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1. Introduction

Stormwater runoff may contain high levels of contaminants such as suspended sediment, nutrients, heavy metals, pathogens, toxins, oxygen-demanding substances, and trash. Storm water runoff carries these pollutants into nearby bodies of water.

This Stormwater Management Program (SWMP) is required by the Municipal Stormwater National Pollutant Discharge Elimination System (NPDES) permit issued to the University of Washington Seattle campus. The permit itself is required because the UW Seattle owns and operates a Municipal Separate Storm Sewer System (MS4) on campus.

UW Seattle Washington is a Secondary Permittee and must comply with all relevant ordinances, rules and regulations of the local jurisdiction, which is the City of Seattle. Seattle's stormwater, grading and drainage control code, Chapter 22.800 is found here:

<http://clerk.ci.seattle.wa.us/~public/toc/t22.htm>

The City of Seattle Department of Planning and Development's Director's Rules, which interpret Chapter 22.800, are here:

[http://web1.seattle.gov/dpd/dirrulesviewer/List.aspx?leg=GD&t=Stormwater,%20Grading,%20and%20Drainage%20Control%20Code%20\(Ch.%2022.800\)](http://web1.seattle.gov/dpd/dirrulesviewer/List.aspx?leg=GD&t=Stormwater,%20Grading,%20and%20Drainage%20Control%20Code%20(Ch.%2022.800))

In addition, the SWMP shall be designed and implemented to reduce the discharge of pollutants from the stormwater system to the maximum extent practicable and protect water quality. To this end, UW must develop a SWMP that implements six minimum measures as follows:

- Public education and outreach on the impacts of stormwater pollution.
- Public involvement and participation.
- Detection and elimination of illicit discharges.
- Construction site stormwater runoff control.
- Post-construction stormwater management for new development and redevelopment.
- Pollution prevention and good housekeeping for facilities operations.

These six minimum measures are described in the permit and in this SWMP. Following the descriptions of each minimum measure are lists of items that UW is already doing or plans to do to meet these requirements. A list of deadlines for requirements are listed at

<http://www.ecy.wa.gov/programs/wq/stormwater/municipal/workshopPPTs/SecondariesTimelineOverview.pdf>.

The entire campus has about 63,000 faculty, staff, and students. It includes dormitories, cafeterias, a power plant, research laboratories, gardens, roads, parking lots, playing fields, a stadium, and a motor pool facility with a gas station and a car wash.

2. Public Education and Outreach

According to the permit, UW Seattle shall implement the following stormwater education strategies:

- a) *Storm drain inlets owned and operated by the Secondary Permittee that are located in maintenance yards, in parking lots, along sidewalks, and at pedestrian access points shall be clearly and permanently labeled with the message "Dump no waste" and indicating the point of discharge as a river, lake, bay, or ground water.*
 - i) *No later than three years from the date of permit coverage, at least 50 percent of these inlets shall be labeled.*
 - ii) *No later than 180 days prior expiration date of this Permit, or as established as a condition of coverage by the Ecology, all of these inlets shall be labeled.*
 - iii) *As identified during visual inspection and regular maintenance of storm drain inlets per the requirements of S6.D.3.d. and S6.D.6.a.i. below, or as otherwise reported to the Secondary Permittee, any inlet having a label that is no longer clearly visible and/or easily readable shall be re-labeled within 90 days.*
 - b) *Each year, beginning no later than three years from the date of permit coverage, public ports, colleges and universities shall distribute educational information to tenants and residents on the impact of stormwater discharges on receiving waters, and steps that can be taken to reduce pollutants in stormwater runoff. Different combinations of topics shall be addressed each year, and, before the expiration date of this Permit. Where relevant, tenants and residents shall receive educational information about the following topics:*
 - i) *How stormwater runoff affects local waterbodies,*
 - ii) *Proper use and application of pesticides and fertilizers,*
 - iii) *Benefits of using well-adapted vegetation,*
 - iv) *Alternative equipment washing practices, including cars and trucks that minimize pollutants in stormwater,*
 - v) *Benefits of proper vehicle maintenance and alternative transportation choices; proper handling and disposal of wastes, including the location of hazardous waste collection facilities in the area,*
 - vi) *Hazards associated with illicit connections, and*
 - vii) *Benefits of litter control and proper disposal of pet waste.*
- a. All storm drains on campus are already labeled with white paint "Do not dump – drains to lake". UW Seattle has a catch basin preventative maintenance program. Storm drains are cleaned and inspected annually. Work orders are submitted for repainting the storm drain labels as necessary.
 - b. UW has an outreach webpage on stormwater quality. This webpage is located at <http://www.ehs.washington.edu/epowaterqual/index.shtm>. EH&S is currently working on a stormwater awareness brochure for students and staff.

