

Washington State University – Pullman Municipal Stormwater Management Program and Plan

Revised 3-19-09

Washington State University (WSU) – Pullman’s Stormwater Management Program and Plan has eight elements. WSU shall meet all of the regulatory requirements for Primary and Secondary permittees, and perform all tasks required for both permittees on the Pullman campus. The program elements are currently in place and the plan elements are being implemented.

The overall goals for both program and plan elements are to prevent and minimize pollution from stormwater and to manage stormwater as a resource more efficiently and effectively.

Program and Plan Elements

1. Public Education and Outreach (S5.B.1, S6.D.1)

Goal

To promote awareness and support for stormwater management activities among faculty, staff and students and to show how they can prevent pollution of stormwater. Begin implementing specific public education activities as described in other sections of the permit (S5.B.1.a).

A. Program Elements

- a. WSU’s Environmental Health and Safety Department (EH&S) has published two newsletter articles (Vol. 5, No. 2 2001, Vol. 8, No. 1 2004). WSU Environmental Science Class and EH&S have developed 2 storm water fact sheets and a power point presentation. Also, EH&S has added a stormwater page to its web site.
- b. EH&S has an on-going storm drain labeling program (725 of ~ 1000 installed to date).
- c. Housing/Dining and Parking Services assist with the dissemination of information on stormwater management at WSU.
- d. Facilities Operations (Fac. Ops.) is in the process of hiring a ½ FTE to assist with this program.

B. Plan Elements

- a. EH&S needs to continue upgrading the University's stormwater website, continue publishing stormwater/water quality newsletter articles, and provide additional information on stormwater in WSU Announcements & Cable 8 TV.
- b. EH&S with assistance from Fac. Ops. will continue to label storm drains; the project will be completed by March 2012.

2. Public Involvement and Participation (S5.B.2, S6.D.2)

Goal

To promote and facilitate faculty, staff, student and public participation and involvement in the WSU stormwater program and planning process (including creating opportunities for the public to participate in the decision making processes involving the development, implementation and update of WSU's SWMP, development and adoption of all required ordinances, and receipt and consideration of information on construction site stormwater runoff control).

A. Program Elements

- a. The following stormwater meetings were held.
 1. March 31, 2006 – WSU and City of Pullman – stormwater management programs and plans
 2. April 21, 2006 - Washington Department of Ecology (WDOE), WSU Administrators and Staff on Phase II stormwater permits (April 21)
 3. September 18 & 25, 2006 – WSU EH&S and Environmental Science Students – WSU stormwater management program and plan – tour of facilities
 4. September 26, 2006 – WDOE (Spokane), City of Pullman Council, WSU – Phase II stormwater permit
 5. October 4, 2006 – WDOE (Olympia), City of Pullman, WSU
 6. October 12, 2006 – WDOE (Spokane and Olympia), City of Pullman, WSU – Stormwater TMDL study

7. October 16, 2006 - Palouse Clearwater Environmental Institute, City of Pullman, WSU EH&S and Environmental Science Students
8. October 23, 2006 – WSU Capital Planning and Development, WSU Facilities Operations, WSU EH&S and Environmental Science Students
9. July 30, 2007 – WSU Stormwater Committee
10. August 27, 2007 - WSU Stormwater Committee
11. December 12, 2007 - WSU Stormwater Committee
12. January 16, 2008 – City of Pullman meeting
13. April 15, 2008 - WSU Stormwater Committee
14. April 23, 2008 - City of Pullman/Otak meeting
15. October 3, 2008 – WSU Stormwater Committee

B. Plan Elements

- a. Program and Plan for public review and comment and have public meetings in the Spring 2007. EH&S and Fac. Ops. will continue to accept public input on WSU's stormwater management program/plan and facilitate future public outreach efforts.
- b. Adopt a program or policy directive to create opportunities for the public to participate in the decision making processes involving the development, implementation and update of the Permittees SWMP, including development and adoption of all required ordinances [WSU has replaced ordinances with an additional chapter to its Safety Policies and Procedures Manual (SPPM)] (S5B.2.a).
- c. Since 2008 WSU has annually made the latest version of its SWMP available to the public and posted it on the University's stormwater website (S5B.2.b).

3. Illicit Discharge Detection and Elimination (S5.B.3, S6.D.3)

Goal

To identify and eliminate illicit discharges to WSU's storm sewer system.

