampling equipment. No later than December 31, 2010

- i. Each county having a population greater than 100,000 shall identify three outfalls or conveyances where stormwater sampling could be conducted. One outfall or conveyance shall represent commercial land use, the second shall represent low-density residential land use and the third will represent medium-to-high density residential land use.
- ii. Each city having a population greater than 75,000 shall identify three outfalls or conveyances where stormwater sampling could be conducted. One outfall or conveyance shall represent commercial land use, the second shall represent high-density residential land use and the third will represent industrial land use.
- iii. Each county having a population between 25,000 and 100,000 shall identify two outfalls or conveyances where stormwater sampling could be conducted. One outfall shall represent commercial land use and the second one will represent low-density residential land use.
- iv. Each city having a population between 10,000 and 75,000 shall 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 land use.
- v. Permittees shall 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 site shall 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. Permittees 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.

b. SWMP effectiveness monitoring

i. Each city, town and county shall prepare to conduct monitoring to determine the effectiveness of the Permittee'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?

ii. No later than December 31, 2010, each city, town and county shall 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 Permittee 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.

2. Monitoring program reporting requirements

a. The fourth annual report shall:

i. Describe the status of identification of sites for stormwater monitoring, if required for the Permittee.

- 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, permittees in a single Urbanized Area or WRIA may choose so submit a collaborative report or reports in lieu of separate reports.

City of Des Moines Monitoring:

- A. The City will be conducting as required water sampling and testing for characterizing illicit discharges pursuant to Section 3 of this Permit.
- B. The City will provide the following information in each annual report:
 - 1. A description of any stormwater monitoring or studies conducted by the City or other entities on the City's behalf during the reporting period.
 - 2. An annual assessment of the appropriateness of the BMPs identified by the City for each component of the SWMP; and any changes made, or anticipated to be made, to the BMPs that were previously selected to implement the SWMP, and why.
 - 3. Information required pursuant to S8.C.2 below.
- C. 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. 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. 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.
 - a. Stormwater monitoring
 - i. 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.

- v. 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.

b. SWMP effectiveness monitoring

- i. 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?
- 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 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.
- 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 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.

2. Monitoring program reporting requirements
 - a. The 2011 annual report will:
 - i. Describe the status of identification of sites for stormwater monitoring.
 - 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, permittees in a single Urbanized Area or WRIA may choose to submit a collaborative report or reports in lieu of separate reports.

S9. Reporting Requirements

- A. No later than March 31 of each year beginning in 2008, each Permittee shall submit an annual report. The reporting period for the first annual report will be from the effective date of this permit 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. Each Permittee is required to keep all records related to the Permit and the SWMP for at least five years. Except for the requirements of the annual reports described in this permit, records will be submitted to Ecology only upon request.
- D. Each Permittee shall make all records related to the Permit and the Permittee's SWMP available to the public at reasonable times during business hours. The Permittee 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 Permittee for making photocopies of records.
 2. The Permittee may require reasonable advance notice of intent to review records related to this Permit.
- E. The annual report for cities, towns, and counties
Each annual report shall include the following:

1. A copy of the Permittee's current Stormwater Management Program as required by S5.A.2.
2. Submittal of Appendix 3 – *Annual Report Form for Cities, Towns, and Counties*, which is intended to summarize the Permittee's compliance with the conditions of the 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 Permittee'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 Permittees'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, the following will be included: reasons why, corrective steps taken and proposed, and expected dates that the deadlines will be met.
 - e. A summary of the Permittee'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 S8.B.2. above.
 - h. Certification and signature pursuant to G19.D, and notification of any changes to authorization pursuant to G19.C.
3. Permittee shall include with the annual report, notification of any annexations, incorporations or jurisdictional boundary changes resulting in an increase or decrease in the Permittee's geographic area of permit coverage during the reporting period, and implications for the SWMP.

City of Des Moines Reporting:

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

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

- C. The City will keep all records related to the Permit and the SWMP for at least five years. Except for the requirements of the annual reports described in this permit, records will be submitted to Ecology only upon request.
- D. The City will make all records related to the 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 will be assessed by the City for making photocopies of records.
 - 2. The City will require reasonable advance notice of intent to review records related to this Permit.
- E. The annual report for cities, towns, and counties

Each annual report will include the following:

- 1. A copy of the City's current Stormwater Management Program as required by S5.A.2.
- 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 the 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, the following will be included: 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 its 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 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 will 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.