3. Public Participation and Involvement

According to the permit, each Secondary Permittee shall:

- a) *No later than 180 days before the expiration date of this Permit, or as established as a condition of coverage by the Ecology, each Secondary Permittee shall:*
 - i) *Publish a public notice in the local newspaper and solicit public review of its SWMP.*

- ii) *Make the latest updated version of the SWMP available to the public. If the Secondary Permittee maintains a website, the SWMP shall be posted on the Secondary Permittee's website.*
- a. UW Seattle will publish a public notice in the local newspaper and solicit public review of its SWMP. The SWMP will be posted on the EH&S website.

4. Illicit Discharge Detection and Elimination

According to the permit, UW Seattle shall:

- a) *From the date of permit coverage, comply with all relevant ordinances, rules, and regulations of the local jurisdiction(s) in which the Secondary Permittee is located that govern non-stormwater discharges.*
- b) *Develop and adopt appropriate policies prohibiting illicit discharges and illegal dumping no later than one year from the date of permit coverage. Identify possible enforcement mechanisms no later than one year from the date of permit coverage; and, no later than eighteen months from the date of permit coverage, develop and implement an enforcement plan using these mechanisms to ensure compliance with illicit discharge policies. These policies shall address, at a minimum: illicit connections; non-stormwater discharges as defined below; and spilling, dumping, or otherwise improperly disposing of hazardous materials, pet waste, and litter.*
 - i) *Non-stormwater discharges covered by another NPDES permit and discharges from emergency fire fighting activities are allowed in the MS4 in accordance with S2 Authorized Discharges.*
 - ii) *The policies do not need to prohibit the following categories of non-stormwater discharges:*
 - *Diverted stream flows,*
 - *Rising ground waters,*
 - *Untampered ground water infiltration (as defined at 40 CFR 35.2005(20)),*
 - *Untampered 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, and*
 - *Flows from riparian habitats and wetlands.*
 - iii) *The policies shall 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. Planned discharges shall be de-chlorinated to a concentration of 0.1 ppm or less, pH-adjusted if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4;*
 - *Discharges from lawn watering and other irrigation runoff. These discharges shall be minimized through, at a minimum, public education activities and water conservation efforts conducted by the Secondary Permittee and/or the local jurisdiction.*
 - *Dechlorinated swimming pool discharges. The discharges shall be dechlorinated to a concentration of 0.1 ppm or less, pH-adjusted and reoxygenated if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4. Swimming pool cleaning wastewater and filter backwash shall not be discharged to the MS4.*
 - *Street and sidewalk wash water, water used to control dust, and routine external building washdown that does not use detergents. The Secondary Permittee shall reduce these discharges through, at a minimum, public education activities and/or water conservation efforts conducted by the Secondary Permittee and/or the local jurisdiction. To avoid washing pollutants into the MS4, the Secondary Permittee shall minimize the amount of street wash and dust control water used. At active construction sites, street sweeping shall be performed prior to washing the street.*
 - *Other non-stormwater discharges shall be in compliance with the requirements of a stormwater pollution prevention plan reviewed by the Permittee which addresses control of such discharges.*

- iv) *The Secondary Permittee's SWMP shall, at a minimum, address each category in iii above in accordance with the conditions stated therein.*
 - v) *The SWMP shall further address any category of discharges in ii or iii above if the discharge is identified as a significant source of pollutants to waters of the State.*
 - c) *No later than 180 days before the expiration date of this Permit, or as established as a condition of coverage by the Ecology, develop a storm sewer system map showing the locations of all known storm drain outfalls, labeling the receiving waters, and delineating the areas contributing runoff to each outfall. Make the map (or completed portions of the map) available on request to Ecology and/or to other Permittees or Secondary Permittees. The preferred, but not required, format of submission will be an electronic format with fully described mapping standards. An example description is provided on Ecology's website.*
 - d) *Conduct field inspections and visually inspect for illicit discharges at all known outfalls that discharge to surface waters. Visually inspect at least one third (on average) of all known outfalls each year beginning no later than two years from the date of permit coverage. Develop and implement procedures to identify and remove illicit discharges. Keep records of inspections and follow-up activities.*
 - e) *No later than 180 days before the expiration date of this Permit, or as established as a condition of coverage by the Ecology, develop and implement a spill response plan that includes coordination with a qualified spill responder.*
 - f) *Provide staff training or coordinate with existing training efforts to educate relevant staff on proper best management practices for preventing spills and illicit discharges. All relevant staff shall be trained.*
- a. UW has a policy to meet or exceed all environmental laws. This policy is online at http://www.washington.edu/about/environmentalstewardship/statement_esac.html.
 - b. UW has developed and adopted policies that prohibit illicit discharges and illegal dumping. This policy is online at <http://www.washington.edu/admin/rules/APS/11.03.html>.
 - c. UW has a digital stormwater system map showing all known storm drain outfalls, receiving waters and storm drainage areas. UW provided this map to the City of Seattle, which has incorporated it into its own digital stormwater system map.
 - d. UW will adopt and implement a plan to inspect all known stormwater outfalls (to Portage Bay, Union Bay Natural Area, University Slough) in year 2 of the permit.
 - e. UW has a campus spill response plan and a current contract with a qualified spill responder.
 - f. All relevant staff persons are currently trained in hazardous waste management, including proper waste disposal and spill prevention. Chemical storage locations are audited every few years by EH&S to help ensure that proper management procedures are in place.