A. Program Elements

- a. WSU has investigated floor drains in older buildings that may discharge to the storm sewer. Five drains have been corrected to the sanitary sewer (CASP, Spillman, Gibb/Smith Swimming Pools, McCluskey Car Wash, French Ad).
- b. Chemical spill response and emergency management plans are in place to minimize stormwater pollution.
- c. WSU has programs to:
 - address the Washington Model Toxics Control Act which cleans up contaminated sites,
 - proactively remove PCB's on campus to below Federal and Washington State regulatory levels,
 - address EPA's Emergency Planning Community Right to Know Act (EPCRA) and oil Spill Prevention Control and Countermeasures (SPCC) programs which identify hazardous materials stored and used on campus. These materials have additional containment measures and are inspected on a regular basis. (EH&S).
- d. Continue to comply with DOE and local jurisdictional requirements.
- e. Continue illicit discharge detection program for buildings and enforcing corrective action when problems are found. (EH&S, Fac. Ops.)
- f. CPD receives and considers information for construction sites submitted by the public (S5.B.4.e).
- g. On 1-15-08 EH&S trained Capital Planning and Development (CPD) and Fac. Ops. personnel on illicit discharge detection and reporting.

B. Plan Elements

- a. Adopt and implement procedures for; 1) illicit discharge detection program evaluation. Include a summary in the annual report (S5.B.3.e) (EH&S)
- b. The following illicit discharge projects were reported to DOE via email on July 2, 2008 per Permit Sections S4.F.1. and G20.B. These discharges are either on the WSU Minor Capital Safety list for

correction (connecting floor drains to sanitary sewer) or will be corrected by another method (implementation is contingent upon future capital funding):

- French Ad Rm. 45 (re-plumbing completed Sept. 08)
- Field House (solution still being investigated)
- IT Building Rm. B100 (drain is plugged)

The following facilities are still being investigated to determine if they are plumbed to the sanitary or storm sewer systems:

- All Chiller Plant Blowdown Water (per WSU's State Waste Discharge Permit - determine volumes and priority pollutant analysis this summer – discharge to storm sewer may be a possibility per DOE).
 - Student Book Corporation chiller
 - All Elevator Shaft drains
 - Cleveland and Daggy
 - Columbia / Chinook Apts. Discharge
 - USDA Greenhouse west of Cooper Pub. - Steam condensate discharge
 - Motor Pool "air dryer" – determine if drain is sanitary or storm
 - Landscape Drains
- c. Improve storm sewer system maps. Contingent upon future funding. (CPD and Fac. Ops.)
- d. Inspect and possibly sample storm sewer outfalls. (EH&S, Fac. Ops.)
- e. Have personnel trained to recognize illicit discharges and/or problems with the storm sewer system during the normal work activities around campus (Fac. Ops., CPD, EH&S, Housing/Dining and Parking Services).
- f. Provide training to all relevant staff responsible for illicit discharge detection including identification, investigation, enforcement plan, termination, cleanup, reporting, spills, improper disposal, and illicit connections (S5B.3.f), and on proper best management practices for preventing spills and illicit discharges, (Secondary – S6.D.3.f)(EH&S).

- g. Train all field staff that may come in contact or observe illicit discharges or connections, including office personnel that may receive initial reports (S5.B.3.g)(See S5.B.3.d.ii).
- h. Developed a stormwater policy regarding management of stormwater (EH&S, Fac. Ops. CPD)

4. Construction Site Stormwater Runoff Control (S5.B.4, S6.D.4)

Goal

To prevent the discharge of sediment and other construction-related pollutants from construction sites.

A. Program Elements

WSU Capital Planning and Development:

- a. Oversees construction projects one acre or greater that require Construction Stormwater NPDES (National Pollutant Discharge Elimination Systems) permits from the Dept. of Ecology (DOE). CPD obtains the permit and Stormwater Pollution Prevention Plan (SWPPP) before assigning the permit and plan to the construction contractor. BMPs such as silt fencing, triangular silt dikes, etc are utilized to control erosion. CPD and EH&S monitor the contractors activities and has trained construction staff involved in permitting, planning and review (S5.B.4.b.ii). They educate relevant staff in erosion and sediment control BMPs and requirements, or hire trained contractors to perform the work (Secondary – S6.D.4.d).
- b. Coordinate with the local jurisdiction regarding construction projects owned and operated by other entities which discharge into the Secondary Permittees MS4, to assist the local jurisdiction with achieving compliance with all relevant ordinances, rules, and regulations of the local jurisdiction (S6.D.4.c). EH&S, CPD, Fac. Ops.
- c. Develops the SWPPP during the design stage and obtains a stormwater permit prior to construction activities. The Permit is then transferred to the contractor upon award of project contract. Contractors must adapt the SWPPP as the construction project progresses to meet changing conditions on-site. The contractor develops monthly Discharge Monitoring Reports (DMRs) which are reviewed by CPD and transmitted to DOE.