5. Construction Site Runoff Control

From the date of permit coverage, UW Seattle shall:

- a) *Comply with all relevant ordinances, rules, and regulations of the local jurisdiction(s) in which the Secondary Permittee is located that govern construction phase stormwater pollution prevention.*
- b) *For all construction projects under the control of the Secondary Permittee, which require a construction stormwater permit, Secondary Permittees shall obtain coverage under the NPDES General Permit for Stormwater Discharges Associated with Construction Activities, or an alternative individual NPDES permit prior to discharging construction related stormwater.*
- c) *Coordinate with the local jurisdiction regarding projects owned and operated by other entities which discharge into the Secondary Permittee's MS4, to assist the local jurisdiction with achieving compliance with all relevant ordinances, rules, and regulations of the local jurisdiction(s).*

- d) *Provide training or coordinate with existing training efforts to educate relevant staff in erosion and sediment control BMPs and requirements, or hire trained contractors to perform the work.*
- e) *Coordinate as requested with Ecology or the local jurisdiction to provide access for inspection of construction sites or other land disturbances, which are under the control of the Secondary Permittee during the active grading and/or construction period.*
- a. Contract specifications for UW capital projects must include full compliance with City of Seattle's stormwater requirements for construction activities. EH&S and Facilities Services conduct design and site plan reviews to verify that best management practices are implemented to control erosion and sediment at the site.
- b. For the rare project that requires a construction stormwater permit (disturbed area of greater than one acre), UW plans to obtain one.
- c. All Temporary Erosion Control Plans (TESCs), submitted with building permits, are subject to approval by City of Seattle whether construction drains to the City's or UW's MS4. The City and UW sees no distinction between the two systems when it comes to building permits and construction stormwater protection.
- d. Project contractors are required to have staff trained in erosion control if a TESC is required.
- e. Inspection of all construction sites will be allowed.

6. Post-construction Stormwater Management in New Development and Redevelopment

From the date of permit coverage, each Secondary Permittee shall:

- a) *Comply with all relevant ordinances, rules and regulations of the local jurisdiction(s) in which the Secondary Permittee is located that govern post-construction stormwater pollution prevention measures.*
- b) *Coordinate with the local jurisdiction regarding projects owned and operated by other entities which discharge into the Secondary Permittee's MS4, to assist the local jurisdiction with achieving compliance with all relevant ordinances, rules, and regulations of the local jurisdiction(s).*
- a. Contract specifications for UW capital projects must include full compliance with City of Seattle's stormwater requirements for post-construction activities. EH&S and Facilities Services conduct design and site plan reviews to verify that best management practices are implemented to control erosion and sediment at the site. The UW already has other policy statements that guide sustainable building on campus. The UW Capital Projects Office has over 25 Leadership in Energy and Environmental Design (LEED) accredited professionals on staff. Under new state law, state funded construction projects of a certain square footage must obtain LEED certification. The UW has renovated or is in the process of planning or renovating at least twelve LEED-certified buildings.
- b. Building permits, including post-construction stormwater management, are submitted to the City of Seattle whether construction drains to the City's or UW's MS4. The City sees no distinction between the two systems when it comes to post-construction stormwater management.

7. Pollution Prevention and Good Housekeeping

According to the permit, each Secondary Permittee shall:

- a) *a. No later than three years from the date of permit coverage, develop and implement a municipal operation and maintenance (O&M) plan to minimize stormwater pollution from activities conducted by the Secondary Permittee. The O&M Plan shall include appropriate pollution prevention and good housekeeping procedures for all of the following operations, activities, and/or types of facilities that are present within the Secondary Permittee's boundaries.*
- i) *Stormwater collection and conveyance system, including catch basins, stormwater sewer pipes, open channels, culverts, structural stormwater controls, and structural runoff treatment and/or flow control facilities. The O&M Plan shall address, but is not limited to: scheduled inspections and maintenance activities, including cleaning and proper disposal of waste removed from the system. Secondary Permittees shall properly maintain stormwater collection and conveyance systems owned or operated by the Secondary Permittee and regularly inspect and maintain all structural post-construction stormwater BMPs to ensure facility function.*
- For facilities located in Western Washington, Secondary Permittees shall establish maintenance standards that are as protective or more protective of facility function than those specified in Chapter 4 Volume V of the 2005 Stormwater Management Manual for Western Washington.*
- Secondary Permittees shall conduct spot checks of stormwater treatment and flow control facilities following a 24 hour storm event with a 10-year or greater recurrence interval.*
- ii) *Roads, highways, and parking lots. The O&M Plan shall address, but is not limited to: deicing, anti-icing, and snow removal practices; snow disposal areas; material (e.g. salt, sand, or other chemical) storage areas; all-season BMPs to reduce road and parking lot debris and other pollutants from entering the MS4.*
- iii) *Vehicle fleets. The O&M Plan shall address, but is not limited to: storage, washing, and maintenance of municipal vehicle fleets; and fueling facilities. Secondary Permittees shall conduct all vehicle and equipment washing and maintenance in a self-contained covered building or in designated wash and/or maintenance areas.*
- iv) *External building maintenance. The O&M Plan shall address, building exterior cleaning and maintenance including cleaning, washing, painting and other maintenance activities.*
- v) *Parks and open space. The O&M Plan shall address, but is not limited to: proper application of fertilizer, pesticides, and herbicides; sediment and erosion control; BMPs for landscape maintenance and vegetation disposal; and trash management.*
- vi) *Material storage areas, heavy equipment storage areas, and maintenance areas. Secondary Permittees shall develop and implement a Stormwater Pollution Prevention Plan to protect water quality at each of these facilities owned or operated by the Secondary Permittee and not covered under the General NPDES Permit for Stormwater Discharges Associated with Industrial Activities or under another NPDES permit that covers stormwater discharges associated with the activity.*
- vii) *Other facilities that would reasonably be expected to discharge contaminated runoff. The O&M Plan shall address proper stormwater pollution prevention practices for each facility.*
- b) *From the date of coverage under this Permit, Secondary Permittees shall also have permit coverage for all facilities owned or operated by the Secondary Permittee that are required to be covered under the General NPDES Permit for Stormwater Discharges Associated with Industrial Activities.*
- c) *The O&M Plan shall include sufficient documentation and records as necessary to demonstrate compliance with the O&M Plan requirements in S6.D.6.a.i. through vii above.*
- d) *Train all employees whose construction, operations, or maintenance job functions may impact stormwater quality. The training shall address:*
- i) *The importance of protecting water quality,*
- ii) *The requirements of this Permit,*
- iii) *Operation and maintenance requirements,*
- iv) *Inspection procedures,*
- v) *Ways to perform their job activities to prevent or minimize impacts to water quality, and*
- vi) *Procedures for reporting water quality concerns, including potential illicit discharges.*

- a. EH&S will establish a workgroup in year 2 to write an O&M Plan for stormwater system maintenance, road and parking lot maintenance, vehicle fleet maintenance, external building maintenance, grounds maintenance, and material and equipment storage areas.
- b. UW has no industrial activities, so this requirement does not apply.
- c. The workgroup mentioned above will include documentation and recordkeeping to demonstrate compliance with the O&M Plan.
- d. EH&S is finalizing a Stormwater Protection BMP document for the purposes of training staff who are involved in the high risk activities listed above. Many of these BMPs are already used. For example:
 - o Motor Pool has protocols to keep vehicle wash water from entering the storm drain and to attend to any oil or gas spill in the fueling station. In 2004, they were presented with a “5th Star” (the highest rating possible) in the EnviroStars program of King County.
 - o Grounds maintenance staff use Integrated Pest Management practices on all the University grounds. The use of pesticides is already limited to spot applications as needed. The University’s use of insecticides and aphicides has decreased from 3500 ounces in 1996 to less than 500 ounces in 2000. They also replaced some areas with low maintenance landscaping which minimize the use of irrigation water and pesticides and at the same to increase surface water retention and filtering. Irrigation is conducted sparingly, with some lawns allowed to “go brown” in summer.
 - o Facilities Services has decreased the amount of pressure washing on campus. Currently pressure washing is performed only when moss, graffiti, and unusual material buildup must be removed. All water from pressure washing and street cleaning, and cleaning of related equipment, is collected and disposed of to sanitary sewer.

For more information about stormwater protection and other sustainability efforts, see <http://www.washington.edu/admin/facserv/sustainability.php>.