- d. CPD has seven Certified Erosion and Sediment Control Leads (CESCL) to oversee construction projects. The contractors are required to have a CESCL available 24 hours a day as well.
- e. Construction projects may be inspected by DOE periodically.
- f. Coordinate, as requested, with the Department or the local jurisdiction to provide access for inspection of construction sites under the control of the Secondary Permittee during the active grading and/or construction period (S6.D.4.e).

Facilities Operations (Fac. Ops.):

- a. Projects are typically under one acre and do not require a construction stormwater permit, but Best Management Practices (BMPs) to prevent soil erosion and/or stormwater pollution are still used.

Environmental Health and Safety (EH&S):

- a. Has three CESCLs to assist CPD and Fac. Ops. with construction projects, BMPs, monitoring, permitting and reporting.
- b. On 1-15-08 trained Capital Planning and Development and Facilities Operations personnel on construction stormwater requirements / where to find more information on the web.

B. Plan Elements

- a. Continue to comply with DOE and local jurisdictional requirements.

5. Post-Construction Stormwater Management for New Development and Redevelopment (S5.B.5, S6.D.5)

Goal

Control stormwater runoff from new development and redevelopment projects. Add 5000 sq. ft. pollutant-generating impervious surface requirement (Appendix 1)

A. Program Elements

Capital Planning and Development (CPD):

- a. Designs buildings to meet Leadership in Energy and Environmental Design (LEED) requirements and most current construction projects have detention facilities for management of stormwater.
- b. Has a new policy that includes permanent stormwater construction measures being transferred back to WSU at completion (for example the new tennis court project has a detention pond used during construction; when project is completed the pond will be turned over to WSU as a permanent detention pond for the tennis courts). Each new project will include infrastructure upgrades as well, such as underground stormwater detention vaults.
- c. The SR 270 and Carver Farm/Vet Teaching Hospital detention ponds collect stormwater from various parking lots on campus and treats the stormwater prior to discharge into Paradise Creek.
- d. The South Fairways Parking Lot detention vault filters and treats stormwater prior to discharge into the storm sewer system.
- e. The Tennis Courts have a detention swale for stormwater treatment.
- f. The Golf Course parking lot has detention swales for stormwater treatment.
- g. The Olympia Ave. Residence Hall is currently under construction and will meet LEED requirements, including stormwater detention on site.
- h. The Terrell Library has a “green roof” installed that only requires irrigation in the dry summer months.
- i. Continue to comply with DOE and local jurisdictional requirements.
- j. Coordinate with the local jurisdiction regarding post-construction projects owned and operated by other entities which discharge into the Secondary Permittees MS4, to assist the local jurisdiction with achieving compliance with all relevant ordinances, rules, and regulations of the local jurisdiction (S6.D.5.b).

Environmental Health and Safety (EH&S):

- a. On 1-15-08 trained Capital Planning and Development and Facilities Operations personnel on post-construction stormwater requirements / where to find more information on the web.
- b. Verify that stormwater detention facilities are functioning properly and in compliance with regulatory requirements.

Facilities Operations (Fac. Ops.):

- a. Inspect and maintain all stormwater management facilities on campus.

Housing/Dining Services:

- a. Inspect and maintain all stormwater management facilities associated with apartments, residence halls and dining centers.

B. Plan Elements

- a. CPD's 20 year Campus Master Plan will include a comprehensive water/stormwater management plan.
- b. Budget and staff for O & M of new stormwater management facilities, including monitoring and verifying function of detention swales, etc.
- c. CPD will update construction standards to comply with WSU and local jurisdiction requirements.
- d. Train all post-construction site staff involved in permitting, planning, review, inspection and enforcement of post-construction stormwater control measures (S5.B.5.d).
- e. Train all employees who have primary construction, operations, or maintenance job functions that are likely to impact stormwater quality. Training shall address topics listed in S5.B.6.a.i and S6.D.6.d.i - vi for Secondary (S5.B.6.b).

6. Pollution Prevention and Good Housekeeping for Municipal Operations (S5.B.6, S6.D.6)

Goal

To reduce pollutant loading in stormwater runoff from roadways, parking areas, maintenance and storage yards, waste transfer stations, parks, and impervious surfaces.

A. Program Elements

Facilities Operations:

- a. Purchased a tri-purpose Vac-Con truck that has a sewer jet hose to assist with unplugging stormwater lines, a suction motor to vacuum out lines and a hydro-excavation feature with a vacuum and a high pressure gun to uncover lines without damaging them.
- b. Implemented a five year plan to clean, video cam and repair all stormwater lines on campus (repairs made as they are found) and will routinely clean them thereafter.
- c. Developed a 10 year plan to replace and upgrade 5100 feet of stormwater pipe (\$1,100,000).
- d. Obtained a new street sweeper that doesn't use water. Streets are cleaned an average of one day a week. Parking lots are cleaned during Spring Break when fewer cars are present.
- e. Applies washed gravel with no fines for traction material to icy roads and sidewalks (also us magnesium chloride at specified rates). Snow is removed from streets and typically stockpiled at the Valley Crest Apts cul-de-sac.
- f. Has a holding site for stormwater cleanout debris (mostly soil/organic matter) to dry out before proper disposal.
- g. Cleans out building gutters as needed.
- h. Monitors and fixes irrigation system problems as needed, with monitoring assistance from FOMS and the Police Dept.

- i. Utilizes a turf management expert and landscapers to perform soil testing, Integrated Pest Management and apply the minimum amounts of fertilizers and pesticides.
- j. Selects planted materials based on acclimation to Palouse weather, soils and locations to reduce water dependence.
- k. Obtained a Vitamin C dechlorinator in 2007 for fire hydrant flushing.

Facilities Operations Motor Pool:

- a. Maintains 75% of the vehicles and machinery on campus (~ 300) in a covered shop that uses spill mats during maintenance.
- b. For spill cleanup a new type of absorbent made from organic material is used on campus and in the vehicle maintenance area.
- c. Main parking lot where vehicles are stored is gravel and storm drains lead to a dead-end system that gets cleaned out periodically.
- d. Operates a covered car wash that drains to the sanitary sewer after going through an oil-water separator.
- e. Has an aggressive vehicle fluid leak detection program and vehicles are replaced at a greater frequency to reduce the chance of leaks. A goal of no machinery or vehicles leaks is very close to being met (currently at 99%).

EH&S:

- a. Terminated College Avenue Steam Plant Industrial Stormwater Discharge General Permit by eliminating coal pile with assistance from Fac. Ops.
- b. Performed limited fecal coliform studies on discharges from Grimes Way/Airport Road facilities in 1990s and made stormwater system improvements.
- c. Implemented SPCC, EPCRA and Underground Storage Tank programs.
- d. Maintains an inventory of septic tanks, routinely inspects them (every 3-5 years) and pumps as needed in order to prevent drainfield failures and surface/groundwater contamination from sewage effluent.

Housing and Dining Services:

- a. Cleans out building gutters as needed.
- b. Monitors and fixes irrigation system problems as needed.
- c. Utilizes a turf management expert and landscapers to perform soil testing, Integrated Pest Management and apply the minimum amounts of fertilizers and pesticides.
- d. Selects planted materials based on acclimation to Palouse weather, soils and locations to reduce water dependence.

B. Plan Elements

Facilities Operations:

- a. In the process of updating current drawings of existing stormwater lines, catch basin locations and drainage areas.
- b. Find a better snow stockpile area to prevent snow melt from entering storm drains.
- c. Obtain a snow blower for better maintenance of sidewalks (contingent upon funding).
- d. Develop a routine building gutter cleaning schedule.
- e. Propose to add staff to adequately maintain landscape irrigation system, along with updating irrigation control panel technology. A new control system is on a funding request list but implementation is contingent on obtaining funding. The new system would provide automatic flow adjustments to save water, prevent erosion and irrigation of "hardscapes" (sidewalks, etc.).
- f. EH&S to provide more staff training.

Housing and Dining Services:

- a. Place building gutters on an annual inspection schedule.
- b. Inspect landscape irrigation systems for illicit discharges.
- c. Utilizes a turf management expert and landscapers to perform soil testing, Integrated Pest Management and apply the minimum amounts of fertilizers and pesticides.

- d. Selects planted materials based on acclimation to Palouse weather, soils and locations to reduce water dependence.

7. Compliance with Total Maximum Daily Load Requirements (S7)

Goal

Address local water quality problems, such as monitoring, retrofitting, or basin planning.

A. Program Elements

- a. Ecology Pilot stormwater outfall study indicates compliance with toxics (PCBs, dieldrin), therefore no TMDL required but fecal coliforms TMDL may be required.

B. Plan Elements

- a. WSU to wait for DOE TMDL studies to be completed in 2009 for fecal coliforms, temperature, pH and dissolved oxygen. WSU Plans will depend on TMDL requirements.

8. Monitoring, Program Evaluation and Recordkeeping Requirements

Goal

Manage the stormwater management program information and report to the public on stormwater management activities.

A. Program Elements

- a. Developed the draft stormwater management program and plan document.

B. Plan Elements

- a. Improve the stormwater management facilities maintenance and recordkeeping systems.
- b. Evaluate the stormwater management program and plan document annually. Report and receive input from the public.
- c. Integrate reporting and program document into the WSU Environmental Management System.